A Profile of Health Among Massachusetts Middle and High School Students, 2013

Results from the Massachusetts Youth Health Survey (YHS)



Health Survey Program
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EXECUTIVE SUMMARY

This report presents key indicators of the health and behavioral risks reported by middle and high school students on the Massachusetts Youth Health Survey (YHS). In 2013, 57 public high schools participated, with 2,801 students completing the YHS high school survey, while 87 public middle schools participated in 2013, with 3,666 students completing the YHS middle school survey. The schools and classes were randomly selected. Written surveys were administered in public schools between the months of January and May of 2013. The statistics presented are weighted using the Centers for Disease Control and Prevention protocol in order to be representative of all Massachusetts public middle and high school students.

The following key indicators provide important information about the health, safety, and well-being of youth across the state: tobacco, alcohol, and other drug use; behaviors leading to injury, such as drinking and driving and not using seatbelts; experiences with violence; dietary behaviors and physical activity; and sexual behaviors that may lead to sexually transmitted disease or pregnancy. The report also provides information on health-related conditions, such as obesity, chronic disease, oral health, as well as mental health concerns among our youth.

Highlights

Data provided by the YHS are used throughout the department for program planning, monitoring and evaluation. We have selected several topics of policy relevance to highlight below.

Next steps following a sports-related concussion

Following passage of state legislation on sports concussions in 2010, the Massachusetts Department of Public Health (DPH), in partnership with key stakeholders, has worked extensively to ensure that these injuries are recognized as soon as possible and managed appropriately. The state has developed regulations requiring standardized procedures for students, coaches, school, parents, and medical professionals on prevention, training, management, and return to activity decisions. To estimate compliance, a new question was added in 2013 that asked students who reported symptoms of a sports-related traumatic brain injury what happened after they had these symptoms.

Twenty percent of middle school and 16% of high school students participating in sports reported experiencing symptoms of a sports-related traumatic brain injury (e.g. concussion) in the preceding 12 months. Of these:

- Nearly half reported that they continued playing sports that day (47% of students in middle school, 49% of students in high school).
- 18% of the middle school students and 16% of the high school students reported they stopped playing sports that day but did not get checked by a doctor.
- Just over one-third (35%) of middle and high school students who experienced these symptoms reported they stopped playing sports that day and got checked by a doctor or health care provider.

Physical Activity, Nutrition and Body Mass Index (BMI)

The data collected by the YHS provide a statewide benchmark about the percentage of children who meet physical activity and aerobic exercise standards, eat five or more fruits and vegetables daily, limit their soda consumption, and maintain a healthy weight. The resulting benchmark is intended to support efforts to respond to the prevalence of overweight and obesity among Massachusetts youth.

- In 2013, 23% of middle school students and 21% of high school students reported meeting the guideline for physical activity of 60 minutes per day in the week prior to the survey. Males were more likely than females to report meeting this guideline.
- 61% of middle school students and 67% of high school students reported three or more hours of screen time on the average school day.
- 68% of middle school students and 58% of high school students reported they ate three or more servings of fruits or vegetables on the day prior to the survey.
- 17% of both middle and high school students reported drinking three or more servings of a sugar-sweetened beverage on the day prior to the survey. Males were more likely than females to report consuming sugar-sweetened beverages.
- Among middle school students, 13% were overweight and 9% were obese. Among high school students, 13% were overweight and 10% were obese (based on BMI).

Prescription Medication Abuse

Prescription medications are among the most frequently abused drugs in the US and include prescription pain relievers, tranquilizers, stimulants, and sedatives. According to National Survey on Drug Use and Health[1] and Monitoring the Future study[2], nonmedical use of prescription drugs is second only to marijuana as the nation's most prevalent drug problem among youth. As they are not illicit, prescription drugs are more easily accessible. More than half of persons who used pain relievers for nonmedical purposes in the past year obtained the drugs from a friend or relative for free[3]. Some individuals, particularly teens, believe these substances are safer than illicit drugs. The programs of DPH's Bureau of Substance Abuse Services focus on improved parental monitoring and improving clear communication of disapproval of use as well as positive family interaction to reduce use. Interventions geared to youth focus on developing peer leadership and refusal skills and on increasing awareness of risks and harm.

YHS monitors nonmedical use of prescription medications among Massachusetts youth. In 2013, 4% of middle school students and 13% of high school students reported that they had ever taken a prescription drug that was not their own.

On both the middle and high school surveys, students were asked how much they thought a person risked harming themselves if they occasionally used narcotics, Ritalin, or tranquilizers from a prescription that was not their own.

- For narcotics, 15% of middle school students and 8% of high school students thought this posed little or no risk;
- For Ritalin, 17% of middle and 23% of high school students thought there was little or no risk; and
- For tranquilizers, 14% and 9%, respectively, thought there was little or no risk.

Gambling

With the passage of the Expanded Gaming Act, DPH is planning to monitor gambling behavior with a special focus on youth. Many experts in the field of problem gambling have identified youth as an at-risk group, meaning they are vulnerable to potentially developing problems related to gambling. For the first time questions related to experience with gambling were included in the 2013 Youth Health Survey. Questions about gambling activities focused on the previous 12 months and asked students if they had played lottery or scratch tickets, gambled at a casino, or engaged in other activities such as betting on sporting events, games of personal skill, dice games, horse or other animal races, video poker, playing card or bingo for money, or gambling on the internet.

- Approximately half of students reported some type of gambling activity at least once in the past year (46% in middle school, 50% in high school). Male students were more likely to report any gambling activity than female students.
- Among middle school students, 36% reported playing lotto or scratch tickets one or more times, 2% reported gambling at a casino one or more times, and 27% reported participating in other gambling activities one or more times.
- Among high school students, 39% reported playing lotto or scratch tickets one or more times, 3% reported gambling at a casino one or more times, and 28% reported participating in other gambling activities one or more times.

Monitoring changes over time

Another critical use of YHS information is to track changes over time in order to measure progress towards improving the health of youth in the Commonwealth. Accumulating more years of data will allow us to better examine trends; however, based on significant differences between years we can comment on several changes:

- The percent of students who reported smoking cigarettes in the past 30 days has been decreasing among both middle school students (3% in 2013 vs. 4% in 2009) and high school students (9% in 2013 vs. 16% in 2009).

- The percent of students who reported consuming three or more sugar-sweetened beverages on the previous day was significantly lower in 2013 than 2011 (17% vs. 23% in middle school and 17% vs. 24% in high school).

- Of the high school students who participated in a sports team, the percent who reported experiencing symptoms of a traumatic brain injury (e.g. concussion) following a blow or jolt to the head during sports in the past 12 months was significantly lower in 2013 than in 2011 (16% vs. 21%, respectively).

Appendix 2 contains tables comparing data from 2013 with data from 2011.

1. 2012 National Survey on Drug Use and Health: Detailed Tables. http://www.samhsa.gov/data/NSDUH/2012SummNatFindDetTables/DetTabs/NSDUH-DetTabsTOC2012.htm
2. University of Michigan, 2009 Monitoring the Future: A Synopsis of the 2009 results of treads in teen use of illicit drugs and alcohol.
3. Results from the 2012 National Survey on Drug Use and Health: Summary of National Findings http://www.samhsa.gov/data/NSDUH/2012SummNatFindDetTables/NationalFindings/NSDUHresults2012.htm#ch2.16

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INTRODUCTION

The following report presents analyses of health risk behaviors for both middle and high school youth in Massachusetts. The report presents comparative descriptive analyses of health risks and health behaviors by sex, race/ethnicity, and grade of middle and high school students. It provides a picture of the current health behaviors of Massachusetts students with the goal of identifying high risk population groups with a particular focus on race/ethnic disparities. It aims to assess the association between certain health behaviors and the demographical structure of student populations. The information obtained in these surveys assist in identifying the need for youth programs, interventions, and health policies.

