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## Health-Related Behaviors of Colorado Adolescents: Results from the Youth Risk Behavior Survey, 2003

*Jodi Drisko, M.S.P.H.*

### Introduction

“Improving the Health, Education and Well Being of Colorado’s Young People” is the goal of a new five-year initiative funded by the Centers for Disease Control for Colorado’s schools. Through Coordinated School Health Programs that link all school staff, parents, and the community in a seamless system of prevention and health services, schools can demonstrate that “healthy students are better learners.” To measure Colorado’s progress the bi-annual Youth Risk Behavior Survey was administered as part of this initiative during fall, 2003.

The Youth Risk Behavior Survey (YRBS) is one component of the Youth Risk Behavior Surveillance System developed by the Centers for Disease Control and Prevention (CDC) in collaboration with representatives from multiple federal, state, and local departments of education and health. The Youth Risk Behavior Survey was designed to focus the nation on behaviors among youth related to the leading causes of mortality and morbidity among both youth and adults and to assess how these risk behaviors change over time. The YRBS measures behaviors that are most predictive of these leading causes. They fall into six categories:

1. Behaviors that result in unintentional injuries and violence;
2. Tobacco use;
3. Alcohol and other drug use;
4. Sexual behaviors that result in HIV infection, other sexually transmitted diseases, and unintended pregnancies;
5. Dietary behaviors; and
6. Physical activity.

Because health-related behaviors are usually established in childhood, positive choices need to be promoted before detrimental behaviors are initiated or become ingrained. Monitoring the prevalence of health risk behaviors provides guidance for the development of prevention programs, setting priorities, and a means to evaluate the effectiveness of these prevention efforts.

## Methods

The YRBS is a self-administered, anonymous questionnaire conducted every other year. Students in grades 9-12 who are attending public schools are eligible for participation. Public high schools in Colorado are randomly selected by CDC to participate in the survey process. The probability of being selected is proportional to school enrollment size. Once a school has agreed to participate, individual classrooms at each school are randomly selected to complete the survey. These classes are either a random selection of a required subject, such as English, or a required period (e.g., 2<sup>nd</sup> period). Survey procedures are designed to protect the privacy of students by allowing for anonymous and voluntary participation. Local school parental permission procedures are followed before survey administration.

Colorado's questionnaire consisted of 99 questions: 59 YRBS questions and 40 questions from the Colorado Youth Survey. This was a first attempt at integrating surveys to reduce burden on the schools from multiple state survey requests.

## Results

During the fall of 2003, 757 students in 23 public high schools in Colorado completed the survey. The school response rate was 38 percent, the student response rate was 83 percent, and the overall response rate was 32 percent. Due to the low overall response rate, the results of the 2003 Colorado survey are representative of only those students who completed the questionnaire. The demographic characteristics of the sample can be seen in Table 1. The racial/ethnic makeup of students who took the YRBS is very

similar to that of all Colorado students.

The results of the 2003 YRBS are presented below by topic area. Many of the areas also have Healthy People 2010 goals referenced. Healthy People 2010 is a national initiative, sponsored by the U.S. Department of Health and Human Services, that outlines a comprehensive, nationwide health promotion and disease prevention agenda. It is designed to serve as a roadmap for improving the health of all people in the United States by 2010.<sup>1</sup> Many of the health indicators have a benchmark or goal for progress by the year 2010. A commonly used abbreviation is HP 2010.<sup>1</sup>

