

Tobacco Use among Iowa Youth 1999-2014 Trends Chart Book

tables and graphs of tobacco-related
findings from the Iowa Youth Survey (IYS)

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Division Mission

To establish a comprehensive partnership among state government, local communities, and the people of Iowa to foster a social and legal climate in which tobacco use becomes undesirable and unacceptable



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Notes

Current cigarette or current use of any other tobacco product is defined as having used one or more times in the past 30 days.

E-Cigarette use: No studies were available from the Center for Disease Control and Prevention (CDC) or other sources documenting the proportion of e-cigarettes (vaping products) and e-cigarette juice sold in the U.S. that contain nicotine. In visiting stores that sell e-cigarettes and e-cigarette juice, it was found that many, if not most, products, even those labeled zero percent nicotine on the front had nicotine listed as an ingredient elsewhere on their packaging.

In its published surveillance data, CDC currently treats all e-cigarettes as nicotine-containing products derived from tobacco. This report also assumes that when a student reports using e-cigarettes that they are using products containing nicotine.

Rate of change in tobacco use prevalence rates: This report describes trends in Iowa youth tobacco use prevalence rates across time, 1999 through 2014. The tables and narrative of this trend report not only describe the prevalence rates themselves but the rate of change in those prevalence rates across time (percentage change increase or decrease in a prevalence rate from one year to another later year).

For example, the 11th grade cigarette use rate was 33% in 1999 and 10% in 2014. The rate or percent change in the cigarette use rate for 11th grade students during this time would be minus 70%—a rate of decline in the cigarette use rate of 70% since 1999. The formula for computing the rate of change in the cigarette use rate in this example was: $(33\%-10\%)/33\%$.

Rounding of rates in charts and tables: All rates (percentages) in the line charts in the body of this report are rounded to the nearest whole number, the exception being that the most recent year's rates are rounded to nearest tenth of a percent (one decimal point). This is done to improve chart readability. The percent differences in rates described in the narrative are based on unrounded rates for all years. Prevalence use rates in the tables found in the appendix of this report are displayed to the nearest one-tenth of a percent

Statistical significance: In the tobacco use prevalence tables in the appendix of this report, when a grade/*sex*-specific rate is statistically higher than the comparable rate of the opposite sex, the higher rate is highlighted in red

In the prevalence tables of the appendix a race-specific tobacco use rate is highlighted when it is statistically higher than the comparable statewide use rate.

Tobacco use prevalence rates: The tobacco use prevalence rates given in this report are provided in percentages—the number of students in a particular group (grade, sex, race) who are using a tobacco product divided by the total number of students in that group times 100.

Acronyms

AN/NA Alaskan Native/Native American

CDC Centers for Disease Control and Prevention

IDPH Iowa Department of Public Health

IYS Iowa Youth Survey

NRT nicotine replacement therapy

PI Pacific Islander

TUPAC/TUPC Division of Tobacco Use Prevention and Control, IDPH

Introduction

Iowa Youth Survey (IYS) and Youth Tobacco Use

This is the first report completed by the Iowa Department of Public Health, Division of Tobacco Use Prevention and Control, that is based on the IYS and exclusively covers in-depth trends in tobacco use among Iowa youth. Trends analyzed in this report are cumulative use of any form of tobacco and use of cigarettes, smokeless tobacco and cigars. (Cigarettes, smokeless tobacco and cigars are the only forms of tobacco consistently included in the IYS across years.)

Iowa Youth Survey (IYS) Background

The IYS has been conducted with students in grades 6, 8, and 11 attending both Iowa public and private schools every two or three years since 1975. All Iowa schools with students in the three grades covered by the IYS are asked to allow their students to participate. While begun in 1975, only data from the 1999 IYS forward are available in electronic form. The seven IYSs for which data are available and included in this report were completed in 1999, 2002, 2005, 2008, 2010, 2012 and 2014.

Since its inception, the IYS has asked about student health-related behaviors, attitudes and beliefs as well as the level of peer, family, school, neighborhood, and community support that the student has in choosing healthy behaviors. Tobacco use has been covered by the IYS since at least 1999.

Nature and Purpose of the IYS

This IYS is designed to help state-level planners, community agencies, and school personnel identify youth development needs, implement relevant interventions and assess outcomes.

IYS tobacco-related information can assist in providing a better understanding of risk-factors students face when deciding to use or not use tobacco. It can also help to assess the strengths and weaknesses of schools, families, and communities in their work to prevent tobacco use from the young person's perspective.

Tobacco-Related Questions Included in the 1999-2014 IYS:

Questions on tobacco use consistently included in the IYS across years and covered in this trend report are:

- current use of cigarettes, cigars and smokeless tobacco;
- current use of any tobacco (2014 cumulative student use of any tobacco includes use of e-cigarettes and dissolvable tobacco
- cigarette use initiation, cigarette addiction levels and cigarette use cessation.

The IYS questions related to perceptions about tobacco use being socially acceptable and level of peer, family, community and school support for a student choosing not to use tobacco are beyond the scope of this report.

Profile of Students Participating

For each year's IYS covered in this report (1999, 2002, 2005, 2008, 2010, 2012, 2014), validated IYS surveys were received from students in grades 6, 8, and 11 from across the state.

For most IYS survey years, participation rates were 70% or higher for each grade six, eight and eleven. While participation rates for 2010, 2012 and 2014, the most recent IYS's, were lower than for 1999 through 2008, these recent years still had at least 70,000 students completing a validated IYS.

An examination of 2014 IYS participation rates among public school students from at-risk populations (racial and ethnic minorities) compared to the proportion of all public school enrolled students who were racial or ethnic minorities found that minimal bias was likely being introduced by either the under or over-representation of at-risk students in the IYS.

Counts of: Students Participating in the IYS School Enrollment; Percent Participating, by Grade, Year, 1999-2014									
Year	Participation by Grade			Enrollment by Grade (including nonpublic)			Rate of Participation		
Year	Grade 6	Grade 8	Grade 11	Grade 6	Grade 8	Grade 11	Grade 6	Grade 8	Grade 11
1999	27,171	30,248	26,082	35,856	38,003	37,886	76%	80%	69%
2002	32,163	32,919	30,335	40,033	40,142	40,127	80%	82%	76%
2005	31,814	34,068	31,673	38,467	40,641	40,403	83%	84%	78%
2008	32,264	32,673	31,130	37,643	37,807	39,603	86%	86%	79%
2010	26,857	27,115	23,656	37,893	37,663	38,354	71%	72%	62%
2012*	24,170	24,294	21,963	38,477	38,037	39,465	63%	64%	56%
2014	26,117	26,443	24,464	38,522	38,209	37,770	68%	69%	65%

*Private enrollment counts based on 2013-14 school year as 2012-13 data were not available.

Other Publications with Tobacco-Related Data from the 1999 - 2014 IYSs

Besides this report, a number of comprehensive IYS reports, inclusive of but not specific to tobacco, can be found on the IYS website: <https://iowayouthsurvey.iowa.gov>. These IYS comprehensive reports are published at the state, county and area education agency-level.

The IDPH Division of Tobacco Use Prevention and Control (TUPC), also has posted a detailed sortable *county*-level table that allows comparison of cigarette, smokeless tobacco and e-cigarettes use rates by grade and for 2014 and a detailed 2014 state-level youth tobacco use report.

Both these two reports and this trend report can be found on the TUPC website: <http://iowa.gov/tupac/statistics>.