This report contains findings from the 2013 administration of the middle and high school Massachusetts Youth Health Survey (YHS). In 2013, 57 high schools participated, with 2,801 students completing the YHS high school survey. 87 middle schools participated in 2013, with 3,666 students completing the YHS middle school survey. Surveys were administered in schools between the months of January and May of 2013.

With the cooperation of the Department of Elementary and Secondary Education (ESE), the Massachusetts Department of Public Health (DPH) has been able to conduct the YHS every two years simultaneously with the Massachusetts Youth Risk Behavior Survey (YRBS) since 2007. Prior to 2007, the YRBS and YHS were conducted separately. The YRBS has been conducted in Massachusetts every odd numbered year since 1993. The YHS began at DPH as a survey focused on drug, alcohol, and tobacco use among sixth through twelfth grade students. In 2003, the survey was changed to incorporate more health issues such a diet, mental health, personal safety, and other general health concerns. In 2004, it was named the Massachusetts Youth Health Survey and was conducted by The Center for Survey Research of the University of Massachusetts-Boston (CSR). After 2004, discussions between DPH and ESE began about consolidating the two surveys and starting in 2007, CSR began administering both. Joint reports from ESE and DPH were released on the 2007, 2009, and 2011 findings, and will be released again for 2013.

DEMOGRAPHICS

All respondents were asked to indicate (1) their grade, (2) their age, (3) their gender, (4) if they were Hispanic or Latino and (5) their race, with the option of choosing more than one race. Response options for race included American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander and White. Race categories were subsequently collapsed into White non-Hispanic, Black non-Hispanic, Hispanic, Other non-Hispanic which included American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander and Multiracial non-Hispanic.

Table 1: Demographic Characteristics of Massachusetts Youth, YHS 2013

	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3666	100.0		2801	100.0	
Sex						
Male	1831	51.2	49.5 - 52.8	1322	48.6	45.4 - 51.8
Female	1787	48.8	47.2 - 50.5	1424	51.4	48.2 - 54.6
Grade						
6th grade	1209	33.2	27.0 - 39.4			
7th grade	1280	33.4	27.3 - 39.4			
8th grade	1161	33.5	28.1 - 38.8			
9th grade				731	25.8	20.9 - 30.7
10th grade				752	26.6	20.8 - 32.4
11th grade				702	24.6	18.5 - 30.7
12th grade				607	23.0	17.6 - 28.4
Race/Ethnicity*						
White	2361	67.3	61.3 - 73.2	1844	66.0	57.6 - 74.5
Black	191	8.2	5.0 - 11.4	236	9.0	5.1 – 13.0
Hispanic	529	16.3	11.8 - 20.8	364	13.8	9.3 - 18.3
Other	213	5.2	3.7 - 6.6	178	6.8	3.6 - 10.0
Multiracial	127	3.1	2.4 - 3.7	116	4.4	3.3 - 5.4

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino. The most common Multiracial combinations among middle school students were, White and American Indian or Alaska Natives (28%), White and Asian (21%), and White and Black (24%). The most common combinations among high school students were White and Black (34%), White and American Indian or Alaska Natives (22%), and White and Asian (20%).

Middle School

- The Other category included 45 American Indian or Alaska Natives, 162 Asian, and less than 10 Hawaiian or Pacific Islander students.

High School

- The Other category included 17 American Indian or Alaska Natives, 160 Asian, and less than 5 Hawaiian or Pacific Islander students.

ACADEMIC PERFORMANCE

Adolescents' academic achievement is strongly linked to their health. Health-related factors can lead to poor academic performance. Health-risk behaviors such as early sexual initiation, violence, and physical inactivity have been consistently linked to poor grades.[1] All students were asked to describe their grades in school during the past 12 months. Response options included 'Mostly A's', 'Mostly B's', 'Mostly C's', 'Mostly D's', 'Mostly F's', and 'none of these grades'.

Table 2: Academic Performance Among Massachusetts Youth, YHS 2013

Mostly D's or F's for grades in past year

	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3374	2.7	1.9 - 3.5	2651	5.1	3.6 - 6.6
Sex						
Male	1665	3.5	2.3 - 4.7	1244	6.7	4.8 - 8.7
Female	1672	1.7	1.0 - 2.5	1362	3.6	2.1 - 5.0
Grade						
6th grade	1087	1.9	1.0 - 2.9			
7th grade	1191	2.9	1.8 - 4.0			
8th grade	1087	3.1	1.5 - 4.7			
9th grade				680	6.9	4.1 - 9.8
10th grade				719	6.4	2.9 - 10.0
11th grade				669	3.9	2.1 - 5.7
12th grade				580	2.8	1.3 - 4.4
Race/Ethnicity*						
White	2212	2.0	1.2 - 2.8	1776	3.6	2.4 - 4.9
Black	†			216	6.1	2.9 - 9.3
Hispanic	479	6.1	3.4 - 8.8	332	11.9	7.5 - 16.4
Other	†			†		
Multiracial	†			111	7.6	3.2 - 12.1

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
† Insufficient data

SUBSTANCE ABUSE

ALCOHOL USE

Alcohol use and binge drinking among our nation's youth is a major public health problem. Among youth, the use of alcohol and other drugs has been linked to unintentional injuries, physical fights, academic and occupational problems, and illegal behavior.[2]

A definition of 'drinking alcohol' was provided before the section began: 'The next 7 questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers, hard lemonade, hard cider, and liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes'. All respondents were asked how many days during their lifetime they had at least one drink of alcohol. Any student who reported any lifetime alcohol use was then asked on how many of the past 30 days they had at least one drink of alcohol and on how many of the past 30 days they had at least five drinks of alcohol in a row (to measure binge drinking).

Table 3: Alcohol Use Among Massachusetts Youth, YHS 2013						
Lifetime alcohol use[a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3623	18.6	16.8 - 20.5	2766	62.2	58.9 - 65.6
Sex						
Male	1801	20.2	18.1 - 22.4	1302	62.8	59.1 - 66.5
Female	1780	17.1	14.6 - 19.6	1414	61.7	57.4 - 66.0
Grade						
6th grade	1190	9.8	7.8 - 11.8			
7th grade	1270	15.8	13.6 - 18.0			
8th grade	1151	30.1	26.5 - 33.7			
9th grade				722	44.3	38.6 - 50.0
10th grade				744	58.5	52.1 - 65.0
11th grade				696	70.8	67.0 - 74.6
12th grade				599	77.3	71.5 - 83.1
Race/Ethnicity*						
White	2343	17.4	15.4 - 19.4	1832	63.0	59.7 - 66.3
Black	191	19.6	14.3 - 25.0	226	60.7	52.7 - 68.6
Hispanic	519	25.7	21.4 - 29.9	359	70.5	65.9 - 75.1
Other	212	16.3	10.9 - 21.6	177	38.3	24.0 - 52.7
Multiracial	126	22.0	14.9 - 29.1	116	71.1	62.7 - 79.6

* Students were allowed to indicate multiple race categories. White, Black, Other, and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Lifetime alcohol use was defined as the percent of students who indicated that they had at least one drink of alcohol on one or more days in their life.

