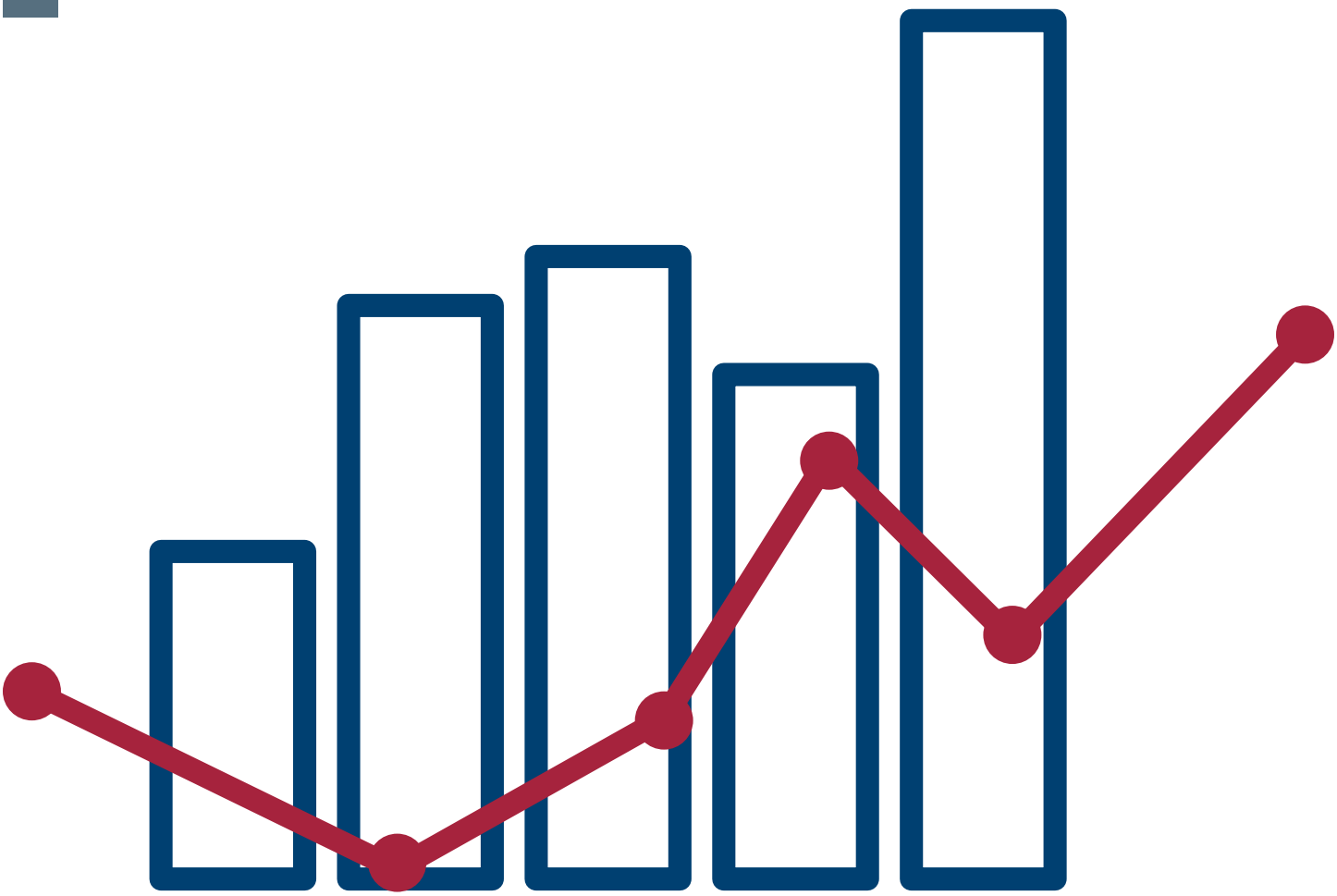
WEST VIRGINIA YOUTH RISK BEHAVIOR SURVEY, 2015:

Alcohol Use



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

West Virginia Youth Risk Behavior Survey, 2015: Alcohol Use Report

Birgit A. Shanholtzer, M.A.

West Virginia Department of EDUCATION

West Virginia Department of Education

Division of Technology
Office of Research, Accountability, and Data Governance
Building 6, Suite 825, State Capitol Complex
1900 Kanawha Boulevard East
Charleston, WV 25305
http://wvde.state.wv.us/research

March 2017

Steven L. Paine, Ed.D.
State Superintendent of Schools

Warren Patterson
Chief Information Officer

Andy Whisman, Ph.D.
Executive Director
Office of Research, Accountability, and Data Governance

Suggested Citation
Shanholtzer, B. A. (2017). *West Virginia Youth Risk Behavior Survey, 2015: Alcohol use report*. Charleston, WV: West Virginia Department of Education, Division of Technology, Office of Research, Accountability, and Data Governance.