### Behaviors that contribute to unintentional injuries

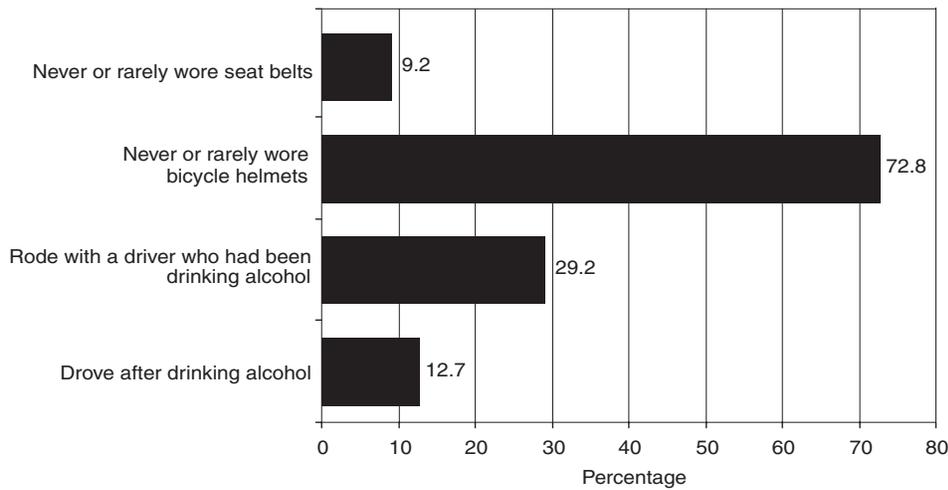
Unintentional injuries account for almost 50 percent of all deaths to 15- to 19-year-olds in Colorado, rendering them the leading cause of death among this age group. Motor vehicle fatalities alone account for 41 percent of deaths among this age group. As shown in Figure 1:

- 9.2 percent of YRBS respondents had rarely or never worn seat belts when riding in a car driven by someone else. The HP 2010 goal is for 92 percent of the population to wear seat belts, which translates into 8 percent or less not wearing seat belts regularly;
- Of students who rode a bicycle during the 12 months preceding the survey, most students (72.8 percent) reported that they never or rarely wore a bicycle helmet; and
- During the 30 days preceding the survey, 29.2 percent of students reported that they rode one or more times with a driver who had been drinking alcohol, and 12.7 percent reported that they themselves drove after drinking alcohol. Youth in the YRBS sample are near meeting the HP 2010 goal of 30 percent or fewer students driving with someone who has been drinking.

**Table 1. Demographic characteristics of Colorado YRBS respondents, 2003**

Gender	Grade	Race/Ethnicity
Female 50%	9th grade 28.9%	African American 5.7%
Male 50%	10th grade 31.8%	Hispanic/Latino 24.4%
	11th grade 22.2%	White 58.0%
	12th grade 16.8%	All other races 7.4%
		Multiple races 4.4%

**Figure 1. Prevalence of behaviors that contribute to unintentional injuries, Colorado YRBS, 2003**

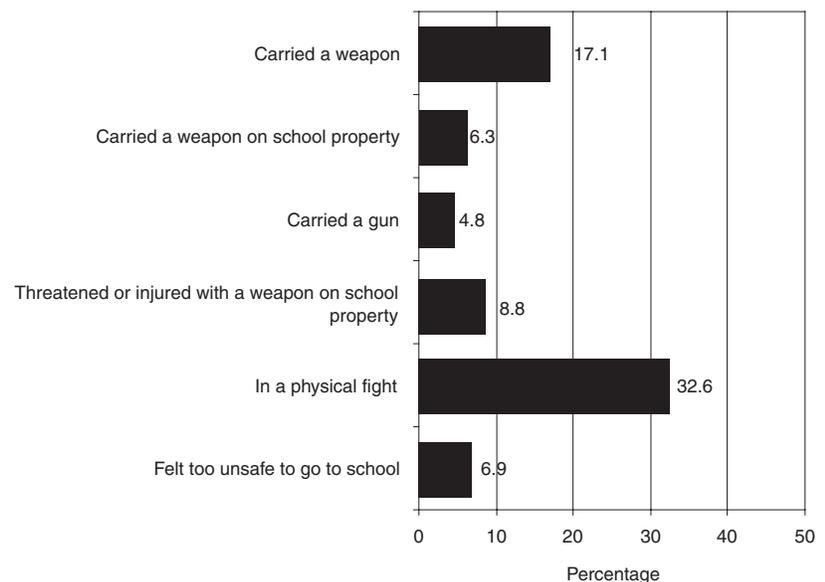


### Behaviors that contribute to violence

Homicide and legal interventions account for 9 percent of all deaths among Colorado 15- to 19-year-olds, and suicide accounts for an additional 20 percent of deaths in this age group. As shown in Figure 2:

