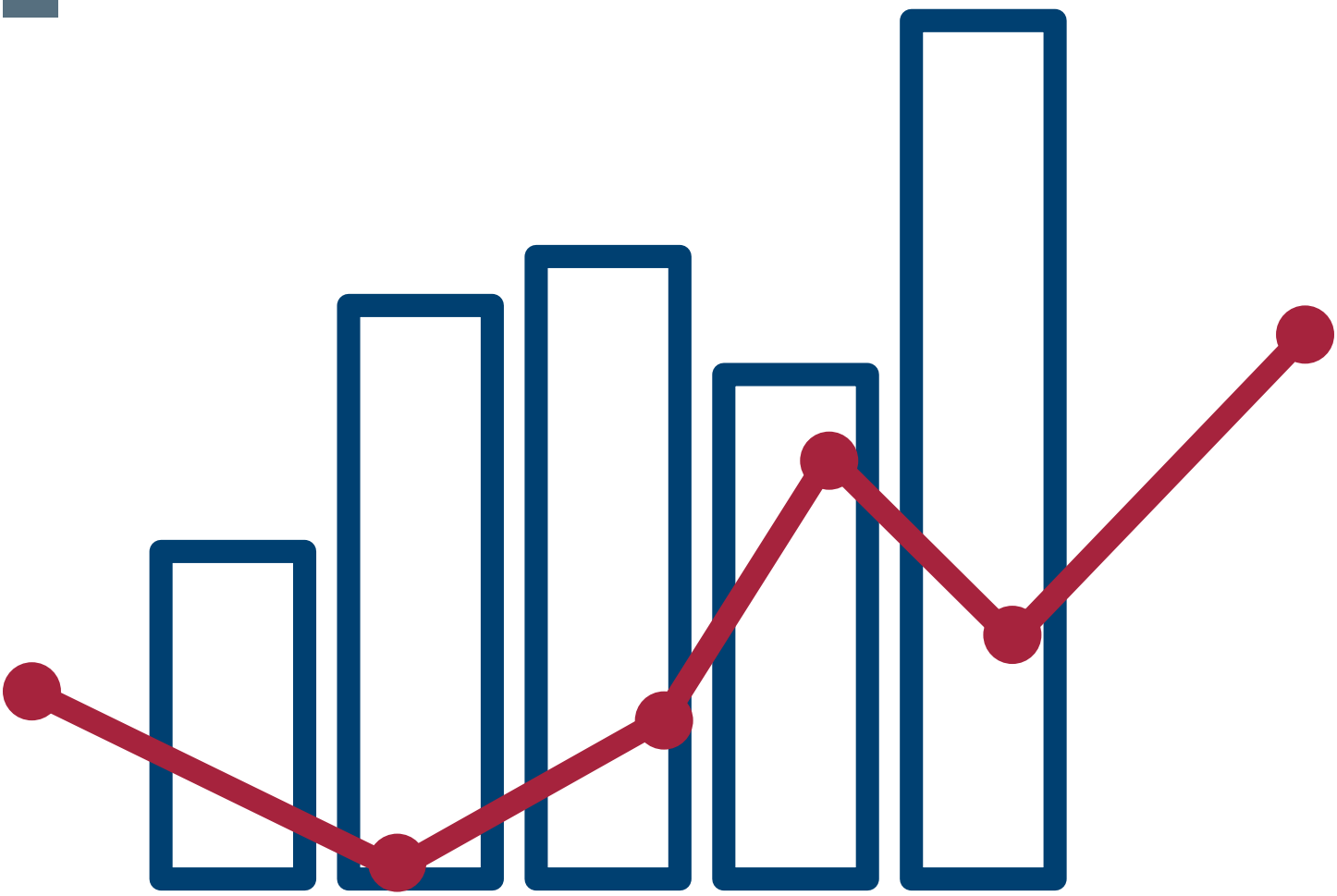
WEST VIRGINIA YOUTH RISK BEHAVIOR SURVEY, 2015:

Injury Risk



West Virginia Department of EDUCATION
Research, Accountability, & Data Governance

West Virginia Youth Risk Behavior Survey, 2015: Injury Risk Report

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West Virginia Department of EDUCATION

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Introduction

The Youth Risk Behavior Surveillance System was developed by the Centers for Disease Control and Prevention (CDC) in collaboration with state and local departments of education and health, national education and health organizations, and other federal agencies. The Youth Risk Behavior Survey (YRBS), the state and local level component of this system, assesses how certain youth risk behaviors change over time. The YRBS focuses on priority health risk behaviors established during youth that may affect academic performance and result in significant mortality and morbidity rates during both youth and adulthood. It assesses behaviors in six categories: (a) injury and violence, (b) tobacco use, (c) alcohol and other drug use, (d) sexual behaviors, (e) dietary behaviors, and (f) physical activity.

With funding from CDC and with the assistance of the RESA Regional School Wellness Specialists, the YRBS has been conducted by the West Virginia Department of Education (WVDE) since 1993 for high schools and since 1999 for middle schools.

