Form Approved

OMB No. 0920-0493

Expiration Date: XX/XX/XXXX

2017 and 2019 National Youth Risk Behavior Survey

Appendix D

Rationale for Survey Questions

**Youth Risk Behavior Survey (YRBS)**

**2017 Standard Questionnaire**

**Item Rationale**

**Obesity, Overweight, and Weight Control**

**QUESTION(S):**

 6. How tall are you without your shoes on?

 7. How much do you weigh without your shoes on?

68. How do you describe your weight?

**RATIONALE:**

These questions measure self-reported height and weight and perceived body weight. Data on self-reported height and weight are used to calculate body mass index (BMI) and determine the corresponding BMI-for-age percentile for adolescents. BMI-for-age percentile is a proxy measure of weight status, correlates with body fat,(1) and is recommended for assessing weight status in youth ages 2–20.(2) Although BMI calculated from self-reported height and weight underestimates the prevalence of obesity compared to BMI calculated from measured height and weight,(3) self-reported height and weight are useful for tracking BMI trends over time. In addition, obesity prevalence trends from national surveys of adults using self-reported height and weight(4) have been consistent with trend data from national surveys using measured height and weight.(5) Obesity during adolescence is associated with negative psychological and social consequences and health problems such as type 2 diabetes, obstructive sleep apnea, hypertension, dyslipidemia, and metabolic syndrome.(6) Further, obese adolescents are more likely to become obese adults.(7,8,9) Continued monitoring of height and weight data through the YRBS provides information at the national, state, and local levels that can be used to track progress in efforts to curb the spread of obesity. Nationwide in 2015, 14% of high school students were obese and 16% were overweight.(10) During 1999–2015, significant linear increases occurred in the percentage of students who were obese (11%–14%) and who were overweight (14%–16%).(10)

**REFERENCES:**

1. Mei Z, Grummer-Strawn LM, Pietrobelli A, Goulding A, Goran MI, Dietz WH. Validity of body mass index compared with other body-composition screening indexes for assessment of body fatness in children and adolescents. *American Journal of Clinical Nutrition* 2002;75(6):978–985.

2. Krebs NF, Himes JH, Jacobson D, Nicklas TA, Guilday P, Styne D. Assessment of child and adolescent overweight and obesity. *Pediatrics* 2007;120:S193–S228.

3. Brener ND, McManus T, Galuska DA, Lowry R, Wechsler H. Reliability and validity of self-reported height and weight among high school students. *Journal of Adolescent Health* 2003;32:281–287.

4. Galuska DA, Serdula M, Pamuk E, Siegel PZ, Byers T. Trends in overweight among US adults from 1987 to 1993: a multistate telephone survey. *American Journal of Public Health* 1996;86:1729–1735.

5. Centers for Disease Control and Prevention. Update: Prevalence of overweight among children, adolescents, and adults – United States, 1988–1994. *Morbidity and Mortality Weekly Report* 1997;46(9):199–202.

6. Daniels SR, Arnett DK, Eckel RH, et al. Overweight in children and adolescents: Pathophysiology, consequences, prevention, and treatment. *Circulation* 2005;111:1999–2012.

7. Guo SS, Wu W, Cameron W, Roche AF. Predicting overweight and obesity in adulthood from body mass index values in childhood and adolescence. *American Journal of Clinical Nutrition* 2002;76:653–658.

8. Freedman DS, Khan LK, Serdula MK, Dietz WH, Srinivasan SR, Berenson GS. The relation of childhood BMI to adult adiposity: The Bogalusa Heart Study. *Pediatrics* 2005;115(1):22–27.

9. The NS, Suchindran C, North KE, Popkin BM, Gordon-Larsen P. Association of adolescent obesity with risk of severe obesity in adulthood. *Journal of the American Medical Association* 2010;304(18):2042-2047. doi:10.1001/jama.2010.1635.

10. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-xx):1–xxx.

**QUESTION(S):**

69. Which of the following are you trying to do about your weight?

**RATIONALE:**

This question measures weight goals. The prevention of childhood obesity involves maintaining energy balance at a healthy weight while protecting overall health, growth and development, and nutritional status.(1) The weight goal for overweight and obese adolescents (12–18 years) is to achieve a body mass index (BMI) less than the 85th percentile for age and sex.(2) The *Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity* recommend overweight adolescents (85th percentile < BMI < 95th percentile) achieve a healthy weight by maintaining their current weight while stature increases; obese adolescents (BMI >95th percentile) can pursue weight loss that is not to exceed an average of 2 pounds per week.(2) The goals of obesity prevention in children and adolescents also include the avoidance of potentially harmful weight concern and restrictive eating behaviors. For these reasons, understanding adolescents’ weight goals, both independently and relative to weight status, is of public health importance.(3) Nationwide in 2015, 46% of high school students were trying to lose weight.(4) The percentage of students who were trying to lose weight increased significantly during 1991–2015 (42%–46%).(4)

**REFERENCES:**

1. Institute of Medicine. *Preventing Childhood Obesity: Health in the Balance*. Washington, DC: The National Academies Press; 2005. Available at: <http://books.nap.edu/openbook.php?record_id=11015&page=1>. Accessed May 5, 2016.

2. Spear BA, Barlow SE, Ervin C, et al. Recommendations for treatment of child and adolescent overweight and obesity. *Pediatrics* 2007;120:S254.

3. Institute of Medicine. *Progress in Obesity Prevention: Solving the Weight of the Nation*. Washington, DC: The National Academies Press; 2012.

Available at: <http://www.nap.edu/read/13275/chapter/5#82>. Accessed May 5, 2016.

4. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-4):1–xxx.

**Behaviors that Result in Unintentional Injuries**

**QUESTION(S):**

8. How often do you wear a seat belt when riding in a car driven by someone else?

**RATIONALE:**

This question measures the frequency with which seat belts are worn when riding in a car driven by someone else. Motor-vehicle crashes kill more adolescents aged 15–19 years than any other single cause in the United States.(1) In 2014, 2,450 adolescents were killed and more than 386,000 were treatedin emergency departments for motor vehicle crash-related injuries.(1) Seat belts, when used appropriately, reduce the risk of fatal injury to front-seat passenger car occupants by 45% and the risk of moderate-to-critical injury by 50%.(2) However, in 2014, among all fatally injured 16- to 19-year-old occupants, seat belt use among passengers (36%) was considerably lower than among drivers (48%).(3) In 2015, 6% of high school students nationwide rarely or never wore a seat belt when riding in a car driven by someone else.(4) During 1991–2015, among students nationwide, a significant linear decrease occurred in the prevalence of rarely or never wearing a seat belt (26%–6%).(4)

**REFERENCES:**

1. Web-based Injury Statistics Query and Reporting System (WISQARS) [database online]. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2014. Accessed April 25, 2016.
2. Kahane CJ. *Lives saved by vehicle safety technolo­gies and associated Federal Motor Vehicle Safety Standards, 1960 to 2012 – Passenger cars and LTVs*. Washington, DC: National Highway Traffic Safety Admin­istration; 2015. Publication No. DOT HS 812 069. Available at: [http://www-nrd.nhtsa.dot.gov/Pubs/812069.pdf. Accessed April 25](http://www-nrd.nhtsa.dot.gov/Pubs/812069.pdf.%20Accessed%20April%2025), 2016.
3. Highway Data Loss Institute. *Fatality facts: Teenagers 2014*. Insurance Institute for Highway Safety; 2016. Available at: <http://www.iihs.org/iihs/topics/t/teenagers/fatalityfacts/teenagers/2014>. Accessed April 25, 2016.

4. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-xx):1–xxx.

**QUESTION(S):**

9. During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who had been drinking alcohol?

10. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?

**RATIONALE:**

These questions measure the frequency with which high school students drove a motor vehicle while under the influence of alcohol or rode as a passenger in a motor vehicle operated by someone who was under the influence of alcohol. In 2013, 29% of 15- to 20-year-old drivers who were killed in motor vehicle crashes and 3% of those injured in crashes had been drinking alcohol.(1) In 2014, 15% of fatally injured passenger vehicle drivers aged 16–17 years old had a blood alcohol concentration equal to or above the illegal threshold for adults of 0.08% at the time of the crash.(2) In 2015, among the 61% of high school students who had driven a car or other vehicle during the 30 days before the survey, 8% had driven one or more times when they had been drinking alcohol. During 2013–2015, among high school students who had driven a car or other vehicle during the 30 days before the survey, the prevalence of students who had driven one or more times when they had been drinking alcohol decreased from 10% to 8%.(3) Among high school students nationwide, 20% had ridden in a car or other vehicle driven by someone who had been drinking alcohol one or more times during the 30 days before the survey.(3) Among students nationwide, the prevalence of riding with a driver who had been drinking alcohol decreased during 1991–2015 (40%–20%).(3)

**REFERENCES:**

1. National Highway Traffic Safety Administration. *Traffic Safety Facts, 2013 Data: Young Drivers.* Washington, DC: U.S. Department of Transportation, National Highway Traffic Safety Administration; 2015. Publication no. DOT-HS-812-200. Available at <http://www-nrd.nhtsa.dot.gov/pubs/812200.pdf>. Accessed April 26, 2016.

2. Highway Data Loss Institute. Fatality facts: Teenagers 2014. Insurance Institute for Highway Safety; 2016. Available at <http://www.iihs.org/iihs/topics/t/teenagers/fatalityfacts/teenagers#Alcohol-involvement>. Accessed April 26, 2016.

3. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

**QUESTION(S):**

11. During the past 30 days, on how many days did you text or e-mail while driving a car or other vehicle?

**RATIONALE:**

This question measures the frequency with which students engage in texting or e-mailing while driving a motor vehicle. Motor vehicle crashes are the leading cause of death among U.S. adolescents aged 15–19.(1) In 2014, 10% of all drivers aged 15–19 involved in fatal crashes were reported as distracted at the time of the crashes and 21% of these distracted teens were distracted by the use of cell phones.(2) Teen drivers are at least as likely to engage in texting while driving as adults,(3) are less willing to disengage from a distracting behavior even as more road hazards are presented,(4) and are less adept at handling road hazards than adults.(4) In 2015, among the 61% of high school students nationwide who had driven a car or other vehicle during the 30 days before the survey, the prevalence of texting while driving one or more times in the 30 days before the survey was 42%.(5)

**REFERENCES:**

1. Web-based Injury Statistics Query and Reporting System (WISQARS) [database online]. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2014. Accessed April 25, 2016.

2. National Highway Traffic Safety Administration. *Traffic Safety Facts: Distracted Driving 2014.* Publication no. DOT-HS-811-737. Washington, DC: U.S. Department of Transportation, National Highway Traffic Safety Administration; 2016. <http://www-nrd.nhtsa.dot.gov/Pubs/812260.pdf>. Accessed April 25, 2016.

3. National Highway Traffic Safety Administration. *Traffic Safety Facts: Young Drivers Report the Highest Level of Phone Involvement in Crash or Near-Crash Incidents.* Publication no. DOT-HS-811-611. Washington, DC: U.S. Department of Transportation, National Highway Traffic Safety Administration; 2012. Available at <http://www.distraction.gov/downloads/pdfs/traffic-safety-facts-04-2012.pdf>. Accessed April 25, 2016.

4. Lee SE, Klauer SG, Olsen ECB, et al. Detection of road hazards by novice teen and experienced adult drivers. *Transportation Research Record* 2008;2078:26–32.

5. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2014;65(No. SS-x):1–xxx.