Table 4: Alcohol Use Among Massachusetts Youth, YHS 2013						
Current Alcohol Use [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3477	5.7	4.5 - 6.9	2649	33.5	30.6 - 36.4
Sex						
Male	1723	6.2	4.9 - 7.6	1241	34.7	30.9 - 38.4
Female	1714	5.1	3.7 - 6.6	1360	32.6	29.2 - 36.0
Grade						
6th grade	1158	2.3	1.3 - 3.3			
7th grade	1223	4.5	3.0 - 5.9			
8th grade	1084	10.2	7.7 - 12.8			
9th grade				687	19.3	15.9 - 22.6
10th grade				704	30.0	24.5 - 35.5
11th grade				671	39.6	34.8 - 44.4
12th grade				582	46.2	39.5 - 52.9
Race/Ethnicity*						
White	2245	4.7	3.4 - 6.0	1761	34.6	31.3 - 37.9
Black	186	6.9	3.4 - 10.4	208	27.9	20.5 - 35.4
Hispanic	498	10.3	7.2 - 13.4	348	38.2	31.7 - 44.7
Other	†			167	17.0	9.3 - 24.7
Multiracial	†			110	41.7	32.9 - 50.5

* Students were allowed to indicate multiple race categories. White, Black, Other, and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Current alcohol use was defined as the percent of students who reported drinking alcohol in the past 30 days. This was calculated as a percent of all students.
† Insufficient data

Table 5: Alcohol Use Among Massachusetts Youth, YHS 2013						
Current Binge Drinking [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3474	2.1	1.4 - 2.8	2642	18.1	15.9 - 20.3
Sex						
Male	1721	2.4	1.6 - 3.3	1240	20.8	17.8 - 23.9
Female	1713	1.7	1.0 - 2.5	1354	15.6	12.9 - 18.3
Grade						
6th grade	†					
7th grade	1223	2.2	1.2 - 3.2			
8th grade	1082	3.2	1.9 - 4.6			
9th grade				687	8.1	5.5 - 10.7
10th grade				701	15.2	11.1 - 19.2
11th grade				668	21.8	17.7 - 25.9
12th grade				582	28.1	22.5 - 33.6
Race/Ethnicity*						
White	2243	1.2	0.6 - 1.7	1757	20.2	17.8 - 22.5
Black	†			205	7.9	3.6 - 12.1
Hispanic	498	5.8	3.6 - 8.0	348	17.5	12.3 - 22.6
Other	†			†		
Multiracial	†			111	24.9	15.8 - 33.9

* Students were allowed to indicate multiple race categories. White, Black, Other, and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Current binge drinking was defined as the percent of students who reported drinking 5 or more drinks in a row in the past 30 days. This was calculated as a percent of all students.
† Insufficient data

TOBACCO USE

Tobacco use, including cigarette smoking, cigar smoking, and smokeless tobacco use, remains the leading preventable cause of death in the United States. Each day in the United States, approximately 3,600 young people between the ages of 12 and 17 years initiate cigarette smoking, and an estimated 1,100 young people become daily cigarette smokers.[3]

All respondents were asked if they had ever tried smoking cigarettes, even one or two puffs. All respondents were then asked about how many cigarettes they smoked in their entire life. Any student who answered that they smoked part of a cigarette or one or more whole cigarettes was then asked how many days they smoked cigarettes during the past 30 days (used to measure current smoking). All respondents were also asked if they had ever used chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen, which was used to calculate lifetime smokeless tobacco use.

Table 6: Tobacco Use Among Massachusetts Youth, YHS 2013						
Lifetime cigarette smoking [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3538	8.5	6.8 - 10.2	2745	27.0	23.3 - 30.8
Sex						
Male	1758	8.9	7.0 - 10.7	1292	30.1	26.1 - 34.1
Female	1739	8.1	6.0 - 10.2	1405	24.2	19.5 - 28.8
Grade						
6th grade	1161	2.9	1.8 - 3.9			
7th grade	1235	8.2	6.0 - 10.4			
8th grade	1131	14.0	10.8 - 17.2			
9th grade				710	20.8	15.6 - 26.1
10th grade				737	24.8	18.9 - 30.7
11th grade				691	28.5	22.0 - 35.1
12th grade				603	34.6	27.2 - 41.9
Race/Ethnicity*						
White	2307	7.0	5.4 - 8.6	1831	26.9	22.4 - 31.4
Black	179	10.3	4.5 - 16.1	221	24.8	17.4 - 32.2
Hispanic	496	15.8	11.7 - 20.0	351	31.6	25.0 - 38.1
Other	†			175	14.2	5.9 - 22.5
Multiracial	123	10.7	5.2 - 16.1	115	43.8	34.1 - 53.5

* Students were allowed to indicate multiple race categories. White, Black, Other, and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Lifetime cigarette smoking was defined as the percent of students who answered they had ever tried smoking a cigarette, even one or two puffs, in their lifetime.
† Insufficient data.

Table 7: Tobacco Use Among Massachusetts Youth, YHS 2013						
Current cigarette smoking [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3537	2.7	1.9 - 3.5	2741	9.4	7.6 - 11.1
Sex						
Male	1757	3.5	2.4 - 4.6	1289	11.1	8.9 - 13.4
Female	1739	1.9	1.1 - 2.7	1404	7.5	5.3 - 9.7
Grade						
6th grade	1162	1.1	0.6 - 1.7			
7th grade	1235	2.1	1.1 - 3.1			
8th grade	1129	4.8	3.0 - 6.6			
9th grade				710	6.0	4.0 - 7.9
10th grade				737	8.7	5.6 - 11.9
11th grade				689	10.9	7.5 - 14.2
12th grade				601	12.0	7.8 - 16.2
Race/Ethnicity*						
White	2306	1.9	1.2 - 2.7	1829	10.3	8.3 - 12.2
Black	†			†		
Hispanic	495	6.6	4.2 - 9.1	351	10.1	6.0 - 14.1
Other	†			†		
Multiracial	†			114	14.1	7.1 - 21.1

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Current cigarette smoking was defined as the percent of students who answered that they had smoked cigarettes on 1 or more of the past 30 days. This was calculated as a percent of all students.
† Insufficient data.

Table 8: Tobacco Use Among Massachusetts Youth, YHS 2013						
Lifetime smokeless tobacco [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3488	1.8	1.3 - 2.4	2728	9.0	6.8 - 11.2
Sex						
Male	1724	2.5	1.6 - 3.4	1280	16.2	11.9 - 20.5
Female	1724	1.2	0.6 - 1.8	1399	2.2	1.4 - 3.0
Grade						
6th grade	†					
7th grade	1216	1.6	0.8 - 2.4			
8th grade	1119	2.9	1.7 - 4.2			
9th grade				705	3.5	1.9 - 5.2
10th grade				734	8.4	4.8 - 12.0
11th grade				684	12.1	7.2 - 16.9
12th grade				600	12.2	8.2 - 16.3
Race/Ethnicity*						
White	2288	1.4	0.9 - 1.9	1821	11.5	8.8 - 14.3
Black	†			†		
Hispanic	485	4.6	2.5 - 6.6	†		
Other	†			†		
Multiracial	†			†		

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Lifetime smokeless tobacco was defined as the percent of students who reported using chewing tobacco, snuff, or dip in their lifetime.
† Insufficient data.