1999-2014 Trends: Summary of Findings from the IYS

Between 1999 and 2014 the:

- Overall tobacco use (cigarettes, smokeless tobacco, cigars) rates *exclusive of e-cigarettes*—which were first introduced in the U.S. during 2006-2007 and for which the IYS did not collect use rates until 2014—declined substantially for all three grades between 1999 and 2014. The 6th and 8th grade overall all use rates fell by 76%, while the 11th grade overall use rate fell by 64%.
- However, when the 2014 overall tobacco use rate by grade was calculated inclusive of e-cigarettes, for 8th and 11th grade students, the overall use rates still declined by more than half while the 6th grade overall tobacco use rate showed virtually no decline (from 3.8% to 3.6%) between 1999 and 2014.
- Between 1999 and 2014, overall and product-specific use rates increased with each higher grade level with most of the increase in rates occurring between 8th and 11th grade. Between 1999 and 2014:

11th grade:

- . overall tobacco use rate, exclusive of e-cigarettes, fell 64% (from 38% to 14%); and
- . overall tobacco use rate, inclusive of e-cigarettes, fell 52% (from 38% to 18%).

8th grade:

- . overall tobacco use rate, exclusive of e-cigarettes, fell 76% (from 15% to 4%); and
- . overall tobacco use rate, inclusive of e-cigarettes, fell 61% (from 15% to 6%).

6th grade:

- . overall tobacco use rate, exclusive of e-cigarettes, fell 76% (from 4% to 1%); and
- . overall tobacco use rate, inclusive of e-cigarettes, fell 0.6% (from 4% to 3.6%).

11th grade by sex:

Males:

- . overall tobacco use rate, exclusive of e-cigarettes, fell 60% (from 41% to 16.7%); and
- . overall tobacco use rate, inclusive of e-cigarettes, fell 54% (from 41% to 21.6%).

Females:

- . overall tobacco use rate, exclusive of e-cigarettes, fell 69% (from 34% to 10.6%); and
- . overall tobacco use rate, inclusive of e-cigarettes, fell 58% (from 34% to 14.5%).

Race/ethnicity-specific rates

Between 1999 and 2014 the:

- . Grade/race/ethnicity-specific overall tobacco use rates *exclusive of e-cigarettes* declined substantially for all race/ethnicity breakout groups between 1999 and 2014.
- . Rates of decline in tobacco use, exclusive of e-cigarettes, ranged from a low of 63% among white 11th grade students to a high of 86% among Hispanic 6th grade students.
- . When e-cigarette use in 2014 was factored into the overall race/ethnicity-specific use rates for 6th grade students that year, the decline in overall tobacco use between 1999 and 2014 greatly diminished or disappeared within every grade/race/ethnicity specific group of students. When e-cigarette use was counted, Native American and Hispanic 6th grade students saw no decline in their overall tobacco use rates between 1999 and 2014.
- . For every IYS survey year between 1999 and 2014, overall use rates increased with each higher grade level within every racial/ethnic group.

Trends

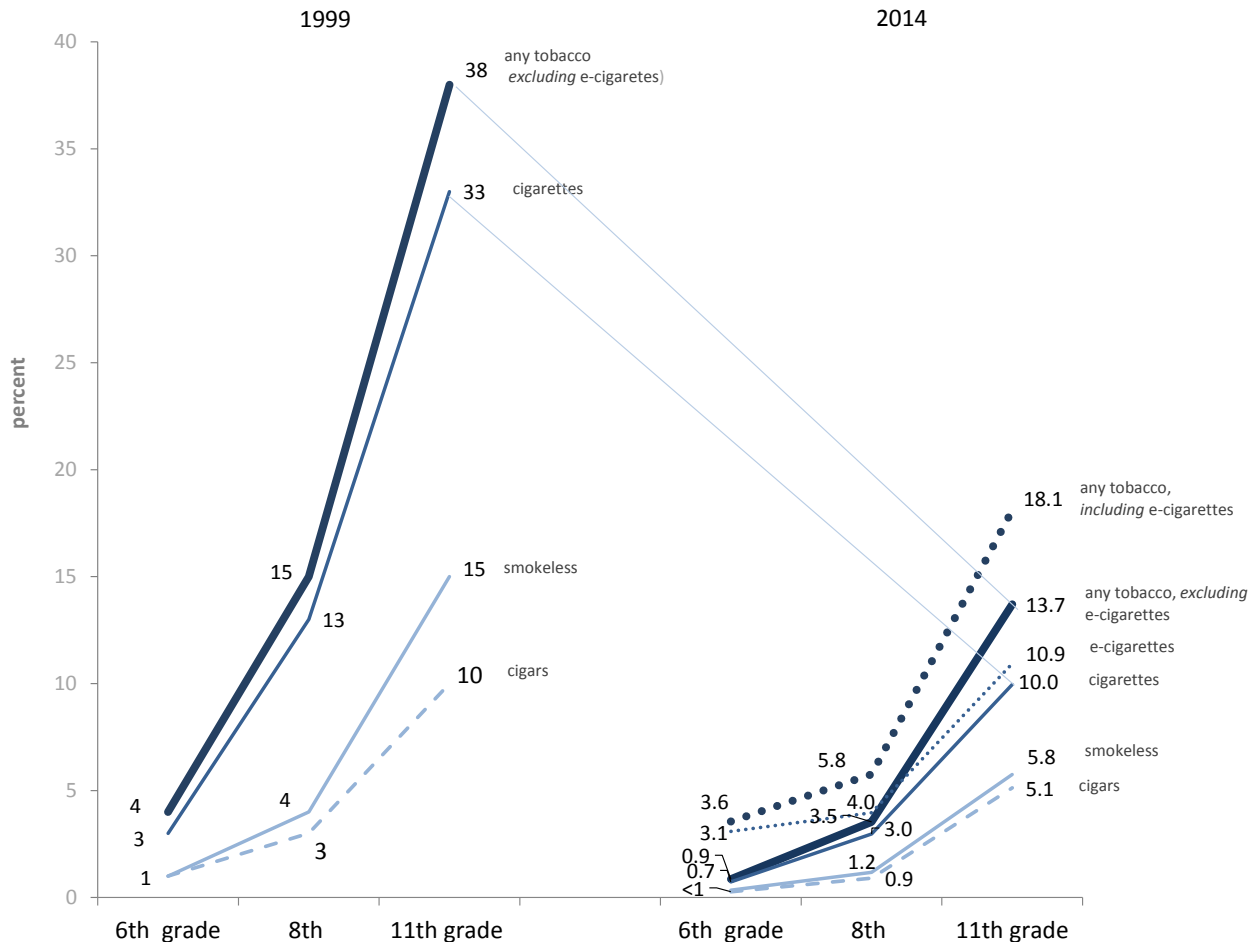
In Youth Tobacco Use Prevalence Rates

by Product Type and
Grade
Sex
Race

1999 - 2014

1999 compared to 2014: Percent of students who currently use tobacco by grade and product type