**Behaviors that Result in Violence**

**QUESTION(S):**

12. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club?

13. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club on school property?

14. During the past 12 months, on how many days did you carry a gun? (Do not count the days when you carried a gun only for hunting or for a sport, such as target shooting.)

15. During the past 30 days, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?

16. During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?

**RATIONALE:**

These questions measure violence-related behaviors and school-related violent behaviors. Violence is a significant public health issue among youth, with homicide being the third leading cause of death among youth ages 13–19 years (5.1 per 100,000).(1) Homicide is the leading cause of death among non-Hispanic black youth ages 13–19 years (19.4 per 100,000) and the third leading cause of death for Hispanic youth ages 13–19 years (4.9 per 100,000).(1) Approximately 9% of homicide victims in the United States in 2014 were aged 13–19 years; of these victims, 87% were killed with a firearm.(1) Of all violent deaths that occurred on school property between 1994 and 2006, 65% involved firearms.(2) Nearly 100% of school districts have a policy prohibiting weapon possession or use by high school students on school property.(3) Also, in 2014, 214,304 (727.2 per 100,000) nonfatal, physical assault injuries among youth aged 13–19 years were treated in U.S. emergency departments.(1)

Among high school students nationwide in 2015, 16% had carried a weapon, 5% had carried a gun, and 4% had carried a weapon on school property on at least 1 day during the 30 days before the survey.(4) The prevalence of having carried a weapon decreased during 1991–1997 (26%–18%) and then did not change significantly during 1997–2015 (18%–16%).(4) The prevalence of having carried a gun decreased during 1993–1997 (8%–6%) and then did not change significantly during 1997–2015 (6%–5%).(4) The prevalence of having carried a weapon on school property decreased during 1993–2015 (12%–4%).(4)

 Among high school students nationwide in 2015, 6% had not gone to school on at least 1 day during the 30 days before the survey because they felt they would be unsafe at school or on their way to or from school and 6% had been threatened or injured with a weapon on school property 1 or more times during the 12 months before the survey.(4) Among students nationwide, the prevalence of having not gone to school because of safety concerns increased significantly during 1993–2015 (4%–6%).(4) Among students nationwide, the prevalence of having been threatened or injured with a weapon on school property did not change significantly during 1993–2003 (7%–9%) and then decreased during 2003–2015 (9%–6%).(4)

**REFERENCES:**

1. Web-based Injury Statistics Query and Reporting System (WISQARS) [database online]. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2014. Accessed May 2, 2016.

2. Centers for Disease Control and Prevention. School-associated homicides—United States 1992-2006. *Morbidity and Mortality Weekly Report* 2008;57(02):33–36.

3. Jones SE, Fisher CJ, Greene BZ, Hertz MF, Pritzl J. Healthy and safe school environment, part I: results from the School Health Policies and Programs Study 2006. *Journal of School Health* 2007;77(8):522–543.

4. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

**QUESTION(S):**

17. During the past 12 months, how many times were you in a physical fight?

18. During the past 12 months, how many times were you in a physical fight on school property?

**RATIONALE:**

These questions measure the frequency of physical fights in general and on school property. Physical fighting is a marker for other problem behaviors (1) and is associated with serious injury-related health outcomes.(2,3) Among high school students nationwide in 2015, 23% had been in a physical fight and 8% had been in a physical fight on school property one or more times during the 12 months before the survey.(4) The percentage of high school students who were in a physical fight decreased significantly during 1991–2015 (42%–23%).(4) The percentage of high school students who were in a physical fight on school property also decreased significantly during 1993–2015 (16%–8%).(4)

**REFERENCES:**

1. Sosin DM, Koepsell TD, Rivara FP, Mercy JA. Fighting as a marker for multiple problem behaviors in adolescents. *Journal of Adolescent Health* 1995;16:209–215.

2. Borowsky IW, Ireland M. Predictors of future fight-related injury among adolescents. *Pediatrics* 2004;113:530–536.

3. Pickett W, Craig W, Harel Y, et al. Cross-national study of fighting and weapon carrying as determinants of adolescent injury. *Pediatrics* 2005;116:855–863.

4. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

**QUESTION(S):**

19. Have you ever been physically forced to have sexual intercourse when you did not want to?

20. During the past 12 months, how many times did anyone force you to do sexual things that you did not want to do? (Count such things as kissing, touching, or being physically forced to have sexual intercourse.)

21. During the past 12 months, how many times did someone you were dating or going out with force you to do sexual things that you did not want to do? (Count such things as kissing, touching, or being physically forced to have sexual intercourse.)

22.       During the past 12 months, how many times did someone you were dating or going out with physically hurt you on purpose? (Count such things as being hit, slammed into something, or injured with an object or weapon.)

**RATIONALE:**

These questions measure the frequency of sexual violence and dating violence experienced by students. Sexual and dating violence victimization are associated with a range of negative consequences,(1-3) including suicide ideation and attempts, major depressive episodes,(4,5) increased alcohol and tobacco use, eating disorders, and risky sexual behavior.(6,7) According to the Centers for Disease Control and Prevention’s 2011 National Intimate Partner and Sexual Violence Survey, 19.3% of women have been raped in their lifetime, including 8.8% of women who were raped by an intimate partner. An estimated 44% of women and 23% of men have experienced other forms of sexual violence by any perpetrator and 15.8% of women and 9.5% of men have experienced other sexual violence by an intimate partner at some point in their lifetime.(8) About 1 in 4 women (22.3%) and 1 in 7 men (14.0%) have experienced severe physical violence by an intimate partner (e.g., hit with a fist or something hard, beaten, slammed against something) at some point in their lifetime.(8) Among adults who ever experienced rape, physical violence, and/or stalking by an intimate partner, 23% of women and 14% of men first experienced some form of partner violence between 11 and 17 years of age.(8)

All three sexual violence questions are important for understanding the public health burden of sexual violence against young people, guiding prevention strategies, and monitoring changes over time. These data are particularly useful for monitoring changes in trends and the effects of prevention efforts such as CDC’s Rape Prevention Education Program.(9) Data on forced sexual activity by any perpetrator — not just a dating partner — provides a better understanding of the burden of sexual violence among high school students studies have shown that perpetrators can include current or former friends, acquaintances, family members, and other adults. Preventing sexual violence by any perpetrator is a focus area for CDC. Also, understanding the full extent of the burden of sexual violence among adolescents is a high priority for the Office of the Vice President.(10) Knowing the proportion who are sexually and physically victimized by a dating partner is also crucial because it provides a more complete measure of teen dating violence and prevention strategies often focus specifically on violence in dating relationships. These estimates are critically important for monitoring progress in this area.

In 2015, 7% of high school students nationwide had ever been physically forced to have sexual intercourse when they did not want to.(11) The percentage of high school students who had ever been physically forced to have sexual intercourse when they did not want to decreased significantly during 2001–2015 (8%–7%).(11) Among the 69% of students who dated or went out with someone during the 12 months before the survey, 10% experienced physical dating violence by a dating partner, and 11% experienced sexual dating violence by a dating partner.(11)

**REFERENCES:**

1. Ackard DM, Eisenberg ME, Neumark-Sztainer D. Long-term impact of adolescent dating violence on the behavioral and psychological health of male and female youth. *Journal of Pediatrics* 2007;151(5):476–481.

2. Centers for Disease Control and Prevention. Physical dating violence among high school students —United States, 2003. *Morbidity and Mortality Weekly Report* 2006;55(19):532–535.

3. Roberts TA, Klein J, Fisher S. Longitudinal effect of intimate partner abuse and high-risk behavior among adolescents. *Archives of Pediatrics & Adolescent Medicine* 2003;157:875–881.

4. Wolitzy-Taylor KB, Ruggiero JK, Danielson CK, et al. Prevalence and correlates of dating violence in a national sample of adolescents*. Journal of the American Academy of Child and Adolescent Psychiatry* 2008;47(7):755–762.

5. Coker AL, McKeown RE, Sanderson M, Davis KE, Valois RF, Huebner S. Severe dating violence and quality of life among South Carolina high school students. *American Journal of Preventive Medicine* 2000;19(4):220–227.

6. Silverman JG, Raj A, Mucci LA, Hathaway JE. Dating violence against adolescent girls and associated substance use, unhealthy weight control, sexual risk behavior, pregnancy, and suicidality. *Journal of the American Medical Association* 2001;286(5):572–579.

7. Lormand DK, Markham CM, Peskin MF, et al. Dating violence among urban, minority, middle school youth and associated sexual risk behaviors and substance use. *Journal of School Health* 2013;83(6):415–421.

8. Breiding MJ. Prevalence and characteristics of sexual violence, stalking, and intimate partner violence victimization—National Intimate Partner and Sexual Violence Survey, United States, 2011. *Morbidity and Mortality Weekly Report* 2014;63(8):1-18.

9. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention. Rape prevention and education: Transforming communities to prevent sexual violence. Available at: <http://www.cdc.gov/ViolencePrevention/RPE/index.html>. Accessed May 16, 2016.

10. The White House Council on Women and Girls and the Office of the Vice President. Rape and Sexual Assault: A Renewed Call to Action. Washington, DC: The White House; 2014. Available at:

 <https://www.whitehouse.gov/sites/default/files/docs/sexual_assault_report_1-21-14.pdf>.

 Accessed May 16, 2016.

11. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

**QUESTION(S):**

23. During the past 12 months, have you ever been bullied on school property?

24. During the past 12 months, have you ever been electronically bullied? (Count being bullied through texting, Instagram, Facebook, or other social media.)

**RATIONALE:**

These questions measure the frequency of bullying behavior. Bullying victimization is associated with depression,(1,2) suicidal ideation,(1,2) self-injury,(2) suicide attempts,(2) increased odds of repeated common health problems,(3) school absenteeism,(4) psychological distress,(3) and feeling unsafe at school.(4) Electronic bullying victimization has been associated with discipline problems in school, skipping school, weapon carrying,(1) psychological distress,(6) lower self-esteem,(7) social anxiety,(8) depression,(2) suicidal ideation,(2) self-injury,(2) and suicide attempts.(2) Among high school students nationwide in 2015, 20% reported that they had been bullied on school property during the 12 months before the survey and 16% had been electronically bullied through e-mail, chat rooms, instant messaging, websites, or texting during the 12 months before the survey. (9)

**REFERENCES:**

1. Van der Wal MF, de Wit CA, Hirasing RA. Psychosocial health among young victims and offenders of direct and indirect bullying. *Pediatrics* 2003;111(6):1312–1317.

2. Kessel Schneider S, O’Donnell L, Stueve A, Coulter RWS. Cyberbullying, school bullying, and psychological distress: a regional census of high school students. *American Journal of Public Health* 2012;102:171–177.

3. Rigby K. Consequences of bullying in school. *The* *Canadian Journal of Psychiatry* 2003;48(9):583–590.

4. Glew GM, Fan MY, Katon W, Rivara FR, Kernic MA. Bullying, psychosocial adjustment, and academic performance in elementary school. *Archives of Pediatrics & Adolescent Medicine* 2005;159:1026–1031.

5. Ybarra ML, Diener-West M, Leaf PJ. Examining the overlap in Internet harassment and school bullying: Implications for school intervention. *Journal of Adolescent Health* 2007;41:S42–S50.

6. Kiriakidis SP, Kavoura A. Cyberbullying. A review of the literature on harassment through the internet and other electronic means. *Family & Community Health* 2010;33(2):82–93.