The following series of YRBS topical reports, available at http://wvde.state.wv.us/research/reports2017.html, give a detailed snapshot of particular student risk behaviors across programmatic levels from high school back to early middle school ages:

- West Virginia Youth Risk Behavior Survey, 2015: Alcohol Use
- West Virginia Youth Risk Behavior Survey, 2015: Bullying and Suicidal Ideation
- West Virginia Youth Risk Behavior Survey, 2015: Dietary Behavior
- West Virginia Youth Risk Behavior Survey, 2015: Disease Prevention
- West Virginia Youth Risk Behavior Survey, 2015: Drug Use
- West Virginia Youth Risk Behavior Survey, 2015: Injury Risk
- West Virginia Youth Risk Behavior Survey, 2015: Physical Activity
- West Virginia Youth Risk Behavior Survey, 2015: Sexual Behavior
- West Virginia Youth Risk Behavior Survey, 2015: Tobacco Use
- West Virginia Youth Risk Behavior Survey, 2015: Violence
- West Virginia Youth Risk Behavior Survey, 2015: Weight Management

Methods

See the Appendix, page 12 for details about sampling procedures, sample characteristics, questionnaires, weighting of the raw data, data analysis, and interpretation of the results.

Results

The results include time trend graphs to show how youth behaviors have changed over time through 2015. Results include prevalence by demographic characteristics such as gender and grade level. High school results are presented first, followed by middle school data where applicable. Results are not available for high school students for 2001 and middle school students for 2003 and 2005.

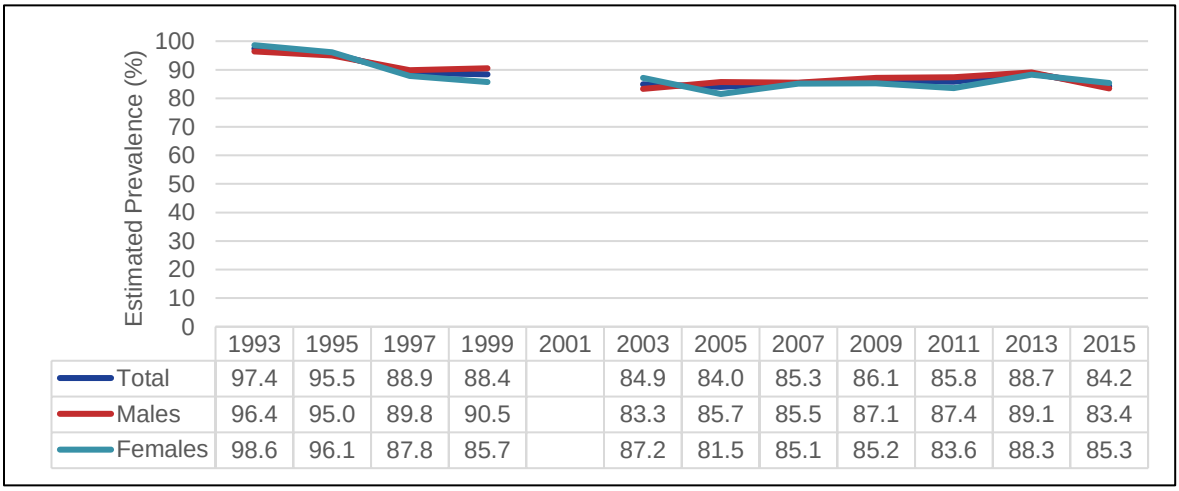
Never or Rarely Wore a Bicycle Helmet in the Past Year

Definition: Weighted percentage of students who never or rarely wore a bicycle helmet, among students who had ridden a bicycle during the 12 months before the survey.

High school students

The prevalence of never or rarely wore a bicycle helmet among high school students was 84.2% in 2015.

Figure 1 shows the prevalence of this indicator among high school students significantly decreased from 1993 to 2003, with no significant change from 2003 to 2015 for the total population and among both males and females.



	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2013	2015
Total	97.4	95.5	88.9	88.4		84.9	84.0	85.3	86.1	85.8	88.7	84.2
Males	96.4	95.0	89.8	90.5		83.3	85.7	85.5	87.1	87.4	89.1	83.4
Females	98.6	96.1	87.8	85.7		87.2	81.5	85.1	85.2	83.6	88.3	85.3

Figure 1. Prevalence of Never or Rarely Wore a Bicycle Helmet in the Past Year Among WV High School Students

Data source: WV Department of Education, Youth Risk Behavior Survey

Table 1 shows the prevalence of never or rarely wore a bicycle helmet among high school students by demographic characteristics. Analysis indicates that there were no statistically significant gender or grade differences for this indicator.

Table 1. Prevalence of Never or Rarely Wore a Bicycle Helmet in the Past Year Among WV High School Students by Gender and Grade Level, 2015