DRUG USE

Marijuana is the most commonly used illegal drug among youth in the United States. While illicit drug use among youth has declined in recent years, rates of nonmedical use of prescription and over-the-counter medication remain high. Prescription medications most commonly abused by youth include pain relievers, tranquilizers, stimulants, and depressants.[2]

All respondents were asked questions about their lifetime use of nine different categories of drugs, including marijuana, inhalants, heroin, cocaine, amphetamines and methamphetamines, ecstasy, over-the-counter drugs, and prescription drugs that weren't their own. Those respondents that answered 'Yes' to lifetime use for a drug were then asked if they had used that drug in the past 30 days.

All respondents were additionally asked about their lifetime nonmedical use of specific prescription drugs, including narcotics, Ritalin, and steroids. All respondents were asked if they had ever taken any of those same prescription drugs nonmedically within the past 30 days.

Please note that questions regarding cocaine use and nonmedical use of prescription drugs differed slightly from questions asked in 2011.

Table 9: Marijuana Use Among Massachusetts Youth, YHS 2013						
Current Marijuana Use [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3501	3.4	2.7 - 4.1	2740	24.0	21.2 - 26.8
Sex						
Male	1750	4.7	3.4 - 5.9	1292	29.4	25.7 - 33.1
Female	1709	2.1	1.4 - 2.8	1400	18.6	15.9 - 21.3
Grade						
6th grade	†					
7th grade	1227	2.5	1.6 - 3.5			
8th grade	1126	6.5	4.7 - 8.3			
9th grade				710	16.1	11.5 - 20.7
10th grade				737	19.8	15.2 - 24.5
11th grade				688	30.2	25.0 - 35.5
12th grade				600	30.5	25.1 - 36.0
Race/Ethnicity*						
White	2276	2.9	2.1 - 3.8	1821	24.3	21.4 - 27.3
Black	†			226	25.4	18.3 - 32.4
Hispanic	497	6.8	4.8 - 8.9	354	27.3	20.6 - 34.0
Other	†			†		
Multiracial	†			113	32.0	24.5 - 39.5

* Students were allowed to indicate multiple race categories. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.

(a) Current marijuana use was defined as the percent of respondents who reported using marijuana in the past 30 days. This was calculated as a percent of all students.

† Insufficient data

Table 10: Lifetime Drug Use Among Massachusetts Youth, YHS 2013				
	Middle School		*High School*	
	%	95% CI	%	95% CI
Lifetime drug use [a, b]	11.6	9.7 - 13.4	42.5	38.4 - 46.7
Marijuana	7.6	6.2 – 9.0	40.3	36.5 – 44.2
Inhalants	4.8	3.7 – 5.8	3.8	3.0 – 4.7
Heroin	0.9	0.5 – 1.2	0.8	0.4 – 1.1
Cocaine [c]	1.0	0.6 – 1.3	2.9	2.2 – 3.7
Amphetamines/Methamphetamines	0.9	0.5 – 1.2	2.5	1.8 – 3.2
Ecstasy	0.9	0.6 – 1.3	4.6	3.7 – 5.6
Over-the-counter medication to get high	1.2	0.8 – 1.5	5.1	4.1 – 6.1

(a) Includes use of one or more of the following drugs: marijuana, inhalants, heroin, cocaine, amphetamines/methamphetamines, ecstasy, or over-the-counter medication.
(b) To be considered as 'not using any drugs' respondents had to answer 'No' to every respective drug question. Respondents who answered 'No' to most drug questions but had 'missing' responses for other questions were excluded from the analysis.
(c) Question different from 2011

Table 11: Lifetime Prescription Drug Use Among Massachusetts Youth, YHS 2013				
	Middle School		*High School*	
	%	95% CI	%	95% CI
Lifetime nonmedical prescription drug use [a, b, c]	3.9	3.2 – 4.7	13.4	11.9 – 14.9
Narcotics	1.3	0.8 – 1.7	5.5	4.4 – 6.6
Ritalin or Adderall	0.8	0.5 – 1.1	5.9	4.7 – 7.1
Steroids	0.6	0.4 – 0.9	0.9	0.5 – 1.2
Other prescription drugs	2.9	2.3 – 3.5	7.5	6.2 – 8.7

(a) Questions different from 2011
(b) Lifetime nonmedical prescription drug use included use of prescription drugs that were not their own, narcotics, Ritalin or Adderall, steroids, or any other prescription drugs.
(c) To be considered as 'not using any nonmedical prescription drugs in their lifetime' respondents had to answer 'No' to every respective drug question. Respondents who answered 'No' to most drug questions but had 'missing' responses for other questions were excluded from the analysis.

GAMBLING

The nationwide prevalence rate of adolescents aged 14-21 who have gambled in the past year is about 70%, and the prevalence rate of pathological gambling in the adolescent population is even higher than the rate in the adult population (0.4% vs. 0.17%).[4 5] This high prevalence creates a significant threat to public health, especially in the youth and adolescent population. Gambling in youth and adolescents is accompanied by negative health consequences, and is specifically correlated with risky behaviors such as tobacco use, alcohol abuse, drug abuse, and depression.[6 7 8]

All respondents were asked how they had gambled and how frequently they had gambled in the past 12 months, with the categories being (1) lottery or scratch tickets (2) at a casino and (3) betting on sports events, games of skill, dice, horse or other animal races, video poker, playing cards or bingo for money or gambling on the internet. The frequency intervals were 0 times, 1-5 times, 6-10 times, and more than 10 times.

Table 12: Gambling Among Massachusetts Youth, YHS 2013						
Gambled one or more times in the past 12 months [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3540	46.3	44.4 - 48.3	2740	49.9	46.9 - 53.0
Sex						
Male	1760	50.6	48.1 - 53.2	1285	55.3	51.4 - 59.3
Female	1739	41.7	39.2 - 44.3	1406	44.8	40.7 - 48.9
Grade						
6th grade	1152	40.4	37.0 - 43.7			
7th grade	1245	47.6	44.9 - 50.4			
8th grade	1133	50.7	47.0 - 54.4			
9th grade				710	47.2	42.9 - 51.5
10th grade				734	46.9	42.2 - 51.7
11th grade				690	50.0	44.7 - 55.3
12th grade				601	55.9	49.9 - 61.9
Race/Ethnicity*						
White	2321	48.3	46.0 - 50.6	1824	53.7	50.6 - 56.8
Black	178	33.5	28.0 - 39.0	222	32.2	24.4 - 40.0
Hispanic	491	48.4	43.9 - 52.8	353	48.4	42.2 - 54.6
Other	204	36.5	27.5 - 45.4	175	38.4	29.6 - 47.2
Multiracial	124	50.8	42.0 - 59.6	114	50.1	40.6 - 59.5

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Gambling in the past 12 months was defined as the percent of students who reported playing lottery or scratch tickets, gambling at a casino, or betting on sports events, games of skill, dice, horse or other animal races, video poker, playing cards or bingo for money or gambling on the internet

