2013 South Dakota Youth Tobacco Survey

Report Prepared for:

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This report is available at: http://doh.sd.gov/prevention/tobacco/

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2013 SOUTH DAKOTA YOUTH TOBACCO SURVEY

EXECUTIVE SUMMARY

The 2013 Youth Tobacco Survey presents some encouraging findings. Rates of cigarette use among middle school students continue to decline. Smokeless tobacco use is also declining, particularly among males. Social views about cigarette use, including perceptions that users have more friends or look cool, have dramatically declined, particularly among current smokers. However, continued efforts are needed. The following key findings are presented with an associated call to action to reduce the health risks associated with tobacco use and secondhand smoke exposure among the youth of South Dakota.

Trends in Tobacco Use among Middle School Students

- Current use of cigarettes and smokeless tobacco are similar for the first time, and are at the lowest rates in the past decade, at 3.3% and 3.5% respectively.
- American Indian students continue to have the highest rates of use among all middle school students at 18.5% current tobacco use.
- Current use of tobacco by sixth grade students is significantly lower at 2.8%, than among seventh and eighth grade students, at 7.1% and 9.1%, respectively.
- Similar to national findings, use of electronic cigarettes is on the rise. Current use has nearly doubled since 2011, and is at 1.1%.
- Among students' ages 11 to 14 years who tried to purchase cigarettes, 77% were able to do so, and only 23% of attempts to purchase cigarettes were refused. The most common place of purchase was a gas station.
- Intent to quit using tobacco is declining among current middle school tobacco users. However, 46% want to quit. Of those who tried to quit, nearly 20% did so without assistance.
- Exposure to secondhand smoke continues among youth in South Dakota. Over 30% of youth stated they were at home or in a vehicle in the past week while someone else was smoking.

Environmental Factors Contributing to Initiation and Ongoing Use of Tobacco

- Having a parent or other household member that uses tobacco contributes significantly to tobacco use in this middle school population. Of those using tobacco, 79.5% had a household member that used, more than double the household rates among non-users.
- Among middle school students, 8.8% report either smoking or seeing another student smoke on school property in the past 30 days. Among American Indian students, rates were higher at 14.6%. An alarming 16% reported exposure to cigarette smoke at least one day in the past week while at school.
- The vast majority of current tobacco users have at least one close friend who uses – 84.2% of cigarette users and 88.4% of smokeless tobacco users have a friend that uses.
- Among the middle school students, 75% saw promotion of tobacco products in convenience stores. TV and movie promotion of tobacco was also common with 68% of youth showing similar responses.

Anti-Tobacco Messaging

- A clear shift has occurred away from parental discussion of the health impact of tobacco use, with only 37.2% stating a parent had discussed the dangers. This rate is nearly half of the rate reported in 2007.
- Education on the dangers of tobacco use in school curriculum was reported by 53% of students.
- Among students who have seen a healthcare provider in the past year, only 24.5% reported the provider asked about tobacco use. Only 27% reported the provider advised them about the dangers of tobacco.

Recommendations

Based on the 2013 South Dakota YTS, the following recommendations are offered for consideration, with further description and explanation in the full report:

- ***Implement and enforce school tobacco-free policies.***
- ***Target parents for cessation.***
- ***Educate healthcare providers on clinical practice guidelines on assessment of youth and household tobacco use.***
- ***Eliminate tobacco sales to underage youth.***
- ***Reduce youth exposure to tobacco product marketing.***
- ***Support and enforce broad tobacco free policies to reduce secondhand smoke exposure.***
- ***Promote the SD QuitLine in schools.***
- ***Provide consistent, frequent messages about the dangers of tobacco use to all school age youth.***
- ***Decrease tobacco use among American Indian youth.***
- ***Monitor use of electronic cigarettes.***
- ***Reduce truancy.***

SECTION ONE:

Background

THE 2013 SOUTH DAKOTA YOUTH TOBACCO SURVEY

The use of cigarettes and smokeless tobacco begins in adolescence, with nearly 90% of adult users reporting initiation under the age of 18.[1] Various social and environmental factors, including exposure to a setting where tobacco use is acceptable, play a role in the initiation and maintenance of tobacco use among youth.[1] The Youth Tobacco Survey (YTS) began in 1997 to assess the prevalence of tobacco use and examine environmental factors that contribute to tobacco use among school-age youth. Data from the YTS serves to enhance the capacity of state agencies and organizations to design, implement, and evaluate tobacco prevention and control programs. Repeating the survey on an every other year basis provides valuable data that can be used to track tobacco use trends among youth. South Dakota has participated in the survey since 2003. In 2013, the South Dakota YTS was administered to selected students in grades 6 to 8, and included 75 questions about tobacco use, access to tobacco products, cessation, knowledge and attitudes about tobacco, and exposure to secondhand smoke from tobacco products. This report provides results from the 2013 South Dakota YTS.

METHODS

Description of the South Dakota Sample

(This section provided directly by the Centers for Disease Control Office of Smoking and Health [CDC OSH].)

All regular public, private, and tribal schools in South Dakota containing grades 6, 7, or 8 were included in the sampling frame. A two-stage cluster sample design was used to produce a representative sample of students in grades 6-8.

School Level - The first-stage sampling frame consisted of all public schools containing any of grades 6-8. Schools were selected with probability proportional to school enrollment size.

Class Level - The second sampling stage consisted of systematic equal probability sampling (with a random start) of classes from each school that participated in the survey. All 2nd period classes in the selected schools were included in the sampling frame. All students in the selected classes were eligible to participate in the survey.

Overall Response Rates

Schools - 83.33 % 50 of the 60 sampled schools participated.

Students - 88.53 % 2,014 of the 2,275 sampled students completed usable questionnaires

Overall response rate - 83.33% * 88.53%= 73.77%

Using the Weighted Results

A weight has been associated with each questionnaire to reflect the likelihood of sampling each student and to reduce bias by compensating for differing patterns of nonresponse. The weight used for estimation is given by:

$$W = W1 * W2 * f1 * f2 * f3 * f4$$

W1 = the inverse of the probability of selecting the school
W2 = the inverse of the probability of selecting the classroom within the school

f1 = a school-level nonresponse adjustment factor calculated by school size category (small, medium, large)
f2= a class adjustment factor calculated by school
f3 = a student-level nonresponse adjustment factor calculated by class
f4 = a post stratification adjustment factor calculated by gender, race and grade.

The weighted results can be used to make important inferences concerning tobacco use risk behaviors of all public, private, and tribal school students in grades 6 through 8 in South Dakota.

Additional Notes on Methodology outside of CDC OSH Analysis

Categorization of Race for the South Dakota Youth Tobacco Survey

The classification of students by race was conducted using methodology from the National Youth Tobacco Survey.[2] Race was classified by response to the Hispanic or Latino ethnicity question. All respondents answering "yes" to Hispanic/Latino were classified as such regardless of selection on race question. For the remaining students, if only one of the races available were selected, students were classified into that race. If the student selected two or more races then the following hierarchy was followed:

> *If a respondent selected multiple races and they selected "White" as one of those races then they are categorized as "White." If a respondent selected multiple races but did NOT select "White" and they selected "Black or African American" as one of those races then they are categorized as "Black or African American." If a respondent selected multiple races but did NOT select "White" or "Black or African American" and they selected "Asian" as one of those races then they are categorized as "Asian." If a respondent selected multiple races but did NOT select "White," "Black or African American," or "Asian," and they selected "American Indian or Alaska Native" as one of those races then they are categorized as "American Indian or Alaska Native." If a respondent selected "Native Hawaiian or Other Pacific Islander" and any other race category, the respondent would categorized as that other race.* (National Youth Tobacco Survey Codebook, 2009, p. 42-43)

To reflect the population demographics of South Dakota, a three level race categorization (White, American Indian, and all other races) was created by merging Latino, Black or African American, Asian, and Native Hawaiian or Other Pacific Islander into a single category.

Categorization of "Any Tobacco Product" in the South Dakota Survey

At various points throughout the report, multiple tobacco product use is combined to form a single category named "any tobacco product". This category was created using National Youth Tobacco Survey methodology and consists of cigarettes, smokeless tobacco, cigars, pipe, bidis and kreteks.[3]

Historical South Dakota Youth Tobacco Survey Data

Throughout this report, historical data is provided from survey years 2003, 2005, 2007, 2009, and 2011. Except where noted, all of this data is drawn from printed reports.[4-5] The actual data was not reanalyzed, so the authors rely on the accuracy of previous reports for this information.

A full list of the 2013 YTS questions including the unweighted frequencies for each response exists as a separate document, available from the South Dakota Department of Health Tobacco Control Program.

SECTION TWO:

Prevalence and Trends in Tobacco Use among Middle School Students

DESCRIPTION OF THE MIDDLE SCHOOL POPULATION

Demographical information collected in the 2013 YTS included gender, age, race, and grade level. A total of 2,014 useable surveys were submitted from 50 selected schools throughout the state. The South Dakota YTS was conducted only with middle school students; therefore, 99.4% of the sample was between the ages of 11 and 14. The weighted sample was reflective of the South Dakota (SD) middle school population with approximately one-third of the students from each of the three grades (six, seven and eight) and a near-equal gender distribution (51.9% male). Racial composition of the weighted sample was 75.5% White, 15.9% American Indian, and 8.6% other races.

Additional Student Characteristics

Access to discretionary money has been reported as a factor in promoting tobacco use in the school-age population.[6] Middle school students were asked to report the amount of money available per week to spend "any way you wanted to". The analysis showed that students with access to $5 or less per week were less likely to report any tobacco use than students with $6 to $20 of spending money, or $21 or more per week ($p<0.001$) (Table 1). This finding is similar to results in the 2007 and 2009 reports which indicated that current middle school smokers were more likely to have greater than $20 a week in spending money.