Content Contact
Birgit A. Shanholtzer, M.A.
Coordinator, Research and Evaluation
Office of Research, Accountability, and Data Governance
birgit.shanholtzer@k12.wv.us

This publication was supported by Cooperative Agreement Number 1U87PS004130 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

This research study was reviewed and approved by the West Virginia Department of Education Institutional Review Board (WVDE-IRB-025). Should you desire additional details about this study's approval status, contact the WVDE IRB chairperson, Patricia Cahape Hammer (phammer@k12.wv.us).

Table of Contents

Table of Contents iii

Introduction 1

Methods 1

Results 1

- Ever Drank Alcohol 2
  - High school students 2
  - Middle school students 3
- Drank Alcohol Before Age 13 (High School) or Age 11 (Middle School) 4
  - High school students 4
  - Middle school students 5
- Currently Drank Alcohol 6
  - High school students 6
- Binge Drinking in Past Month 7
  - High school students 7
- Ten or More Drinks in a Row in the Past Month 8
  - High school students 8
- Obtained Alcohol by Someone Giving It to Them 9
  - High school students 9

Discussion 10

Appendix: Survey Methods 11

References 11

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 11 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.

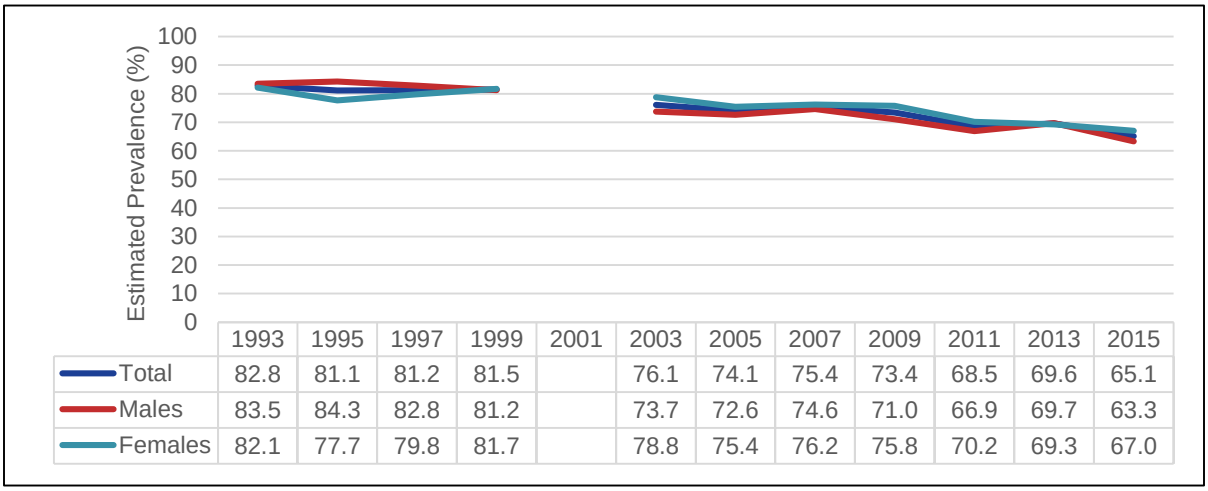
Ever Drank Alcohol

Definition: Weighted percentage of students who ever drank alcohol (at least one drink of alcohol on at least 1 day during their life).

High school students

The prevalence of ever drank alcohol among high school students was 65.1% in 2015. West Virginia ranked second highest in the nation on this indicator (Kann et al., 2016).

Figure 1 displays the prevalence of ever drank alcohol among high school students for 1993-2015. The results indicate that the prevalence significantly decreased from 1993 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	82.8	81.1	81.2	81.5		76.1	74.1	75.4	73.4	68.5	69.6	65.1
Males	83.5	84.3	82.8	81.2		73.7	72.6	74.6	71.0	66.9	69.7	63.3
Females	82.1	77.7	79.8	81.7		78.8	75.4	76.2	75.8	70.2	69.3	67.0

Figure 1. Prevalence of Ever Drank Alcohol Among West Virginia High School Students
Data Source: WV Department of Education, Youth Risk Behavior Survey

Table 1 displays the prevalence of ever drank alcohol among high school students by demographic characteristics for 2015. The results indicate no gender difference. The results also indicate that the prevalence was significantly higher among 11th-grade and 12th-grade students than among 9th-grade students.