NUTRITION, PHYSICAL ACTIVITY AND WEIGHT

DIETARY BEHAVIORS

Healthy eating in childhood and adolescence is important for proper growth and development and can prevent health problems such as obesity, dental caries, and iron deficiency. Most youth in the United States do not meet the recommendations for eating 2 ½ cups to 6 ½ cups of fruits and vegetables each day. In addition, most adolescents drink more full-calorie soda per day than milk.[9]

All respondents were asked to indicate (1) how many times they ate vegetables on the previous day (2) how many times they ate fruit or drank 100% fruit juice on the previous day (3) how many cans or glasses of non-diet soda they drank on the previous day and (4) how many cans or glasses of sugar-sweetened flavored drinks they drank on the previous day. The definition of vegetables was provided as 'all cooked and uncooked vegetables; salads; and boiled, baked and mashed potatoes'. They were asked to not count 'French fries, potato chips, or lettuce that is on a sandwich or sub'. The definition of non-diet soda was provided as 'a soda with sugar in it, such as Coke, Pepsi, Sprite, ginger ale, or root beer'. The definition of a sugar-sweetened flavored drink was provided as 'punch, sports drinks, sweetened ice tea, flavored milk, and other fruit-flavored drinks like Kool Aid and Hawaiian Punch' and 'do not count 100% fruit juice'. Both beverage questions specified that a 20-ounce bottle should be counted as 2 glasses. Response options for the vegetable and fruit questions only went up to '3 or more times'.

Table 13: Fruit and Vegetable Consumption Among Massachusetts Youth, YHS 2013						
3 or more servings of fruits or vegetables on the previous day [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3614	67.5	65.5 - 69.6	2779	57.8	54.8 - 60.8
Sex						
Male	1803	66.1	63.6 - 68.7	1314	55.8	52.3 - 59.3
Female	1770	69.0	66.0 - 71.9	1419	59.9	56.1 - 63.7
Grade						
6th grade	1193	71.3	67.9 - 74.7			
7th grade	1265	68.3	65.1 - 71.5			
8th grade	1145	63.0	59.4 - 66.7			
9th grade				725	57.8	53.3 - 62.4
10th grade				747	58.5	54.8 - 62.1
11th grade				699	60.0	54.4 - 65.7
12th grade				605	54.8	48.5 - 61.2
Race/Ethnicity*						
White	2339	67.3	65.1 - 69.6	1837	60.7	57.6 - 63.9
Black	190	64.2	55.9 - 72.4	233	47.5	39.6 - 55.4
Hispanic	519	64.3	60.7 - 68.0	363	50.7	44.7 - 56.6
Other	210	81.8	75.7 - 87.9	178	61.2	52.3 - 70.1
Multiracial	125	69.9	61.1 - 78.8	114	52.9	41.7 - 64.1

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) 3 or more servings of fruits or vegetables were defined as the percent of students who had a combined total of 3 or more fruits or vegetables consumed on the previous day.

Table 14: Sugar-Sweetened Beverage Consumption Among Massachusetts Youth, YHS 2013						
3 or more sugar-sweetened beverages on the previous day [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3608	16.9	14.9 - 19.0	2767	16.6	13.8 - 19.3
Sex						
Male	1800	19.2	16.8 - 21.6	1309	23.2	19.6 - 26.7
Female	1766	14.2	11.9 - 16.5	1413	10.4	8.0 - 12.9
Grade						
6th grade	1191	17.0	13.7 - 20.4			
7th grade	1263	16.4	13.5 - 19.3			
8th grade	1144	17.3	14.3 - 20.3			
9th grade				725	18.0	13.4 - 22.6
10th grade				746	16.0	11.7 - 20.3
11th grade				690	15.2	11.1 - 19.3
12th grade				604	17.0	12.8 - 21.1
Race/Ethnicity*						
White	2326	14.5	12.3 - 16.8	1836	13.5	11.0 - 16.1
Black	188	24.2	17.4 - 31.0	231	27.0	19.8 - 34.2
Hispanic	523	25.5	22.1 - 29.0	361	25.0	19.2 - 30.8
Other	213	10.1	6.0 - 14.3	178	12.1	6.6 - 17.6
Multiracial	124	19.0	12.0 - 26.1	112	23.5	15.1 - 31.9

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) 3 or more sugar-sweetened beverages were defined as the percent of students who had a combined total of 3 or more non-diet sodas or sugar-sweetened flavored drinks on the previous day.

PHYSICAL ACTIVITY

Regular physical activity in childhood and adolescence improves strength and endurance, helps build healthy bones and muscles, helps control weight, reduces anxiety and stress, and increases self-esteem. In 2009, only 18% of high school students in the United States reported participating in at least 60 minutes per day of physical activity.[10]

All respondents were asked to indicate on how many of the past 7 days they were physically active for a total of at least 60 minutes per day (adding up all the time spent in any kind of physical activity that increased their heart rate and made them breathe hard some of the time).

Students that answered '7 days' to this question were considered to have met the new 2008 Physical Activity Guidelines for Americans recommendation of '60 minutes or more of physical activity each day' for children.[11]

Student were asked how many hours they watched TV on an average school day and on an average weekend day, with response options ranging from 'I do not watch TV' to '5 or more hours per day'. Students were also asked how many hours they played video or computer games or used a computer for something that was not school work, on both school days and weekend days with the same response options. The responses to the TV and video games questions were combined to examine overall screen time.

Table 15: Physical Activity Among Massachusetts Youth, YHS 2013						
Physically active for at least 60 minutes 7 days in the last week [a]						
	Middle School			**High School**		
	N	%	95% CI	N	%	95% CI
Overall	3592	22.6	21.0 - 24.3	2773	20.7	18.4 - 23.0
Sex						
Male	1795	26.8	24.4 - 29.3	1312	29.1	26.0 - 32.3
Female	1755	18.0	16.1 - 20.0	1415	12.5	10.2 - 14.7
Grade						
6th grade	1174	21.2	17.8 - 24.6			
7th grade	1263	23.5	21.3 - 25.8			
8th grade	1146	23.1	19.9 - 26.2			
9th grade				721	22.2	17.9 - 26.5
10th grade				749	20.4	17.1 - 23.7
11th grade				698	22.3	17.8 - 26.8
12th grade				603	17.6	13.3 - 21.8
Race/Ethnicity*						
White	2331	24.0	21.7 - 26.2	1836	23.8	20.9 - 26.6
Black	188	20.1	13.9 - 26.4	230	16.6	12.0 - 21.2
Hispanic	509	20.9	16.9 - 25.0	362	14.8	10.5 - 19.0
Other	209	15.7	11.0 - 20.3	178	7.6	3.9 - 11.2
Multiracial	125	26.1	18.8 - 33.5	116	21.7	11.7 - 31.8

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) 'Physically active' was defined in the question as '…time you spent in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time'.