Table 1. Ever Tobacco Use by Amount of Weekly Spending Money, 2013

Spending money per week	% of population	% ever used tobacco
$5 or less	36.1%	13.4% (± 3.5)
$6 to $20	32.7%	18.9% (± 5.8)
$21 or more	31.2%	20.0% (± 4.9)

Table 2. Ever Tobacco Use by Number of Days of School Skipped, 2013

Number of school days skipped	% of population	% ever used tobacco
0 days	94.7%	14.7% (± 3.0)
1 day	2.8%	41.9% (± 15.9)
2 to 5 days	1.6%	57.1% (± 18.9)
6 to 10 days	0.3%	81.3% (± 22.4)
11 or more days	0.7%	86.3% (± 15.8)

Truancy and the use of tobacco are highly correlated, and the odds of ever having tried a tobacco product increase as the number of days truant increases.[7] In 2013, high rates of tobacco use were found among middle school students who reported skipping one or more days of school in the past year (Table 2).

EVER TOBACCO USE

Middle school students in SD were asked if they had ever tried various types of tobacco, including cigarettes, smokeless tobacco, cigars, or pipe. Lifetime tobacco use was defined as trying a tobacco product, even a puff or a pinch, on one occasion. For the YTS, tobacco products included under the "any tobacco use" category included cigarettes, smokeless tobacco, cigars, pipe, bidis and kreteks. Table 3 outlines the findings by gender, race and grade.

Among middle school students in South Dakota, 17.2% have tried a tobacco product on at least one occasion.

Combining all types of tobacco use, 17.2% of middle school students had tried at least one tobacco product on at least one occasion. No differences existed by gender. Sixth grade students were significantly less likely to have used any type of tobacco than both seventh and eighth grade students ($p<0.0001$). Seventh grade students were also less likely to have tried any type of tobacco than eighth grade students ($p<0.05$). The probability of ever using tobacco increased significantly across progressive grade levels. American Indian students were more likely to be using all types of tobacco products than White students ($p<0.0001$) and other race students ($p<0.01$).

Ever Cigarette Use

Overall, 12.9% of middle school students had tried smoking a cigarette on at least one occasion (Table 3). In comparison, the 2011 SD YTS report showed 14% of middle school students had tried smoking. Cigarette users were more likely to be female ($p<0.01$), continuing a trend from the 2011 YTS report. Rates of smoking among male students were reported at 13% in 2011 compared to only 10.4% in the current YTS survey. Rates of trying cigarettes were similar between seventh and eighth grade students, but significantly lower for sixth grade students ($p<0.0001$). Significant differences also existed by race, with White students having the lowest rate of ever cigarette use (7.8%). American Indian students had the highest rates of ever cigarette use at 33.4% ($p<.0001$ compared to White students and $p<0.01$ in comparison to other races).

Evidence exists that long-term tobacco users start using tobacco at a young age.[1] Of the 13% of SD middle school students who had ever tried cigarettes, 38.3% reported they did so before age 11. This varied by gender, with 32.5% of females starting before age 11 compared to 46.7% of males.

Ever Smokeless Tobacco Use

Smokeless tobacco use on at least one occasion was reported by 6.5% of middle school students (Table 3), which is lower than the 2011 finding of 9%. Rates of ever use of smokeless tobacco did not differ by gender, which is a change from prior years. Additionally, a 3.5% decrease in smokeless tobacco use among male students in the past two years is noted. Differences in ever use of smokeless tobacco existed by grade level, with rates of use similar between seventh and eighth grade students, but significantly lower for sixth grade students ($p<0.001$). American Indian and other race students were significantly more likely to report using smokeless tobacco than White students ($p<0.0001$). Similar patterns were found among smokeless tobacco and cigar users, with 35.1% and 30.6% starting before age 11, respectively.

Ever Cigar and Pipe Use

Among middle school students, 4.8% had tried cigars and 4.0% had used a pipe on at least one occasion (Table 3). Rates of ever using a pipe or cigars did not differ by gender. Again, significant differences were found between sixth grade as compared to seventh and eighth grades ($p<0.05$). White students were significantly less likely to have used cigars compared to students of other races ($p<0.0001$). The rate of pipe use among American Indian students (11.2%) should be interpreted carefully since the YTS question does not clearly exclude the ceremonial use of a pipe. It is unknown how many of the students were using a pipe for only ceremonial purposes.

Table 3. Ever Use of Tobacco Products by Type of Product, Gender, Race and Middle School Grade Level, 2013

	ANY TOBACCO[a]	CIGARETTES	SMOKELESS TOBACCO	CIGARS	PIPES
	% (95% CI[b])	**%** (95% CI[b])	**%** (95% CI[b])	**%** (95% CI[b])	**%** (95% CI[b])
GENDER					
FEMALE	**17.7%** (±5.6)	15.4% (±5.5)	5.0% (±3.2)	4.5% (±1.7)	3.8% (±2.1)
MALE	**16.5%** (±3.8)	10.4% (±2.8)	7.5% (±2.4)	4.8% (±1.5)	4.1% (±1.9)
RACE					
WHITE	**11.9%** (±2.3)	7.8% (±1.9)	4.0% (±1.3)	3.6% (±1.0)	2.4% (±0.9)
AMERICAN INDIAN	**38.2%** (±9.3)	33.4% (±9.7)	16.1% (±9.0)	10.1% (±4.1)	11.2% (±7.0)
OTHER	**25.0%** (±8.5)	21.7% (±8.2)	11.3% (±5.8)	5.9% (±4.4)	5.2% (±3.3)
GRADE					
6	**10.2%** (±4.1)	6.2% (±3.1)	3.1% (±1.8)	2.3% (±1.3)	2.1% (±1.4)
7	**17.6%** (±5.0)	14.0% (±5.1)	8.0% (±3.1)	5.5% (±1.9)	4.0% (±2.9)
8	**23.7%** (±5.7)	18.1% (±5.3)	8.1% (±3.2)	6.4% (±2.3)	5.9% (±2.6)
OVERALL	**17.2%** (±4.2)	**12.9%** (±3.9)	**6.5%** (±2.3)	**4.8%** (±1.3)	**4.0%** (±1.8)

a Any Tobacco category includes cigarettes, smokeless tobacco, cigars, pipe, bidis, and kreteks per YTS methodology.[3]
b Confidence Interval

Other Tobacco Products

Use of electronic cigarettes by middle school students in South Dakota has increased from 1.7% to 2.7% in a two year period.

Students were asked if they have ever tried alternative forms of tobacco or nicotine products. Table 4 indicates that roll-your-own, flavored, and electronic cigarettes were the top three alternative tobacco or nicotine products used by SD middle school students. At a national level, the use of electronic cigarettes among both youth and adults is being monitored closely. Recent national survey data showed current use of electronic cigarettes among middle school students at 2.7%.[8] In SD, electronic cigarette use is identical to the national rate (2.7%), and this rate is up from 1.7% in 2011.

Table 4. Ever Use of Other Tobacco Products among Middle School Students, 2013

Product	% of middle school population
Roll-your-own cigarettes	3.0% (± 1.6)
Flavored cigarettes, such as Camel Crush	2.7% (± 1.2)
Electronic cigarettes, such as Ruyan or NJoy	2.7% (± 0.8)
Smoking tobacco from hookah or waterpipe	2.2% (± 0.8)
Some other new tobacco product not listed here	1.6% (± 0.7)
Snus, such as Camel or Marlboro Snus	1.4% (± 0.8)
Flavored little cigars	1.2% (± 0.6)
Dissolvable tobacco products, such as Ariva, Stonewall, Camel orbs, Camel sticks or Camel strips	0.5% (± 0.4)
Clove cigars	0.5% (± 0.3)

CURRENT TOBACCO USE

Middle school students in SD were asked if they had used various types of tobacco, including cigarettes, smokeless tobacco, cigars, or pipe, in the past 30 days. Current tobacco use was defined using a 30-day point prevalence rate, which refers to use of any tobacco product, even a puff or a pinch, on at least one occasion in the past 30 days. For the YTS, products included under the any tobacco use category included cigarettes, smokeless tobacco, cigars, pipe, bidis and kreteks. Table 5 outlines the findings by gender, race, and grade.

Overall, current tobacco use among middle school students in SD was at 6.4% (Table 5). No significant difference in current tobacco use was found by gender. Significant differences were identified for race and grade level. Seventh and eighth grade students were more likely to be using any tobacco product than sixth grade students ($p<0.001$). American Indian and other races were more likely to be using any tobacco product than White middle school students ($p<0.0001$). Among students using tobacco products in the past 30 days, many had used multiple types of tobacco (38.2%). Of the remaining, about one quarter used cigarettes only (25.3%), 22.6% used smokeless tobacco only, another 12.1% used cigars only, and 1.8% used only a pipe.