- 17.1 percent of YRBS respondents carried a weapon (knife, gun, or club) at least once in the 30 days preceding the survey. Males (25.2 percent) seem to be more likely to carry a weapon than females (8.4 percent);
- 6.3 percent of students carried a weapon on school property (8.7 percent of males and 3.5 percent of females) (HP 2010 goal: 4.9 percent or fewer students will carry weapons on school property);
- 4.8 percent of students carried a gun to school at least once during the 30 days preceding the survey;
- 8.8 percent of students had been threatened or injured with a weapon on school property one or more times during the 12 months preceding the survey;

**Figure 2. Prevalence of behaviors that contribute to violence, Colorado YRBS, 2003**



- Nearly one third of students reported that they had been in a physical fight at least once during the 12 months preceding the survey. Males tended to be more likely (40.9 percent) to be in a fight than females (24.3 percent). (HP 2010 goal: 32 percent or fewer 9-12th graders will have engaged in a physical fight.) ; and
- 6.9 percent of students had not gone to school on one or more days (of the 30 days preceding the survey) because they had felt unsafe at school or on their way to or from school.

### Suicide

Suicide accounts for almost 20 percent of deaths for Colorado 15- to 19- year-olds and is the second leading cause of death among this age group. The strongest risk factors for attempted suicide in youth are depression, alcohol or other drug use disorder, and aggressive or disruptive behaviors.<sup>2</sup> As can be seen in Figure 3:

- 30.8 percent of students had felt so sad or hopeless almost every day for two or more weeks in a row that they stopped doing some of their usual activities.

During the 12 months preceding the survey:

- 18.6 percent had seriously considered attempting suicide;
- 14.6 percent had made a suicide plan; and
- 13.2 percent had attempted suicide (HP 2010 goal: 1 percent).

### Tobacco, alcohol and other drug use

Substance use among youth is a major predictor of continued use or abuse as an adult, which can often lead to physical and/or mental health problems. The use of drugs and/or alcohol can lead to dangerous behaviors, including unprotected or unwanted sex, driving under the influence, and more serious criminal behaviors.

### Tobacco

Tobacco use has been shown to cause cancer and heart disease. Youth who smoke are more likely to be adult smokers. The Healthy People 2010 goal for reduction in tobacco use among 9-12th graders is for 21 percent or fewer to use tobacco products. As shown in Figure 4, the prevalence of tobacco use among the 2003 YRBS respondents was:

- 26.7 percent were currently smoking cigarettes (1 or more days of the 30 days preceding the survey).

### Alcohol

The Healthy People 2010 goal is for 29 percent of high school seniors to have never tried alcoholic beverages and for 89 percent of 12- to 17-year-olds to have abstained from using alcohol during the past 30 days. Figure 4 shows that in Colorado:

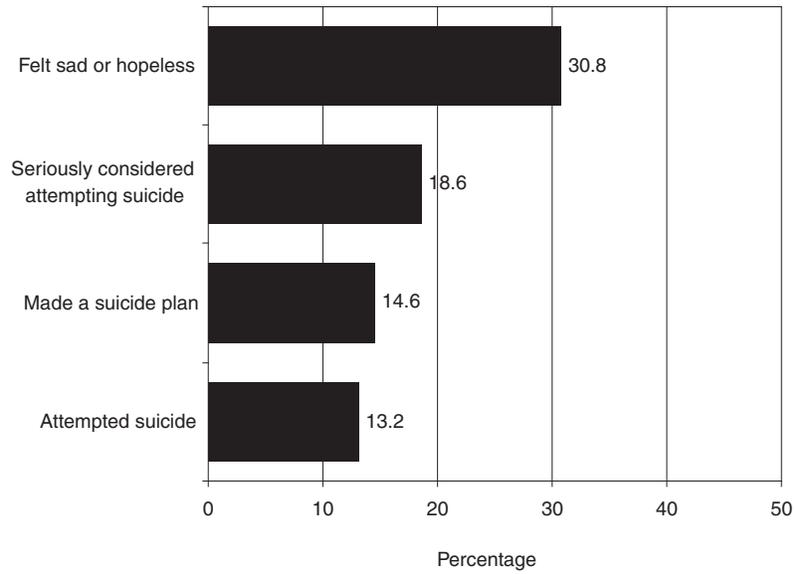
- 80.1 percent of students had ever consumed one or more drinks of alcohol (19.9 percent had never tried alcohol);
- 48.4 percent currently use alcohol ( $\geq 1$  drinks in the 30 days preceding the survey); and
- 29.1 percent of students report binge drinking (5 or more alcoholic drinks on one or more occasions during one or more days during the 30 days preceding the survey).