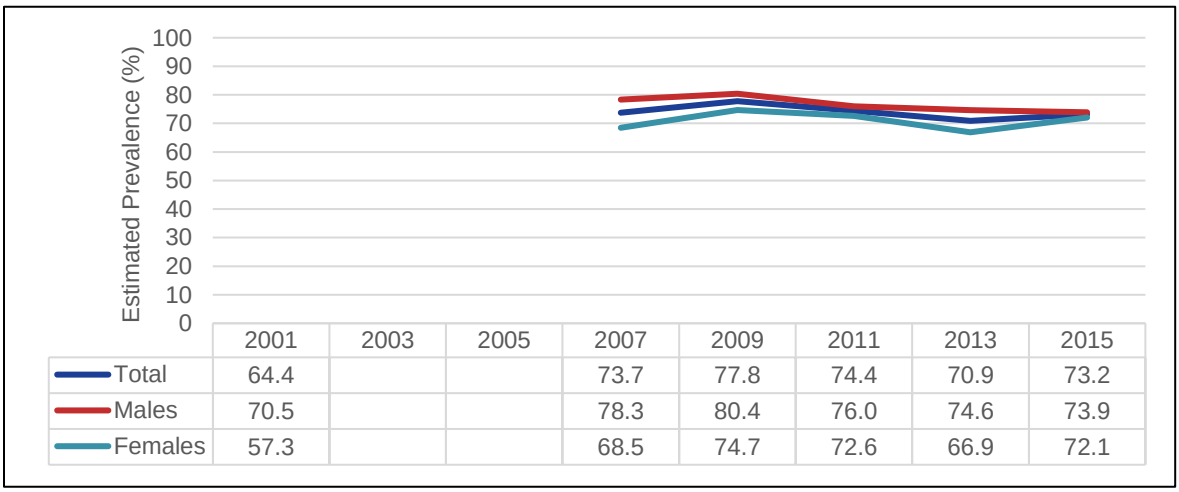
Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	84.2	77.8-89.1	38,911
Male	83.4	75.5-89.1	21,824
Female	85.3	78.4-90.3	17,058
9th	79.8	68.6-87.7	12,422
10th	86.8	76.9-92.8	10,835
11th	89.4	83.0-93.6	8,554
12th	82.5	73.1-89.1	6,898

Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

Middle school students

The prevalence of never or rarely wore a bicycle helmet among middle school students was 73.2% in 2015.

Figure 2 shows the prevalence of this indicator among middle school students significantly increased from 2001 to 2009, with no significant change from 2009 to 2015. This pattern was consistent among both males and females.



	2001	2003	2005	2007	2009	2011	2013	2015
Total	64.4			73.7	77.8	74.4	70.9	73.2
Males	70.5			78.3	80.4	76.0	74.6	73.9
Females	57.3			68.5	74.7	72.6	66.9	72.1

Figure 2. Prevalence of Never or Rarely Wore a Bicycle Helmet Among WV Middle School Students

Data source: WV Department of Education, Youth Risk Behavior Survey

Table 2 shows the prevalence of never or rarely wore a bicycle helmet among middle school students by demographic characteristics. There were no significant gender or grade differences for this indicator.

Table 2. Prevalence of Never or Rarely Wore a Bicycle Helmet Among WV Middle School Students by Gender and Grade Level, 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	73.2	69.4-76.7	35,185
Male	73.9	70.2-77.2	18,481
Female	72.1	66.6-77.0	16,363
6th	66.4	59.8-72.5	10,686
7th	77.7	71.7-82.7	13,213
8th	75.2	66.8-82.1	10,921

Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

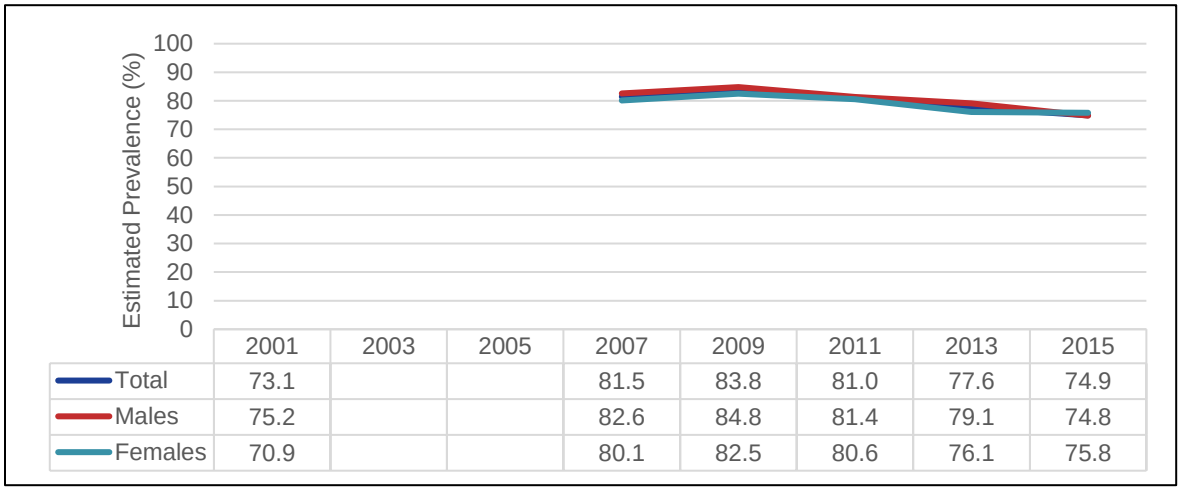
Never or Rarely Wore a Helmet When Rollerblading or Skateboarding in the Past Year

Definition: Weighted percentage of students who never or rarely wore a helmet when rollerblading or skateboarding among students who used rollerblades or rode a skateboard during the 12 months before the survey.

Middle school students

The prevalence of never or rarely wore a helmet when rollerblading or skateboarding among middle school students was 74.9% in 2015.