Table 5. Current Use of Tobacco Products, by Type of Product, Gender, Race, and Middle School Grade Level, 2013

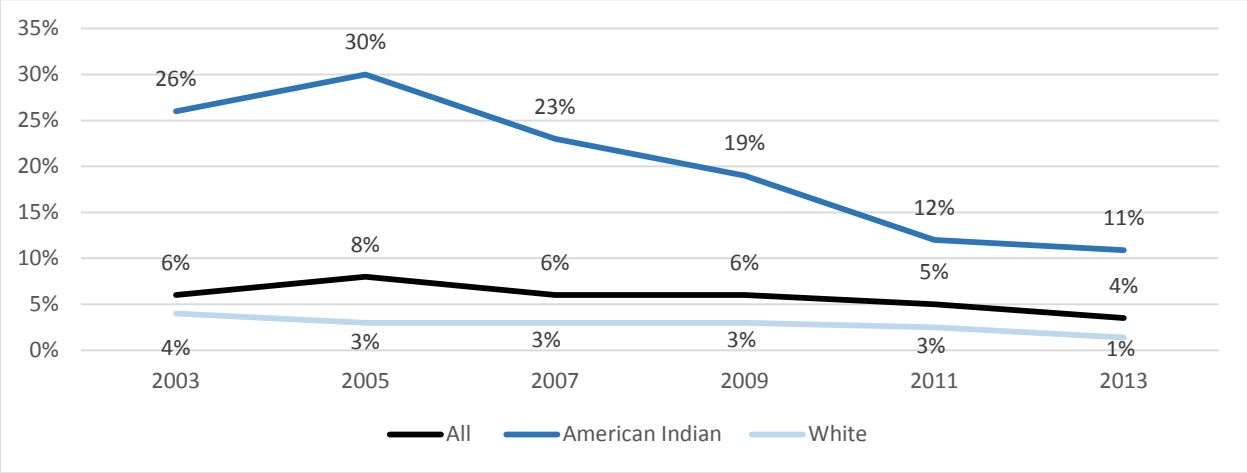
	ANY TOBACCO*	CIGARETTES	SMOKELESS TOBACCO	CIGARS	PIPES
	% (95% CI[b])	**%** (95% CI[b])	**%** (95% CI[b])	**%** (95% CI[b])	**%** (95% CI[b])
GENDER					
FEMALE	**6.3%** (± 3.3)	4.3% (± 2.5)	2.9% (± 1.8)	1.4% (± 0.9)	1.8% (± 1.4)
MALE	**6.2%** (± 2.7)	2.5% (± 1.3)	3.4% (± 1.8)	1.5% (± 0.8)	2.4% (± 1.2)
RACE					
WHITE	**3.2%** (± 1.2)	1.4% (± 0.6)	1.5% (± 0.9)	1.0% (± 0.6)	1.2% (± 0.6)
AMERICAN INDIAN	**18.5%** (± 8.6)	10.9%(± 5.1)	10.1% (± 6.3)	4.8% (± 2.7)	6.8% (± 4.5)
OTHER	**12.2%** (± 6.0)	7.3% (± 4.9)	6.8% (± 4.8)	1.5% (± 1.7)	2.6% (± 2.2)
GRADE					
6	**2.8%** (± 2.3)	1.3% (± 1.1)	1.1% (± 1.1)	0.6% (± 0.7)	1.3% (± 1.1)
7	**7.1%** (± 3.5)	3.7% (± 2.0)	4.8% (± 2.3)	2.2% (± 1.2)	2.3% (± 1.9)
8	**9.1%** (± 3.8)	5.2% (± 2.7)	3.9% (± 2.3)	2.1% (± 1.2)	2.9% (± 1.4)
OVERALL	**6.4%** (± 2.8)	**3.5%** (± 1.7)	**3.3%** (± 1.6)	**1.6%** (± 0.7)	**2.2%** (± 1.2)

a Any Tobacco category includes cigarettes, smokeless tobacco, cigars, pipe, bidis, and kreteks per YTS methodology.
b Confidence Interval

Current Cigarette Use

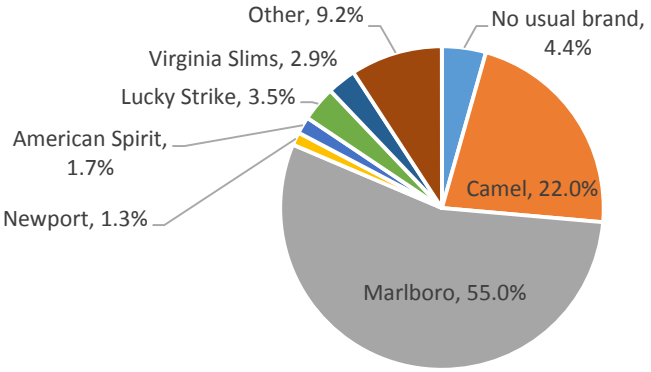
The current 30-day point prevalence of cigarette smoking was 3.5% (Table 5). No differences were found by gender. Rates of current cigarette use were similar between seventh and eighth grade students, but significantly lower for sixth grade students ($p<0.0001$). Significant differences also existed by race, with White students having significantly lower rates of current cigarette use (1.4%) compared to both American Indian students (10.9%) and other races (7.3%), $p<0.0001$. Using data reported in previous SD YTS reports, a downward trend in the use of cigarettes among middle school students continued in 2013 (Figure 1).

Figure 1. Trends in Current Cigarette Use among SD Middle School Students, by Race, 2003-2013



Among all middle school students, less than 1% have smoked 100 or more cigarettes in their lifetime. Current daily use of cigarettes was at 0.3% in the weighted sample of the entire SD middle school population. Among the 3.5% of students who reported current cigarette use, most were non-daily users, with about half of the group (51.9%) smoking on only one or two of the past 30 days. Another 12.3% reported smoking on 3 to 5 days, 8.9% on 6 to 9 days, and 14.1% on 10 to 19 days. The remaining 12.8% reported smoking at least 20 of the past 30 days. Among current cigarette users, 18.5% state they have used 100 or more cigarettes in their lifetime, and 7.3% report using 6 or more cigarettes per day on the days they were smoking. Current cigarette users were asked about type of cigarette used. Nearly one-third (32.9%) reported use of menthol cigarettes. Brand preference is displayed in Figure 2, with Marlboro and Camel the most commonly used.

Figure 2. Brand of Cigarettes Used by Current Middle School Smokers, 2013

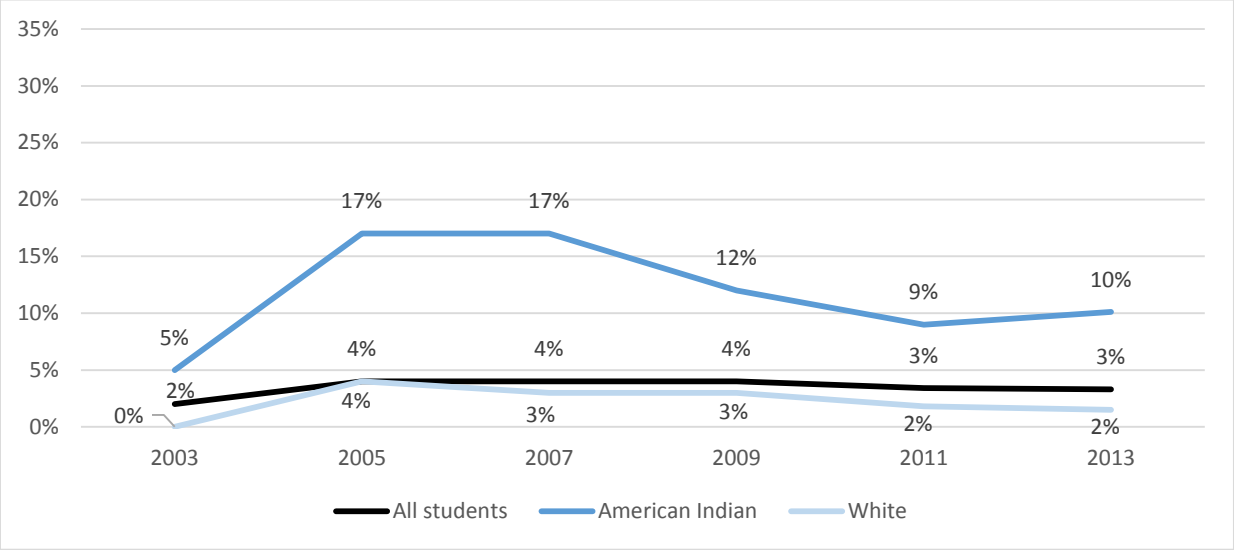


Current Smokeless Tobacco Use

The 30 day point prevalence of smokeless tobacco use among SD middle school youth was 3.3% (Table 5). In contrast to previous YTS reports, no differences were found by gender in rates of smokeless tobacco use. Differences in current smokeless tobacco use were found by grade level and race. Seventh and eighth grade students were significantly more likely to be using smokeless tobacco than sixth grade students ($p<0.01$). American Indian and other races were more likely to use smokeless tobacco than White students ($p<0.0001$). Trend data in rates of smokeless tobacco use among middle school students is displayed in Figure 3. For the first time, in 2013, rates of current cigarette (3.5%) and smokeless tobacco use (3.3%) among SD middle school students were similar.

In 2013, for the first time, rates of current cigarette and smokeless tobacco use among South Dakota middle school students were similar.

Figure 3. Trends in Current Smokeless Tobacco Use by Race, 2003-2013



Current daily use of smokeless tobacco was reported by only 0.5% of the weighted sample. Among the 3.3% of students who reported current smokeless tobacco use, about half of the group (47.5%) used smokeless tobacco on only 1 or 2 of the past 30 days. However, nearly 17% reported using at least 20 of the past 30 days.

Current Cigar and Pipe Use

The 30 day point prevalence of cigar use among middle school youth overall was 1.6% (Table 5). No differences in current cigar use were found by gender or grade level. American Indian students were more likely to use cigars than White or other race middle school students ($p<0.0001$). Among the students who reported current cigar use, most were non-daily users, with 11.8% reporting smoking cigars on at least 20 of the past 30 days.

The 30 day point prevalence of pipe use among middle school youth was 2.2% (Table 5). No differences in current pipe use were found by gender or grade level. Again, American Indian

students were more likely to use a pipe than White or other race middle school students ($p<0.0001$). As noted earlier in the report, ceremonial tobacco use is not explicitly excluded in the YTS questions. Among the 2.2% of students who reported current pipe use, most were non-daily users, with 9.6% using a pipe on at least 20 of the past 30 days. Trend data for current cigar use among SD middle school students has steadily declined from 5% in 2007, to 2% in 2013. Likewise, pipe use also decreased from 4% in 2007, to 2% in 2013.

Current Use of Other Tobacco Products

Use of alternative forms of tobacco and nicotine products in the past 30 days was examined. Table 6 indicates that roll-your-own, flavored, and electronic cigarettes are the top three other tobacco or nicotine products used by SD middle school students. Nationally, current use of electronic cigarettes is reported at 1.1% among middle school students[8], similar to the SD findings. The current rate of electronic cigarette use among middle school youth nearly doubled from 0.6% in 2011 to 1.1% in 2013.