Iowa Youth Survey 1999 and 2014

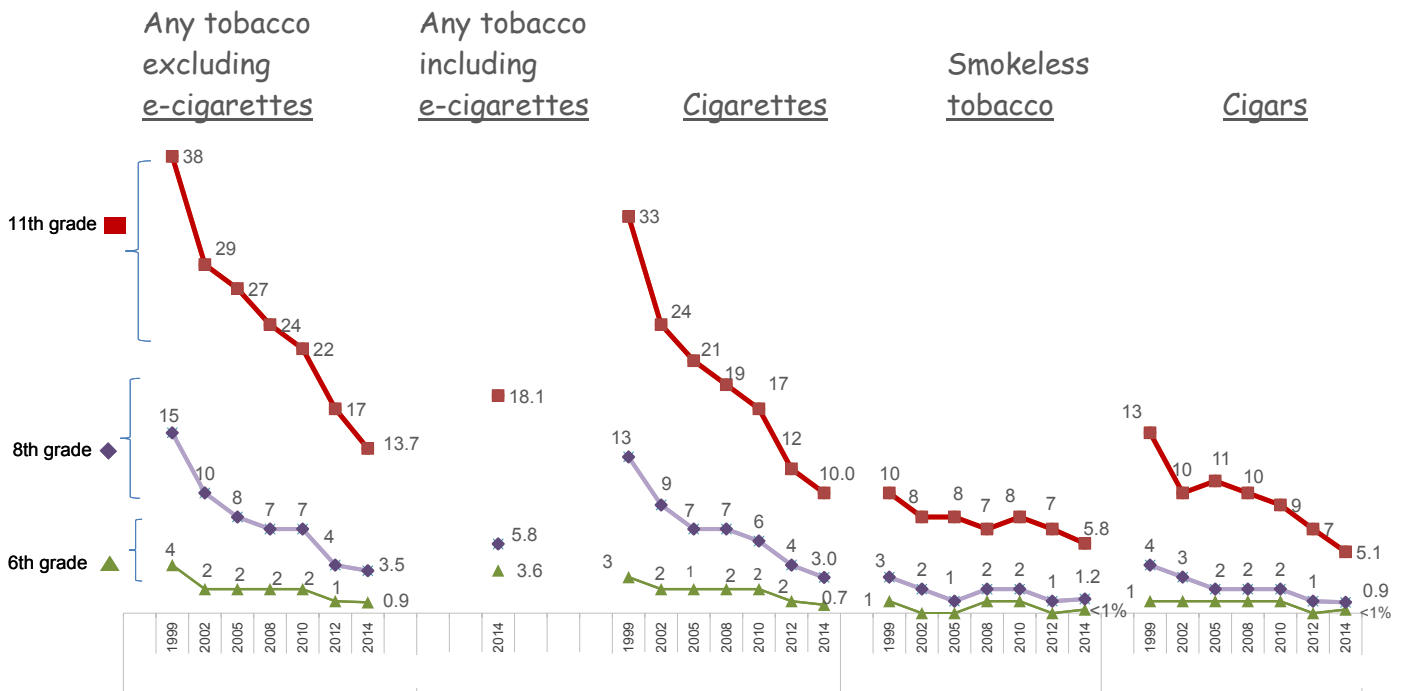


(Note: For readability, throughout this document, rates before 2014 that are displayed in the body of a chart are rounded to the nearest whole number. Calculations for percent of change in rates are based on the unrounded prevalence use rates.)

- Overall tobacco use rates *exclusive of e-cigarettes*—which were first introduced in the U.S. during 2006-2007 and for which the IYS did not collect use rates until 2014—declined substantially for all three grades between 1999 and 2014. The 6th and 8th grade overall all use rates fell by 76% while the 11th grade overall use rate exclusive of e-cigarette use fell by 64%.
- When the 2014 overall tobacco use rate by grade was calculated inclusive of e-cigarettes for 8th and 11th grade students, it still declined by more than half, while for 6th grade students between 1999 and 2014, the overall tobacco use rate showed virtually no decline (3.8% to 3.6%).
- For both 1999 and 2014, overall and product-specific use rates increased with each higher grade level with most of the increase in rates occurring between 8th and 11th grade.

By grade, trends in percent of youth who use: any tobacco (overall use); specific tobacco products

Iowa Youth Survey, 1999-2014



Between 1999 and 2014 the:

6th grade:

- cigarette use rate fell 79% (from 3% to 0.7%);
- smokeless tobacco fell 36% (from 1% to <1%);
- cigar use rate fell 70% (from 1% to <1%);
- overall tobacco use rate, exclusive of e-cigarettes, fell 76% (from 4% to 0.9%); and
- overall tobacco use rate, inclusive of e-cigarettes, fell 0.6% (from 4% to 3.6%).

8th grade:

- cigarette use rate fell 78% (from 13% to 3%);
- smokeless tobacco use rate fell 54% (from 3% to 1.2%);
- cigar use rate fell 79% (from 4% to 0.9%);
- overall tobacco use rate, exclusive of e-cigarettes, fell 76% (from 15% to 3.5%); and
- overall tobacco use rate, inclusive of e-cigarettes, fell 61% (from 15% to 5.8%).

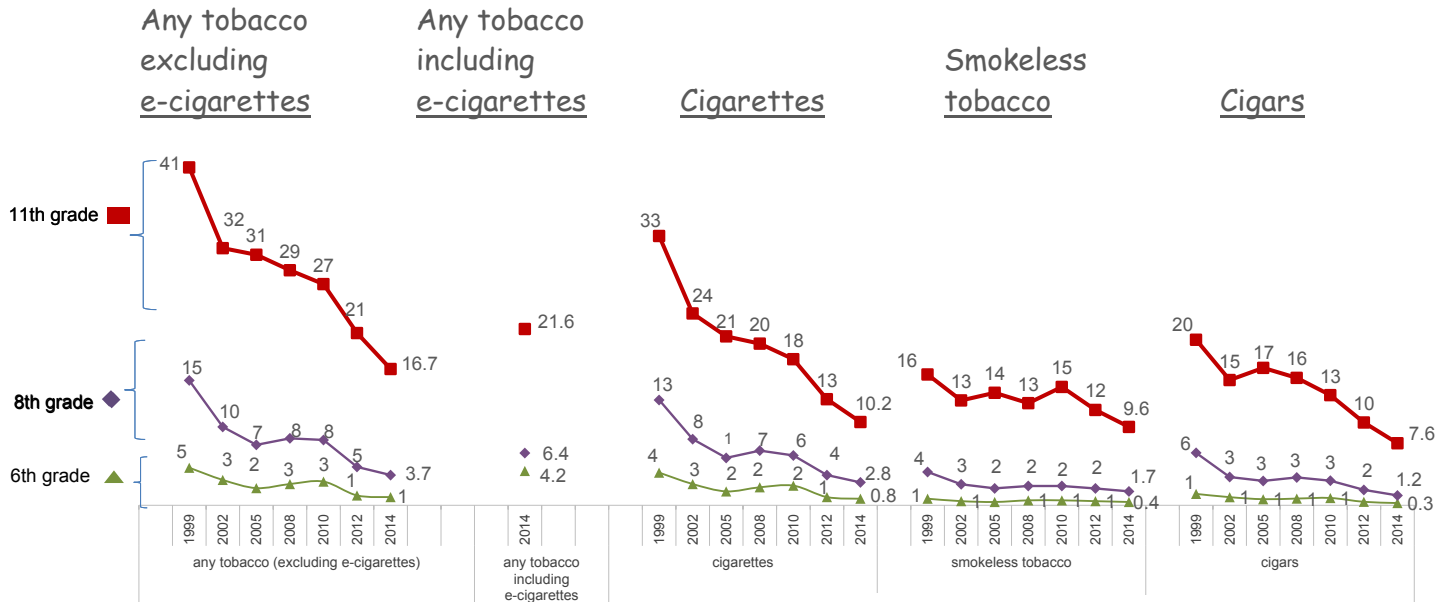
11th grade:

- cigarette use rate fell 70% (from 33% to 10%);
- smokeless tobacco use rate fell 41% (from 10% to 5.8%);
- cigar use rate fell 80% (from 13% to 5.1%);
- overall tobacco use rate, exclusive of e-cigarettes, fell 64% (from 38% to 13.7%); and
- overall tobacco use rate, inclusive of e-cigarettes, fell 52% (from 38% to 18.1%).