### Drugs

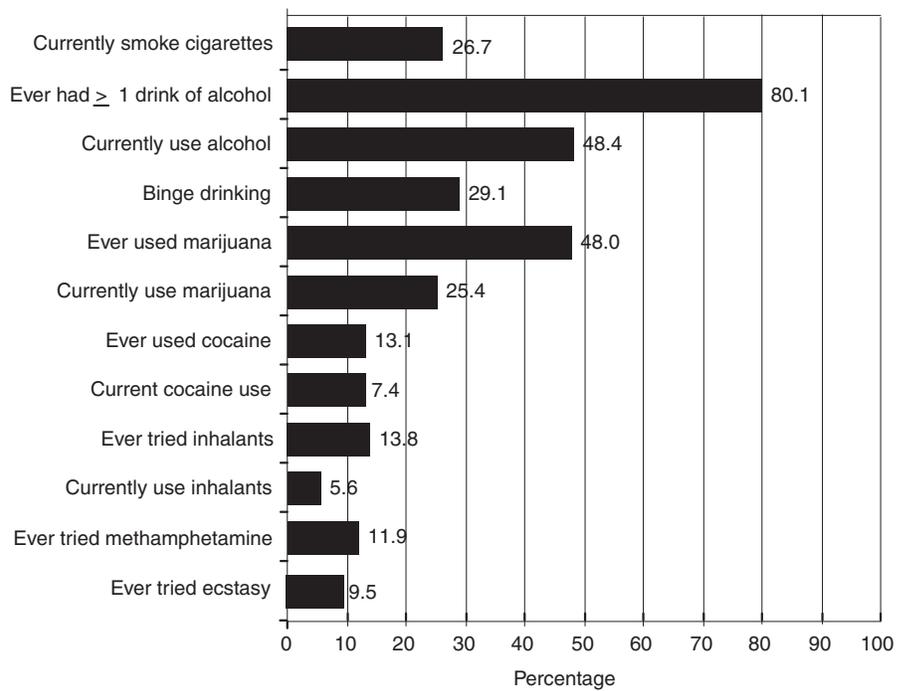
The Healthy People 2010 goal is for 56 percent of high school seniors to have never tried illicit drugs and for 89 percent of 12- to 17-year-olds to have not used illicit drugs during the past 30 days. Figure 4 shows the following Colorado student behaviors:

- 48.0 percent had ever used marijuana;
- 25.4 percent were currently using marijuana ( $\geq 1$  time in the 30 days preceding the survey);
- 13.1 percent ever used cocaine;
- 7.4 percent were currently using cocaine ( $\geq 1$  time in the

**Figure 3. Sadness, suicide ideation and attempts, Colorado YRBS, 2003**



**Figure 4. Tobacco, alcohol and other drug use, Colorado YRBS, 2003**



- 30 days preceding the survey);
- 13.8 percent had ever tried inhalants, such as sniffing glue, breathing aerosol fumes or paint fumes;
- 5.6 percent were currently using inhalants ( $\geq 1$  time in the 30 days preceding the survey);
- 11.9 percent had ever tried methamphetamines; and
- 9.5 percent had ever tried ecstasy.