Table 6. Current Use of Other Tobacco Products among Middle School Students, 2013

Product	% of middle school population
Flavored cigarettes, such as Camel Crush	1.6% ± (0.7)
Roll-your-own cigarettes	1.3% ± (0.9)
Electronic cigarettes, such as Ruyan or NJoy	1.1% ± (0.5)
Smoking tobacco from hookah or waterpipe	1.0% ± (0.5)
Some other new tobacco product not listed here	1.0% ± (0.5)
Snus, such as Camel or Marlboro Snus	0.8% ± (0.5)
Flavored little cigars	0.7% ± (0.4)
Clove cigars	0.3% ± (0.3)
Dissolvable tobacco products, such as Ariva, Stonewall, Camel orbs, Camel sticks or Camel strips	0.2% ± (0.2)

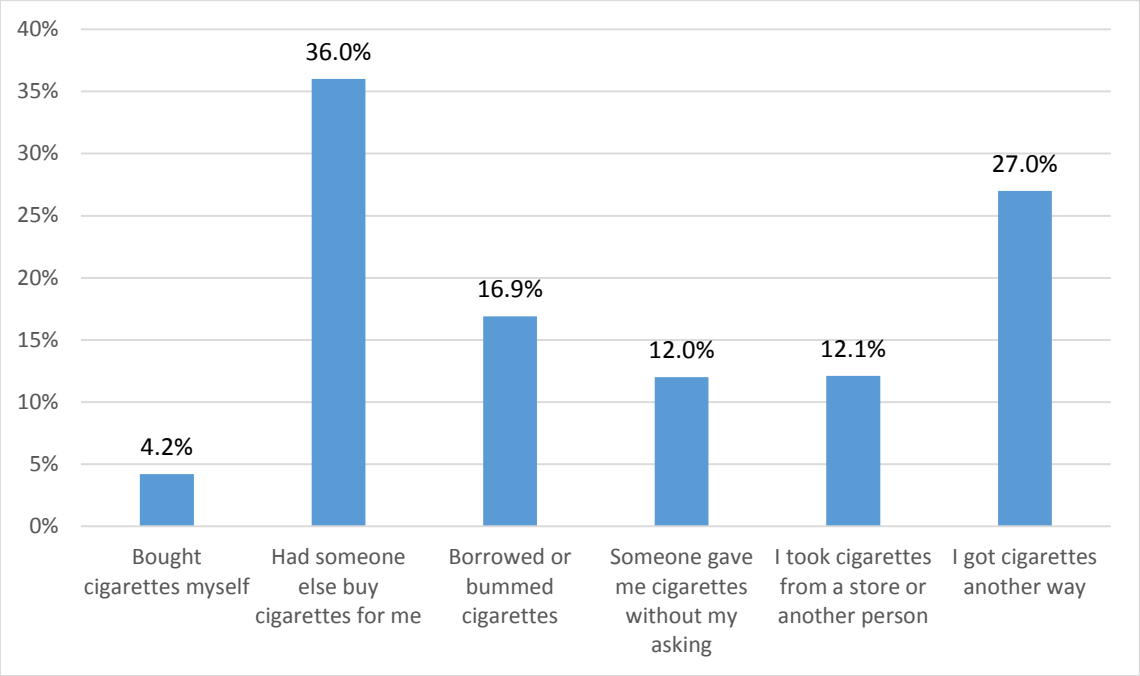
OBTAINING TOBACCO PRODUCTS

The entire sample for the South Dakota YTS was under age 18, which is the legal age in SD to purchase or use tobacco products. When asked about obtaining tobacco products, 61.9% of middle school students reported it would be "not easy at all", and 12.0% responded that it would be "very easy." Perception of ease in purchasing cigarettes increased by each grade level, with 8.3% of sixth grade students, 11.5% of seventh grade students, and 16.1% of eighth grade students reporting it would be "very easy" to purchase tobacco products ($p<0.05$). No differences existed by race.

Among students ages 11 to 14 who attempted to purchase cigarettes, 77.2% were not refused. The most common place of purchase was a gas station.

The majority of middle school students (93%) said they did not obtain cigarettes in the past 30 days. Among those students that had used cigarettes in the past 30 days, Figure 4 shows how the cigarettes were obtained. The most common method was to have someone else buy them. Only a small percentage (4.2%) of current smokers reported purchasing the cigarettes themselves. However, of those that reported an attempt to purchase on their own, 77.2% report they were not refused to purchase due to their age. Students reported buying cigarettes from a gas station (35.6%), grocery store (8.9%), convenience store (2.6%), vending machine (2.1%), and another place (27.0%).

Figure 4. How Current Middle School Smokers Obtained Cigarettes, 2013



TOBACCO CESSATION

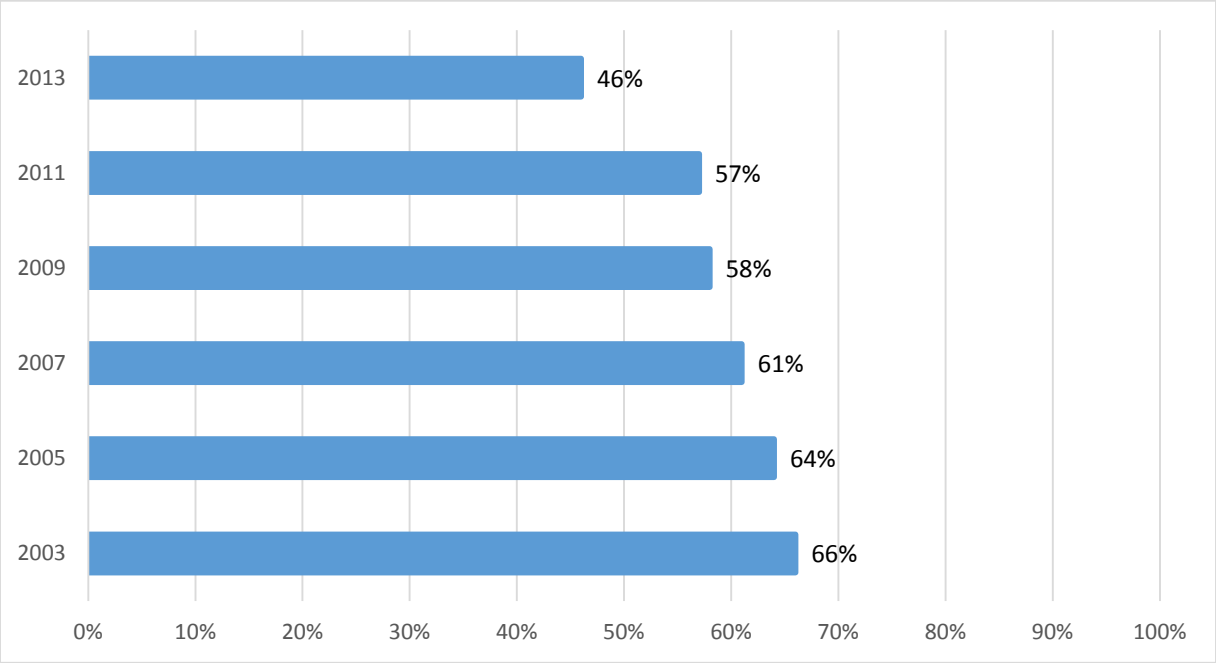
Middle school students currently using tobacco were asked about their interest in quitting and past quit attempts. Most reported an interest in quitting (61%), with over one-quarter prepared to make an attempt in the next month (Table 7). Students were asked about types of resources utilized in the past year to assist with quitting tobacco. The most common reported method of making a quit attempt was "cold turkey", or unassisted, at 19.2% of current tobacco users. Other responses included nicotine gum (9.3%), school program (4.9%), help from family or friends (4.8%), quitline (4.4%), nicotine patch (4.2%), another method such as hypnosis or acupuncture (3.9%), community program (2.9%), cessation medication (1.9%), or web-based quit site (1.9%).

Table 7. Quit Intent, All Tobacco Users, 2013

Statement	% of tobacco using population
I want to quit in the next 30 days.	27.0%
I want to quit within the next 6 months.	18.5%
I want to quit, but longer than 6 months.	15.1%
I am not thinking about quitting the use of all tobacco.	39.5%

Among current smokers, 46.1% stated that they want to stop smoking for good. Most current smokers (81.9%) had at least one quit attempt in the past 12 months, although nearly half (48.5%) of these students reported that the quit lasted 30 days or less. Figure 5 shows a declining interest in quitting among middle school smokers over the past decade (60% in 2003 to 46% in 2013) While cigarette use has declined in the past decade, interest in quitting among cigarette users is at an all-time low.

Figure 5. Interest in Quitting by Current Middle School Smokers, 2003-2013



SECONDHAND SMOKE EXPOSURE

Nearly one-third (31.1%) of middle school students reported exposure to secondhand smoke at home or in a vehicle *in the past week.*

Secondhand smoke exposure is an attributable factor in the occurrence of numerous diseases, particularly cardiovascular and respiratory diseases in children. Exposure, even without direct use of tobacco, can lead to death and the development of chronic diseases.[9] Middle school students were asked about exposure to secondhand smoke, and beliefs about the harm of secondhand smoke. In the overall sample, 96.1% of students thought breathing smoke from other people's cigarettes or other tobacco products was "very" or "somewhat" harmful. Differences existed by gender, with males slightly less likely to perceive secondhand smoke as harmful (95.3% versus females at 97.1%; $p<0.05$). Significant differences existed by race, with 97.4% of White students agreeing that secondhand smoke is very or somewhat harmful, 91.3% of American Indian, and 93.9% of students of other races agreeing the same ($p<0.0001$). Finally, current smokers were less likely to indicate secondhand smoke as very or somewhat harmful (85.2%) compared to non-smokers (96.6%), $p<0.0001$.