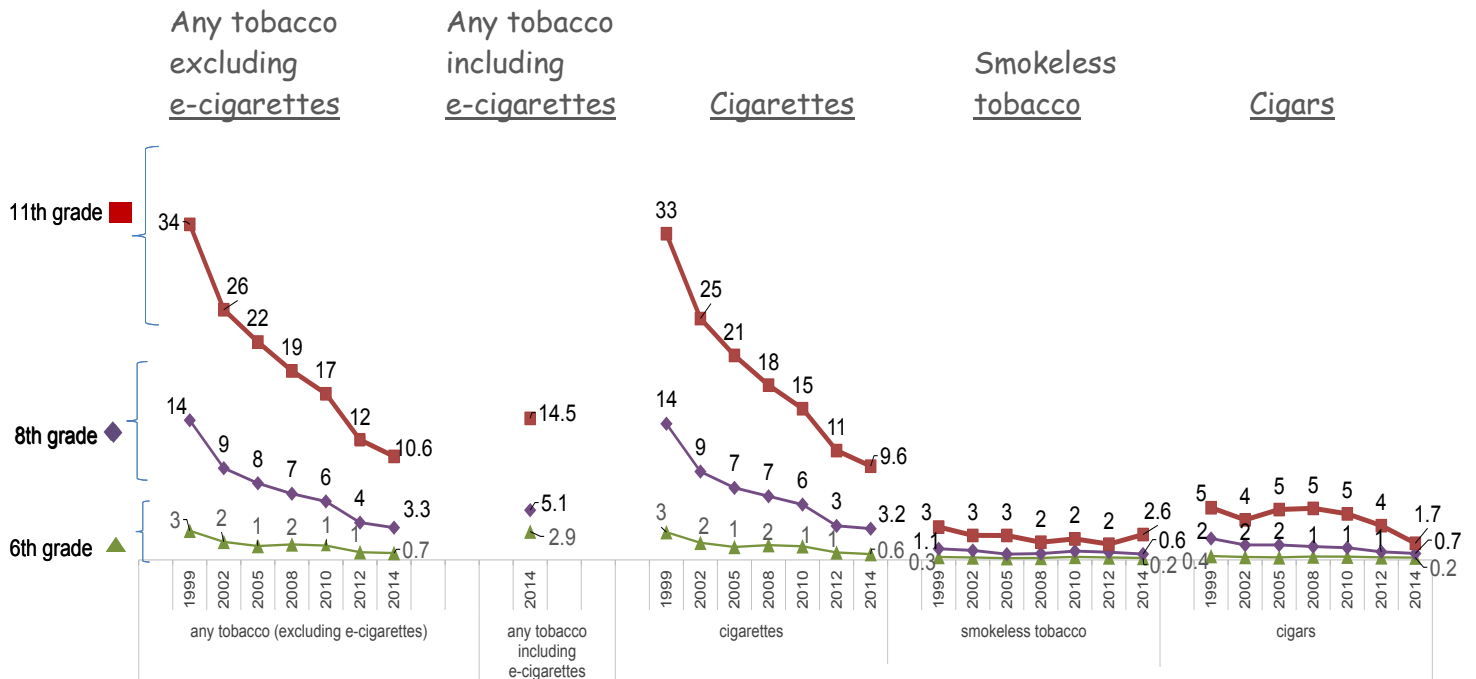
By sex and grade, trends in percent of youth who currently use: Any tobacco (overall use); specific tobacco products

Iowa Youth Survey, 1999-2014

Male students



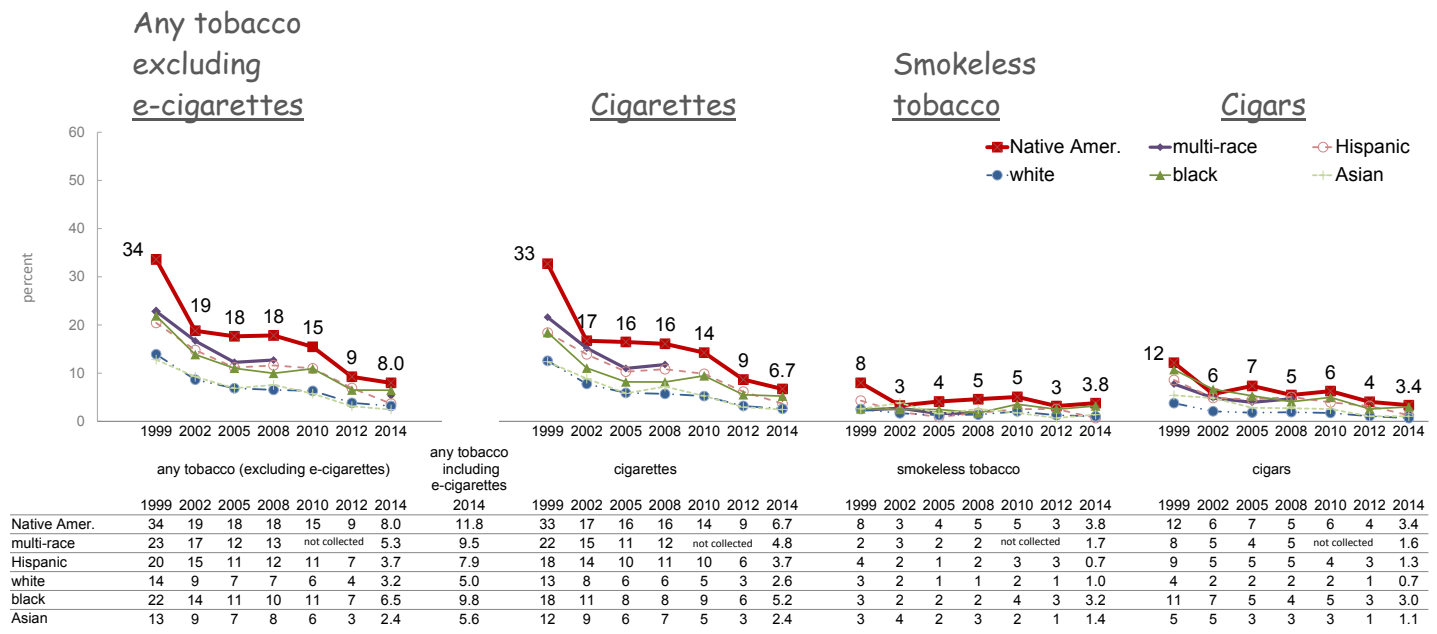
Female students



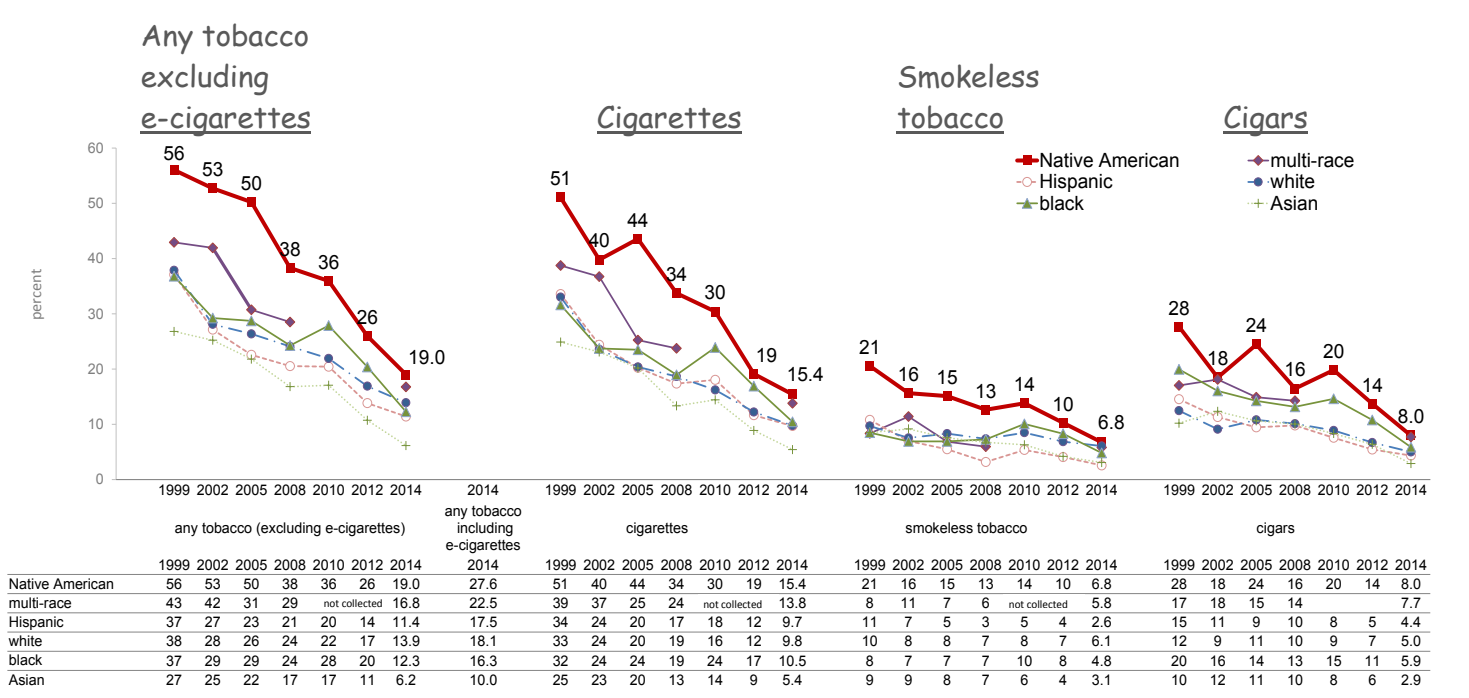
By race and grade, trends in percent of youth who currently use: Any tobacco (overall use); specific tobacco products*