Table 16: Screen Time Among Massachusetts Youth, YHS 2013						
3 or more hours of screen time on an average school day [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3666	61.0	57.9 - 64.1	2801	66.9	63.9 - 69.9
Sex						
Male	1831	62.1	58.7 - 65.6	1322	67.7	64.2 - 71.1
Female	1787	60.0	56.4 - 63.5	1424	66.9	63.2 - 70.5
Grade						
6th grade	1209	53.9	48.6 - 59.3			
7th grade	1280	61.7	57.0 - 66.5			
8th grade	1161	67.6	64.3 - 70.8			
9th grade				731	67.5	62.0 - 73.1
10th grade				752	67.2	62.2 - 72.1
11th grade				702	64.3	59.4 - 69.1
12th grade				607	69.5	64.5 - 74.5
Race/Ethnicity*						
White	2361	57.9	54.6 - 61.3	1844	64.3	60.8 - 67.8
Black	191	70.6	64.9 - 76.2	236	76.1	70.5 - 81.7
Hispanic	529	73.6	69.6 - 77.6	364	72.4	67.3 - 77.6
Other	213	56.7	48.5 - 64.9	178	72.0	61.6 - 82.5
Multiracial	127	63.1	53.6 - 72.7	116	66.8	57.6 - 76.1

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) 3 or more hours of screen time was defined as the percent of students who had a combined total of 3 or more hours of TV watching, video games, or non-academic computer use on an average school day.

WEIGHT AND WEIGHT CONTROL

Childhood obesity has more than tripled in the past 30 years. In 2008, more than one third of children and adolescents were overweight or obese. Obese youth are more likely to have risk factors for cardiovascular disease, pre-diabetes, and are at greater risk for social and psychological problems such as stigmatization and poor self-esteem.[12]

All respondents were asked to indicate how tall they were and how much they weighed without their shoes on. Body Mass Index (BMI) was calculated using 'A SAS Program for the CDC Growth Charts' provided by the Centers for Disease Control and Prevention (CDC) which additionally provided the percentile for BMI adjusted for age and sex.[13] Biologically implausible value edits were conducted to exclude outliers for height, weight, and BMI. Biologically implausible values were excluded from the analysis as well as the respective BMI percentiles.

Overweight was defined as having a BMI percentile for age and sex greater than or equal to 85 but less than 95. Obese was defined as having a BMI percentile for age and sex greater than or equal to 95. Normal weight was defined as a BMI percentile for age and sex greater than or equal to 5 but less than 85.

Table 17: Overweight Among Massachusetts Youth, YHS 2013						
Overweight [a]						
	Middle School			**High School**		
	N	%	95% CI	N	%	95% CI
Overall	2859	12.8	11.5 - 14.1	2491	13.3	11.9 - 14.7
Sex						
Male	1467	14.4	12.5 - 16.3	1216	14.2	12.1 - 16.3
Female	1392	11.1	9.2 - 13.1	1275	12.4	10.5 - 14.2
Grade						
6th grade	859	12.7	10.2 - 15.2			
7th grade	1020	11.8	9.9 - 13.8			
8th grade	978	13.8	11.7 - 15.8			
9th grade				627	13.7	11.0 - 16.3
10th grade				695	12.9	10.2 - 15.6
11th grade				625	13.6	11.0 - 16.2
12th grade				543	13.0	10.1 - 15.9
Race/Ethnicity*						
White	1958	11.7	10.2 - 13.2	1684	12.5	10.8 - 14.1
Black	134	14.4	9.4 - 19.3	203	20.5	15.7 - 25.3
Hispanic	363	18.4	14.7 - 22.1	294	12.4	8.8 - 16.1
Other	166	11.4	5.5 - 17.2	164	9.3	5.3 - 13.2
Multiracial	99	15.3	8.2 - 22.4	109	19.8	11.7 - 28.0

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Overweight was defined as having a BMI percentile greater than or equal to 85 but less than 95 for age and sex.

Table 18: Obesity Among Massachusetts Youth, YHS 2013						
Obese [a]						
	Middle School			**High School**		
	N	%	95% CI	N	%	95% CI
Overall	2859	8.9	7.4 - 10.4	2491	9.7	7.9 - 11.4
Sex						
Male	1467	10.6	8.8 - 12.4	1216	12.0	9.9 - 14.1
Female	1392	7.1	5.1 - 9.0	1275	7.4	5.5 - 9.2
Grade						
6th grade	859	8.4	6.0 - 10.7			
7th grade	1020	11.1	8.7 - 13.5			
8th grade	978	7.3	5.3 - 9.3			
9th grade				627	11.5	8.3 - 14.7
10th grade				695	9.8	6.3 - 13.2
11th grade				625	8.5	6.0 - 11.0
12th grade				543	8.6	5.8 - 11.4
Race/Ethnicity*						
White	1958	7.3	5.8 - 8.7	1684	8.5	6.8 - 10.2
Black	134	16.9	11.4 - 22.3	203	14.0	9.6 - 18.4
Hispanic	363	13.7	9.9 - 17.6	294	16.8	12.8 - 20.7
Other	†			†		
Multiracial	†			†		

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Obese was defined as a BMI percentile greater than or equal to 95 for age and sex.
† Insufficient data

ORAL HEALTH

Tooth decay (dental caries) affects children in the United States more than any other chronic infectious disease. Untreated tooth decay causes pain and infections that may lead to problems eating, speaking, playing, and learning.[14]

All respondents were asked if (1) they had been examined by a dentist in the past 12 months and if (2) they had a cavity in any tooth in the past 12 months.

Table 19: Oral Health Among Massachusetts Youth, YHS 2013						
Examined by a dentist or dental hygienist in the past 12 months						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3295	91.1	89.6 - 92.5	2696	89.7	87.8 - 91.7
Sex						
Male	1630	90.7	89.0 - 92.5	1263	88.9	86.4 - 91.4
Female	1626	91.6	89.9 - 93.4	1387	90.7	88.5 - 92.8
Grade						
6th grade	1034	88.9	86.3 - 91.5			
7th grade	1158	91.4	89.5 - 93.2			
8th grade	1093	92.8	90.7 - 95.0			
9th grade				687	92.5	89.8 - 95.2
10th grade				736	91.9	89.5 - 94.2
11th grade				677	89.3	86.3 - 92.3
12th grade				592	84.8	80.5 - 89.1
Race/Ethnicity*						
White	2194	93.3	92.1 - 94.5	1809	93.2	91.8 - 94.6
Black	161	86.0	79.5 - 92.4	217	74.3	68.8 - 79.8
Hispanic	433	84.5	81.3 - 87.7	339	83.4	79.1 - 87.8
Other	191	90.5	86.4 - 94.7	167	90.6	87.0 - 94.3
Multiracial	122	90.9	84.8 - 97.0	114	87.6	82.2 - 93.1

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.

Table 20: Oral Health Among Massachusetts Youth, YHS 2013						
Had a cavity in the past year						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3222	26.9	24.9 - 28.9	2572	29.6	27.4 - 31.9
Sex						
Male	1605	26.0	23.8 - 28.2	1219	26.3	23.6 - 29.1
Female	1580	27.7	24.6 - 30.7	1308	32.9	29.5 - 36.2
Grade						
6th grade	1049	28.8	25.4 - 32.1			
7th grade	1108	25.3	22.3 - 28.3			
8th grade	1054	26.4	23.2 - 29.6			
9th grade				670	25.8	20.4 - 31.2
10th grade				690	29.1	25.7 - 32.5
11th grade				652	30.4	26.9 - 34.0
12th grade				556	33.5	28.9 - 38.0
Race/Ethnicity*						
White	2133	24.0	22.2 - 25.8	1732	26.9	24.9 - 29.0
Black	172	34.3	27.1 - 41.6	205	35.0	28.8 - 41.2
Hispanic	427	35.9	30.4 - 41.4	320	33.0	26.8 - 39.3
Other	175	25.2	18.7 - 31.8	155	35.2	26.3 - 44.1
Multiracial	114	23.9	16.6 - 31.1	110	38.2	27.8 - 48.7

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.