Secondhand Smoke Exposure

Middle school students were asked how often they were exposed to secondhand smoke at home and in vehicles. Combining home and vehicle exposure, 31.1% of middle school students reported exposure to secondhand smoke on at least one day of the past week. Exposure in vehicles was reported slightly more frequently than exposure at home. Overall, the 2013 data showed roughly the same secondhand exposure when compared to the 2011 YTS data (30.4%).[10]

Exposure at home was reported by 21.2% of students on at least one day in the past week. No difference existed by gender, but significant differences were found by current tobacco use status and race. Of current smokers, 71.0% were at home while someone else smoked a tobacco product at least one time in the past week. Among never smokers, only 16.5% were in a home with someone smoking a tobacco product. Overall, among American Indian students, 37.7% reported exposure to secondhand smoke at home on at least one day in the past week, 25.7% of other race students and 17.4% of white students reported the same ($p<0.0001$).

Rates of secondhand smoke exposure in a vehicle at least one time in the past week was 25.2%. Among current smokers, 76.4% rode in a vehicle with someone else who was smoking in the past week compared to never smokers, among whom only 19.5% reported the same ($p<0.0001$). Exposure in a vehicle also differed significantly by race with 42.1% of American Indian students reporting exposure in a vehicle compared to 22.2% of White students and 23.3% of other race students ($p<0.0001$).

Students were also asked about other places where secondhand smoke exposure could occur. When asked about breathing smoke from someone else smoking a tobacco product in a public indoor or outdoor area, 28.5% stated this had occurred on at least one day of the past week, and 3.9% stated it occurred daily. Interestingly, over 16% of students stated they had breathed smoke from someone else's tobacco product *on school property* in the past week, with 4% stating this occurred daily. The number of students exposed to secondhand smoke at school was unchanged from 16% in 2011.

Over 16% of middle school students in South Dakota report breathing smoke from someone else's tobacco product on school property at least one time in the past week.

SECTION THREE:

Environmental Factors Promoting Tobacco Use among Middle School Students

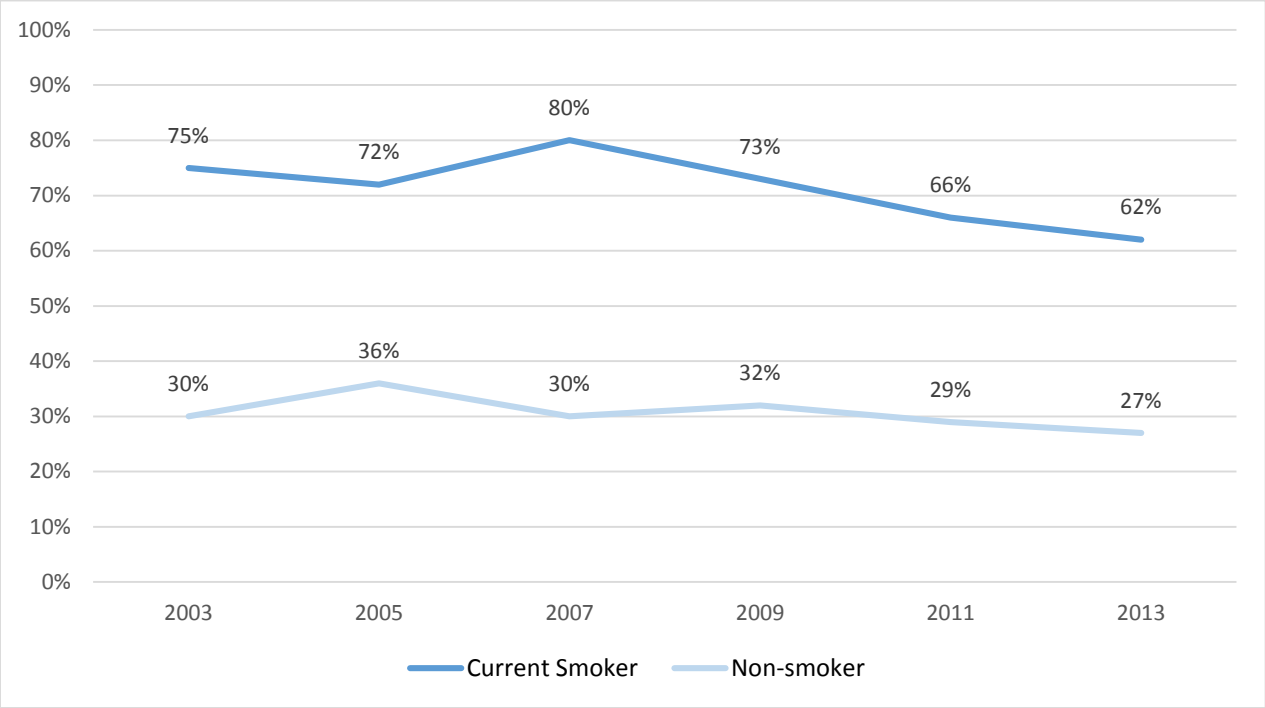
HOUSEHOLD TOBACCO USE

Among all middle school students, 43.4% reported someone in their household using a tobacco product. This finding was similar to 2011 when 42% of students reported living with someone who used tobacco. The most common tobacco product used by household members of middle school students was cigarettes (30.6%) followed by smokeless tobacco (14.0%). No differences were found by gender in prevalence of household tobacco use, but significant differences existed by race ($p<0.0001$). Of White students, 40.6% reported someone in the household used tobacco. Similarly, 42.1% of other race students reported household tobacco use. Rates were much higher among American Indian students, with 59.6% reporting someone using tobacco in the household.

Among middle school tobacco users, 79.1% reported a household member who uses tobacco.

Observation of others using tobacco is a promoting factor in initiation of tobacco use among youth.[1] Important differences were found in student tobacco use by household member use. Among those not using any type of tobacco, only 41.2% reported someone in the household using tobacco. In contrast, 79.1% of those students using a tobacco product reported someone in their household used tobacco. This difference was significant ($p<0.0001$). Figure 6 shows the trends specific to smoking. Among middle school smokers, 62% report someone in the household smoking compared to only 27% of never middle school smokers. Household smoking is at the lowest rate in the past decade, as is use of cigarettes by middle school students.

Figure 6. Trends in Household Member Smoking, by Student Current Smoking Status, 2003-2013



TOBACCO USE AMONG PEERS AND AT SCHOOL

Tobacco Use at School

Smoking, or observing someone smoking, on school property in the past 30 days was reported by 8.8% of middle school students. No differences were found by gender, but frequency did increase by grade level ($p<0.05$). American Indian students were also more likely to use or observe use of cigarettes at school with 14.6% of student reporting this compared to 8.0% of White students, and 6.5% of student of other races ($p<0.05$). Smokeless tobacco use was reported on school property by 7.3% of middle school students in the past 30 days. Again, this did not vary by gender, but frequency increased by grade level ($p<0.05$). American Indian students reported highest use or observation of use of smokeless tobacco on school property at 12.4%, compared to 6.3% of White students, and 6.8% of students of other races ($p<0.05$).

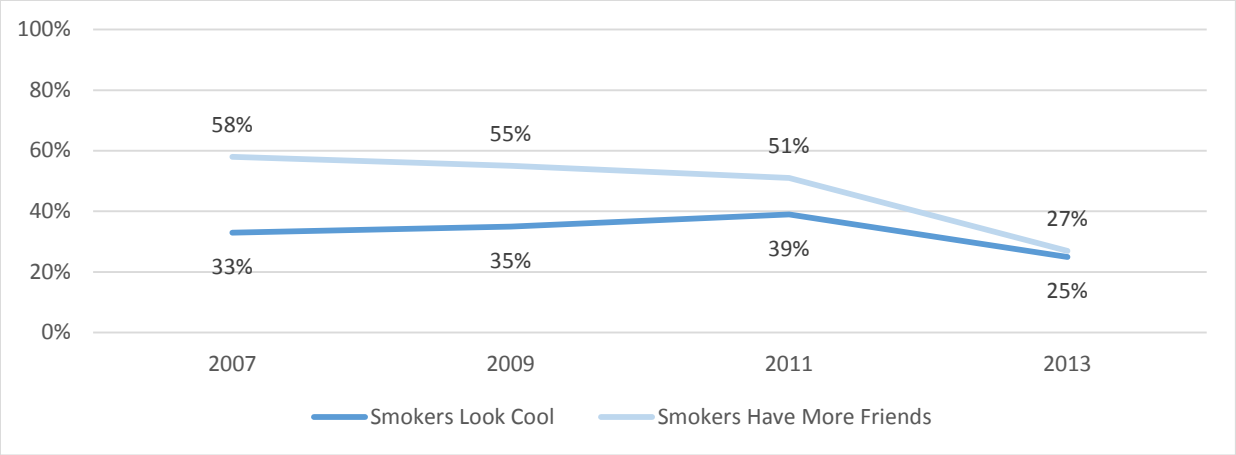
Almost 9% of middle school students reported smoking or observing someone smoking on school property in the past 30 days.

Perceptions of Tobacco Use

Middle school students were asked questions about their perception of those who smoke cigarettes. Agreement that smoking made young people look cool or fit in was reported by 6.6% of students. This perception did not vary by gender or grade level. Perceived "coolness" of smoking did vary by race, with the lowest rates among White students at 5.2% and the highest rates among American Indian students at 13.5% ($p<0.0001$). Not surprisingly, it also varied significantly by smoking status, with 25.4% of current smokers thinking smoking made people look cool, and only 5.7% of non-smokers thinking the same ($p<0.0001$).

Students were also asked if those who smoke cigarettes have more friends, with 11.3% stating agreement. This varied significantly by gender, with 13.1% of females in agreement, compared to 9.6% of males ($p<0.05$). Differences were also found by race with a lower number of White students agreeing (9.2%) compared to American Indian (20.8%) and other race (14.9%) ($p<0.0001$). Again, smokers were more likely to agree that students who use cigarettes have more friends at 27.4% compared to non-smokers at 10.7%. An important downward trend towards less positive perceptions about smoking is noted among current smokers, as depicted in Figure 7.