Iowa Youth Survey, 1999-2014

8th grade students



11th grade students



* The number of 6th grade students using tobacco products in any year are too low to reliably breakout by race/ethnicity.

1999-2014 Trends in Iowa Youth Tobacco Use by Sex: 8th and 11th Grade

By sex, between 1999 and 2014:

6th grade (not charted due to low rates relative to 8th and 11th grade, 6th grade sex-specific rates are provided in appendix)

Males:

- cigarette use rate fell 79% (from 4% to 0.8%);
- smokeless tobacco use rate fell 43% (from 0.8% to 0.4%);
- cigar use rate fell 76% (from 1% to 0.3%);
- overall tobacco use rate, exclusive of e-cigarettes, fell 78% (from 5% to 1.0%); and ,
- overall tobacco use rate, inclusive of e-cigarettes, fell 9% (from 5% to 4.2%).

Females:

- cigarette use rate fell 78% (from 3% to 0.6%);
- smokeless tobacco use rate fell 33% (from <1% to 0.2%);
- cigar use rate fell 70% (from <1% to 0.2%);
- overall tobacco use rate, exclusive of e-cigarettes, fell 78% (from 3% to 0.7%); and
- overall tobacco use rate, inclusive of e-cigarettes, fell 3% (from 3% to 2.9%).

8th grade

Males:

- cigarette use rate fell 78% (from 13% to 2.8%);
- smokeless tobacco use rate fell 58% (from 4% to 1.7%);
- cigar use rate fell 81% (from 6% to 1.2%);
- overall tobacco use rate, exclusive of e-cigarettes, fell 76% (from 15% to 3.7%); and ,
- overall tobacco use rate, inclusive of e-cigarettes, fell 59% (from 15% to 6.4%).

Females:

- cigarette use rate fell 77% (from 14% to 3.2%);
- smokeless tobacco use rate fell 46% (from 1% to 0.6%);
- cigar use rate fell 70% (from 2% to 0.7%);
- overall tobacco use rate, exclusive of e-cigarettes, fell 77% (from 14% to 3.3%); and
- overall tobacco use rate, inclusive of e-cigarettes, fell 51% (from 14% to 5.1%).

11th grade

Males:

- cigarette use rate fell 69% (from 33% to 10.2%);
- smokeless tobacco use rate fell 40% (from 16% to 9.6%);
- cigar use rate fell 63% (from 20% to 7.6%);
- overall tobacco use rate, exclusive of e-cigarettes, fell 60% (from 41% to 16.7%); and ,
- overall tobacco use rate, inclusive of e-cigarettes, fell 54% (from 41% to 21.6%).

Females:

- cigarette use rate fell 71% (from 33% to 9.6%);
- smokeless tobacco use rate fell 23% (from 3% to 2.6%);
- cigar use rate fell 68% (from 5% to 1.7%);
- overall tobacco use rate, exclusive of e-cigarettes, fell 69% (from 34% to 10.6%); and
- overall tobacco use rate, inclusive of e-cigarettes, fell 58% (from 34% to 14.5%).

1999-2014 Trends in Iowa Youth Tobacco Use by Race

By race/ethnicity overall tobacco use trends:

- Grade/race/ethnicity-specific overall tobacco use rates *exclusive of e-cigarettes* declined substantially for all race/ethnicity breakout groups between 1999 and 2014. Rates of decline in tobacco use, exclusive of e-cigarettes, ranged from a low of 63% among white 11th grade students to a high of 86% among Hispanic 6th grade students.
- When the overall tobacco use rate inclusive of e-cigarettes was used to compare tobacco use rate changes among grade/race/ethnicity-specific groups, between 1999 and 2014 rates of decline in tobacco among 6th grade students greatly diminished or disappeared. Native American and Hispanic 6th grade students saw no decline in their overall tobacco use rates when e-cigarette use was counted.
- For every IYS survey year between 1999 and 2014, overall use rates increased with each higher grade level within every racial/ethnic group.

By race/ethnicity tobacco use trends among 11th grade, 1999 to 2014:

Native American

- cigarette use rate fell 70% (from 51% to 15.4%);
- smokeless tobacco use rate fell 67% (from 21% to 6.8%);
- cigar use rate fell 71% (from 28% to 8%);
- overall tobacco use rate, exclusive of e-cigarette use, fell 66% (from 56% to 19%); and
- overall tobacco use rate, inclusive of e-cigarette use, fell 52% (from 56% to 27.6%).

Multi-race:

- cigarette use rate fell 64% (from 39% to 13.8%);
- smokeless tobacco use rate fell 31% (from 8% to 5.8%);
- cigar use rate fell 55% (from 17% to 7.7%);
- overall tobacco use rate, exclusive of e-cigarette use, fell 61% (from 43% to 16.8%); and
- overall tobacco use rate, inclusive of e-cigarette use, fell 51% (from 43% to 22.5%).

Hispanic

- cigarette use rate fell 71% (from 34% to 9.7%);
- smokeless tobacco use rate fell 76% (from 11% to 2.6%);
- cigar use rate fell 70% (from 15% to 4.4%);
- overall tobacco use rate, exclusive of e-cigarette use, fell 69% (from 37% to 11.4%); and
- overall tobacco use rate, inclusive of e-cigarette use, fell 53% (from 37% to 17.5%).

1999-2014 Trends in Iowa Youth Tobacco Use

By race/ethnicity, tobacco use trends among 11th grade students, continued:

Black:

- cigarette use rate fell 67% (from 32% to 10.5%);
- smokeless tobacco use rate fell 43% (from 9% to 4.8%);
- cigar use rate fell 71% (from 20% to 5.9%);
- overall tobacco use rate, exclusive of e-cigarette use, fell 67% (from 37% to 12.3%; and
- overall tobacco use rate, inclusive of e-cigarette use, fell 56% (from 37% to 16.3%).

White

- cigarette use rate fell 70% (from 33% to 9.8%);
- smokeless tobacco use rate fell 37% (from 10% to 6.1%);
- cigar use rate fell 60% (from 13% to 5%);
- overall tobacco use rate, exclusive of e-cigarette use, fell 63% (from 38% to 13.9%; and
- overall tobacco use rate, inclusive of e-cigarette use, fell 52% (from 38% to 18.1%).

Asian/Pacific Islander

- cigarette use rate fell 78% (from 25% to 5.4%);
- smokeless tobacco use rate fell 64% (from 9% to 3.1%);
- cigar use rate fell 72% (from 10% to 2.9%);
- overall tobacco use rate, exclusive of e-cigarette use, fell 77% (from 27% to 6.2%; and
- overall tobacco use rate, inclusive of e-cigarette use, fell 63% (from 27% to 10%).