Figure 3 shows that the prevalence of this indicator among middle school students significantly increased from 2001 to 2009, with no change since 2009. This trend was the same among females and males.



	2001	2003	2005	2007	2009	2011	2013	2015
Total	73.1			81.5	83.8	81.0	77.6	74.9
Males	75.2			82.6	84.8	81.4	79.1	74.8
Females	70.9			80.1	82.5	80.6	76.1	75.8

Figure 3. Prevalence of Never or Rarely Wore a Helmet When Rollerblading or Skateboarding in the Past Year Among WV Middle School Students

Data source: WV Department of Education, Youth Risk Behavior Survey

Table 3 shows the prevalence of never or rarely wore a helmet when rollerblading or skateboarding among middle school students by demographic characteristics for 2015. The results indicate no significant gender difference in the prevalence. The prevalence was significantly higher among 8th-graders than among 6th-graders.

Table 3. Prevalence of Never or Rarely Wore a Helmet When Rollerblading or Skateboarding in the Past Year Among WV Middle School Students by Gender and Grade Level, 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	74.9	70.6-78.7	15,914
Male	74.8	69.2-79.7	7,822
Female	75.8	69.9-80.8	7,995
6th	65.0	57.3-72.1	4,644
7th	77.8	71.2-83.3	5,315
8th	83.0	74.0-89.3	5,893

Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

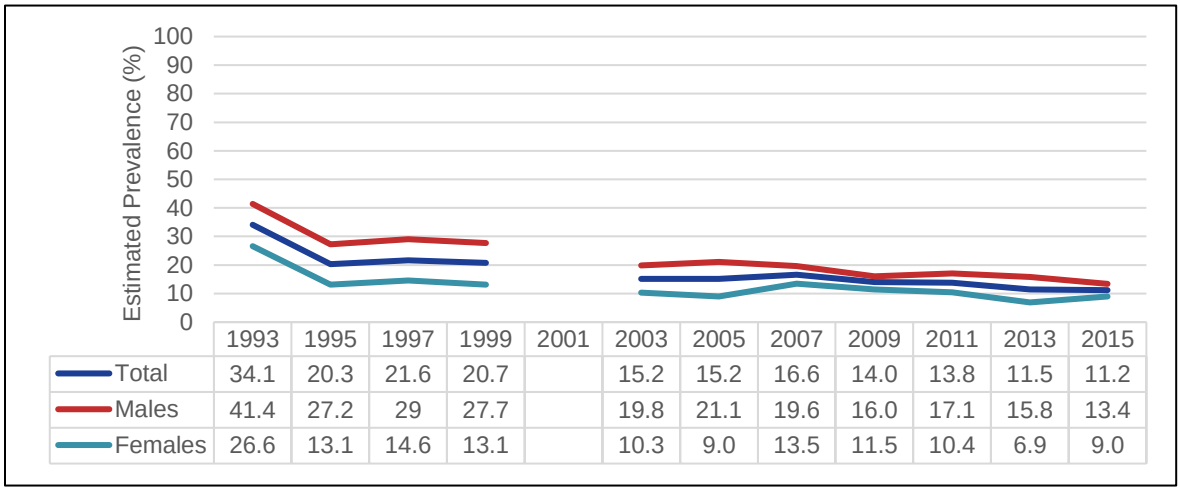
Rarely or Never wore a Seat Belt When Riding in a Car Driven by Someone Else

Definition: Weighted percentage of students who rarely or never wore a seat belt when riding in a car driven by someone else.

High school students

The prevalence of rarely or never wore a seat belt when riding in a car driven by someone else among high school students was 11.2% in 2015. This ranked West Virginia the third highest in the nation (Kann et al., 2016).

Figure 4 shows that the prevalence of this indicator among high school students has significantly decreased among both males and females since 1993.



	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2013	2015
Total	34.1	20.3	21.6	20.7		15.2	15.2	16.6	14.0	13.8	11.5	11.2
Males	41.4	27.2	29	27.7		19.8	21.1	19.6	16.0	17.1	15.8	13.4
Females	26.6	13.1	14.6	13.1		10.3	9.0	13.5	11.5	10.4	6.9	9.0

Figure 4. Prevalence of Rarely or Never Wore a Seat Belt When Riding in a Car Driven by Someone Else Among WV High School Students

Data source: WV Department of Education, Youth Risk Behavior Survey

Table 4 shows no gender or grade differences in the prevalence of rarely or never wore a seat belt when riding in a car driven by someone else among high school students.