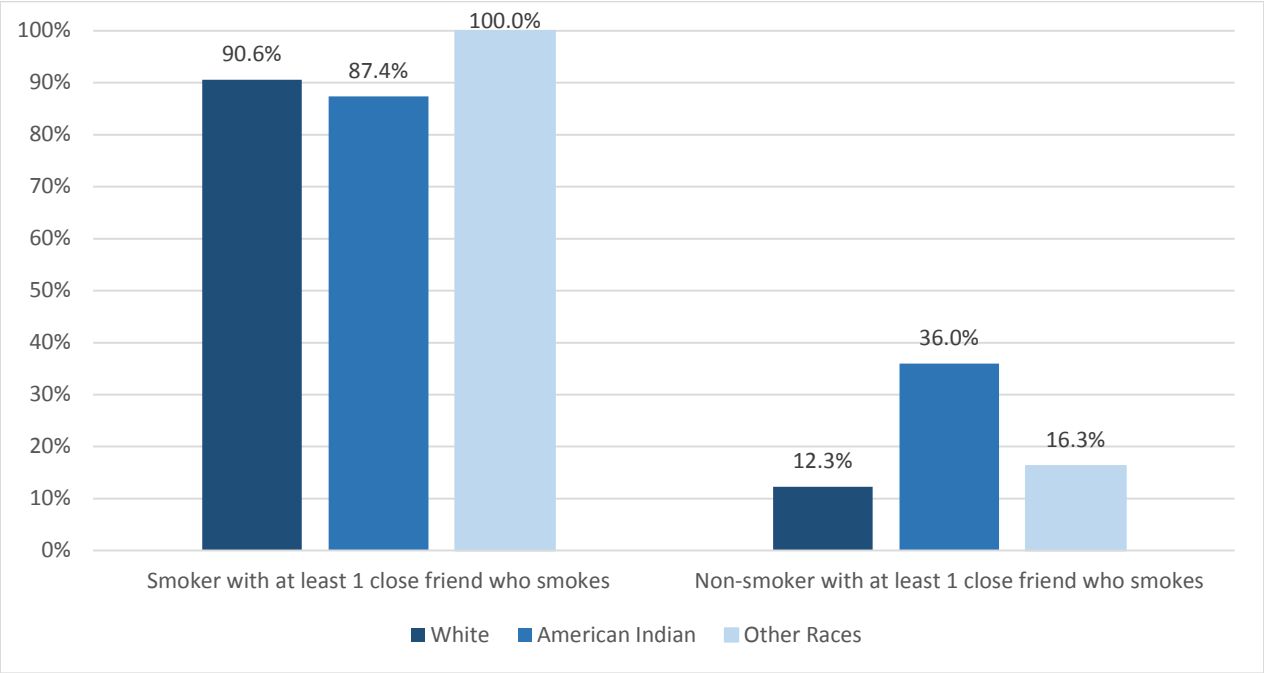
Figure 7. Perceptions about Smoking among Current Middle School Smokers, 2007-2013



Peer Tobacco Use

Middle school students were asked about peer use of tobacco products. Among the sample, most did not have close friends that smoked (81.6%) or used smokeless tobacco (86.3%). These 2013 findings are nearly identical to 2011. Variations by race and current smoking status existed. Among middle school students, American Indians had the highest rates of reporting close friends who used cigarettes at 41.3%. This was significantly different from both White students at 13.5% ($p<0.0001$) and other race students at 23.6% ($p<0.0001$). Among current smokers, the vast majority (84.2%) had at least one close friend that smoked (Figure 8). Findings were similar for smokeless tobacco use, with American Indians students reporting the highest rates of friends that used smokeless tobacco at 30.3%. This was significantly different from White students at 10.3% and other race students at 15.5% ($p<0.0001$). Among current smokeless tobacco users, 88.4% had one or more close friend(s) that used smokeless tobacco.

Figure 8. Rates of Peer Cigarette Use, by Current Smoking Status and Race, 2013



TOBACCO PRODUCT MARKETING

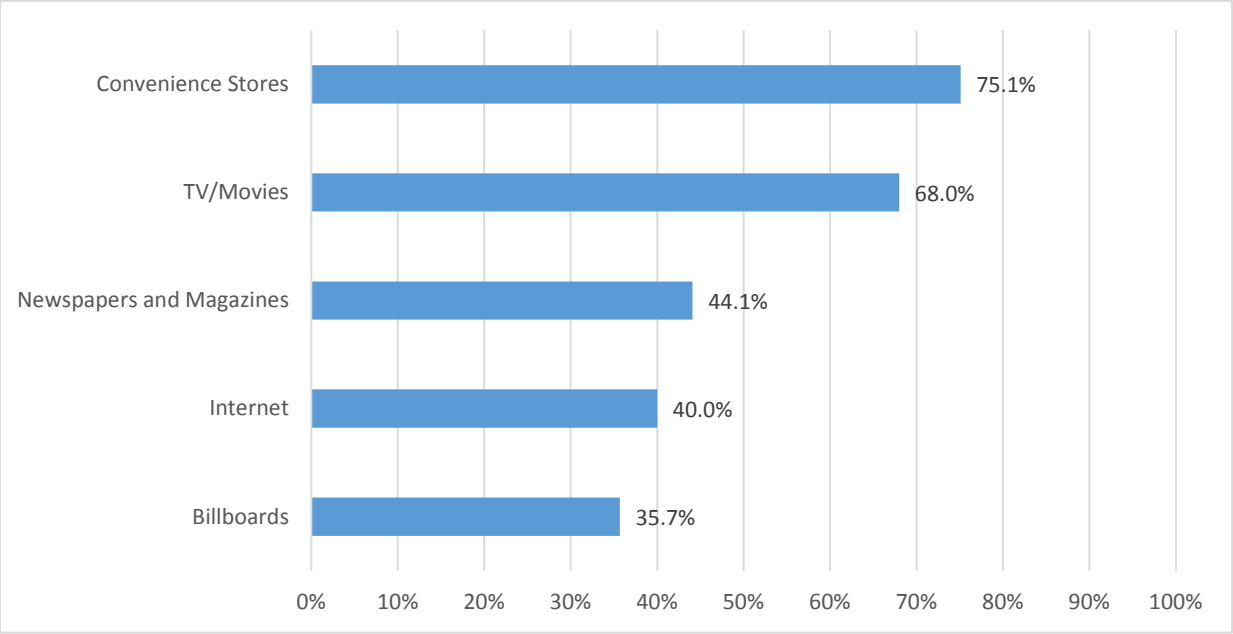
Tobacco product marketing aimed at youth continues, and marketing influences contribute to initiation of use among youth.[11] In 2011, the most recent year of available data, the tobacco industry spent an estimated $24 million *per day* in marketing products nationwide, with an estimated annual $21.5 million marketing expenditures in South Dakota alone.[12]

Middle school students were asked if tobacco companies marketed products to young people, finding 68.2% of students agreed that tobacco companies target youth. This number has decreased from the 2011 survey which showed that between 75-76% of students felt the tobacco companies target youth. This perception did not vary by gender or grade level. American Indian students had the lowest agreement at 59.6%, with White students having the highest at 70.6% ($p<0.01$). This also varied by tobacco use status, with only 54.9% of current tobacco users feeling the tobacco companies were targeting youth, and 69.0% of non-tobacco users feeling the same ($p<0.01$).

Students were asked many questions about receiving direct marketing from tobacco companies. Most students did not report receiving coupons for tobacco products (91.6%). However, a small portion of the entire middle school population did receive coupons by mail (3.9%), e-mail (1.3%), Internet (1.8%), Facebook (1.9%), and a text message (0.9%). Likewise, most did not receive ads directly from a tobacco company (89.7%). Of the entire population, 2.8% received ads by mail, 1.5% by email, 4.3% via the Internet, 2.4% by Facebook, and 0.8% by a text message.

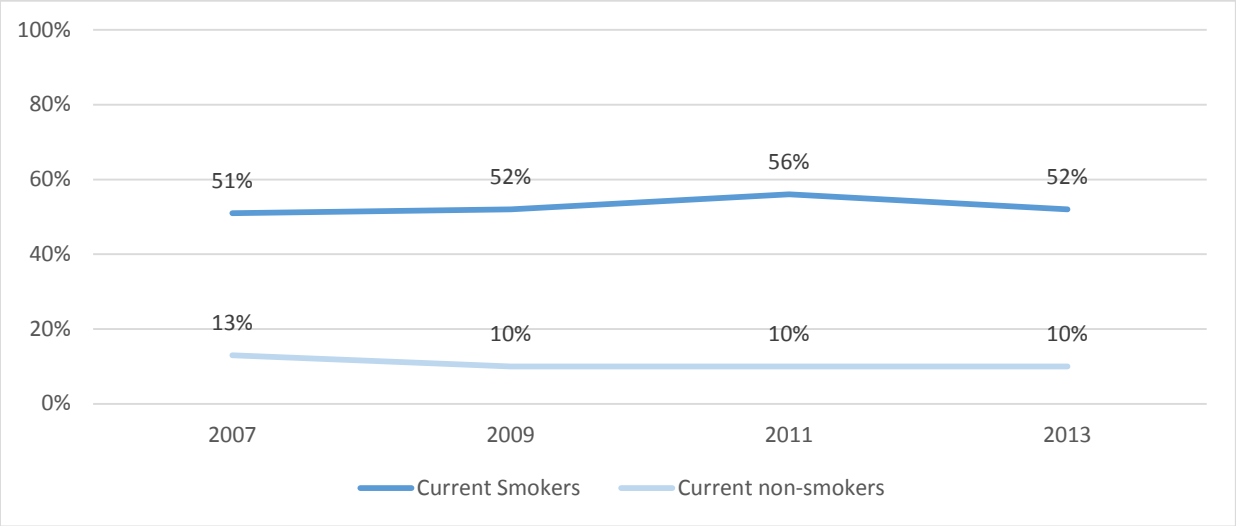
Students were also asked where, if anywhere, they had seen various types of tobacco product marketing. As Figure 9 shows, convenience stores and actors/actresses on TV and movies were the most common ways SD middle school students saw tobacco promoted. Combining the digital media avenues (Internet, TV and movies), 74.5% of middle school students reported sometimes, most of the time, or always, seeing ads for tobacco products.