- For most IYS survey years between 1999 and 2014, 11th grade students who were Native American or multi-race had overall tobacco use rates that were statistically higher than the state average rate.
- Black students in 11th grade were the only other racial/ethnic 11th grade breakout group to have their overall tobacco use rate statistically above the state average, in 2010 only. Their rates were higher than the state rate in five of the seven IYS survey years, but only in 2010 did the rate difference reach statistical significance.
- Asian students in 11th grade had overall tobacco use rates statistically lower than the state rate in four of the seven years in which the IYS was conducted and rates that were lower than the state average in the other three IYS years, but not statistically lower.
- Hispanic 11th grade students had overall tobacco use rates that were lower than the state rate for all seven years, but in no year was the rate difference statistically significant.
- The overall tobacco use rate for white students in the 11th grade was very close or the same as the state rate for all seven years of the IYS.

Appendix

Tables of Youth Tobacco Use

Prevalence Rates

by Product Type and

Grade

Sex

Race

1999 - 2014

By grade and year, Iowa trends in percent of students who currently use any tobacco (overall rate), IYS, 1999-2014

	percent who use (rate per 100 students)							cumulative % change in use rate 1999-2014	recent % change in use rate (underline=increase or no change)			absolute change (percentage point difference in rates) 2012-14
	1999	2002	2005	2008	2010	2012	2014		2008-10	2010-12	2012-14	
6th grade												
Any tobacco												
excluding e-cigarettes	3.8	2.5	1.8	2.1	2.2	1.0	0.9	-76%	<u>4%</u>	-54%	-10%	-0.1
including e-cigarettes (2014) ¹							3.6	-6%				
8th grade												
excluding e-cigarettes	14.8	9.6	7.7	7.5	7.0	4.3	3.5	-76%	<u>-6%</u>	-39%	-19%	-0.8
including e-cigarettes (2014) ¹							5.8	-61%				
11th grade												
excluding e-cigarettes	37.9	28.6	26.6	24.1	22.1	16.8	13.7	-64%	<u>-8%</u>	-24%	-18%	-3.1
including e-cigarettes (2014) ¹							18.1	-52%				

By grade and year, Iowa trends in percent of students who currently use specific tobacco products, IYS, 1999-2014

Product	percent who use (rate per 100 students)							cumulative % change in use rate 1999-2014	recent % change in use rate (underline=increase or no change)			absolute (percentage point difference) change 2012-14
	1999	2002	2005	2008	2010	2012	2014		2008-10	2010-12	2012-14	
6th grade												
cigarettes	3.4	2.2	1.5	1.9	1.9	0.9	0.7	-79%	<u>2%</u>	-53%	-19%	-0.2
smokeless	0.5	0.4	0.3	0.4	0.7	0.4	0.3	-36%	<u>62%</u>	-47%	-6%	0.0
cigars/little cigars	0.9	0.7	0.5	0.6	0.6	0.3	0.3	-70%	<u>7%</u>	-46%	-21%	-0.1
e-cigarettes (2014) ¹							3.1					
8th grade												
cigarettes	13.4	8.6	6.6	6.6	5.9	3.6	3.0	-78%	<u>-10%</u>	-39%	-17%	-0.6
smokeless	2.6	1.8	1.3	1.5	2.2	1.4	1.2	-54%	<u>47%</u>	-36%	-14%	-0.2
cigars/little cigars	4.4	2.5	2.3	2.4	2.2	1.4	0.9	-79%	<u>-10%</u>	-35%	-36%	-0.5
e-cigarettes (2014) ¹							4.0					
11th grade												
cigarettes	33.2	24.1	20.9	18.8	16.7	12.4	10.0	-70%	<u>-11%</u>	-26%	-19%	-2.4
smokeless	9.7	7.7	8.7	7.2	8.4	6.7	5.8	-41%	<u>17%</u>	-20%	-14%	-1.0
cigars/little cigars	12.8	9.7	11.1	10.4	9.1	6.7	5.1	-60%	<u>-12%</u>	-27%	-24%	-1.6
e-cigarettes (2014) ¹							10.9					

Current use is use on one or more of past 30 days. A difference between two rates that is ± 1.6 percentage points or greater may be considered statistically significant.

¹ E-cigarettes were first available in the U.S. in 2006-07. No data were collected on e-cigarette use by the IYS before 2014.

By sex and grade, trends in percent of students who currently use tobacco overall, specific tobacco products, IYS, 1999-2014
 (Red/bolded /italicized sex-specific rates are likely statistically higher than the rate of the opposite sex for the same year, grade/tobacco product grouping. Italicized rates that are not red, while higher than the opposite sex of the same year/grade/tobacco product grouping represents a difference that likely is not statistically significant.)

6th grade								cumulative % change in use rate 1999-2014	cumulative % change in use rate 2008-2014	recent % change in use rate (underline=higher/unchanged)			absolute change (percentage point difference) 2012-14
percent who use (rate per 100 students)										2008-10	2010-12	2012-14	
	1999	2002	2005	2008	2010	2012	2014						
Any tobacco													
excluding e-cigarettes													
female	3.0	1.9	1.4	1.6	1.5	0.8	0.7	-77%	-56%	-8%	-46%	-11%	-0.1
male	4.6	3.1	2.1	2.6	2.9	1.2	1.0	-78%	-61%	<u>10%</u>	-58%	-16%	-0.2
including e-cigarettes (2014)		3.5											
female							2.9	-3%	81%				
male							4.2	-9%	12%				
Product													
cigarettes													
female	2.8	1.8	1.3	1.5	1.4	0.8	0.6	-78%	-59%	-8%	-45%	-18%	-0.1
male	4.0	2.6	1.7	2.2	2.4	1.0	0.8	-79%	-62%	<u>8%</u>	-56%	-20%	-0.2
smokeless tob.													
female	0.3	0.3	0.2	0.2	0.3	0.3	0.2	-33%	0%	55%	-19%	-20%	-0.1
male	0.8	0.5	0.4	0.6	0.6	0.5	0.4	-43%	-31%	<u>0%</u>	-26%	-7%	0.0
cigars/little cigars													
female	0.4	0.3	0.3	0.3	0.3	0.3	0.2	-38%	-29%	-3%	-21%	-8%	0.0
male	1.4	1.0	0.7	0.8	0.9	0.4	0.3	-76%	-59%	<u>9%</u>	-53%	-19%	-0.1
e-cigarettes ¹													
female							2.5						
male							3.6						
dissolvables													
female							0.3						
male							0.3						

8th grade								cumulative % change in use rate 1999-2014	cumulative % change in use rate 2008-2014	recent % change in use rate (underline=higher/unchanged)			percentage point change 2012-14
percent who use (rate per 100 students)										2008-10	2010-12	2012-14	
	1999	2002	2005	2008	2010	2012	2014						
Any tobacco													
excluding e-cigarettes													
female	14.3	9.4	7.9	6.8	6.0	3.8	3.3	-77%	-51%	-12%	-36%	-13%	-0.5
male	15.3	9.6	7.4	8.2	8.0	4.7	3.7	-76%	-55%	-3%	-41%	-21%	-1.0
including e-cigarettes (2014) ¹													
female							5.1	-51%	-51%				
male							6.4	-59%	-55%				
Product													
cigarettes													
female	14.0	9.1	7.4	6.5	5.7	3.5	3.2	-77%	-52%	-13%	-38%	-10%	-0.3
male	12.9	8.1	5.8	6.7	6.1	3.7	2.8	-78%	-58%	-9%	-39%	-25%	-0.9
smokeless tob.							2.5						
female	1.1	1.0	0.6	0.7	0.9	0.8	0.6	-46%	-6%	38%	-12%	-23%	-0.2
male	4.1	2.6	2.1	2.4	2.4	2.1	1.7	-58%	-28%	<u>0%</u>	-13%	-17%	-0.4
cigars/little cigars													
female	2.2	1.5	1.5	1.4	1.3	0.8	0.7	-70%	-51%	-8%	-34%	-20%	-0.2
male	6.4	3.5	3.0	3.4	3.0	1.9	1.2	-81%	-65%	-12%	-38%	-36%	-0.7
e-cigarettes ¹													
female							3.3						
male							4.6						
dissolvables													
female							0.5						
male							0.7						