7. Patchin JW, Hinduja S. Cyberbullying and self-esteem. *Journal of School Health* 2010;80:614–621.

8. Juvonen J, Gross EF. Extending the school grounds? Bullying experiences in cyberspace. *Journal of School Health* 2008;78:496–505.

9. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

**QUESTION(S):**

25. During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?

26. During the past 12 months, did you ever seriously consider attempting suicide?

27. During the past 12 months, did you make a plan about how you would attempt suicide?

28. During the past 12 months, how many times did you actually attempt suicide?

29. If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?

**RATIONALE:**

These questions measure sadness, suicide ideation, attempted suicide, and the seriousness of those attempts. Suicide is the second leading cause of death among youth aged 13–19 years.(1) The suicide rate for persons aged 13–19 years was 7.3 per 100,000 in 2014.(1) A prior suicide attempt is one of the most significant risk factors for a suicide fatality.(2,3) Among high school students nationwide in 2015, 30% felt so sad or hopeless almost every day for 2 or more weeks in a row that they stopped doing some usual activities.(4) Among high school students nationwide in 2015, 18% had seriously considered attempting suicide, 15% had made a plan about how they would attempt suicide, and 9% had attempted suicide one or more times during the 12 months before the survey.(4) The percentage of students who seriously considered attempting suicide decreased during 1991–2009 (29%–14%) and then increased during 2009–2015 (14%–18%).(4) The prevalence of having made a suicide plan decreased from 1991–2009 (19%–11%) and then increased from 2009–2015 (11%–15%).(4) The percentage of students who attempted suicide increased during 1991–2015 (7%–9%).(4)

**REFERENCES:**

1. Web-based Injury Statistics Query and Reporting System (WISQARS) [database online]. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2014. Accessed May 2, 2016.

2. Borowsky IW, Ireland M, Resnick MD. Adolescent suicide attempts: risks and protectors.*Pediatrics* 2001; 107:485–493.

3. Bridge JA, Goldstein TR, Brent DA. Adolescent suicide and suicidal behavior. *Journal of Child Psychology and Psychiatry* 2006;47(3/4):372–394.

4. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

**Tobacco Use**

**QUESTION(S):**

30. Have you ever tried cigarette smoking, even one or two puffs?

31. How old were you when you first tried cigarette smoking, even one or two puffs?

32. During the past 30 days, on how many days did you smoke cigarettes?

33. During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?

**RATIONALE:**

These questions measure ever and current smoking patterns, and age of initiation. Cigarette smoking is the leading cause of preventable death in the United States(1) and accounts for approximately 440,000 deaths each year.(2) Each day across the United States over 3,800 youth under 18 years of age start smoking and more than 80% of adult smokers begin before the age of 18.(3) Cigarette smoking increases risk of heart disease; chronic obstructive pulmonary disease; acute respiratory illness; stroke; and cancers of the lung, larynx, oral cavity, pharynx, pancreas, and cervix.(1,3) In addition, as compared to nonsmokers, cigarette smokers are more likely to drink alcohol, use marijuana and cocaine, engage in risky sexual behaviors, engage in physical fighting, carry a weapon, and attempt suicide.(3–5) Among high school students nationwide in 2015, 32% had ever tried cigarette smoking and 11% had smoked cigarettes on at least 1 day during the 30 days before the survey.(6) The percentage of high school students who had ever tried cigarette smoking did not change significantly during 1991–1999 (70%–70%) and then decreased during 1999–2015 (70%–32%).(6) The percentage of high school students who had smoked cigarettes on at least 1 day during the 30 days before the survey increased significantly during 1991–1997 (28%–36%) and then decreased during 1997–2015 (36%–11%).(6)

**REFERENCES:**

1. U.S. Department of Health and Human Services. *The Health Consequences of Smoking: A Report of the Surgeon General.* Atlanta, GA:U.S. Department of Health and Human Services; Centers for Disease Control and Prevention; National Center for Chronic Disease Prevention and Health Promotion; Office on Smoking and Health; 2004. Available at: <http://www.cdc.gov/tobacco/data_statistics/sgr/2004/complete_report/index.htm>. Accessed May 18, 2016.

2. Centers for Disease Control and Prevention. Annual smoking-attributable mortality, years of potential life lost, and productivity losses—United States, 2000–2004. *Morbidity and Mortality Weekly Report* 2008;57(45):1226–1228.

3. U.S. Department of Health and Human Services. *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2012. Available at: <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>. Accessed May 18, 2016.

4. Everett SA, Malarcher AM, Sharp DJ, Husten CG, Giovino GA. Relationship between cigarette, smokeless tobacco, and cigar use, and other health risk behaviors among U.S. high school students. *Journal of School Health* 2000;70:234–240.

5.Substance Abuse and Mental Health Services Administration. *Results from the 2010 National Survey on Drug Use and Health: Summary of National Findings*. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2011. NSDUH Series H-41, HHS Publication No. (SMA) 11-4658. Available at: <http://www.samhsa.gov/data/NSDUH/2k10NSDUH/2k10Results.htm#4.9>. Accessed May 18, 2016.

6. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

**QUESTION(S):**

37. During the past 30 days, on how many days did you use chewing tobacco, snuff, dip, snus, or dissolvable tobacco products, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, Copenhagen, Camel Snus, Marlboro Snus, General Snus, Ariva, Stonewall, or Camel Orbs? (Do not count any electronic vapor products.)

38. During the past 30 days, on how many days did you smoke cigars, cigarillos, or little cigars?

**RATIONALE:**

These questions measure smokeless tobacco use and cigar use. Smokeless tobacco contains 28 known human carcinogens.(1) Use of smokeless tobacco products increases the risk of developing cancer of the oral cavity.(1) Other oral health problems strongly associated with smokeless tobacco use are leukoplakia (a lesion of the soft tissue that consists of a white patch or plaque that cannot be scraped off) and recession of the gums.(2–4) Smokeless tobacco use also causes an increased risk of heart disease and stroke.(5) In addition, adolescent smokeless tobacco users are more likely than nonusers to become adult cigarette smokers.(3) Among high school students nationwide in 2015, 7% had used smokeless tobacco (e.g., chewing tobacco, snuff, or dip) on at least 1 day during the 30 days before the survey.(6) The percentage of students who reported smokeless tobacco use on at least 1 day during the 30 days before the survey decreased during 1995–1999 (11%–8%) and then did not change significantly during 1999–2015 (8%–7%).(6) Cigar smoking can cause lung cancer, coronary heart disease, and chronic obstructive pulmonary disease.(7–9) The overall risk of oral and pharyngeal cancer is 7–10 times higher among cigar smokers compared to those who never smoked.(10) In 2015, 10% of high school students nationwide had smoked cigars, cigarillos, or little cigars on at least 1 day during the 30 days before the survey.(6) The percentage of students who had smoked cigars, cigarillos, or little cigars on at least 1 day during the 30 days before decreased during 1997–2015 (22%–10%).(6)

**REFERENCES:**

1. National Cancer Institute. *Smokeless Tobacco or Health: An International Perspective.* Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute; 1992. Available at: <http://cancercontrol.cancer.gov/tcrb/monographs/2/index.html>. Accessed May 18, 2016.

2. Johnson GK, Slach NA. Impact of tobacco use on periodontal status. *Journal of Dental Education* 2001;65:313–321.

3. U.S. Department of Health and Human Services. *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2012. Available at: <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>. Accessed May 18, 2016.

4. World Health Organization. *Smokeless Tobacco and Some Tobacco-Specific N-Nitrosamines.* Lyon, France: World Health Organization; 2007. International Agency for Research on Cancer Monographs on the Evaluation of Carcinogenic Risks to Humans, Vol. 89. Available at: <http://monographs.iarc.fr/ENG/Monographs/vol89/mono89.pdf>. Accessed May 18, 2016.

5. Henley SJ, Thun MJ, Connell C, Calle EE. Two large prospective studies of mortality among men who use snuff or chewing tobacco (United States). *Cancer Causes and Control* 2005;16:347–358.

6. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

7. U.S. Department of Health and Human Services. *Smoking and Tobacco Control Monograph No. 9: Cigars: Health Effects and Trends.* Bethesda, MD: U.S. Department of Health and Human Services, National Cancer Institute; 1998. No. 98-4302:217. Available at: <http://cancercontrol.cancer.gov/brp/tcrb/monographs/9/m9_complete.PDF>. Accessed May 18, 2016.

8. Shaper AG, Wannamethee SG, Walker M. Pipe and cigar smoking and major cardiovascular events, cancer incidence and all-cause mortality in middle-age British men. *International Journal of Epidemiology* 2003;32:802–808.

9. Rodriguez J, Jiang R, Johnson WC, MacKenzie BA, Smith LJ, Barr RG. The association of pipe and cigar use with cotinine levels, lung function, and airflow obstruction. A cross-sectional study. *Annals of Internal Medicine* 2010;152:201–10.

10. U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General.* Rockville, MD: U.S. Department of Health and Human Services, National Institute for Dental and Craniofacial Research, National Institutes of Health; 2000. Available at: [http://silk.nih.gov/public/hck1ocv.@www.surgeon.fullrpt.pdf](http://silk.nih.gov/public/hck1ocv.%40www.surgeon.fullrpt.pdf). Accessed May 18, 2016.

**QUESTION(S):**

34. Have you ever used an electronic vapor product?

35. During the past 30 days, on how many days did you use an electronic vapor product?

36. During the past 30 days, how did you usually get your own electronic vapor products?

**RATIONALE:**

These questions measure the prevalence of use of electronic vapor products and access to these products. Electronic vapor productsare electronic devices that are usually shaped like a cigarette or cigar and contain a nicotine-based liquid that is vaporized and inhaled. Electronic vapor products include electronic cigarettes (e-cigarettes), electronic cigars (e-cigars), electronic hookahs (e-hookahs), and vape pens. E-cigarettes are battery-powered devices that provide doses of nicotine and other additives to the user in an aerosol. Depending on the brand, e-cigarette cartridges typically contain nicotine, a component to produce the aerosol (e.g., propylene glycol or glycerol), and flavorings (e.g., fruit, mint, or chocolate).(1) In 2016, the U.S. Food and Drug Administration finalized a rule to regulate e-cigarettes and other electronic vapor products as tobacco products.(2) This rule will prevent sales to minors, prohibit few samples, prohibit vending machine sales (unless in a facility that never admits minors), and mandate warning labels on packaging.(2) Among high school students nationwide in 2015, 45% had ever tried electronic vapor products and 24% of high school students had used electronic vapor products on at least 1 day during the 30 days before the survey.(3) According to the National Youth Tobacco Survey, 2015 marked the second year in a row that e-cigarettes were the most popular tobacco product among high school students.(4)

**REFERENCES:**

1. Cobb NK, Byron MJ, Abrams DB, Shields PG. Novel nicotine delivery systems and public health: the rise of the "e-cigarette." *American Journal of Public Health* 2010;100:2340–2342.

2. Food and Drug Administration. Deeming Tobacco Products To Be Subject to the Federal Food, Drug, and Cosmetic Act, as Amended by the Family Smoking Prevention and Tobacco Control Act; Regulations on the Sale and Distribution of Tobacco Products and Required Warning Statements for Tobacco Products; Final Rule. *Federal Register* 2016;81(90): 28973-29106.

3. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. Morbidity and Mortality Weekly Report 2016;65(No. SS-x):1–xxx.

4. Centers for Disease Control and Prevention. Tobacco use among middle and high school students — United States, 2011–2015. *Morbidity and Mortality Weekly Report* 2016;65(14):361–367.