## Abstinence and sexual behaviors

Early sexual behavior increases the risk for unintended pregnancy and sexually transmitted infections. The Healthy People 2010 goal is for 75 percent of 15- to 17-year-olds to remain abstinent. As can be seen in Figure 5:

- 60.9 percent of students were abstinent or had never had sexual intercourse. Younger teens are more likely to be abstinent than older teens;
  - 27.8 percent of students were currently sexually active (had had sex within the 3 months preceding the survey);
  - 90.0 percent of students were practicing “responsible sexual behavior”<sup>3</sup> (students who never had sexual intercourse; had sexual intercourse, but not in the 3 months preceding the survey; or had used a condom the last time they had sexual intercourse during the 3 months preceding the survey); and
  - 84.8 percent of students reported that they had been taught in school about AIDS or HIV infection.
- 9.5 percent of students were actually overweight (6.1 percent of females and 12.7 percent of males) (HP2010 goal: 5 percent);
  - Only 19.1 percent of students had eaten five or more servings of fruits and vegetables per day during the 7 days preceding the survey (HP 2010 goals: 75 percent consuming  $\geq 2$  servings of fruit, 50 percent consuming  $\geq 3$  servings of vegetables);
  - 64.0% of students reported they participated in sufficient vigorous physical activity. Sufficient vigorous physical activity is defined as physical activities that made them sweat and breathe hard for 20 minutes on 3 of the 7 days preceding the survey;
  - 31.0% participated in sufficient moderate physical activity. Sufficient moderate physical activity is defined as physical activities that did not make them sweat and breathe hard for 30 minutes on 5 of the 7 days preceding the survey;
  - 31.5% did not participate in sufficient vigorous physical activity or sufficient moderate physical activity;
  - 9.5% did not participate in **any** moderate or vigorous physical activity in the 7 days preceding the survey;
  - 46.1 percent were enrolled in a physical education class and 22.2 percent attended a physical education class daily (HP 2010 goal: 50 percent daily PE class attendance); and
  - 32.7 percent watched 3 or more hours of TV per day on an average school day (HP 2010 goal: 75 percent watch 2 or fewer hours per day).

## Diet and physical activity

Diet and physical activity are an important part of healthy behaviors and physical fitness. Both nutrition and physical activity impact weight and risks for many chronic illnesses. As shown in Figure 6:

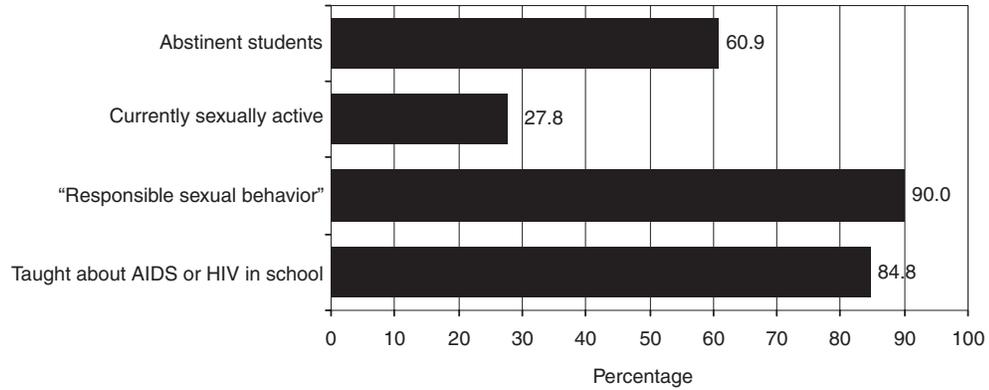
- 10.9 percent of students were at risk\* for becoming overweight. *\*Their weight for their height was nearing overweight;*