Table 1. Prevalence of Ever Drank Alcohol Among West Virginia High School Students by Gender and Grade Level, 2015

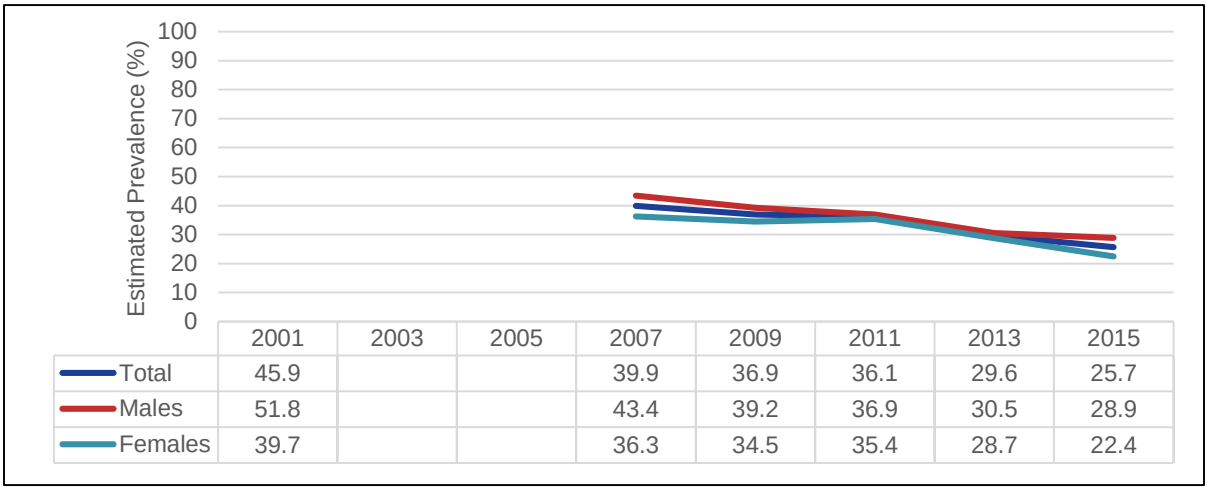
Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	65.1	61.2-69.0	50,149
Male	63.3	58.5-68.1	24,488
Female	67.0	62.5-71.4	25,604
9th	54.0	47.7-60.4	11,485
10th	63.4	54.8-72.0	12,133
11th	69.8	65.8-73.9	12,905
12th	75.1	69.1-81.1	13,386

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

Middle school students

The prevalence of ever drank alcohol among middle school students was 25.7% in 2015.

Figure 2 shows that the prevalence of ever drank alcohol among middle school students significantly decreased from 2001 to 2015 for the total population and among both males and females.



	2001	2003	2005	2007	2009	2011	2013	2015
Total	45.9			39.9	36.9	36.1	29.6	25.7
Males	51.8			43.4	39.2	36.9	30.5	28.9
Females	39.7			36.3	34.5	35.4	28.7	22.4

Figure 2. Prevalence of Ever Drank Alcohol Among West Virginia Middle School Students
Data source: WV Department of Education, Youth Risk Behavior Survey

Table 2 displays the prevalence of ever drank alcohol among middle school students by demographic characteristics for 2015. While there was no gender difference, the results indicate that the prevalence was significantly higher among 8th-grade students than among 6th-grade and 7th-grade students.

Table 2. Prevalence of Ever Drank Alcohol Among West Virginia Middle School Students by Gender and Grade Level, 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	25.7	21.8-29.5	13,900
Male	28.9	24.1-33.7	7,890
Female	22.4	17.8-27.0	5,913
6th	14.5	10.7-18.2	2,449
7th	22.9	17.9-28.0	4,255
8th	39.1	30.0-48.2	7,102