**QUESTION(S):**

39. During the past 12 months, did you ever try to quit using all tobacco products, including cigarettes, cigars, smokeless tobacco, shisha or hookah tobacco, and electronic vapor products?

**RATIONALE:**

This question measures attempts to quit using all tobacco products. Nicotine exposure during adolescence, a critical period for brain development, can cause addiction, might harm brain development, and could lead to sustained tobacco product use among youths.(1,2,3) Therefore, among youth, there is no safe exposure to nicotine, be it from combustible, non-combustible, or electronic sources.

**REFERENCES:**

1. U.S. Department of Health and Human Services. *The Health Consequences of Smoking: A Report of the Surgeon General.* Atlanta, GA:U.S. Department of Health and Human Services; Centers for Disease Control and Prevention; National Center for Chronic Disease Prevention and Health Promotion; Office on Smoking and Health; 2004. Available at: <http://www.cdc.gov/tobacco/data_statistics/sgr/2004/complete_report/index.htm>. Accessed May 17, 2016.
2. U.S. Department of Health and Human Services. *The Health Consequences of Smoking: Nicotine Addiction: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Centers for Disease Control; 1988. Available at: <http://profiles.nlm.nih.gov/NN/B/B/Z/D/>. Accessed May 17, 2016.
3. England LJ, Bunnell RE, Pechacek TF et al. Nicotine and the developing human: a neglected element in the electronic cigarette debate. *American Journal of Preventive Medicine 2015;49(2):286–93.*

**Alcohol and Other Drug Use**

**QUESTION(S):**

40. During your life, on how many days have you had at least one drink of alcohol?

41. How old were you when you had your first drink of alcohol other than a few sips?

42. During the past 30 days, on how many days did you have at least one drink of alcohol?

43. During the past 30 days, how did you usually get the alcohol you drank?

44. During the past 30 days, on how many days did you have 4 or more drinks of alcohol in a row (if you are female) or 5 or more drinks of alcohol in a row (if you are male)?

45. During the past 30 days, what is the largest number of alcoholic drinks you had in a row?

**RATIONALE:**

These questions measure lifetime and current use of alcohol, age of initiation, binge drinking, the largest number of alcoholic drinks consumed during a drinking occasion, and access to alcohol.Excessive drinking, including underage and binge drinking, is responsible for more than 4,300 deaths among underage youth each year, and cost the U.S. $24 billion in 2010.(1,2) Underage drinking also contributes to a wide range of health and social problems, including motor vehicle crashes, suicide, interpersonal violence (e.g., homicides, assaults, rapes), unintentional injuries (e.g., burns, falls, drowning), brain impairment, alcohol dependence, risky sexual activity, academic problems, and alcohol and drug poisoning.(3,4) Persons who start drinking before age 15 years are six times more likely to develop alcohol dependence or abuse later in life than those who begin drinking at or after age 21 years.(5) Initiation of alcohol use before 13 years of age also has been associated with an increased risk for suicide.(6,7) Binge drinking is the most common pattern of excessive alcohol use in the United States, and about 90% of the alcohol consumed by youth is in the form of binge drinks.(8,9) The National Institute on Alcohol Abuse and Alcoholism defines binge drinking as a pattern of drinking that brings a person’s blood alcohol concentration to 0.08% or above. This typically happens when males consume 5 or more drinks and when females consume 4 or more drinks in about 2 hours.(10) Limiting youth access to alcohol has reduced underage alcohol use and alcohol-related problems.(11-13) However, youth continue to obtain alcohol from a variety of sources, particularly from adults of legal drinking age.(14)

Among high school students nationwide in 2015, 63% drank at least one drink of alcohol on at least 1 day during their life and 33% had had at least one drink of alcohol on at least 1 day during the 30 days before the survey.(14) In addition, 18% of high school students had had 5 or more drinks of alcohol in a row on at least 1 day during the 30 days before the survey.(14) The percentage of high school students who had at least one drink of alcohol on at least 1 day during their life decreased significantly during 1991–2015 (82%–63%).(14) Likewise, the percentage of students who had at least one drink of alcohol on at least 1 day during the 30 days before the survey decreased significantly during 1991–2015 (51%–33%).(14) The percentage of students who had 5 or more drinks of alcohol in a row on at least 1 day during the 30 days before the survey increased from 1991–1999 (31%–32%) and then decreased from 1999–2015 (32%–18%).(14)

**REFERENCES:**

1. Stahre M, Roeber J, Kanny D, Brewer RD, Zhang X. Contribution of excessive alcohol consumption to deaths and years of potential life lost in the United States. *Preventing Chronic Disease* 2014;11:130293.

2. Sacks JJ, Gonzales KR, Bouchery EE, Tomedi LE, Brewer RD. [2010 national and state costs of excessive alcohol consumption.](http://www.ncbi.nlm.nih.gov/pubmed/26477807) *American Journal of Preventive Medicine* 2015; 49(5):e73–e79.

3. Report to Congress on the Prevention and Reduction of Underage Drinking. Available at: <https://www.stopalcoholabuse.gov/resources/reporttocongress/rtc2015.aspx> Accessed April 27, 2016.

4. Miller JW, Naimi TS, Brewer RD, Jones SE. Binge drinking and associated health risk behaviors among high school students. *Pediatrics* 2007;119:76–85.

5. Substance Abuse and Mental Health Services Administration. Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings. NSDUH Series H-48, HHS Publication No. (SMA) 14-4863. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014. Available at: <http://www.samhsa.gov/data/sites/default/files/NSDUHresultsPDFWHTML2013/Web/NSDUHresults2013.pdf>. Accessed April 27, 2016.

6. Swahn MH, Bossarte RM, Sullivent EE. Age of alcohol use initiation, suicidal behavior, and peer and dating violence victimization and perpetration among high-risk, seventh-grade adolescents. *Pediatrics* 2008;121:297–305.

7. Bossarte RM, Swahn MH. The associations between early alcohol use and suicide attempts among adolescents with a history of major depression. *Addictive Behaviors* 2011;36:532–535.

8. Centers for Disease Control and Prevention. Binge Drinking Fact Sheet. Available at: <http://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm> Accessed April 27, 2016.

9. Office of Juvenile Justice and Delinquency Prevention. Drinking in America: Myths, Realities, and Prevention Policy. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention, 2005. Available at: <http://www.lhc.ca.gov/lhc/drug/DrinkinginAmericaMosherSep26.pdf> Accessed April 27, 2016.

10. National Institute of Alcohol Abuse and Alcoholism. NIAAA council approves definition of binge drinking. NIAAA Newsletter 2004; No. 3, p. 3. Available at: <http://pubs.niaaa.nih.gov/publications/Newsletter/winter2004/Newsletter_Number3.pdf>. Accessed April 27, 2016.

11. DeJong W, Blanchette J. Case closed: research evidence on the positive public health impact of the age 21 minimum legal drinking age in the United States. *Journal of Studies on Alcohol and Drugs* 2014;75(Suppl 17):108–115.

12. Klepp KI, Schmid LA, Murray DM. Effects of the increased minimum drinking age law on drinking and driving behavior among adolescents. *Addiction Research* 1996;4:237–244.

13. Centers for Disease Control and Prevention. Age 21 Minimum Legal Drinking Age Fact Sheet. Available at: <http://www.cdc.gov/alcohol/fact-sheets/minimum-legal-drinking-age.htm>. Accessed April 27, 2016.

14. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality and Weekly Report* 2016;65(No. SS-x):1–xxx.

**QUESTION(S):**

46. During your life, how many times have you used marijuana?

47. How old were you when you tried marijuana for the first time?

48. During the past 30 days, how many times did you use marijuana?

49. During your life, how many times have you used any form of cocaine, including powder, crack, or freebase?

50. During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?

51. During your life, how many times have you used heroin (also called smack, junk, or China White)?

52. During your life, how many times have you used methamphetamines (also called speed, crystal, crank, or ice)?

53. During your life, how many times have you used ecstasy (also called MDMA)?

54. During your life, how many times have you used synthetic marijuana (also called K2, Spice, fake weed, King Kong, Yucatan Fire, Skunk, or Moon Rocks)?

55. During your life, how many times have you taken steroid pills or shots without a doctor’s prescription?

56. During your life, how many times have you taken prescription pain medicine without a doctor’s prescription or differently than how a doctor told you to use it?  (Count drugs such as codeine, Vicodin, OxyContin, Hydrocodone, and Percocet.)

57. During your life, how many times have you used a needle to inject any illegal drug into your body?

58. During the past 12 months, has anyone offered, sold, or given you an illegal drug on school property?

**RATIONALE:**

These questions measure ever and current use of marijuana (including synthetic marijuana) and ever use of cocaine, inhalants, heroin, methamphetamines, ecstasy, steroids, and injected drugs; use of prescription pain medicine without a doctor’s prescription, or used in a manner differently than instructed by the doctor; and illegal drug activity on school property. Among youth, illicit drug use is associated with heavy alcohol and tobacco use,(1) violence and delinquency,(2-4) and suicide.(5) All school districts prohibit illegal drug possession or use by students on school property.(6)

 Among high school students nationwide in 2015, 39% had used marijuana, 9% had used synthetic marijuana, 5% had used any form of cocaine, 2% had used heroin, 3% had used methamphetamines, 5% had used ecstasy, and 4% had taken steroid pills or shots without a doctor’s prescription one or more times during their life.(7) According to data from the Monitoring the Future Study, among 12th grade high school students, the prevalence of lifetime use of narcotics other than heroin was 8.4% in 2015.(8) Data from a survey of 9th–12th graders indicated that synthetic marijuana (formally referred to as synthetic cannabinoids) was the third most prevalent substance reported as being used at 12%, behind alcohol and marijuana.(9) Synthetic marijuana consists of plant material treated with synthetic cannabinoids, psychoactive substances designed to bind to and stimulate the same receptors in the brain as THC.(10-12) Synthetic marijuana use has been linked with adverse effects such as increased heart rate and blood pressure, drowsiness, nausea, vomiting, chest pain, hallucinations, agitation, and acute kidney injury.(11-13) In 2015, 7% of high school students nationwide had sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high and 2% had used a needle to inject any illegal drug into their body one or more times during their life.(7) Also, 22% of students had been offered, sold, or given an illegal drug on school property during the 12 months before the survey.(7) The percentage of high school students who had used marijuana one or more times during their life increased during 1991–1997 (31%–47%) and then decreased during 1997–2015 (47%–39%).(7) The percentage of high school students who had used cocaine one or more times during their life increased during 1991–1999 (6%–10%) and then decreased during 1999–2015 (10%–5%).(7) ) The percentage of high school students who had used methamphetamines one or more times during their life decreased significantly during 1999–2015 (9%–3%).(7) The percentage of high school students who had used ecstasy one or more times during their life increased during 2001–2005 (11%–6%) and then did not change during 2005–2015 (6%–5%).(7)

**REFERENCES:**

1. Substance Abuse and Mental Health Services Administration. *Results from the 2010 National Survey on Drug Use and Health: Summary of National Findings*. NSDUH Series H-41, HHS Publication No. (SMA) 11-4658. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2011. Available at: <http://www.samhsa.gov/data/NSDUH/2k10NSDUH/2k10Results.pdf>. Accessed May 17, 2016.

2. Substance Abuse and Mental Health Services Administration. Youth violence and illicit drug use. *The NSDUH Report* 2006;5:1–3. Available at: <http://files.eric.ed.gov/fulltext/ED495798.pdf>. Accessed May 17, 2016.