11th grade								% change in use rate 1999-2014	% change in use rate 2008-2014	recent % change in use rate (underline=higher/unchanged)			percentage point change 2012-14
percent who use (rate per 100 students)										2008-10	2010-12	2012-14	
	1999	2002	2005	2008	2010	2012	2014						
Any tobacco													
excluding e-cigarettes													
female	34.4	25.6	22.3	19.4	17.0	12.3	10.6	-69%	-45%	-12%	-28%	-14%	-1.7
male	41.4	31.5	30.7	28.8	27.1	21.1	16.7	-60%	-42%	-6%	-22%	-21%	-4.4
including e-cigarettes (2014) ¹													
female							14.5	-58%	-25%				
male							21.6	-48%	-50%				
Product													
cigarettes													
female	33.4	24.7	20.9	17.9	15.5	11.2	9.6	-71%	-46%	-13%	-28%	-14%	-1.6
male	32.8	23.5	20.7	19.8	17.9	13.5	10.2	-69%	-48%	-9%	-25%	-24%	-3.3
smokeless tob.													
female	3.4	2.5	2.5	1.8	2.2	1.6	2.6	-23%	44%	<u>19%</u>	-25%	61%	1.0
male	16.0	12.9	13.8	12.5	14.5	11.7	9.6	-40%	-23%	<u>16%</u>	-19%	-17%	-2.0
cigars/little cigars													
female	5.4	4.1	5.2	5.3	4.7	3.5	1.7	-68%	-68%	-11%	-26%	-52%	-1.8
male	20.3	15.3	16.8	15.6	13.5	10.1	7.6	-63%	-51%	-14%	-25%	-25%	-2.6
e-cigarettes ¹													
female							8.8						
male							13.0						
dissolvables													
female							0.55						
male							0.36						

Current use is use on one or more of the past 30 days. For any given year, grade and tobacco product, the percentage point difference between two sex-specific rates that was considered to be statistically significant varied slightly by year, due to differences in sex-specific sample size each year. For some years, a difference of ± 1.2 percentage points was considered statistically significant, while for other years differences needed to be ± 1.3 or ± 1.4 percentage points to be statistically significant.

¹ E-cigarettes were first available in the U.S. in 2006-07, no data on use were collected per the IYS before 2014.

Trends in percent of students who currently use any tobacco (overall rate), by grade, race and year, IYS, 1999-2014
 (Italicized annual race-specific grade/product type rates are higher than the comparable state rate. Bolded/italicized rates in red are statistically higher than the comparable state rate. Rates in light green are statistically lower than the state rate for the same tobacco product/race/grade/year grouping.)

<i>6th grade</i>												
	percent who use (rate per 100 students)							cumulative % change in use rate 1999-2014	recent % change in use rate (underline=increase or no change)			absolute change (percentage point difference in rates) 2012-14
	1999	2002	2005	2008	2010	2012	2014		2008-10	2010-12	2012-14	
	Any tobacco											
excluding e-cigarettes												
State of Iowa	3.8	2.5	1.8	2.1	2.2	1.0	0.9	-76%	<u>4%</u>	-54%	-10%	-0.1
Native American	9.4	5.5	2.8	3.9	6.0	3.1	3.3	-65%	<u>54%</u>	-49%	<u>6%</u>	0.2
multi-race/other	7.4	4.5	3.1	3.8	not collected		1.9	-75%				
Hispanic	6.2	4.1	2.9	3.1	3.8	2.7	0.9	-86%	<u>25%</u>	-28%	-68%	-1.9
white	3.2	2.1	1.5	1.7	1.8	0.8	0.6	-81%	<u>9%</u>	-55%	-24%	-0.2
black	7.8	5.1	4.2	5.1	4.1	2.7	2.7	-66%	-21%	-32%	-3%	-0.1
Asian	4.2	1.9	1.5	1.8	2.7	1.2	0.9	-78%	<u>55%</u>	-58%	-22%	-0.3
¹ including e-cigarettes (2014)												
State of Iowa							3.6	-7%				
Native American							9.4	0%				
multi-race							5.7	-24%				
Hispanic							6.2	<u>1%</u>				
white							2.8	-12%				
black							6.9	-11%				
Asian							3.6	-13%				
<i>8th grade</i>												
	percent who use (rate per 100 students)							cumulative % change in use rate 1999-2014	recent % change in use rate (underline=increase or no change)			absolute (percentage point difference) change 2012-14
	1999	2002	2005	2008	2010	2012	2014		2008-10	2010-12	2012-14	
	Any tobacco											
excluding e-cigarettes												
State of Iowa	14.8	9.6	7.7	7.5	7.0	4.3	3.5	-76%	-6%	-39%	-19%	-0.8
Native American	33.6	18.8	17.7	17.8	15.5	9.3	8.0	-76%	-13%	-40%	-14%	-1.3
multi-race/other	22.8	16.7	12.3	12.7	not collected		5.3	-77%				
Hispanic	20.4	14.8	11.2	11.6	11.0	6.9	3.7	-82%	-5%	-37%	-47%	-3.2
white	13.9	8.6	6.9	6.5	6.3	3.8	3.2	-77%	-3%	-39%	-17%	-0.7
black	21.9	13.9	11.0	10.0	10.9	6.5	6.5	-70%	<u>10%</u>	-40%	-1%	0.0
Asian	12.8	9.3	6.9	7.6	5.8	3.1	2.4	-81%	-24%	-45%	-22%	-0.7
¹ including e-cigarettes (2014)												
State of Iowa							5.8	-61%				
Native American							11.8	-65%				
multi-race							9.5	-58%				
Hispanic							7.9	-61%				
white							5.0	-64%				
black							9.8	-55%				
Asian							5.6	-56%				
<i>11th grade</i>												
	percent who use (rate per 100 students)							cumulative % change in use rate 1999-2014	recent % change in use rate (underline=increase or no change)			percentage point change 2012-14
	1999	2002	2005	2008	2010	2012	2014		2008-10	2010-12	2012-14	
	Any tobacco											
excluding e-cigarettes												
State of Iowa	37.9	28.6	26.6	24.1	22.1	16.8	13.5	-64%	-8%	-24%	-20%	-3.3
Native American	56.0	52.7	50.2	38.3	35.9	26.0	19.0	-66%	-6%	-28%	-27%	-7.0
multi-race/other	42.9	41.9	30.7	28.5	not collected		16.8	-61%				
Hispanic	37.1	27.2	22.6	20.5	20.4	13.8	11.4	-69%	<u>0%</u>	-32%	-18%	-2.4
white	37.9	28.1	26.4	24.1	21.9	16.9	13.9	-63%	-9%	-23%	-18%	-3.0
black	36.8	29.3	28.7	24.3	27.9	20.4	12.3	-67%	<u>15%</u>	-27%	-40%	-8.1
Asian	26.8	25.2	21.8	16.8	17.1	10.7	6.2	-77%	<u>1%</u>	-37%	-43%	-4.6
¹ including e-cigarettes (2014)												
State of Iowa							18.1	-52%				
Native American							27.6	-51%				
multi-race							22.5	-48%				
Hispanic							17.5	-53%				
white							18.1	-52%				
black							16.3	-56%				
Asian							10.0	-63%				

Current use is use on one or more of the past 30 days. For any given year, grade and tobacco product, the percentage point difference between a race-specific rate and the same-year state rate considered to be statistically significant varied, depending upon the the IYS race-specific sample sizes that year. For some years, a ±9.3 percentage point difference was considered statistically significant, while for other years differences need to be as high as ±11.6 percentage points. For years with larger sample sizes, the percentage point difference that was needed to reach statistical significance was smaller.

¹ E-cigarettes were first available in the U.S. in 2006-07. No data were collected on e-cigarette use by the IYS before 2014.