Table 4. Prevalence of Rarely or Never Wore a Seat Belt When Riding in a Car Driven by Someone Else Among WV High School Students by Gender and Grade Level, 2015

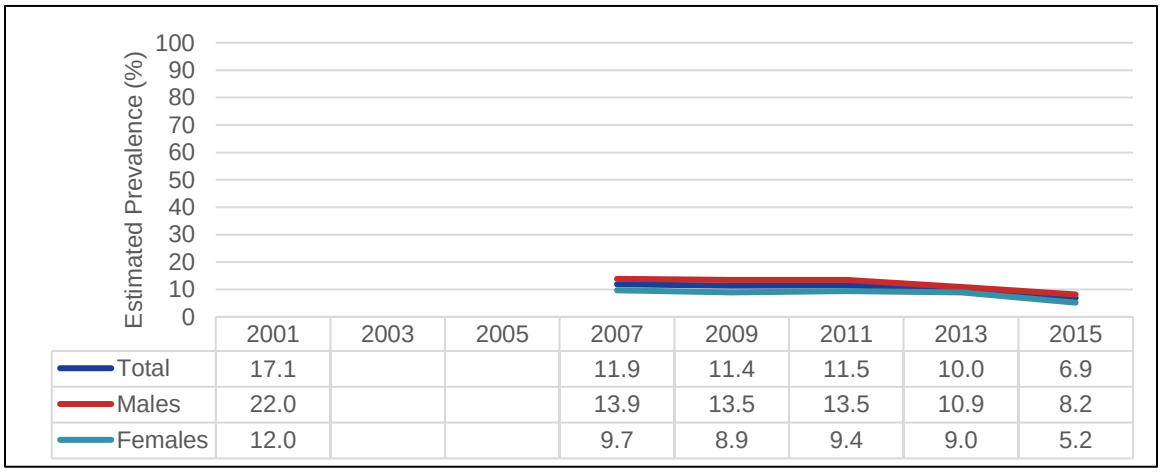
Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	11.2	9.4-13.4	8,895
Male	13.4	10.9-16.3	5,387
Female	9.0	6.5-12.2	3,495
9th	12.5	8.1-18.8	2,790
10th	11.6	6.9-18.9	2,333
11th	7.1	4.5-10.8	1,323
12th	12.8	8.6-18.6	2,289

Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

Middle school students

The prevalence of rarely or never wore a seat belt when riding in a car driven by someone else among middle school students was 6.9% in 2015.

Figure 5 shows that the prevalence of this indicator among middle school students has significantly decreased among both males and females since 2001.



	2001	2003	2005	2007	2009	2011	2013	2015
Total	17.1			11.9	11.4	11.5	10.0	6.9
Males	22.0			13.9	13.5	13.5	10.9	8.2
Females	12.0			9.7	8.9	9.4	9.0	5.2

Figure 5. Prevalence of Rarely or Never Wore a Seat Belt When Riding in a Car Driven by Someone Else among WV Middle School Students

Data Source: WV Department of Education, Youth Risk Behavior Survey

Table 5 shows there were no gender differences in the prevalence of rarely or never wore a seat belt when riding in a car driven by someone else among middle school students.

Table 5. Prevalence of Rarely or Never Wore a Seat Belt When Riding in a Car Driven by Someone Else Among WV Middle School Students by Gender and Grade Level, 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	6.9	5.3-8.7	4,043
Male	8.2	5.9-11.3	2,486
Female	5.2	3.6-7.4	1,460
6th	6.1	3.9-9.4	1,132
7th	5.3	3.8-7.5	1,072
8th	8.7	5.7-13.0	1,716

Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

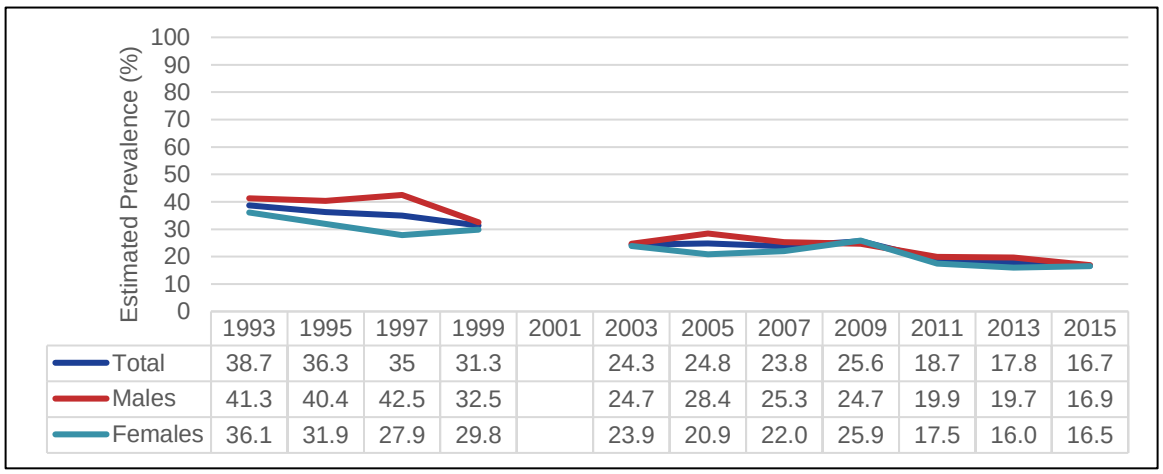
Rode in the Past Month With a Driver Who Had Been Drinking

Definition: Weighted percentage of students who rode in a car or other vehicle, one or more times during the 30 days before the survey, with a driver who had been drinking alcohol.

High school students

The prevalence of rode with a driver who had been drinking alcohol among high school students was 16.7% in 2015.

Figure 6 shows the prevalence of this indicator among high school students for the years 1993-2015. The results indicate the prevalence has significantly decreased during that time for the total population and among both males and females.