3. Substance Abuse and Mental Health Services Administration. Marijuana use and delinquent behaviors among youths. *The NSDUH Report* January 9, 2004. Available at: <http://www.samhsa.gov/data/2k4/MJdelinquency/MJdelinquency.pdf>.

 Accessed May 17, 2016.

4. Young AM, Glover N, Havens JR. Nonmedical use of prescription medications among adolescents in the United States: a systematic review. *Journal of Adolescent Health* 2012;51(1):6–17.

5. Substance Abuse and Mental Health Services Administration. Substance use and the risk of suicide among youths. *The NHSDA Report* July 12, 2002. Available at: <http://www.samhsa.gov/data/2k2/suicide/suicide.htm>. Accessed May 17, 2016.

6. Everett Jones S, Fisher CJ, Greene BZ, Hertz MF, Pritzl J. Healthy and safe school environment, part I: results from the School Health Policies and Programs Study 2006. *Journal of School Health* 2007;77(8):522–543.

7. Centers for Disease Control and Prevention. Youth risk behavior surveillance – United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

8. Monitoring the Future. Trends in lifetime prevalence use of various drugs. 2015. Available at: <http://www.monitoringthefuture.org/data/15data/15drtbl1.pdf>. Accessed on May 5, 2016.

9. The Partnership at Drugfree.org and MetLife Foundation. *The 2012 Partnership Attitude Tracking Study.* New York, NY: The Partnership at DrugFree.org; 2013. Available at: <http://www.drugfree.org/wp-content/uploads/2013/04/PATS-2012-FULL-REPORT2.pdf>. Accessed May 18, 2016.

1. Palamar JJ, Acosta P. Synthetic cannabinoid use in a nationally representative sample of US high school seniors. *Drug and Alcohol Dependence* 2015;149:194–202.

1. Forrester MB. Adolescent synthetic cannabinoid exposures reported to Texas poison centers. *Pediatric Emergency Care* 2012;28(10):985–989.
2. Law R, Schier J, Martin C, Chang A, Wolkin A. Notes from the field: Increase in reported adverse health effects related to synthetic cannabinoid use – United States, January-May, 2015. *Morbidity and Mortality Weekly Report* 2015;64(22):618–619.
3. Centers for Disease Control and Prevention. Acute kidney injury associated with synthetic cannabinoid use – multiple states, 2012. *Morbidity and Mortality Weekly Report* 2013;62(6):93–98.

**Sexual Behaviors that Contribute to Unintended Pregnancy and Sexually Transmitted Diseases, Including HIV Infection**

**QUESTION(S):**

59. Have you ever had sexual intercourse?

60. How old were you when you had sexual intercourse for the first time?

61. During your life, with how many people have you had sexual intercourse?

62. During the past 3 months, with how many people did you have sexual intercourse?

63. Did you drink alcohol or use drugs before you had sexual intercourse the last time?

64. The last time you had sexual intercourse, did you or your partner use a condom?

65. The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy?

85. Have you ever been tested for HIV, the virus that causes AIDS? (Do not count tests done if

 you donated blood.)

**RATIONALE:**

These questions measure the prevalence of sexual activity, number of sexual partners, age at first intercourse, alcohol and other drug use related to sexual activity, condom use, contraceptive use, and whether high school students have been tested for HIV. Early initiation of sexual intercourse is associated with having a greater number of lifetime sexual partners.(1,2) In addition, adolescents who initiate sexual intercourse early are less likely to use contraception(2,3) and are at higher risk for STDs(4) and pregnancy.(5,6) Estimates suggest that while representing 25% of the ever sexually active population, persons aged 15 to 24 years acquire nearly half of all new STDs.(7) Both chlamydia and gonorrhea rates are highest among young women between the ages of 20 and 24 years (2484.6 cases per 100,000 individuals and 533.7 cases per 100,000 individuals, respectively).(8) In 2013, there were an estimated 1,908 persons ages 13–19 years newly diagnosed with HIV infection and 7,157 living with diagnosed HIV infection.(9) In 2014, young people aged 13–24 accounted for 22% of all new HIV infections in the United States.(10)

Among high school students nationwide in 2015, 41% had ever had sexual intercourse, 12% had had sexual intercourse with four or more persons during their life, and 30% had had sexual intercourse with at least one person during the 3 months before the survey.(11) The percentage of students who ever had sexual intercourse decreased during 1991–2015 (54%–41%).(11) The percentage of students who had sexual intercourse with four or more persons during their life decreased during 1991–2015 (19%–12%).(11) During 1991–2015, there was a significant linear decrease in the percentage of students who had had sexual intercourse with at least one person during the 3 months before the survey (38%–30%).(11) In 2015, among the 30% of students who were currently sexually active, 57% reported that either they or their partner had used a condom during last sexual intercourse.(11) The percentage of sexually active students who used a condom during last sexual intercourse increased during 1991–2003 (46%–63%) and then did not change significantly during 2003–2015 (63%–57%).(11)

 Too many people do not know they are infected with HIV. About 1.2 million people are living with HIV in the US, but 1 in 5 do not know they are infected.(12) Each year, about 50,000 people get infected with HIV in the U.S. HIV testing is an integral part of the *National HIV/AIDS Strategy* *for the United States* and routine testing is one of the most important strategies recommended for reducing the spread of HIV and improving the health outcomes for those already infected.(13,14) State and local education agencies and schools are essential partners in this effort. Educating students about HIV and other STDs might increase students’ likelihood of being tested.(15) Further, schools have a critical role to play in facilitating delivery of HIV preventive services for adolescents.(15,16) State and local data on HIV testing will help agencies examine local trends in testing behaviors, identify disparities in testing, and determine whether high risk youth are being tested.(15,16) In 2015, 10% of high school students nationwide had ever tested for HIV. The percentage of high school students who have ever been tested for HIV did not change from 2005–2011 (12%–13%), but significantly decreased from 2011–2015 (13%–10%).

**REFERENCES:**

1. Santelli JS, Brener ND, Lowry R, et al. Multiple sexual partners among U.S. adolescents and young adults. *Family Planning Perspectives* 1998;30:271–275.
2. Martinez G, Copen CE, Abma JC. Teenagers in the United States: Sexual activity, contraceptive use, and childbearing, 2006–2010 National Survey of Family Growth. National Center for Health Statistics. *Vital and Health Statistics Series* 2011; 23(31). Available at: <http://www.cdc.gov/nchs/data/series/sr_23/sr23_031.pdf>. Accessed April 26, 2016.
3. Manning WD, Longmore MA, Giordano PC. The relationship context of contraceptive use at first intercourse. *Family Planning Perspectives* 2000;32(3):104–110.
4. Kaestle CE, Halpern CT, Miller WC, Ford CA. Young age at first sexual intercourse and sexually transmitted infections in adolescents and young adults. *American Journal of Epidemiology* 2005;161(8):774–780.
5. Manlove J, Terry E, Gitelson L, Papillo AR, Russell S. Explaining demographic trends in teenage fertility, 1980–1995. *Family Planning Perspectives* 2000;32(4):166–175.
6. Thornberry TP, Smith CA, Howard GJ. Risk factors for teenage fatherhood. *Journal of Marriage & Family* 1997;59:505–522.
7. Satterwhite CL, Torrone E, Meites E, Dunne EF, Mahajan R, Ocfemia MC, Su J, Xu F, Weinstock H. Sexually transmitted infections among US women and men: Prevalence and incidence estimates, 2008. *Sex Transm Dis* 2013 ;40(3): 187–193.
8. Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2014*. Atlanta, GA: U.S. Department of Health and Human Services; 2015. Available at: <http://www.cdc.gov/std/stats14/surv-2014-print.pdf>. Accessed April 26, 2016.
9. Centers for Disease Control and Prevention. *HIV Surveillance Report, 2013*; vol. 25. 2015. Available at: <http://www.cdc.gov/hiv/library/reports/surveillance/>. Accessed May 2, 2016.
10. Centers for Disease Control and Prevention. HIV among youth. Available at: <http://www.cdc.gov/hiv/group/age/youth/index.html>. Accessed May 2, 2016.
11. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.
12. Centers for Disease Control and Prevention. HIV surveillance—United States, 1981–2008. *Morbidity and Mortality Weekly Report* 2011;60(21):689–693.
13. Centers for Disease Control and Prevention. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *Morbidity and Mortality Weekly Report* 2006;55(RR-14).
14. The White House Office of National AIDS Policy. *National HIV/AIDS Strategy for the United States: Updated to 2020*. Washington, DC: The White House Office of National AIDS Policy; 2015. Available at: <https://www.whitehouse.gov/sites/default/files/docs/national_hiv_aids_strategy_update_2020.pdf>. Accessed May 17, 2016.
15. Centers for Disease Control and Prevention. HIV testing among high school students—United States, 2007. *Morbidity and Mortality Weekly Report* 2009;58:665–668.
16. Centers for Disease Control and Prevention. HIV testing among adolescents: What schools and education agencies can do. Atlanta, GA: Centers for Disease Control and Prevention; 2012. Available at: <http://www.cdc.gov/healthyyouth/sexualbehaviors/pdf/hivtesting_adolescents.pdf>. Accessed May 17, 2016.
17. Division of Adolescent and School Health, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention.

Program 1308 guidance: Supporting state and local education agencies to reduce adolescent sexual risk behaviors and adverse health outcomes associated with HIV, Other STD, and teen pregnancy. 2014. Available at: <http://www.cdc.gov/healthyyouth/fundedpartners/1308/pdf/program_guidance_final.pdf>. Accessed May 17, 2016.

**QUESTION(S):**

66. During your life, with whom have you had sexual contact?

67. Which of the following best describes you?

**RATIONALE:**

These questions measure sexual identity and sex of sexual partners. Sexual minority youth—those who identify as gay, lesbian, or bisexual or who have sexual contact with persons of the same or both sexes—are part of every community and come from all walks of life. They are diverse, representing all races, ethnicities, socioeconomic statuses, and parts of the country. While many sexual minority youth cope with the transition from childhood to adulthood successfully and become healthy and productive adults, others struggle as a result of challenges such as stigma, discrimination, family disapproval, social rejection, violence.(1) YRBS data indicate that sexual minority students are more likely to engage in health-risk behaviors than other students.(2) Sexual minority youth are also at increased risk for certain negative health outcomes. For example, young gay and bisexual males have disproportionately high rates of HIV and syphilis,(3,4) and adolescent lesbian and bisexual females are more likely to have ever been pregnant than their heterosexual peers.(5) Increasing attention has been given to the HIV prevention needs of young men who have sex with other men (YMSM) as they are more likely than males who have only had sexual contact with females to engage in sexual risk-taking behaviors and HIV infection rates among YMSM are disproportionately high.(6) Data on the sexual minority status of young people is critical for continuing to demonstrate the disproportionate rates at which sexual minority students experience many health risks compared to non-sexual minority students and for developing, implementing, and evaluating policies and programs designed to mitigate these disparities. In 2015, 88.8% of high school students nationwide identified as heterosexual, 2.0% identified as gay or lesbian, 6.0% identified as bisexual, and 3.2% were not sure of their sexual identity.(7) Also in 2015, 48.0% of high school students nationwide had had sexual contact with only the opposite sex, 1.7% had had sexual contact with only the same sex, 4.6% had had sexual contact with both sexes, and 45.7% had had no sexual contact.(7)