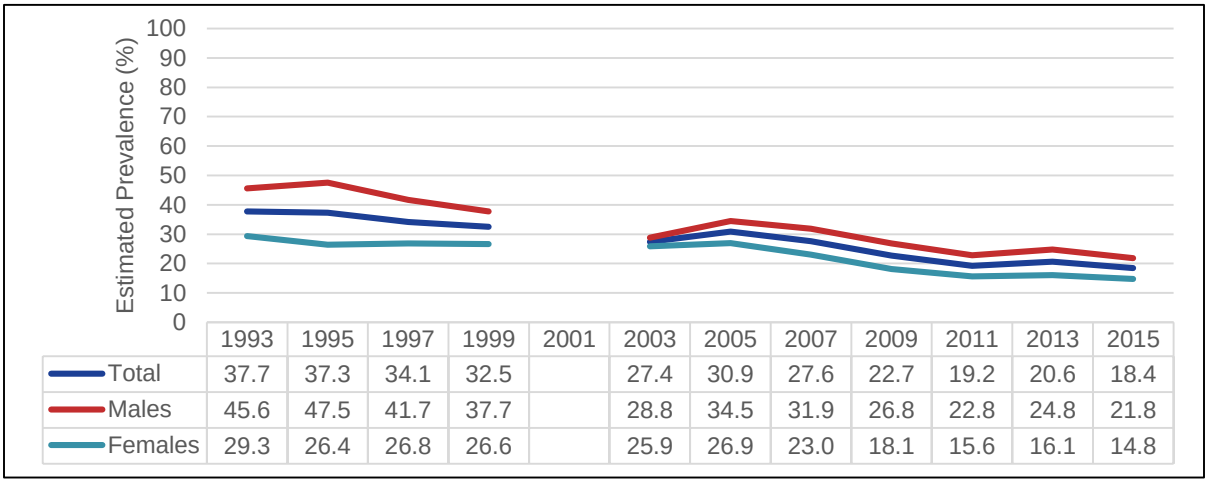
Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

Drank Alcohol Before Age 13 (High School) or Age 11 (Middle School)

Definition: Weighted percentage of high school students who drank alcohol for the first time (other than a few sips) before age 13 years, or for middle school students, before age 11 years.

High school students

The prevalence of drank alcohol before age 13 among high school students was 18.4% in 2015. Figure 3 displays the prevalence of this indicator among high school students during 1993-2015. The results indicate early drinking significantly decreased from 1993 to 2015 for the total population and among males. Among females, the prevalence remained constant from 1993 to 2015 but significantly decreased from 2005 to 2015.



	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2013	2015
Total	37.7	37.3	34.1	32.5		27.4	30.9	27.6	22.7	19.2	20.6	18.4
Males	45.6	47.5	41.7	37.7		28.8	34.5	31.9	26.8	22.8	24.8	21.8
Females	29.3	26.4	26.8	26.6		25.9	26.9	23.0	18.1	15.6	16.1	14.8

Figure 3. Prevalence of Drank Alcohol Before Age 13 Among West Virginia High School Students

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

Table 3 displays the prevalence of drank alcohol before age 13 among high school students by demographic characteristics for 2015. The results indicate that the prevalence of early drinking was significantly higher among males than among females. There was no significant grade difference for this indicator.

Table 3. Prevalence of Drank Alcohol Before Age 13 Among West Virginia High School Students by Gender and Grade Level, 2015

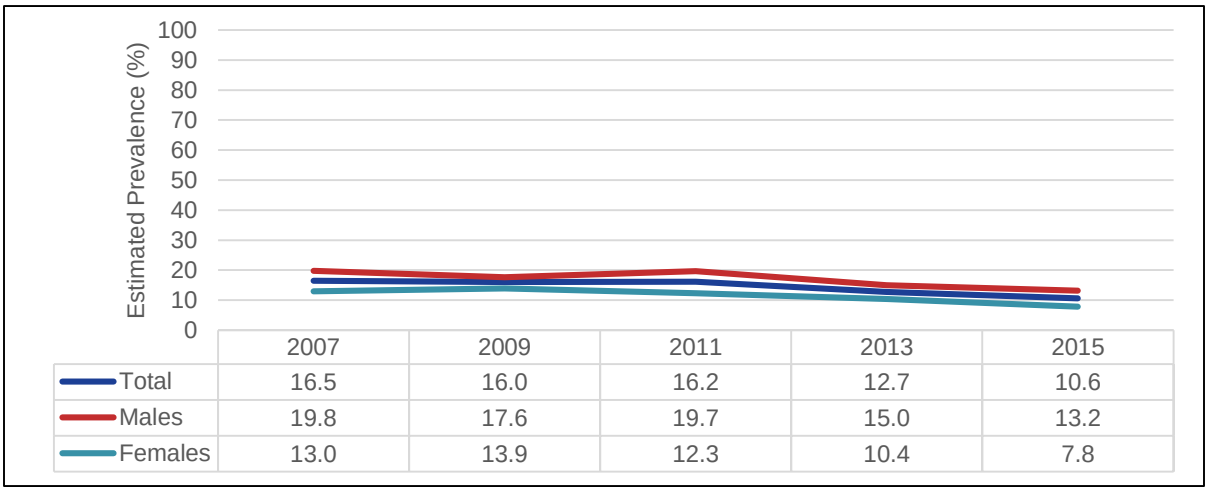
Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	18.4	16.4-20.3	14,440
Male	21.8	19.1-24.6	8,657
Female	14.8	12.9-16.8	5,741
9th	18.6	14.1-23.2	4,076
10th	22.6	18.4-26.7	4,482
11th	14.7	10.5-18.8	2,714
12th	17.1	12.4-21.7	3,056

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

Middle school students

The prevalence of drank alcohol before age 11 among middle school students was 10.6% in 2015.