	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2013	2015
Total	38.7	36.3	35	31.3		24.3	24.8	23.8	25.6	18.7	17.8	16.7
Males	41.3	40.4	42.5	32.5		24.7	28.4	25.3	24.7	19.9	19.7	16.9
Females	36.1	31.9	27.9	29.8		23.9	20.9	22.0	25.9	17.5	16.0	16.5

Figure 6. Prevalence of Rode in the Past Month With a Driver Who Had Been Drinking Alcohol Among WV High School Students

Data source: WV Department of Education, Youth Risk Behavior Survey

Table 6 shows the prevalence of rode with a driver who had been drinking alcohol among high school students by demographic characteristics for 2015. The results indicated no significant gender or grade differences for this indicator.

Table 6. Prevalence of Rode in the Past Month With a Driver Who had Been Drinking Alcohol Among WV High School Students by Gender and Grade Level, 2015

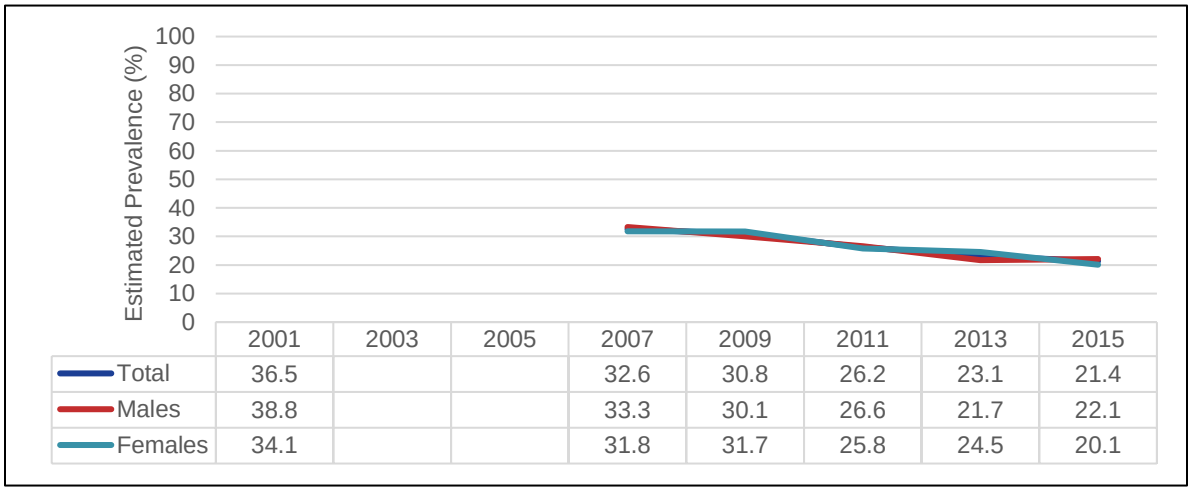
Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	16.7	14.7-18.9	13,251
Male	16.9	13.9-20.5	6,837
Female	16.5	14.6-18.7	6,414
9th	18.7	15.2-22.9	4,166
10th	15.8	10.5-23.1	3,191
11th	16.4	11.5-22.8	3,063
12th	14.7	11.1-19.2	2,630

Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

Middle school students

The prevalence of rode with a driver who had been drinking alcohol among middle school students was 21.4% in 2015.

Figure 7 shows the prevalence of this indicator among middle school students for 2001-2015. The results indicated that the total prevalence significantly decreased from 2001 to 2015. Analysis by gender revealed that while the prevalence among males has not changed since 2001, the prevalence among females significantly decreased from 2009 to 2015.



	2001	2003	2005	2007	2009	2011	2013	2015
Total	36.5			32.6	30.8	26.2	23.1	21.4
Males	38.8			33.3	30.1	26.6	21.7	22.1
Females	34.1			31.8	31.7	25.8	24.5	20.1

Figure 7. Prevalence of Rode in the Past Year With a Driver Who Had Been Drinking Alcohol Among WV Middle School Students

Data source: WV Department of Education, Youth Risk Behavior Survey

Table 7 shows the prevalence of rode with a driver who had been drinking alcohol among middle school students. There was no significant gender difference in the prevalence in 2015. Results do indicate that the prevalence was significantly higher among 8th-grade students than among 6th-grade students.

Table 7. Prevalence of Rode in the Past Month With a Driver Who Had Been Drinking Alcohol Among WV Middle School Students by Gender and Grade Level, 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	21.4	18.9-24.0	12,416
Male	22.1	18.7-25.9	6,624
Female	20.1	17.0-23.6	5,579
6th	15.2	12.1-19.0	2,792
7th	19.2	15.8-23.0	3,774
8th	28.9	22.9-35.8	5,671

Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

Drove When Drinking Alcohol in the Past Month

Definition: Weighted percentage of students who drove when drinking alcohol, one or more times during the 30 days before the survey, among students who had driven a car or other vehicle during the 30 days before the survey.

High school students

The prevalence of drove when drinking alcohol in the past month among high school students was 6.3% in 2015.

Figure 8 shows the prevalence of this indicator among high school students was static from 2013 to 2015 among both males and females.