**REFERENCES:**

1. Pope M. Sexual minority youth in the schools: Issues and desirable counselor responses. In: Walz G, Yep R, eds. *Vistas: Perspectives on Counseling 2004*. Alexandria, VA: American Counseling Association; 2004. Available at: <http://studentservices.dadeschools.net/SMN/pdfs/SMY_counselor.pdf>. Accessed May 17, 2016.
2. Centers for Disease Control and Prevention. Sexual identity, sex of sexual contacts, and health-risk behaviors among students in grades 9–12—Youth risk behavior surveillance, selected sites, United States, 2001–2009. *Morbidity and Mortality Weekly Report* 2011;60(No. SS-7):1–133.
3. Centers for Disease Control and Prevention*.* HIV surveillance — adolescents and young adults. Atlanta, GA: U.S. Department of Health and Human Services; 2010. Available at: <http://www.cdc.gov/hiv/pdf/statistics_surveillance_Adolescents.pdf>. Accessed May 17, 2016.
4. Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2012*. Atlanta, GA: U.S. Department of Health and Human Services; 2010. Available at <http://www.cdc.gov/std/stats12/Surv2012.pdf>. Accessed May 17, 2016.
5. Goodenow C, Szalacha LA, Robin LE, Westheimer K. Dimensions of sexual orientation and HIV-related risk among adolescent females: evidence from a statewide survey. *American Journal of Public Health* 2008;98(6):1051–1058.
6. Centers for Disease Control and Prevention. Vital signs: HIV infection, testing, and risk behaviors among youth—United States. *Morbidity and Mortality Weekly Report* 2012;61(47):971–976.
7. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

**Dietary Behaviors**

**QUESTION(S):**

70. During the past 7 days, how many times did you drink 100% fruit juices such as orange juice, apple juice, or grape juice? (Do not count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)

71. During the past 7 days, how many times did you eat fruit? (Do not count fruit juice.)

72. During the past 7 days, how many times did you eat green salad?

73. During the past 7 days, how many times did you eat potatoes? (Do not count french fries, fried potatoes, or potato chips.)

74. During the past 7 days, how many times did you eat carrots?

75. During the past 7 days, how many times did you eat other vegetables? (Do not count green salad, potatoes, or carrots.)

76. During the past 7 days, how many times per day did you usually drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite? (Do not count diet soda or diet pop.)

77. During the past 7 days, how many glasses of milk did you drink? (Count the milk you drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.)

78. During the past 7 days, on how many days did you eat breakfast?

**RATIONALE:**

These questions measure dietary behaviors, including consumption of fruits and vegetables, and soda or pop. The fruit and vegetable questions are similar to questions asked of adults on the Centers for Disease Control and Prevention’s Behavioral Risk Factor Surveillance System 2009 survey questionnaire.(1) Fruits and vegetables are good sources of complex carbohydrates, vitamins, minerals, and other substances that are important for good health.(2) There is probable evidence to suggest that dietary patterns with higher intakes of fruits and vegetables are associated with a decreased risk for some types of cancer,(3–5) cardiovascular disease,(6) and stroke.(7) Although data are limited, an increased intake of fruits and vegetables appears to be associated with a decreased risk of being overweight.(8–10) However, most youth do not meet the recommendations for fruit and vegetable consumption.(11,12) In 2015, during the 7 days before the survey, 32% of high school students nationwide had eaten fruit or drunk 100% fruit juice two or more times per day and 15% of students had eaten vegetables three or more times per day.(13) The percentage of students who ate vegetables three or more times per day increased significantly during 1999–2015 (14%–15%).(13)

Although total sugar-sweetened beverage consumption has significantly decreased in the last decade mainly due to the decrease in regular soda intake, the calorie intake from sugar-sweetened beverages remain high.(14-16) Furthermore, sugar-sweetened beverages are a primary source of added sugars in the diet of U.S. children,(17) and contribute on average 155 kcal/day (8.0% of daily energy intake).(15) Consumption of sugar-sweetened beverages is associated with a less healthy diet(18) and dental decay,(19) and appears to be associated with increased risk of being overweight among children(20,21) and the development of metabolic syndrome and type 2 diabetes.(22) Nationwide in 2015, 20% of high school students had drunk a can, bottle, or glass of soda or pop (not counting diet soda or diet pop) one or more times per day during the 7 days before the survey.(13) The percentage of students who drank soda or pop one or more times per day decreased significantly during 2007–2015 (34%–20%).(13)

Milk is an important source of many nutrients, including calcium.(2) There is evidence that intake of milk and milk products is associated with bone health in children and adolescents and with a lower risk of cardiovascular disease and type 2 diabetes and with lower blood pressure in adults.(2) Althoughthe recommended intake of milk and milk products is 3 cups per day for adolescents,most adolescents consume far less.(2,12) In 2015, 10% of high school students nationwide had drunk three or more glasses of milk per day.(13) The percentage of students who drank three or more glasses of milk decreased significantly during 1999–2015 (18%–10%).(11)

Eating breakfast is associated with weight loss and weight loss maintenance,(2) improved nutrient intake,(2) and better cognitive function, academic performance, school attendance rates, psychosocial function, and mood.(23-25) In 2015, 36% of high school students nationwide ate breakfast on all 7 days before the survey.(13)

**REFERENCES:**

1. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System survey questionnaire. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 2009. Available at: <http://www.cdc.gov/brfss/questionnaires/pdf-ques/2009brfss.pdf>. Accessed May 18, 2016.

2. U.S. Department of Agriculture, U.S. Department of Health and Human Services. *Dietary Guidelines for Americans 2015–2010*. 8th Edition. Washington, DC: U.S. Government Printing Office, 2015. Available at: <http://health.gov/dietaryguidelines/2015/guidelines/>. Accessed May 18, 2016.

3. Key T, Schatzkin A, Willet WC, Allen NE, Spencer EA, Travis RC. Diet, nutrition, and the prevention of cancer. *Public Health Nutrition* 2004;7(1A):187–200.

4.Kushi LH, Byers T, Doyle C, et al. American Cancer Society guidelines on nutrition and physical activity for cancer prevention: reducing the risk of cancer with healthy food choices and physical activity. *CA: A Cancer Journal for Clinicians* 2006;56:254–281.

5.Vainio H, Weiderpass E. Fruit and vegetables in cancer prevention. *Nutrition and Cancer* 2006;54(1):111–142.

6. Bazzano LA, He J, Ogden LG, et al. Fruit and vegetable intake and risk of cardiovascular disease in US adults: the first National Health and Nutrition Examination Survey Epidemiologic Follow-up Study. *American Journal of Clinical Nutrition* 2002;76(1):93–99.

7. He FJ, Nowson CA, MacGregor GA. Fruit and vegetable consumption and stroke: Meta-analysis of cohort studies. *Lancet* 2006;367(9507):320–326.

8. Rolls BJ, Ello-Martin JA, Tohill BC. What can intervention studies tell us about the relationship between fruit and vegetable consumption and weight management. *Nutrition Reviews* 2004;62(1):1–17.

9. He K, Hu FB, Colditz GA, Manson JE, Willett WC, Liu S. Changes in intake of fruits and vegetables in relation to risk of obesity and weight gain among middle-aged women. *International Journal of Obesity* 2004;28:1569–1574.

10. Goss J, Grubbs L. Comparative analysis of body mass index, consumption of fruits and vegetables, smoking, and physical activity among Florida residents. *Journal of Community Health Nursing* 2005;22(1):37–46.

11. Kim SA, Moore LV, Galuska D, Wright AP, Harris D, Grummer-Strawn LM, Merlo CL, Nihiser AJ, Rhodes DG. [Vital signs: fruit and vegetable intake among children — United States, 2003–2010.](http://www.ncbi.nlm.nih.gov/pubmed/25102415) *Morbidity and Mortality Weekly Report* 2014;63(31):671–676.

12. Krebs-Smith SM, Guenther PM, Subar AF, Kirkpatrick SI, Dodd KW. Americans do not meet dietary recommendations. *Journal of Nutrition* 2010;140:1832–1838.

13.Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

14. Mesirow MS, Welsh JA. Changing beverage consumption patterns have resulted in fewer liquid calories in the diets of US children: National Health and Nutrition Examination Survey 2001–2010. *Journal of the Academy of Nutrition and Dietetics* 2015;115(4):559-566.

15. Kit BK, Fakhouri THI, Park S, Nielsen SJ, Ogden CL. Trends in sugar-sweetened beverage consumption among youth and adults in the United States: 1999–2010. *American Journal of Clinical Nutrition* 2013;98:180–188.

16. Welsh JA, Sharma AJ, Grellinger L, Vos MB. Consumption of added sugars is decreasing in the United States. *American Journal of Clinical Nutrition* 2011;94:726–734.

17. Drewnowski A, Rehm CD. Consumption of added sugars among US children and adults by food purchase location and food source. *American Journal of Clinical Nutrition* 2014;100(3):901–907.

18. Marshall T, Gilmore J, Broffitt B, et al. Diet quality in young children is influenced by beverage consumption. *Journal of the American College of Nutrition* 2005;24(1):65–75.

19. Tahmassebi JF, Duggal MS, Malik-Kotru G, Curzon ME. Soft drinks and dental health: A review of the current literature. *Journal of Dental Research* 2006;34(1):2–11.

20. Vartanian LR, Schwartz MB, Brownell KD. Effects of soft drink consumption on nutrition and health: A systematic review and meta-analysis. *American Journal of Public Health* 2007;97(4):667–675.

21. Malik VS, Pan A, Willett WC, Hu FB. Sugar-sweetened beverages and weight gain in children and adults: A systematic review and meta-analysis. *American Journal of Clinical Nutrition* 2013;98(4):1084–1102.

22. Malik VS, Popkin BM, Bray GA, Despres JP, Willett WC, Hu FB. Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: A meta-analysis. *Diabetes Care* 2010;33:2477–2483.

23. Rampersaud GC, Pereira M, Girard BL, Adams J, Metzl JD. Breakfast habits, nutritional status, body weight, and academic performance in children and adolescents. *Journal of the American Dietetic Association* 2005;105:743–760.

24. Hoyland A, Dye L, Lawton CL. A systematic review of the effect of breakfast on the cognitive performance of children and adolescents. *Nutrition Research Reviews* 2009;22:220–243.

25. Michael SL, Merlo CL, Basch CE, Wentzel KR, Wechsler H. Critical connections: Health and academics. *Journal of School Health* 2015;85:740–758.

**Physical Activity**

**QUESTION(S):**

79. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spend in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time.)

80. On an average school day, how many hours do you watch TV?

81. On an average school day, how many hours do you play video or computer games or use a computer for something that is not school work? (Count time spent on things such as Xbox, PlayStation, an iPad or other tablet, a smartphone, texting, YouTube, Instagram, Facebook, or other social media.)

82. In an average week when you are in school, on how many days do you go to physical education (PE) classes?

83. During the past 12 months, on how many sports teams did you play? (Count any teams run by your school or community groups.)