Figure 4 shows that the prevalence of early drinking among middle school students significantly decreased from 2007 to 2015 for the total population and among both males and females.



	2007	2009	2011	2013	2015
Total	16.5	16.0	16.2	12.7	10.6
Males	19.8	17.6	19.7	15.0	13.2
Females	13.0	13.9	12.3	10.4	7.8

Figure 4. Prevalence of Drank Alcohol Before Age 11 Among West Virginia Middle School Students

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

Table 4 displays the prevalence of early drinking among middle school students by demographic characteristics for 2015. The results indicate that the prevalence was significantly higher among males than among females. There was no significant grade difference for this indicator.

Table 4. Prevalence of Drank Alcohol Before Age 11 Among WV Middle School Students by Gender and Grade Level, 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	10.6	8.8-12.4	5,652
Male	13.2	10.0-16.4	3,556
Female	7.8	6.0-9.6	2,032
6th	9.8	6.2-13.4	1,584
7th	10.6	7.6-13.5	1,942
8th	11.3	7.7-15.0	2,091

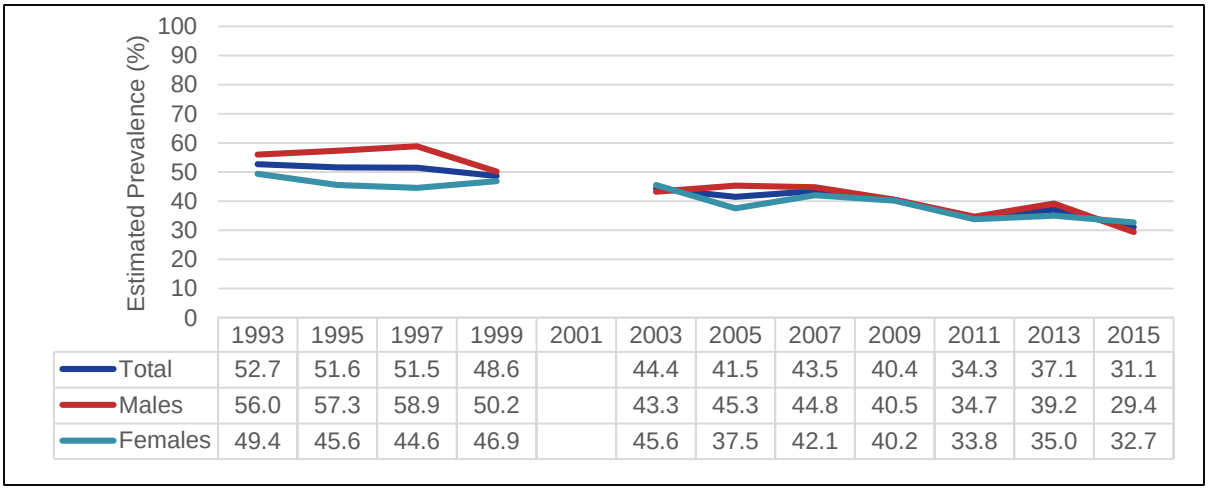
Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

Currently Drank Alcohol

Definition: Weighted percentage of students who currently drank alcohol (at least one drink of alcohol on at least 1 day during the 30 days before the survey).

High school students

The prevalence of currently drank alcohol among high school students was 31.1% in 2015. Figure 5 displays the prevalence of current drinking among high school students for 1993-2015. The results show that the prevalence significantly decreased for the total population and among both males and females during that time period.



	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2013	2015
Total	52.7	51.6	51.5	48.6		44.4	41.5	43.5	40.4	34.3	37.1	31.1
Males	56.0	57.3	58.9	50.2		43.3	45.3	44.8	40.5	34.7	39.2	29.4
Females	49.4	45.6	44.6	46.9		45.6	37.5	42.1	40.2	33.8	35.0	32.7

Figure 5. Prevalence of Currently Drank Alcohol Among West Virginia High School Students
Data source: West Virginia Department of Education, Youth Risk Behavior Survey

Table 5 displays the prevalence of current drinking among high school students by demographic characteristics for 2015. While there was no significant gender difference, the prevalence of current drinking was significantly higher among 10th-, 11th-, and 12th-grade students than among 9th-grade students.