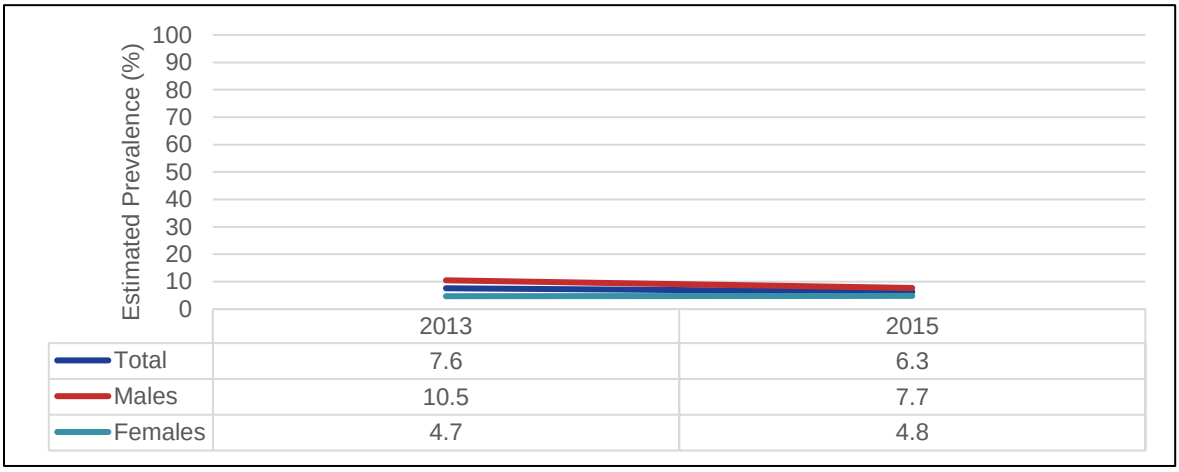


Figure 8. Prevalence of Drove When Drinking Alcohol in the Past Month Among WV High School Students

Data source: WV Department of Education, Youth Risk Behavior Survey

Table 8 shows no significant gender or grade differences in the prevalence of drove when drinking alcohol among high school students in 2015.

Table 8. Prevalence of Drove when Drinking Alcohol in the Past Month Among WV High School Students by Gender and Grade Level, 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	6.3	4.6-8.6	2,907
Male	7.7	4.8-12.2	1,839
Female	4.8	3.1-7.3	1,068
9th	3.9	1.5-10.0	326
10th	6.3	3.5-11.1	740
11th	7.0	4.3-11.1	908
12th	6.4	3.4-11.8	823

Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

Texted or E-mailed While Driving in the Past Month

Definition: Weighted percentage of students who texted or e-mailed while driving a car or other vehicle on at least one day during the 30 days before the survey, among students who had driven a car or other vehicle during the 30 days before the survey.

High school students

The prevalence of texted or e-mailed while driving in the past month among high school students was 35.1% in 2015.

Figure 9 shows no change from 2013 to 2015 for the prevalence of this indicator among high school students. This trend was similar among both males and females.

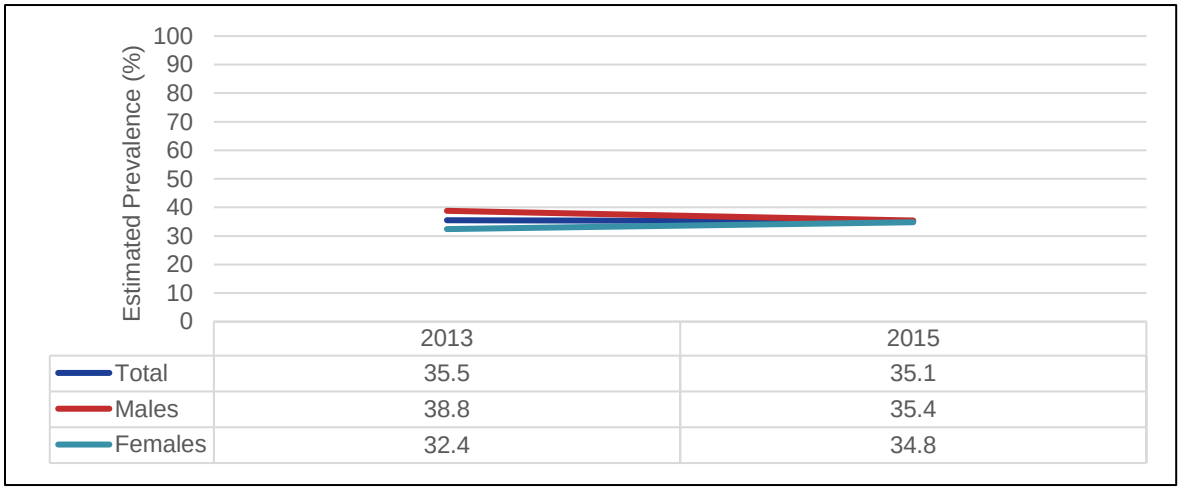


Figure 9. Prevalence of Texted or E-Mailed While Driving in the Past Month Among WV High School Students

Data source: WV Department of Education, Youth Risk Behavior Survey

Table 9 shows no significant gender difference in the prevalence of texted or e-mailed while driving among high school students in 2015. However, the prevalence of this indicator was significantly higher among 11th- and 12th-grade students than among 9th- and 10th-grade students.