CHRONIC CONDITIONS

Asthma is a leading chronic illness among children and youth in the United States and is one of the leading causes of school absenteeism. Low-income populations, minorities, and children living in inner cities experience more emergency department visits, hospitalizations, and deaths due to asthma than the general population.[15]

Diabetes is one of the most common chronic diseases among children in the United States. Reports of increasing frequency of both type 1 and type 2 diabetes in youth has been among the most concerning aspects of the evolving diabetes epidemic.[16]

All respondents were asked if they were ever told by a doctor, nurse, or other health care professional that they had asthma or diabetes. Students with lifetime asthma were asked if they still had asthma.

Table 21: Asthma Among Massachusetts Youth, YHS 2013						
Ever told by a doctor that they had asthma						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3274	22.8	21.0 - 24.6	2634	24.9	23.1 - 26.7
Sex						
Male	1619	24.3	21.6 - 27.0	1236	23.5	21.1 - 25.8
Female	1615	21.4	19.5 - 23.4	1351	25.8	23.5 - 28.0
Grade						
6th grade	1047	21.4	18.3 - 24.6			
7th grade	1162	23.2	20.6 - 25.8			
8th grade	1056	23.6	20.5 - 26.7			
9th grade				669	22.1	18.7 - 25.5
10th grade				711	25.0	21.3 - 28.7
11th grade				666	28.5	25.0 - 32.0
12th grade				583	24.0	20.8 - 27.3
Race/Ethnicity*						
White	2166	21.1	19.2 - 23.1	1775	23.0	21.1 - 25.0
Black	164	23.9	18.9 - 29.0	207	28.1	21.9 - 34.3
Hispanic	453	30.6	25.9 - 35.4	333	31.3	26.9 - 35.7
Other	184	22.7	16.4 - 28.9	163	22.9	15.9 - 29.9
Multiracial	115	31.0	21.1 - 40.9	106	30.7	22.6 - 38.9

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.

Table 22: Asthma Among Massachusetts Youth, YHS 2013						
Current asthma [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3368	13.9	12.4 - 15.4	2586	14.0	12.5 - 15.4
Sex						
Male	1661	14.8	12.6 - 17.1	1207	11.6	9.8 - 13.4
Female	1665	13.0	11.5 - 14.6	1333	15.9	14.0 - 17.8
Grade						
6th grade	1097	13.1	10.7 - 15.5			
7th grade	1182	14.8	12.7 - 16.9			
8th grade	1078	13.7	11.0 - 16.3			
9th grade				673	12.9	10.4 - 15.3
10th grade				695	13.8	10.8 - 16.8
11th grade				643	15.2	12.4 - 18.1
12th grade				570	14.0	11.1 - 17.0
Race/Ethnicity*						
White	2213	13.4	11.7 - 15.0	1752	13.5	11.8 - 15.2
Black	167	15.1	10.3 - 19.8	203	17.5	12.6 - 22.4
Hispanic	465	17.0	13.1 - 21.0	323	16.5	12.6 - 20.5
Other	197	12.9	6.9 - 18.8	157	8.3	4.4 - 12.3
Multiracial	117	17.3	9.9 - 24.6	101	14.9	8.4 - 21.4

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Current asthma was defined as the percent of students who reported still having asthma after being told by a doctor that they had asthma in their lifetime. This was calculated as the percent of all students.

Table 23: Diabetes Among Massachusetts Youth, YHS 2013						
Ever told by doctor that they had diabetes						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3443	1.0	0.5 - 1.5	2733	1.3	0.8 - 1.7
Sex						
Male	†			†		
Female	1702	1.3	0.6 - 1.9	1400	1.7	1.0 - 2.5
Grade						
6th grade	†					
7th grade	†					
8th grade	†					
9th grade				†		
10th grade				†		
11th grade				†		
12th grade				†		
Race/Ethnicity*						
White	2275	0.9	0.4 - 1.3	1827	1.1	0.6 - 1.5
Black	†			†		
Hispanic	†			†		
Other	†			†		
Multiracial	†			†		

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
† Insufficient data

PERSONAL SAFETY

Injuries account for about two-thirds (67%) of all deaths to children and adolescents aged 5-19 years. Many injuries are preventable. Injuries, such as concussions, also require proper follow-up.

Motor vehicle crashes and their prevention are particularly important for youth. Among children and adolescents aged 5 to 19 years, 68% of unintentional injury deaths are due to motor vehicle crashes.[17]

Concussions and appropriate follow-up are also of increasing concern. During the last decade, at the national level, emergency department (ED) visits for sports- and recreation-related traumatic brain injuries (TBIs), including concussions, among children and adolescents increased by 60%. The activities associated with the greatest number of TBI-related ED visits include bicycling, football, playground activities, basketball, and soccer.[18] Effective July 2010, the Massachusetts concussion law requires the following: (1) coaches, trainers, parents, and other adults involved with school activities to participate in annual concussion training; (2) the removal of any athlete suspected of having a concussion from practice/game; and (3) not allowing those athletes to return to practice/game until being evaluated by a licensed physician.[19]

All **Middle School students** were asked how often they wore a seatbelt when riding in a car driven by someone else.

All **High School students** were asked if they ever read or send text messages while driving a car.

High school students who reported drinking alcohol or smoking marijuana in their lifetime were asked how many times they drove a car when they had been drinking alcohol or smoking marijuana in the past 30 days.

All respondents were asked if they suffered a blow or jolt to their head while playing on a sports team in the past year (either during a game or during practice) which caused them to get 'knocked out', have memory problems, double or blurry vision, headaches or 'pressure' in the head, or nausea or vomiting (i.e. symptoms of a possible traumatic brain injury or concussion). If respondents did suffer a blow to the head, they were asked whether they (1) Stopped playing sports that day and got checked out by a health care provider, (2) Stopped playing sports that day but did not get checked out by a health care provider or (3) Continued playing sports that day.

Table 24: Motor Vehicle Safety Among Massachusetts Middle School Students, YHS 2013			
Never / rarely wore a seatbelt [a]			
	Middle School		
	N	%	95% CI
Overall	3628	6.5	5.2 - 7.9
Sex			
Male	1812	7.5	6.0 - 9.0
Female	1774	5.6	3.8 - 7.4
Grade			
6th grade	1196	5.1	3.5 - 6.7
7th grade	1269	6.8	4.6 - 9.0
8th grade	1151	7.6	5.6 - 9.5
Race/Ethnicity*			
White	2345	4.2	3.2 - 5.1
Black	190	10.8	6.0 - 15.7
Hispanic	519	14.3	10.8 - 17.9
Other	213	9.0	4.5 - 13.5
Multiracial	†		

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Question refers to times when riding in a car driven by someone else.
† Insufficient data

Table 25: Motor Vehicle Safety Among Massachusetts High School Students, YHS 2013						
	Driving after drinking alcohol in past 30 days [a]			***Driving after smoking marijuana in past 30 days*** [b]		
	N	%	95% CI	N	%	95% CI
Overall	864	9.1	7.1 - 11.2	646	34.8	31.0 - 38.7
Sex						
Male	421	10.0	7.3 - 12.7	345	42.4	36.8 - 48.0
Female	423	7.5	4.9 - 10.0	285	24.3	19.1 - 29.4
Grade						
9th grade	†			†		
10th grade	†			95	27.4	18.1 - 36.6
11th grade	329	8.8	5.6 - 12.0	240	32.8	26.4 - 39.3
12th grade	355	10.1	6.4 - 13.7	269	38.8	32.0 - 45.5
Race/Ethnicity*						
White	656	8.9	6.4 - 11.4	477	37.3	32.7 - 41.8
Black	†			†		
Hispanic	96	15.2	8.7 - 21.7	80	27.3	17.4 - 37.2
Other	†			†		
Multiracial	†			†		

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Driving after drinking was calculated from the respondents who reported that they had used alcohol in their lifetime and who also drive a car.
(b) Driving after smoking marijuana was calculated as a percent among those respondents who reported using marijuana in their lifetime and who also drive a car.
† Insufficient data.