Table 5. Prevalence of Currently Drank Alcohol Among West Virginia High School Students by Gender and Grade Level, 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	31.1	28.0-34.1	22,034
Male	29.4	25.9-32.9	10,396
Female	32.7	28.0-37.4	11,605
9th	21.0	16.5-25.6	4,041
10th	33.3	26.5-40.1	6,038
11th	32.6	27.3-37.9	5,737
12th	38.6	29.7-47.5	6,058

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

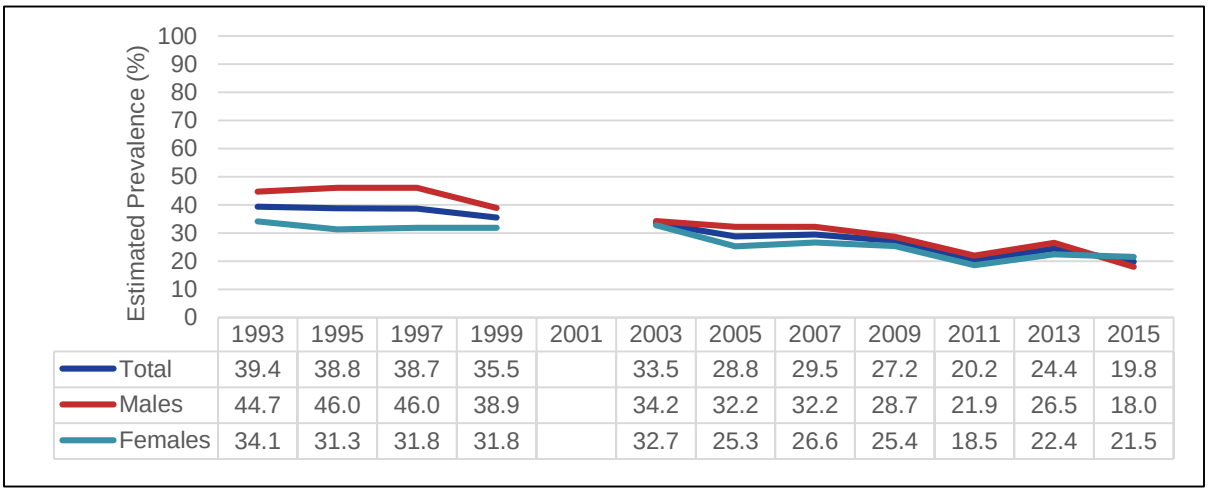
Binge Drinking in Past Month

Definition: Weighted percentage of students who drank five or more drinks of alcohol in a row, within a couple of hours, on at least 1 day during the 30 days before the survey.

High school students

The prevalence of binge drinking in the past month among high school students was 19.8% in 2015. West Virginia ranked second highest in the nation on this indicator (Kann et al., 2016).

Figure 6 shows that the prevalence of binge drinking among high school students has significantly decreased for the total population and among both males and females from 1993 to 2015.



	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2013	2015
Total	39.4	38.8	38.7	35.5		33.5	28.8	29.5	27.2	20.2	24.4	19.8
Males	44.7	46.0	46.0	38.9		34.2	32.2	32.2	28.7	21.9	26.5	18.0
Females	34.1	31.3	31.8	31.8		32.7	25.3	26.6	25.4	18.5	22.4	21.5

Figure 6. Prevalence of Binge Drinking Among West Virginia High School Students
Data source: West Virginia Department of Education, Youth Risk Behavior Survey

Table 6 displays the prevalence of binge drinking among high school students by demographic characteristics for 2015. While there was no significant gender difference, the results indicated that the prevalence was significantly higher among 11th-grade and 12th-grade students than among 9th-grade students.

Table 6. Prevalence of Binge Drinking Among WV High School Students by Gender and Grade Level, 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	19.8	17.7-21.8	14,939
Male	18.0	15.2-20.8	6,829
Female	21.5	17.5-25.5	8,078
9th	13.7	10.1-17.2	2,879
10th	19.3	13.9-24.8	3,658
11th	21.3	17.6-25.0	3,881
12th	26.0	20.1-31.8	4,444

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

Ten or More Drinks in a Row in the Past Month

Definition: Weighted percentage of students who reported that the largest number of drinks they had in a row was 10 or more within a couple of hours during the 30 days before the survey.

High school students

The prevalence of 10 or more drinks in a row among high school students was 7.4% in 2015. West Virginia ranked the highest in the nation on this indicator (Kann et al., 2016). Figure 1 shows that the prevalence was stable from 2013 to 2015.