**RATIONALE:**

These questions measure participation in physical activity and team sports and attendance in physical education classes. These questions also examine time spent watching television (TV) and using a computer or playing video games. Participation in regular physical activity among young people can help build and maintain healthy bones and muscles, maintain body weight and reduce body fat, reduce feelings of depression and anxiety, and promote psychological well-being.(1) Over time, regular physical activity decreases the risk of high blood pressure, heart disease, diabetes, obesity, some types of cancer, and premature death.(1) In 2008, the U.S. Department of Health and Human Services recommended that young people aged 6–17 years participate in at least 60 minutes of physical activity daily.(2) In 2015, 27% of high school students were physically active doing any kind of physical activity that increased their heart rate and made them breathe hard some of the time for a total of at least 60 minutes per day on each of the 7 days before the survey.(3) In 2012, the U.S. Department of Health and Human Services released a mid-course report on the *Physical Activity Guidelines for Americans*.(4) This report focused on strategies to increase physical activity among youth. The report concluded that school-based settings had the strongest evidence and multi-component physical activity programs, including physical education, had the most promise for increasing physical activity. In 2013, the Institute of Medicine (IOM) released *Educating the Student Body: Taking Physical Activity and Physical Education to School.*(5) This report also stressed the importance of a comprehensive, multi-component, whole school approach to physical activity in schools. CDC and many other federal and national partners are promoting Comprehensive School Physical Activity Programs (CSPAP) to create school environments that offer many opportunities for students to be physically active throughout the school day.(6) A CSPAP includes strong coordination across five components: physical education, physical activity during school, physical activity before and after school, staff involvement, and family and community engagement. Physical education is the cornerstone of CSPAP with research showing that school physical education classes can increase adolescent participation in physical activity(7–13) and help high school students develop the knowledge, attitudes, and skills they need to engage in lifelong physical activity.(4,14-16) In 2015, 52% of high school students nationwide went to physical education classes on 1 or more days in an average week when they were in school.(3)

 Watching TV and using a computer are considered sedentary behaviors. Among youth, time spent watching TV is associated with childhood and adult obesity, consumption of fast food, soft drinks, and high-fat snacks, and consumption of fewer fruits and vegetables.(17–24) Youth who engage in less than two hours of TV viewing per day tend to be more active.(16) Computer usage and video game playing are associated with physical inactivity among adolescentsand young adults.(25) Among high school students nationwide in 2015, 42% of students played video or computer games or used a computer for something that was not school work for 3 or more hours per day on an average school day and 25% watched television 3 or more hours per day on an average school day.(3) The percentage of students who used computers 3 or more hours per day increased significantly during 2003–2009 (22%–25%) and then increased more rapidly during 2009–2015 (25%–42%).(3) During 1999–2015, a significant linear decrease occurred in the percentage of high school students who watched television 3 or more hours per day (43%–25%).(3)

**REFERENCES:**

1. Physical Activity Guidelines Advisory Committee. *Physical Activity Guidelines Advisory Committee Report, 2008.* Washington, DC: U.S. Department of Health and Human Services; 2008.Available at<http://www.health.gov/paguidelines/Report/pdf/CommitteeReport.pdf>. Accessed June 5, 2014.

2. U.S. Department of Health and Human Services. *2008 Physical Activity Guidelines for Americans*. Washington, DC: U.S. Department of Health and Human Services; 2008. Available at <http://www.health.gov/PAguidelines/pdf/paguide.pdf>. Accessed June 4, 2012.

3. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

4. U.S. Department of Health and Human Services. *Physical Activity Guidelines for Americans Midcourse Report: Strategies to Increase Physical Activity among Youth.* Washington, DC: U.S. Department of Health and Human Services; 2012. Available at <http://www.health.gov/paguidelines/midcourse/>. Accessed May 20, 2014.

5. Institute of Medicine. *Educating the Student Body: Taking Physical Activity and Physical Education to School.* Washington, DC: The National Academies Press; 2013. Available at <http://books.nap.edu/openbook.php?record_id=18314&page=R1>. Accessed May 20, 2014.

6. Centers for Disease Control and Prevention. *Comprehensive School Physical Activity Programs: A Guide for Schools*. Atlanta, GA: US Department of Health and Human Services; 2013. Available at: <http://www.cdc.gov/healthyyouth/physicalactivity/pdf/13_242620-A_CSPAP_SchoolPhysActivityPrograms_Final_508_12192013.pdf>. Accessed May 18, 2016.

7. Metcalf B, Henley M, Wilkin T. Effectiveness of intervention on physical activity of children: systematic review and meta-analysis of controlled trials with objectively measured outcomes. *British Medical Journal* 2012; e345–347.

8. Dobbins M, Husson H, DeCorby K, LaRocca RL. School-based physical activity programs for promoting physical activity and fitness in children and adolescents aged 6 to 18 (Review). *Cochrane Database of Systematic Reviews* 2013, Issue 2. Art. No.: CD007651. DOI: 10.1002/14651858.CD007651.pub2.

9. Lonsdale C, Rosenkranz RR, Peralta LR, Bennie A, Fahey P, Lubans DR. A systematic review and meta-analysis of interventions designed to increase moderate-to-vigorous physical activity in school physical education. *Preventive Medicine* 2013; 56(2):152–161.

10. Trudeau F, Shephard RJ. Contribution of school programmes to physical activity levels and attitudes in children and adults. *Sports Medicine* 2005;35(2):89–105.

11. McKenzie TL, Li DL, Derby CA, Webber LS, Luepker RV, Cribb P. Maintenance of effects of the CATCH physical education program: results from the CATCH-ON Study. *Health Education & Behavior* 2003;30:447–462.

12. McKenzie TL, Sallis JF, Prochaska JJ, Conway TL, Marshall SJ, Rosengard P. Evaluation of a two-year middle-school physical education intervention: M-SPAN. *Medicine & Science in Sports & Exercise* 2004;36:1382–1388.

13.Pate R, Ward DS, Saunders RP, Felton G, Dishman RK, Dowda M. Promotion of physical activity among high school girls: a randomized controlled trial. *American Journal of Public Health* 2005;95:1582–1587.

14. Gordon-Larsen P, McMurray RG, Popkin BM. Determinants of adolescent physical activity and inactivity patterns*. Pediatrics* 2000;105:83–91.

15. Dishman RK, Motl RW, Saunders R, et al. Enjoyment mediates effects of a school-based physical-activity intervention. *Medicine & Science in Sports & Exercise* 2005;37(3):478–487.

16. SHAPE America. *The Essential Components of Physical Education*. Reston, VA: SHAPE America – Society of Health and Physical Educators; 2015. Available at: <http://www.shapeamerica.org/upload/TheEssentialComponentsOfPhysicalEducation.pdf>.

 Accessed May 18, 2016.

17. Fulton JE, Wang X, Yore MM, Carlson SA, Galuska DA, Caspersen CJ. Television viewing, computer usage, and BMI among U.S. children and adolescents. *Journal of Physical Activity and Health* 2009;6(Suppl 1):S28–S35.

18. Kaur H, Choi WS, Mayo MS, Harris KJ. Duration of television watching is associated with increased body mass index. *Journal of Pediatrics* 2003;143(4):506–511.

19. Sisson SB, Shay CM, Broyles ST, Leyva M. Television-viewing time and dietary quality among U.S. children and adults. *American Journal of Preventive Medicine* 2012; 43(2):196–200.

20. Lowry R, Wechsler H, Galuska D, Fulton J, Kann L. Television viewing and its associations with overweight, sedentary lifestyle, and insufficient consumption of fruits and vegetables among US high school students: differences by race, ethnicity, and gender. *Journal of School Health* 2002; 72(10):413–421.

21. [Utter J, Neumark-Sztainer D, Jeffery R, Story M.](http://www.ncbi.nlm.nih.gov/pubmed/14520247?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum) Couch potatoes or french fries: are sedentary behaviors associated with body mass index, physical activity, and dietary behaviors among adolescents? *Journal of the American Dietetic Association* 2003;103(10):1298–1305.

22. [Fuller-Tyszkiewicz M](http://www.ncbi.nlm.nih.gov/pubmed?term=Fuller-Tyszkiewicz%20M%5BAuthor%5D&cauthor=true&cauthor_uid=23000277), [Skouteris H](http://www.ncbi.nlm.nih.gov/pubmed?term=Skouteris%20H%5BAuthor%5D&cauthor=true&cauthor_uid=23000277), [Hardy LL](http://www.ncbi.nlm.nih.gov/pubmed?term=Hardy%20LL%5BAuthor%5D&cauthor=true&cauthor_uid=23000277), [Halse C](http://www.ncbi.nlm.nih.gov/pubmed?term=Halse%20C%5BAuthor%5D&cauthor=true&cauthor_uid=23000277). The associations between TV viewing, food intake, and BMI. A prospective analysis of data from the Longitudinal Study of Australian Children. *Appetite* 2012; 59(3):945–948.

23. Salmon J, Campbell KJ, Crawford DA. Television viewing habits associated with obesity risk factors: a survey of Melbourne schoolchildren. *Medical Journal of Australia* 2006;184:64–67.

24. Demissie Z, Lowry R, Eaton DK, Park S, Kann L. Electronic media and beverage intake among United States high school students—2010. [*Journal of Nutrition Education and Behav*](http://www.ncbi.nlm.nih.gov/pubmed/23791899)*ior* 2013;45(6):756–760.

25. Fotheringham MJ, Wonnacott RL, Owen N. Computer use and physical inactivity in young adults: public health perils and potentials of new information technologies. *Annals of Behavioral Medicine* 2000;22:269–275.

**QUESTION(S):**

84. During the past 12 months, how many times did you have a concussion from playing a sport or being physically active?

**RATIONALE:**

In 2013, the Institute of Medicine (now National Academy of Sciences) produced a report entitled *Sports Related Concussions in Youth: Improving the Science, Changing the Culture* that challenged CDC to improve the surveillance of sports-related concussions among youth.(1) The report identified a number of gaps in current surveillance efforts. Specifically, current surveillance systems only captured concussions experienced in organized, school-based sports at the high school or college level, or only captured sports-related concussions seen in emergency departments.(1) As a result, there were no comprehensive national incidence estimates of sports- and recreation-related concussions experienced by youth.

 States may be particularly interested in more comprehensive estimates of sports- and recreation-related concussions because legislation related to sports concussions was passed in all 50 states within the past 5–7 years. This legislation, commonly referred to as “Return to Play” laws, typically have three core components: concussion education for athletes, parents, and coaches; restrictions on returning to play on the same day of a suspected concussion; and medical clearance prior to returning to play after a concussion. Being able to monitor the incidence of sports- and recreation-related concussions at the state level could allow states to monitor the effects of this legislation as well as the impact of prevention efforts.

**REFERENCES:**

1. Institute of Medicine and National Research Council. *Sports-related Concussions in Youth: Improving the Science, Changing the Culture.* Washington, DC: The National Academies Press; 2014. Available at: <http://www.shapeamerica.org/upload/TheEssentialComponentsOfPhysicalEducation.pdf>. Accessed May 18, 2016.