## Sun safety

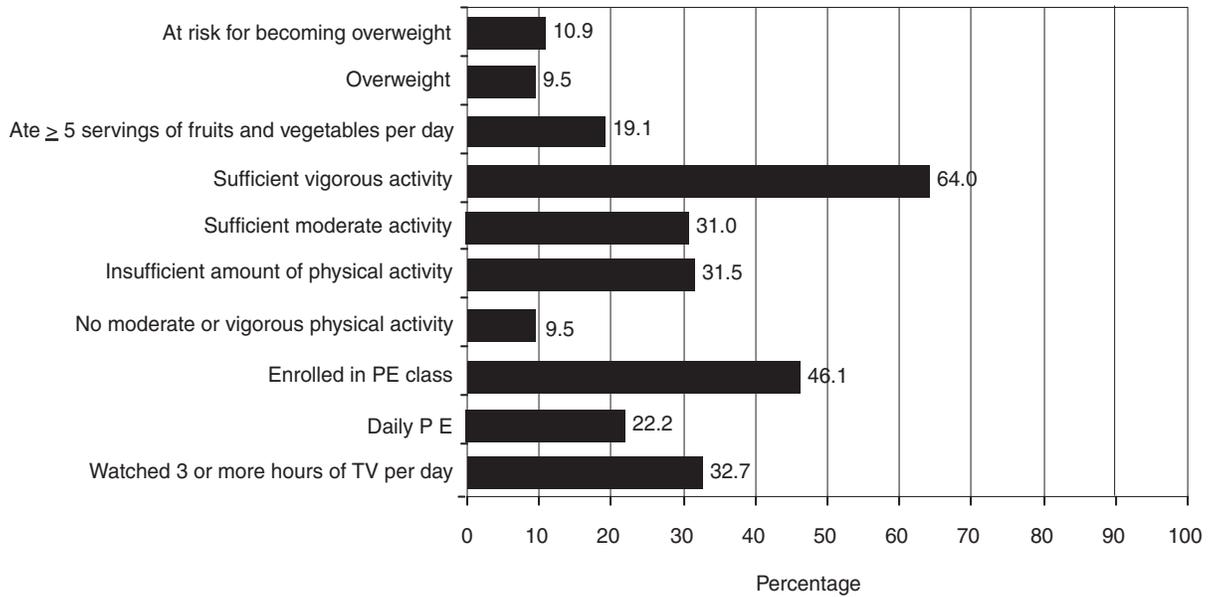
Skin cancer can be prevented by limiting exposure to the sun, wearing protective clothing, and using sunscreen. There is a Healthy People 2010 objective in development for the adolescent population related to sun protective measures that may reduce the risk of skin cancer. The use of sunscreen is very important in limiting the amount of ultraviolet light the skin is exposed to.

- 59.0% of students reported that they never or rarely use sunscreen.

**Figure 5. Abstinence and sexual behaviors, Colorado YRBS, 2003**



**Figure 6. Diet and physical activity, Colorado YRBS, 2003**



## Conclusion

The Youth Risk Behavior Survey provides a wealth of information about Colorado's youth. Many programs and policies can be implemented and/or monitored with the data available from the YRBS. Additionally, Colorado can track progress against the national statistics and goals for the nation. These data can be very useful for communities, schools, and programs to prioritize health education and health promotion goals for youth, to monitor progress towards measurable outcomes, and to help safeguard the health of youth in Colorado.



## Additional Information

The Colorado Department of Education (CDE) receives funding from the Centers for Disease Control and Prevention (CDC) every two years to carry out the Youth Risk Behavior Survey (YRBS) in Colorado. CDE has contracted with the Colorado Department of Public Health and Environment, Health Statistics Section, to implement the survey and house the data. The YRBS is administered in randomly selected schools and classrooms every odd-numbered year.

Complete results for the 2003 YRBS are available at <http://www.cdphe.state.co.us/hs/yrbs/>

For more information, contact Karen Connel, Supervisor, CDE Prevention Initiatives, (303)866-6903 or [Connell\\_k@cde.state.co.us](mailto:Connell_k@cde.state.co.us)

## References

- 1 U.S. Department of Health and Human Services. *Healthy People 2010*. <http://www.health.gov/healthypeople>
- 2 Suicide Facts, National Institute of Mental Health. <http://www.nimh.nih.gov/research/suifact.htm>
- 3 As defined by the Centers for Disease Control and Prevention, Division of Adolescent and School Health, Youth Risk Behavior Survey.