Table 9. Prevalence of Texted or E-mailed While Driving in the Past Month Among WV High School Students by Gender and Grade Level, 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	35.1	30.1-40.5	16,612
Male	35.4	29.5-41.8	8,692
Female	34.8	29.6-40.4	7,920
9th	12.6	8.5-18.2	1,112
10th	24.1	17.6-32.0	2,925
11th	43.6	36.1-51.5	5,708
12th	51.7	43.3-60.0	6,689

Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

Discussion

The research base indicates several methods of preventing risky behaviors among adolescents. For example, family, school, and neighborhood factors can reduce youth injury (Duke & Borowsky, 2015). Banspach et al. (2016) recommend a variety of family-based approaches, school-based approaches, and health services to help prepare adolescents for lifelong health and wellness.

Collaborations among community organizations, local social networks, school health centers, public health departments, and effective school programs can play a large role in prevention of many high-risk behaviors among adolescents. Promoting healthy behaviors during adolescence can lead to healthy lifestyle and behavioral choices in adulthood thereby preventing major chronic diseases and leading to less disability and greater health-related quality of life in adulthood and through the aging continuum.

Appendix: Survey Methods

The West Virginia Youth Risk Behavior Survey (YRBS) was most recently administered in public middle schools and high schools during the spring of 2015. The following sections describe the methodology of the YRBS.

Sampling Procedures

Because it is not feasible to administer the YRBS questionnaire to all students in the state, a sample of students complete the questionnaires. The West Virginia Department of Education (WVDE) and The Centers for Disease Control and Prevention (CDC) employ a two-stage, cluster sample design. All public high schools and middle schools in the state were included in the sampling frame, which includes enrollment by grade for each school. During the 2015 YRBS administration, a total of 35 randomly selected public high schools and 49 middle schools from around the state participated in the survey. In sampled schools, the survey was administered in a random selection of second period classes.

Sample Characteristics, 2015

A total of 1,622 students enrolled in Grades 9–12, participated in the survey, representing a school response rate of 100% and a student response rate of 77%. A total of 1,854 students enrolled in Grades 6–8, participated in the survey, representing a school response rate of 100% and a student response rate of 75%.

Data Collection

Survey procedures protected the privacy of students by allowing for anonymous and voluntary participation. Passive parental permission was obtained before surveys were administered to students. Data collection was conducted by regional education service agency (RESA) school wellness specialists with coordination by the YRBS coordinator with the WVDE Office of Research, Accountability, and Data Governance. Completed response forms were sent to CDC for processing and weighting.

Questionnaires

Standard questionnaires for middle school students and high school students are provided by CDC. The WVDE modifies the questionnaires by adding or deleting questions based on the needs of WVDE offices and external stakeholders such as the WV Bureau for Public Health. The standard questionnaires are changed by CDC for each administration. The standard high school questionnaire provided by CDC included 89 questions. The 2015 West Virginia version of the high school questionnaire was a 92-item self-administered questionnaire that included all of the topics mentioned in the Introduction as well as three state added questions about dieting practices. The standard middle school questionnaire included 49 questions covering the standard topics listed previously. The West Virginia version of the 2015 middle school questionnaire was 48 questions in length and excluded questions regarding sexual behavior and included three state-added questions about dieting practices.

Weighting of Raw Data

The student responses were scientifically weighted, which allows the results to be generalized to all public middle school and high school students in West Virginia. West Virginia YRBS data have been weighted for high school students each year the survey has been conducted, except 2001, while the middle school data was weighted for all years conducted except 2003 and 2005. The raw data collected are weighted to West Virginia's public school student population based on grade, sex, and race/ethnicity.

Data Analysis

Once the raw data are processed by CDC, WVDE receives the weighted middle school and high school datasets. CDC also provides time trend analyses and standard tables detailing student behavior by demographic characteristics including sex, age, grade, and race/ethnicity. The WVDE YRBS coordinator then performs analyses of the datasets to produce weighted prevalence estimates and weighted frequencies. In general terms, the prevalence is the proportion or percentage of the population that has a specific characteristic or displays a specific behavior during a given time frame. Because the YRBS data are collected from a sample of students, and not all students, and are weighted in order to apply to the population of all students, a prevalence estimate is generated. The prevalence estimate is the weighted percentage of students who engaged in the behavior during a specific period of time. A weighted frequency is calculated based on the prevalence estimate, and estimates the number of students who engage in a specific behavior during a given time period. Additionally, analyses of comorbid behaviors (i.e. behaviors that occur simultaneously) are conducted.

Interpretation of Results

Once the weighted data are analyzed, the results must be interpreted in a scientifically acceptable manner. For comparison of prevalence estimates by demographic characteristics such as gender, age, grade, and race/ethnicity, a conservative statistical procedure is used that involves comparison of 95% confidence intervals. The 95% confidence interval is a range of prevalence estimates within which it is expected that the actual prevalence falls. If the 95% confidence intervals of two prevalence estimates overlap, the estimates are considered to be statistically equivalent or the same. If the 95% confidence intervals of two prevalence estimates do not overlap, the estimates are considered to be significantly different from a statistical perspective. When examining changes in prevalence estimates over time, logistic regression analysis is conducted in order to determine if the changes are statistically significant.

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