Figure 9. Tobacco Product Advertising Viewed by Middle School Students, by Location, 2013



Finally, students were asked about the appeal of products (i.e., T-shirts, hats, water bottles) with tobacco company logos. Overall, 7.3% of students had bought or received a product with tobacco company branding. Among current smokers, 40.0% reported owning a product with a tobacco company logo on it, and 51.9% said they would use or wear such a product. Among non-smokers, only 6.1% owned a branded product, and only 9.5% said they would use or wear such a product. Trends are presented in Figure 10.

Figure 10. Trends in Middle School Students' Interest in Using or Wearing Tobacco Company Branded Products, 2007-2013



SECTION FOUR:
Anti-Tobacco Education and Messaging

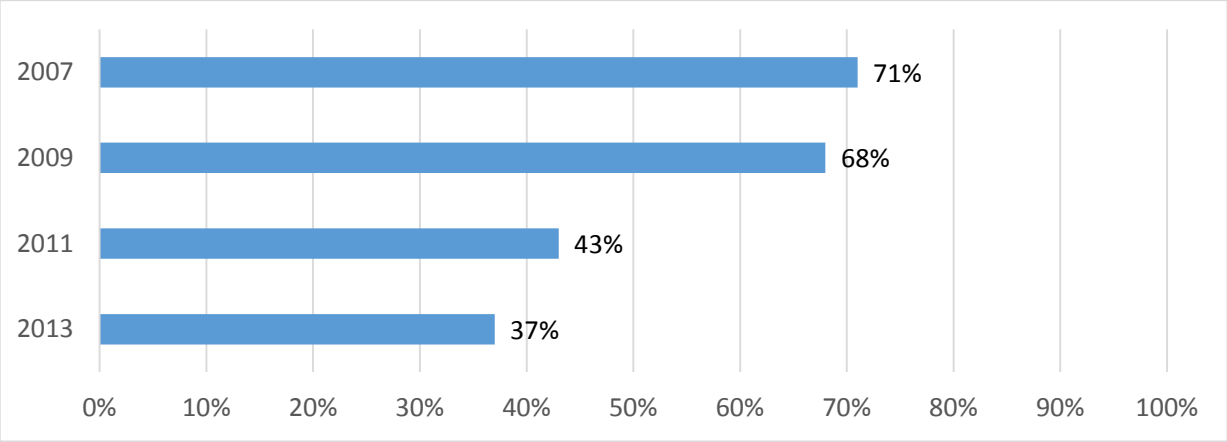
EDUCATION AND MESSAGES ABOUT TOBACCO USE

Best practice guidelines to effectively reduce tobacco initiation among youth include strong media and community based messaging about the dangers of tobacco use.[13] A recent Surgeon General publication specifically points to parents, schools, and mass media as key sources of information on the dangers of tobacco use for our youth.[14] Survey findings show that among SD middle school students, 88.3% reported hearing an anti-tobacco message from at least one source (parent, healthcare provider, school, organized activity, or ReThink It media).

Parental Messaging about Tobacco Use

Among middle school students, 37.2% reported a parent had talked with them about not using tobacco in the past year. This varied significantly by gender (female = 40.0% and male = 34.6%; $p<0.05$) and race (White = 34.7%, American Indian = 48.7% and other race=38.3%; $p<0.001$). Differences also existed by tobacco use status, with more students currently using tobacco reporting a parent had discussed dangers of use, 45.9%, compared to 36.7% of those not using ($p<0.05$). A clear shift has occurred away from parental discussion of tobacco use, as outlined in Figure 11.

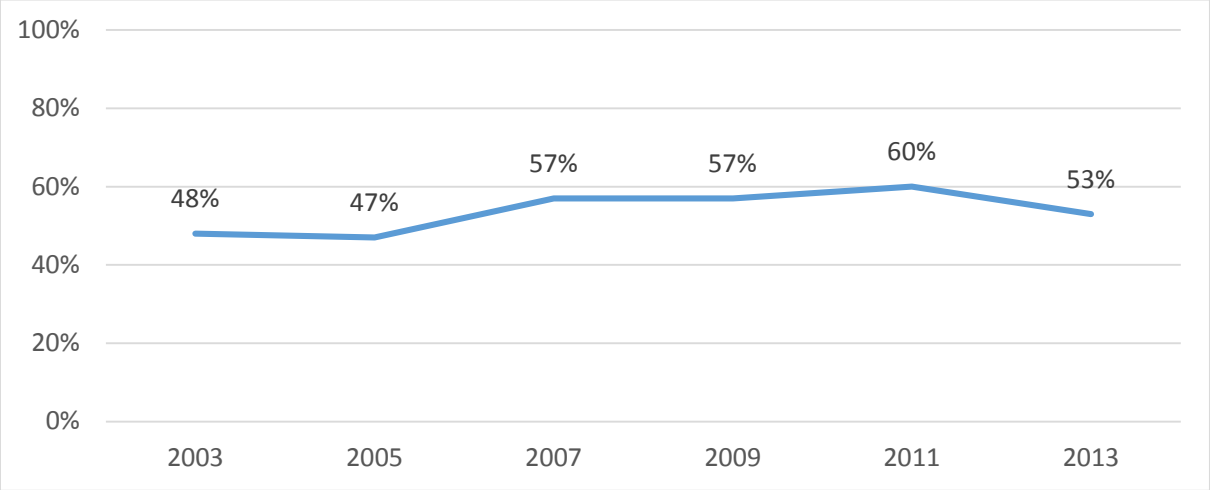
Figure 11. Trends in Parent(s) Discussing the Dangers of Tobacco Use, 2007-2013



Tobacco Education at School

Over half of the sample (52.7%) reported that information about the dangers of tobacco use were presented in school. This did not vary by gender, but did vary by race with more American Indian students hearing this message in school at 61.7% compared to White at 51.3% and other races at 50.8% ($p<0.05$). No differences were found in receiving education in school by those currently using tobacco and those not using tobacco. Figure 12 displays the trends of anti-tobacco education in schools over the past decade.

Figure 12. Trends in Number of Students Receiving School-based Education about the Dangers of Tobacco Use, 2003-2013



Organized Activities Discouraging Tobacco Use

About one-quarter of the sample (26.5%) reported involvement in an organized activity to keep young people away from tobacco use. Examples of anti-tobacco organized activities in South Dakota include Teens against Tobacco Use (TATU) groups and groups organized at local Boys and Girls Clubs. More females than males reported involvement in anti-tobacco organized activities (females = 29.2% and males=24.0%; $p<0.05$). No differences were found by race or tobacco use status.

Healthcare Professional Messaging about Tobacco Use

Clinical practice guidelines recommend that clinicians ask both pediatric and adolescent patients about tobacco use and provide abstinence advice.[15] This recommendation is further expanded by the American Academy of Pediatrics, which recommends advising against tobacco use for all patients starting at age 5.[16]

Students were asked about discussions with healthcare providers (including doctors, dentists or nurses) regarding tobacco. Most students (87.7%) reported seeing a healthcare provider in the past year. Among those who had seen a healthcare professional, only 24.5% said this provider asked about use of tobacco products. This did not vary by gender, but did vary by race with more American Indian students (41.2%) asked than White (21.4%) or other race (24.6%) students ($P<0.0001$). Differences were also found by tobacco use status with 46.1% of current tobacco users asked versus only 22.8% of non-users ($p<0.0001$).

Students were also asked if a healthcare professional had advised them not to use tobacco. Among those who had seen a healthcare professional in the past year, 27.0% reported this person advised against the use of tobacco products. Again, this did not vary by gender, but did vary by race and tobacco use status with more American Indian students (37.3%) compared to White (25.2%) and other race students (27.9%) advised ($p<0.05$), and more current tobacco users advised (46.8%) compared to non-users (25.5%) ($p<0.0001$).

Anti-Tobacco Media

The South Dakota Department of Health Tobacco Control Program has designed media aimed at providing information about the dangers of tobacco use, cessation information, and how tobacco companies target youth. This media is available at http://rethinktobacco.com. Among all SD middle school students, 59.2% reported hearing the "Rethink It. Seriously." slogan with no differences found by gender, race, or tobacco use status.