**Oral Health**

**QUESTION(S):**

86. When was the last time you saw a dentist for a check-up, exam, teeth cleaning, or other dental work?

**RATIONALE:**

This question measures the prevalence of oral health care, and provides data for one of the Leading Health Indicators for Healthy People 2020 (OH-7 “Increase the proportion of children, adolescents, and adults who used the oral health care system in the past 12 months”) and relates to OH-8 “Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year.”(1)

Despite improvements in oral health status in the United States, disparities remain in some population groups as classified by sex, income, age, and race/ethnicity.(2) Oral diseases and conditions can occur throughout the life span.(2) Nearly every American has had the most common oral disease, dental caries.(2) Over 50% of adolescents aged 12–19 year experienced dental caries in permanent teeth in 2011–2012.(3) Oral health is related to general health. The examination of oral tissues may be used to determine the presence of disease, disease progression, or exposure to risk factors, and as a diagnostic tool.(2) The mouth can be a portal of entry for infections that can affect local tissues and may spread to other parts of the body.(2) Oral diseases may also be associated with other diseases such as diabetes, heart disease and stroke, and adverse pregnancy outcomes.(2) According to 2015 YRBS data, nationwide, 74% of students saw a dentist for a check-up, teeth cleaning, or other dental work during the 12 months before the survey.(4)

**REFERENCES:**

1. U.S. Department of Health and Human Services. *Healthy People 2020*. Washington, DC: U.S. Department of Health and Human Services; 2010. Available at: <http://www.healthypeople.gov/2020>. Accessed May 10, 2016.
2. U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute for Dental and Craniofacial Research, National Institutes of Health; 2000. Available at: [http://silk.nih.gov/public/hck1ocv.@www.surgeon.fullrpt.pdf](http://silk.nih.gov/public/hck1ocv.%40www.surgeon.fullrpt.pdf). Accessed May 10, 2016.
3. Dye BA, Thornton-Evans G, Xianfen L, Iafolla TJ. Dental caries and sealant prevalence in children and adolescents in the United States, 2011–2012. NCHS data brief, no 191. Hyattsville, MD: National Center for Health Statistics. 2015.
4. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xx.

**Asthma**

**QUESTION(S):**

87. Has a doctor or nurse ever told you that you have asthma?

**RATIONALE:**

This question measures the prevalence of asthma. Approximately 9.9 million (13%) U.S. children <18 years have been diagnosed with asthma at some time in their lives.(1) From 2007–2009, children made 66.9 visits per 100 persons with current asthma to doctors’ offices and 10.7 visits per 100 persons with current asthma to hospital emergency departments, and 2.1 children per 100 persons with current asthma were hospitalized due to asthma.(2) In 2008, children aged 5–17 years with at least one asthma attack in the previous year were reported to miss 10.5 million school days in the past year. Nearly 60% had at least one asthma absence day in the past year, and 5.5% were reported to have an activity limitation due to asthma.(2) Among high school students nationwide in 2015, 23% had ever been told by a doctor or nurse that they ever had asthma.(3) The percentage of high school students who ever had asthma increased significantly from 2003–2015 (19%–23%).(3)

**REFERENCES:**

1. Centers for Disease Control and Prevention. 2014 lifetime asthma, current asthma, asthma attacks among those with current asthma*.* Available at: <http://www.cdc.gov/asthma/nhis/2014/data.htm>. Accessed May 16, 2016.

2. Centers for Disease Control and Prevention. *National Surveillance of Asthma: United States, 2001–2010*. Available at <http://www.cdc.gov/nchs/data/series/sr_03/sr03_035.pdf> Accessed May 16, 2016.

3. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

**Sleep**

**QUESTION(S):**

88. On an average school night, how many hours of sleep do you get?

This question measures the amount of sleep students get on an average school night. Sleep is necessary for physical and mental health and is particularly important during adolescence, a phase of rapid biologic growth and development.(1) According to the 2006 Sleep in America poll, more than half of adolescents are getting insufficient sleep on school nights.(2) Lack of adequate sleep among adolescents is associated with daytime sleepiness,(3,4) falling asleep during class,(5) general inattentiveness,(5) classroom behavioral problems,(5) drowsy driving,(1,3) depressed mood, (1,3,6) headaches,(6) and poor school performance.(7) Evidence tying insufficient sleep to poor health outcomes such as obesity, cardiovascular disease, and diabetes is also growing.(8–10)

Analysis of data from the national YRBS has shown that insufficient sleep is associated with higher odds of current use of cigarettes, marijuana, and alcohol; current sexual activity; seriously considering attempting suicide; feeling sad or hopeless; physical fighting; physical inactivity; obesity; engaging in injury-related risk behaviors; and engaging in unhealthy weight-control behaviors.(11-14)

In 2015, the National Sleep Foundation recommended that teens aged 14-17 years get 8-10 hours of sleep per night.(15) Healthy People 2020 contains four sleep health-related objectives, including one for adolescents. This objective is to “increase the proportion of students in grades 9 through 12 who get sufficient sleep (defined as 8 or more hours of sleep on an average school night).”(16) According to 2015 YRBS data, nationwide, 27% of high school students got 8 or more hours of sleep on an average school night.(17) The percentage of high school students who got 8 or more hours of sleep on an average school night decreased significantly from 2007–2015 (31%–27%).(17)

**REFERENCES:**

1. Owens J, Adolescent Sleep Working Group, Committee on Adolescence. Insufficient sleep in adolescents and young adults: An update on causes and consequences. *Pediatrics* 2014;134(3): e921-32.
2. National Sleep Foundation. *2006 Sleep in American Poll*. *Summary of Findings.* Washington, DC: National Sleep Foundation; 2006. Available at: <http://www.sleepfoundation.org/sites/default/files/2006_summary_of_findings.pdf>. Accessed May 18, 2016.
3. Millman RP, Working Group on Sleepiness in Adolescents/Young Adults, AAP Committee on Adolescence. Excessive sleepiness in adolescents and young adults: causes, consequences, and treatment strategies. *Pediatrics* 2005;115(6):1774–1786.
4. Moore M, Meltzer LJ. The sleepy adolescent: Causes and consequences of sleepiness in teens. *Paediatric Respiratory Reviews* 2008;9(2):114–120; quiz 120–1.
5. Beebe DW. Cognitive, behavioral, and functional consequences of inadequate sleep in children and adolescents. *Pediatric Clinics of North America* 2011;58(3):649–665.
6. Smaldone A, Honig JC, Byrne MW. Sleepless in America: Inadequate sleep and relationships to health and well-being of our nation's children. *Pediatrics* 2007;119 (Suppl 1):S29–37.
7. Wolfson AR, Carskadon MA. Sleep schedules and daytime functioning in adolescents*. Child Development* 1998;69(4):875–887.
8. Taheri S. The link between short sleep duration and obesity: We should recommend more sleep to prevent obesity. *Archives of Disease in Childhood* 2006;91:881–884.
9. Matthews KA, Pantesco EJ. Sleep characteristics and cardiovascular risk in children and adolescents: An enumerative review. *Sleep Medicine* 2016;18:36-49.
10. Knutson KL, Ryden AM, Mander VA, Van Cauter E. Role of sleep duration and quality in the risk and severity of type 2 diabetes mellitus. *Archives of Internal Medicine* 2006;166:1768–1764.
11. McKnight-Eily LR, Eaton DK, Lowry R, Croft JB, Presley-Cantrell L, Perry GS. Relationships between hours of sleep and health-risk behaviors in US adolescent students. *Preventive Medicine* 2011;53(4–5):271–273.
12. Lowry R, Eaton DK, Foti K, McKnight-Eily L, Perry G, Galuska DA. Association of sleep duration with obesity among US high school students. *Journal of Obesity* 2012;2012:476914.
13. Wheaton AG, Olsen EO, Miller GF, Croft JB. Sleep duration and injury-related risk behaviors among high school students—United States, 2007–2013. *Morbidity and Mortality Weekly Report* 2016;65(13):337–341.
14. Wheaton AG, Perry GS, Chapman DP, Croft JB. Self-reported sleep duration and weight-control strategies among U.S. high school students. *Sleep* 2013;36(8):1139–1145.
15. Hirshkowitz M, Whiton K, Albert SM, et al. National Sleep Foundation’s sleep time duration recommendations: Methodology and results summary. *Sleep Health* 2015;1:40–43.
16. U.S. Department of Health and Human Services. *Healthy People 2020: Sleep health*. Available at: <http://www.healthypeople.gov/2020/topicsobjectives2020/nationaldata.aspx?topicId=38>. Accessed April 29, 2016.
17. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2015. *Morbidity and Mortality Weekly Report* 2016;65(No. SS-x):1–xxx.

**Grades**

**QUESTION(S):**

89. During the past 12 months, how would you describe your grades in school?

**RATIONALE:**

This question measures academic grades in school. The academic success of America’s youth is strongly linked with their health. Health-related factors such as hunger, physical and emotional abuse, and chronic illness can lead to poor school performance.(1-4) Health-risk behaviors such as early sexual initiation, violence, and physical inactivity are consistently linked to poor grades and test scores and lower educational attainment.(2–7) In turn, academic success is an excellent indicator for the overall well-being of youth and a primary predictor and determinant of adult health outcomes.(8–10) Leading national education organizations recognize the close relationship between health and education, as well as the need to foster health and well-being within the educational environment for all students.(11–13) This question provides data to monitor the important link between health-risk behaviors and academic achievement.

**REFERENCES:**

1. Dunkle MC, Nash MA. *Beyond the Health Room*. Washington, DC: Council of Chief State School Officers, Resource Center on Educational Equity; 1991. Available at: <http://files.eric.ed.gov/fulltext/ED340681.pdf>. Accessed May 18, 2016.
2. Michael SL, Merlo C, Basch C, Wentzel K, Wechsler H. Critical connections: Health and academics. *Journal of School Health* 2015;85(11):740–758.
3. Bradley BJ, Greene AC. Do health and education agencies in the United States share

responsibility for academic achievement and health? A review of 25 years of evidence

about the relationship of adolescents' academic achievement and health behaviors. *Journal of Adolescent Health* 2013;52(5):523–532.

1. Basch CE. Healthier students are better learners: a missing link in school reforms to close the achievement gap. *Journal of School Health* 2011;81(10):593–598.
2. Carlson SA, Fulton JE, Lee SM, et al. Physical education and academic achievement in elementary school: Data from the Early Childhood Longitudinal Study. *American Journal of Public Health* 2008;98(4):721–727.
3. Spriggs AL, Halpern CT. Timing of sexual debut and initiation of postsecondary education by early adulthood. *Perspectives on Sexual and Reproductive Health* 2008;40(3):152–161.
4. Srabstein J, Piazza T. Public health, safety and educational risks associated with bullying behaviors in American adolescents. *International Journal of Adolescent Medicine and Health* 2008;20(2):223–233.
5. Harper S, Lynch J. Trends in socioeconomic inequalities in adult health behaviors among U.S. states, 1990–2004. *Public Health Reports* 2007;122(2):177–189.
6. Vernez G, Krop RA, Rydell CP. The public benefits of education. In: *Closing the Education Gap: Benefits and Costs.* Santa Monica, CA: RAND Corporation; 1999:13–32.
7. National Center for Health Statistics. *Health, United States, 2010: With Special Feature on Death and Dying*. Hyattsville, MD: U.S. Department of Health and Human Services; 2011. Available at: <http://www.cdc.gov/nchs/data/hus/hus10.pdf>. Accessed May 18, 2016.
8. Council of Chief State School Officers. [Policy statement on school health](http://www.ccsso.org/Resources/Publications/Policy_Statement_on_School_Health.html); 2004. Available at: <http://www.ccsso.org/Documents/2004/Policy_Statement_School_Health_2004.pdf>. Accessed May 18, 2016.
9. American Association of School Administrators. AASA position statements. Position statement 3: Getting children ready for success in school, July 2006; Position statement 18: Providing a safe and nurturing environment for students, July 2007. Available at: <http://www.aasa.org/uploadedFiles/About/_files/AASAPositionStatements072408.pdf>. Accessed May 18, 2016.
10. ASCD. *Making the Case for Educating the Whole Child*. Alexandria, VA: ASCD; 2011. Available at: <http://www.wholechildeducation.org/assets/content/mx-resources/WholeChild-MakingTheCase.pdf>. Accessed May 18, 2016.