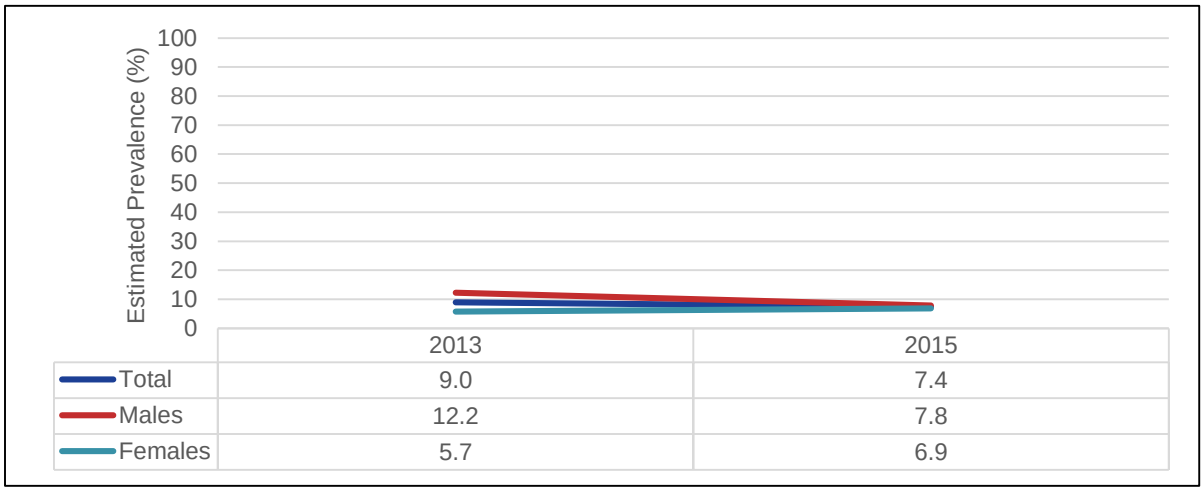


Figure 7. Prevalence of 10 or More Drinks in a Row Among West Virginia High School Students

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

Table 7 displays the prevalence of 10 or more drinks in a row among high school students by demographic characteristics for 2015. The results indicate there was no significant gender difference. The results also indicate that the prevalence was significantly higher among 12th-grade students than among 9th-grade students.

Table 7. Prevalence of 10 or More Drinks in a Row Among WV High School Students by Gender and Grade Level 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	7.4	6.0-8.8	5,304
Male	7.8	5.3-10.4	2,803
Female	6.9	4.2-9.6	2,476
9th	3.1	1.0-5.1	597
10th	7.3	4.8-9.8	1,327
11th	7.9	4.4-11.4	1,395
12th	11.8	6.8-16.8	1,901

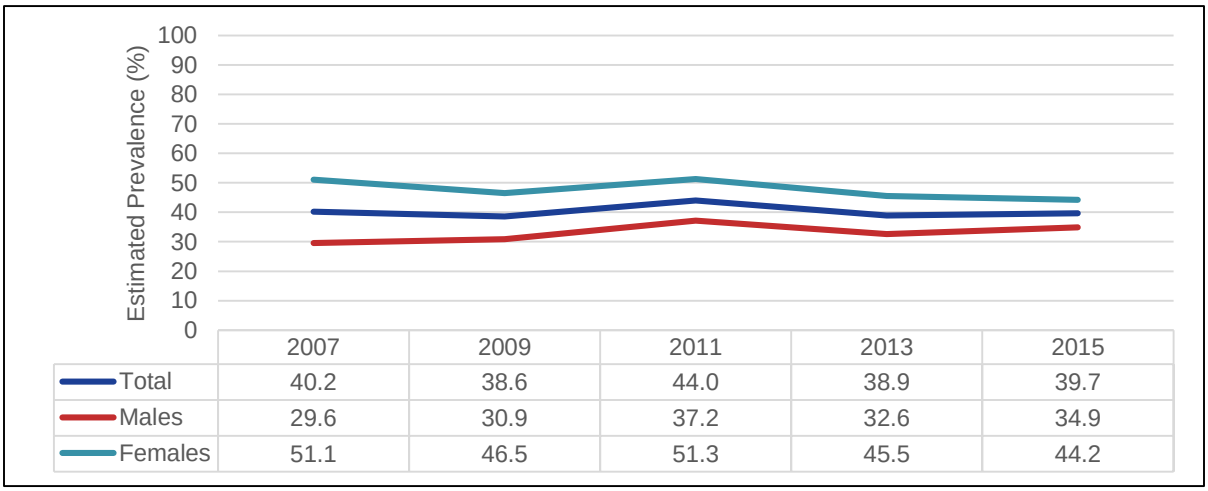
Data source: West Virginia Department of Education, Youth Risk Behavior Survey, 2015

Obtained Alcohol by Someone Giving It to Them

Definition: Weighted percentage of students who usually obtained the alcohol they drank by someone giving it to them, among students who currently drank alcohol.