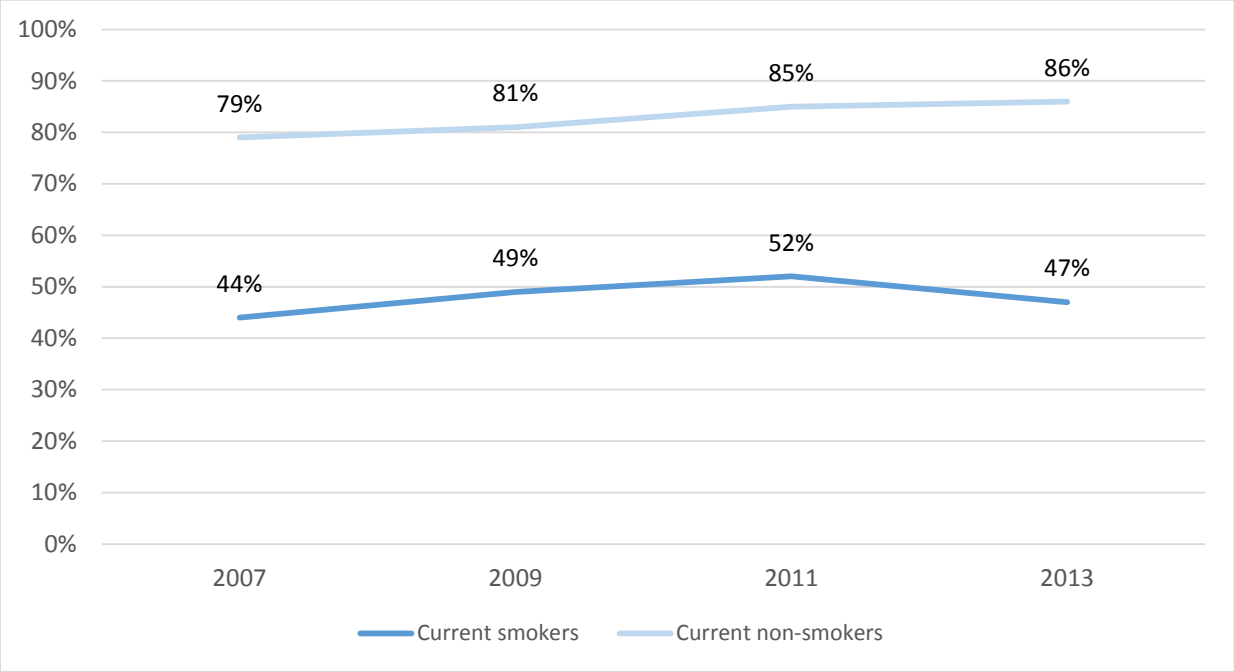
Warning Labels on Tobacco Products

Warning labels on tobacco products display messages that tobacco is harmful. Among SD middle school students who had seen a cigarette pack in the past 30 days, only 36.5% reported seeing the warning label on the pack. Viewing this warning label varied by gender with fewer females (29.6%) than males (43.7%) indicating they saw the warning label ($p<0.0001$). Interestingly, fewer current smokers (26.7%) than non-smokers (37.6%) reported viewing the warning label ($p<0.05$). Among those who have seen a smokeless tobacco product, 32.0% report seeing the warning label. Similar to cigarettes, observation of the warning label differed by gender (26.7% of females compared to 37.6% of males), but did not vary by smokeless tobacco use status.

HOUSEHOLD INDOOR SMOKING RULES

Home rules that prohibit smoking tobacco products indoors and in vehicles aid in reducing, but do not eliminate, the health impact to youth. Home rules about smoking indoors were assessed as both a protective factor in secondhand smoke exposure, and also as a message against smoking. The weighted sample of middle school students surveyed indicated that 84.2% lived in a home where smoking was *never* allowed inside, similar to findings from 2011. No differences in home smoking rules existed by gender. However, results did vary significantly by race ($p<0.0001$). Among American Indian students, only 69.3% reported home rules, followed by other race students of which 79.0% reported home rules ($p<0.05$). Among White students, 87.5% reported home rules prohibiting smoking indoors ($p<0.0001$). Notably, differences also existed by current smoking status, with home rules reported by only 46.6% of students who smoke compared to 85.6% of non-smokers ($p<0.0001$) (Figure 13).

Figure 13. Trends in Home Rules Prohibiting Smoking Indoors, by Smoking Status, 2007-2013



Rules about smoking inside vehicles had similar rates. Overall, 76.8% of middle school students reported a rule prohibited smoking inside vehicles. Again, this did not vary by gender, but did vary significantly by race and smoking status. American Indian students reported significantly lower rates of rules prohibiting smoking in vehicles at 60.2% compared to White students at 80.2% and other race students at 75.5% ($p<0.0001$). Non-smokers reported vehicle rules at a rate of 78.6% compared to smokers at 30.9% ($p<0.0001$).

SECTION FIVE:

Recommendations

2013 YOUTH TOBACCO SURVEY

RECOMMENDATIONS

Based on the 2013 South Dakota YTS, the following recommendations are offered toward reducing the health risks associated with tobacco use and secondhand smoke exposure among the youth of South Dakota:

Implement and enforce school tobacco-free policies.

With 16% of students reporting secondhand exposure at school in the past week, and nearly 9% either smoking or seeing another student smoke on school property in the past 30 days, significant room for improvement exists. Eliminate tobacco use on all school property, at all school events, at all times.

Target parents for cessation.

Of middle school students using tobacco, 80% had a household member that used. Over 30% of youth stated they were at home or in a vehicle with someone smoking. Parental cessation improves health outcomes for not only the parent, but also the child, and is a step toward de-normalizing the tobacco using environment. Create SD QuitLine promotion products that target parents specifically.

Educate healthcare providers on clinical practice guidelines for assessment of youth and household tobacco use.

The "ask, advise, and refer" process applies to pediatric patients.[15] Education on tobacco counseling should include pediatric assessment, particularly for family medicine and pediatric providers. Healthcare providers educating parents about the dangers of secondhand smoke exposure is an additional guideline from the American Academy of Pediatrics.[16] Finally, alternative forms of tobacco, including electronic cigarettes, flavored cigars, and dissolvable products need to be part of the tobacco product avoidance conversation, particularly among youth.

Eliminate tobacco sales to underage youth.

Over three-quarters of this population (ages 11 to 14) who *attempted* to buy tobacco *were able to do so*. This primarily occurred in gas stations. Efforts to limit access to tobacco purchases for youth are needed, including consequences for owners and employees who sell to minors.

Reduce youth exposure to tobacco product marketing.

Restrictions on tobacco company marketing at convenience stores may impact youth use, as three-quarters of middle school students indicated they often saw tobacco ads in these sites. Empower community coalitions to get involved in reducing tobacco marketing to youth.

Support and enforce broad tobacco free policies to reduce secondhand smoke exposure.

New baseline measures and targets for goals related to secondhand smoke exposure need to be set for reducing exposure at home and in vehicles. Over 30% of students reported secondhand smoke exposure, which can enormously impact health. Strong smoke-free policies are needed in schools, in homes and vehicles (through voluntary home and vehicle bans) and in multi-unit housing settings as well as other public places. Enforcement of such policies is needed. Leverage community coalitions to provide education on the benefits of tobacco free policies, and to advocate for policy implementation and enforcement.

Promote the SD QuitLine in schools.

Among all types of current tobacco users, 61% reported an interest in quitting. Unfortunately, most who had attempted a quit had done so without assistance. The SD QuitLine can provide support in helping youth to quit before tobacco causes long-term health consequences. Furthermore, QuitLine coaching supports the development of self-regulation and coping skills that can benefit youth in other areas of their health and quality of life. Promotion of the SD QuitLine among school staff, particularly counselors and nurses, is needed. Most current middle school tobacco users reported a close friend who also used tobacco, thus, one individual's success at quitting may have a domino effect, influencing peers to quit as well.

Provide consistent, frequent messages about the dangers of tobacco use to all school age youth.

Over half of middle school students reported hearing about the dangers of tobacco use in school. Nearly 60% were aware of the Rethink tobacco campaign. About a quarter of students were involved in an organized activity to prevent tobacco use. Continue to offer direct messaging to youth about tobacco use dangers, including alternative tobacco products. Support parents in talking to their children about the health impact of tobacco use. Tobacco use increases significantly between sixth and seventh grades. Anti-tobacco messaging to students grade six and younger may be helpful.

Decrease tobacco use among American Indian youth.

Targeted tobacco prevention and cessation interventions should continue for American Indian youth. There were encouraging findings in 2013. Compared to other races, American Indian students were more likely to report a parent advising against tobacco use, learning about the dangers of tobacco use in school, and being advised by a healthcare professional to not use tobacco. These efforts seem to be having an impact, as cigarette use among American Indian students in 2013 was the lowest in the past decade.

Monitor use of electronic cigarettes.

Nationally, electronic cigarette use by youth is a growing trend. Although use by middle school students is low (1.1%), rates have nearly doubled in the past two years. Continued efforts to prohibit access and marketing of electronic cigarettes among youth are needed.

Reduce truancy.

High rates of tobacco use were reported among students who skip school. In fact, as the number of days skipped increases, so does the probability of tobacco use. Efforts to curb truant behavior not only improve academic performance, but serve as a protective factor against tobacco use. Tie truancy prevention efforts to tobacco prevention efforts.

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Appendix A: Progress on Tobacco Control Program Strategic Plan Goals

Prevent Initiation of Tobacco Use among Young People

Objective: By 2013, increase the percentage of middle school students who report seeing/hearing an anti-tobacco message from 68% to 80%.

★★★★★

Achieved: In 2013, 85.3% report hearing an anti-tobacco message from a parent, healthcare provider, at school, in an organized activity, or from the Rethink it media.

Objective: By 2013, increase the number of middle school students that report receiving anti-tobacco education from 57% to 60%.

★☆☆☆☆

Losing Ground: In 2013, 52.9% report receiving anti-tobacco education in school.

Promoting Tobacco Cessation among Youth

Objective: Reduce the number of middle school youth that currently use spit tobacco from 4% to 2% by 2013.

★★★☆☆

Gaining Ground: In 2013, 3.3% of middle school youth reported current use of spit tobacco.

Objective: Reduce the number of middle school youth that currently smoke from 6% to 4% by 2013.

★★★★★

Achieved: In 2013, 3.5% of middle school youth report current use of cigarettes.

Eliminating Nonsmokers' Exposure to Secondhand Smoke

Objective: By 2013, reduce the number of youth grades 6-8 that were in the same room or car as someone smoking, from 50% to 45%.

★★★★★

Achieved: In 2013, 31% of middle school youth reported being in a home or vehicle with someone smoking a tobacco product in the past week. **Reset baseline measures to reflect YTS data.**

Electronic Cigarette Use

Requested Baseline Data: The use of electronic cigarettes among youth has been increasing across the nation. In 2013, 2.7% of South Dakota middle school students report trying an electronic cigarette at least once in their lifetime, an increase from 1.7% in 2011. In the past 30 days, 1.1% report use of an electronic cigarette, an increase from 0.6% in 2011.