Multi-race was not included as an option to the race/ethnicity question in 2010 and 2012.

Trends in percent of students who currently use specific tobacco products, by grade, race and year, IYS, 1999-2014

(Italicized annual race-specific grade/product type rates are higher than the comparable state rate. Bolded/italicized rates in red are statistically higher than the comparable state rate. Rates in light green are statistically lower than the state rate for the same tobacco product/race/grade/year grouping.)

		percent who use (rate per 100 students)							cumulative % change in use rate 1999-2014	recent % change in use rate (underline=increase or no change)			absolute (percentage point difference) change 2012-14
Product		1999	2002	2005	2008	2010	2012	2014		2008-10	2010-12	2012-14	
8th grade													
cigarettes	State of Iowa	13.4	8.6	6.6	6.6	5.9	3.6	3.0	-78%	-10%	-39%	-17%	-0.6
	Native American	32.7	16.7	16.5	16.1	14.3	8.7	6.7	-79%	-11%	-39%	-22%	-2.0
	multi-race/other	21.6	15.2	11.0	11.8	not collected		4.8	-78%				
	Hispanic	18.4	13.9	10.3	10.8	9.9	6.2	3.7	-80%	-9%	-38%	-40%	-2.5
	white	12.6	7.8	5.9	5.7	5.2	3.2	2.6	-79%	-8%	-39%	-18%	-0.6
	black	18.4	11.1	8.2	8.2	9.5	5.5	5.2	-72%	<u>16%</u>	-42%	-5%	-0.3
	Asian	12.4	8.9	5.8	7.2	5.3	3.0	2.4	-80%	-27%	-44%	-18%	-0.5
smokeless tobacco	State of Iowa	2.6	1.8	1.3	1.5	2.2	1.4	1.2	-54%	<u>47%</u>	-36%	-14%	-0.2
	Native American	8.0	3.3	4.1	4.6	5.1	3.2	3.8	-53%	<u>10%</u>	-37%	19%	0.6
	multi-race/other	2.3	2.7	1.6	1.8	not collected		1.7	-29%				
	Hispanic	4.3	1.9	0.9	1.8	2.5	2.6	0.7	-84%	<u>44%</u>	<u>1%</u>	-74%	-1.9
	white	2.5	1.7	1.3	1.4	2.1	1.3	1.0	-59%	<u>48%</u>	-38%	-18%	-0.2
	black	2.6	2.5	2.5	1.7	3.6	2.5	3.2	22%	<u>106%</u>	-30%	<u>28%</u>	0.7
	Asian	2.6	3.8	1.6	2.6	1.8	0.7	1.4	-46%	-32%	-60%	<u>99%</u>	0.7
cigars/little cigars	State of Iowa	4.4	2.5	2.3	2.4	2.2	1.4	0.9	-79%	<u>-10%</u>	-35%	-36%	-0.5
	Native American	12.2	5.7	7.4	5.5	6.3	4.1	3.4	-72%	<u>15%</u>	-36%	-17%	-0.7
	multi-race/other	7.8	4.9	3.9	4.7	not collected		1.6	-79%				
	Hispanic	8.6	4.9	4.6	5.1	3.9	3.2	1.3	-85%	-22%	-19%	-61%	-1.9
	white	3.8	2.1	1.8	1.9	1.7	1.1	0.7	-82%	-8%	-38%	-38%	-0.4
	black	10.7	6.7	5.3	4.1	5.0	2.6	3.0	-72%	<u>22%</u>	-48%	<u>17%</u>	0.4
	Asian	5.4	4.8	2.8	2.7	2.6	1.1	1.1	-81%	-6%	-59%	<u>0%</u>	0.0
e-cigarettes (2014 only) ¹	State of Iowa							4.0					
	Native American							9.2					
	multi-race/other							7.2					
	Hispanic							6.6					
	white							3.2					
	black							6.9					
	Asian							4.5					
11th grade													
		percent who use (rate per 100 students)							cumulative % change in use rate 1999-2014	recent % change in use rate (underline=increase or no change)			absolute (percentage point difference) change 2012-14
Product		1999	2002	2005	2008	2010	2012	2014		2008-10	2010-12	2012-14	
cigarettes	State of Iowa	33.2	24.1	20.9	18.8	16.7	12.4	10.0	-70%	-11%	-26%	-19%	-2.4
	Native American	51.1	39.8	43.6	33.7	30.4	19.1	15.4	-70%	-10%	-37%	-19%	-3.7
	multi-race/other	38.8	36.8	25.3	23.8	not collected		13.8	-64%				
	Hispanic	33.6	24.4	20.2	17.4	18.1	11.7	9.7	-71%	<u>4%</u>	-35%	-17%	-2.0
	white	33.0	23.6	20.4	18.7	16.2	12.2	9.8	-70%	-13%	-25%	-20%	-2.5
	black	31.6	23.7	23.5	19.0	23.9	16.9	10.5	-67%	<u>26%</u>	-29%	-38%	-6.5
	Asian	24.9	23.1	20.2	13.3	14.4	8.9	5.4	-78%	<u>8%</u>	-38%	-39%	-3.5
smokeless tobacco	State of Iowa	9.7	7.7	8.7	7.2	8.4	6.7	5.8	-41%	<u>17%</u>	-20%	-14%	-1.0
	Native American	20.6	15.6	15.1	12.6	13.8	10.3	6.8	-67%	<u>9%</u>	-26%	-34%	-3.5
	multi-race/other	8.4	11.4	6.9	6.0	not collected		5.8	-31%				
	Hispanic	10.8	7.0	5.5	3.2	5.4	4.1	2.6	-76%	<u>68%</u>	-24%	-37%	-1.5
	white	9.7	7.5	8.3	7.4	8.5	6.9	6.1	-37%	<u>15%</u>	-19%	-11%	-0.8
	black	8.5	6.9	6.9	7.3	10.1	8.3	4.8	-43%	<u>39%</u>	-18%	-42%	-3.5
	Asian	8.5	9.2	7.6	6.8	6.3	4.2	3.1	-64%	-7%	-33%	-26%	-1.1
cigars/little cigars	State of Iowa	12.8	9.7	11.1	10.4	9.1	6.7	5.1	-60%	-12%	-27%	-24%	-1.6
	Native American	27.7	18.5	24.4	16.5	19.8	13.7	8.0	-71%	<u>20%</u>	-31%	-42%	-5.8
	multi-race/other	17.0	18.1	14.9	14.3	not collected		7.7	-55%				
	Hispanic	14.6	11.3	9.5	9.8	7.6	5.5	4.4	-70%	-23%	-28%	-20%	-1.1
	white	12.5	9.1	10.8	10.1	8.9	6.7	5.0	-60%	-12%	-25%	-25%	-1.7
	black	20.0	16.0	14.3	13.2	14.6	10.8	5.9	-71%	<u>11%</u>	-26%	-46%	-4.9
	Asian	10.2	12.4	10.6	10.1	8.3	6.4	2.9	-72%	-17%	-23%	-55%	-3.5
e-cigarettes (2014 only) ¹	State of Iowa							10.9					
	Native American							18.4					
	multi-race/other							15.2					
	Hispanic							11.3					
	white							10.7					
	black							11.1					
	Asian							7.4					

Current use is use on one or more of the past 30 days. For any given year, grade and tobacco product, the percentage point difference between a race-specific rate and the same-year state rate considered to be statistically significant varied, depending upon the the IYS race-specific sample sizes that year. For some years, a ±9.3 percentage point difference was considered statistically significant, while for other years differences need to be as high as ±11.6 percentage points. For years with larger sample sizes, the percentage point difference that was needed to reach statistical significance was smaller.

¹ E-cigarettes were first available in the U.S. in 2006-07. No data were collected on e-cigarette use by the IYS before 2014.

Multi-race not included as an option to the race/ethnicity question in 2010 and 2012.