High school students

The prevalence of obtained alcohol by someone giving it to them among high school students was 39.7% in 2015. Figure 8 displays the prevalence of this indicator among high school students for the years 2007-2015. The results indicate the prevalence was steady during that time period for the total population and among both males and females.



	2007	2009	2011	2013	2015
Total	40.2	38.6	44.0	38.9	39.7
Males	29.6	30.9	37.2	32.6	34.9
Females	51.1	46.5	51.3	45.5	44.2

Figure 8. Prevalence of Obtained Alcohol from Another Person Among West Virginia High School Students

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

Table 8 displays the prevalence of obtained alcohol by someone giving it to them among high school students by demographic characteristics for 2015. The results indicate no significant gender or grade differences for this indicator.

Table 8. Prevalence of Obtained Alcohol by Someone Giving it to Them Among WV High School Students by Gender and Grade Level, 2015

Characteristic	Estimated prevalence (%)	95% confidence interval	Weighted frequency
Total	39.7	36.4-43.1	8,544
Male	34.9	28.4-41.4	3,586
Female	44.2	37.9-50.6	4,957
9th	38.7	27.4-50.0	1,563
10th	39.6	30.0-49.2	2,323
11th	42.7	35.9-49.5	2,366
12th	38.4	28.7-48.1	2,262

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

Discussion

The research base indicates that many risky behaviors in adolescence are interrelated. For example, Sipsma, Ickovics, Lin, and Kershaw (2015) found that drinking behavior among adolescents is highly associated with sexual behavior and inconsistent contraception use. This puts teenagers at higher risk for pregnancy and STD exposure. Alcohol and marijuana use have also been found to be related to verbal dating violence (Parker, Debnam, Pas, & Bradshaw, 2015). An abundance of research has been conducted linking adolescent behaviors to suicidal thought and suicide attempts including bullying and sadness (Sibold, Edwards, Murray-Close, & Hudziak, 2015), maladaptive dieting (Thullen, Taliaferro, & Muehlenkamp, 2015; Brown, Kola-Palmer, & Dhingra, 2015), binge drinking, daily smoking, and marijuana use (Brown, Kola-Palmer, & Dhingra, 2015).

Research has also found that several other factors influence adolescent behavior. Jeon and Goodson (2015) found that friendship types influenced risky behavior including alcohol use, smoking, sexual behavior, and marijuana use.

Factors related to the prevention of risky behavior during adolescence have also been extensively investigated. The research base indicates several methods of preventing risky behaviors among adolescents. 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 of these 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.

References

Banspach, S., Zaza, S., Dittus, P., Michael, S., Brindis, C. D., & Thorpe, P. (2016). CDC grand rounds: adolescence – Preparing for lifelong health and wellness. *Morbidity and Mortality Weekly Report*, *65*(30). 759-762.

Brown, C. S., Kola-Palmer, S., & Dhingra, K. (2015). Gender differences and correlates of extreme dieting behaviors in U.S. adolescents. *Journal of Health Psychology, 20*(5), 569-579.

Jeon, K. C. & Goodson, P. (2015). US adolescents' friendship networks and health risk behaviors: a systematic review of studies using social network analysis and Add Health data. *PeerJ, 3*:e1052; DOI 10.7717/peerj.1052.

Kann, L., McManus, T., Harris, W. A., Shanklin, S. L., Flint, K. H., Hawkins, J., Queen, B., Lowry, R., O'Malley Olsen, E., Chyen, D., Whittle, L., Thornton, J., Lim, C., Yamakawa, Y., Brener, N., & Zaza, S. (2016). Youth risk behavior surveillance – United States, 2015. *MMWR Surveillance Summaries*, *65*(5), 1-174.

Parker, E. M., Debnam, K., Pas, E. T., & Bradshaw, C. P. (2015). Exploring the link between alcohol and marijuana use and teen dating violence victimization among high school students: the influence of school context. *Health Education & Behavior*, doi: 10.1/1771090198115605308.

Sibold, J., Edwards, E., Murray-Close, D., & Hudziak, J. J. (2015). Physical activity, sadness, and suicidality in bullied US adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 54*(10), 808-815.

Sipsma, H. L., Ickovics, J. R., Lin, J., & Kershaw, T. S. (2015). The impact of future expectations on adolescent sexual risk behavior. *Journal of Youth and Adolescence, 44*(1), 170-183.

Thullen, M. J., Taliaferro, L. A., & Muehlenkamp, J. J. (2015). Suicide ideation and attempts among adolescents engaged in risk behaviors: a latent class analysis. *Journal of Research on Adolescence,* doi: 10.1111/jora.12199.

Steven L. Paine, Ed.D.
State Superintendent of Schools