Table 26: Motor Vehicle Safety Among Massachusetts High School Students, YHS 2013			
Read or Send Text Message While Driving [a b]			
	High School		
	N	%	95% CI
Overall	1236	40.3	36.4 - 44.1
Sex			
Male	597	41.1	36.5 - 45.7
Female	614	39.3	33.5 - 45.1
Grade			
9th grade	†		
10th grade	232	11.2	6.6 - 15.7
11th grade	474	38.6	33.1 - 44.0
12th grade	457	57.5	51.6 - 63.4
Race/Ethnicity*			
White	933	41.8	38.0 - 45.7
Black	61	28.0	20.7 - 35.4
Hispanic	128	38.5	27.1 - 49.9
Other	†		
Multiracial	†		

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Texting while driving was calculated as a percent among those respondents who reported that they drive a car.
(b) Question different from 2011.
† Insufficient data.

Table 27: Sports-Related Safety Among Massachusetts Youth, YHS 2013						
Experienced symptoms of a sports-related Traumatic Brain Injury [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	2980	19.9	18.3 - 21.5	2140	15.7	13.7 - 17.7
Sex						
Male	1515	24.4	22.2 - 26.5	1041	18.6	15.6 - 21.5
Female	1431	14.7	12.9 - 16.4	1062	12.9	10.9 - 15.0
Grade						
6th grade	986	16.4	13.8 - 19.0			
7th grade	1038	22.2	19.4 - 25.0			
8th grade	946	20.7	18.0 - 23.4			
9th grade				580	15.7	12.4 - 19.0
10th grade				576	16.8	14.1 - 19.5
11th grade				532	14.7	11.1 - 18.3
12th grade				448	15.2	11.1 - 19.3
Race/Ethnicity*						
White	1981	20.5	18.6 - 22.4	1423	16.9	14.7 - 19.1
Black	150	17.0	9.8 - 24.2	184	13.5	9.1 - 17.9
Hispanic	389	20.8	16.6 - 25.1	270	13.3	7.3 - 19.3
Other	160	19.0	12.8 - 25.2	†		
Multiracial	107	22.2	12.3 - 32.2	91	22.0	13.2 - 30.8

* Students were allowed to indicate multiple race categories. White, Black, Other, and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Symptoms of a sports-related TBI were calculated as the percent of those who played on a sports team in the last 12 months.

Table 28: Follow-up to Sports-Related TBI Among Massachusetts Youth [a], YHS 2013						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Stopped playing sports that day, and also got checked by a doctor, nurse or health care provider	581	34.9	30.8- 39.0	331	34.5	29.3- 39.8
Stopped playing sports that day, but did NOT get checked by a doctor, nurse or health care provider		18.1	15.2- 21.1		16.4	12.0- 20.8
Continued playing sports that day		47.0	42.5- 51.4		49.1	43.9- 54.2
(a) Calculated as a percent among students who reported experiencing symptoms of a TBI while playing on a sports team in the past year.						

VIOLENCE-RELATED BEHAVIORS AND EXPERIENCES

Violent injury and death disproportionately affect adolescents and young adults in the United States. It has been estimated that 1 in 5 U.S. children experience some form of child maltreatment, with 9% of those being victims of physical abuse.[20] Increasing numbers of teens and pre-teens are becoming victims of electronic aggression (or cyber-bullying), with research suggesting that youth who are victimized electronically are also very likely to be victimized off-line (i.e., sexually harassed, psychological or emotional abuse by a caregiver, witnessing an assault with a weapon, and being raped).[21]

All respondents were asked if they had been electronically bullied during the past year, which included being bullied through e-mail, chat rooms, instant messaging, web sites, or texting. All respondents were also asked how many times they had been bullied at school in the past 12 months and if they had ever been hurt physically by a date or someone they were going out with. All respondents were asked if they had initiated in-school bullying or cyber-bullying; those who responded 'yes' to either question were considered to have initiated bullying.

All **Middle School students** were asked if they were physically hurt by someone in their family.

All **High School students** were asked if anyone ever had sexual contact with them against their will and if they had ever initiated sexual contact with someone in the past 12 months who objected or told them 'No' or had initiated sex with someone because they were drunk, high, passed out, or asleep.

Table 29: Bullying Among Massachusetts Youth, YHS 2013						
Victims of bullying in school [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3617	36.3	34.2 - 38.3	2777	24.5	22.3 - 26.8
Sex						
Male	1808	30.4	27.8 - 32.9	1312	19.0	16.5 - 21.4
Female	1767	42.5	39.7 - 45.2	1416	29.2	26.0 - 32.5
Grade						
6th grade	1195	34.1	30.1 - 38.1			
7th grade	1268	36.8	33.5 - 40.0			
8th grade	1142	37.9	34.7 - 41.1			
9th grade				725	31.9	28.0 - 35.9
10th grade				748	25.9	21.9 - 29.9
11th grade				694	22.7	19.3 - 26.2
12th grade				605	16.6	13.3 - 19.8
Race/Ethnicity*						
White	2339	36.1	33.3 - 38.9	1836	24.5	22.1 - 26.9
Black	191	32.9	26.1 - 39.8	232	19.0	14.1 - 23.9
Hispanic	516	36.4	32.7 - 40.2	361	26.0	20.4 - 31.6
Other	213	36.3	30.3 - 42.3	178	24.9	15.1 - 34.6
Multiracial	124	39.2	30.5 - 48.0	115	28.4	19.8 - 37.1

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Question referred to the past 12 months.

Table 30: Cyber-Bullying Among Massachusetts Youth, YHS 2013						
Victims of cyber-bullying [a]						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3628	13.6	12.2 - 15.0	2777	11.7	10.2 - 13.2
Sex						
Male	1812	8.2	6.9 - 9.6	1309	6.6	5.3 - 7.9
Female	1772	19.2	17.1 - 21.4	1418	16.1	13.7 - 18.4
Grade						
6th grade	1197	10.2	8.1 - 12.2			
7th grade	1269	13.6	11.3 - 15.9			
8th grade	1150	17.0	14.7 - 19.2			
9th grade				726	14.6	11.7 - 17.5
10th grade				747	10.8	8.7 - 12.8
11th grade				695	10.8	8.2 - 13.5
12th grade				603	10.2	7.2 - 13.2
Race/Ethnicity*						
White	2345	13.8	12.2 - 15.5	1837	11.8	10.2 - 13.5
Black	†			231	7.4	5.0 - 9.8
Hispanic	521	18.0	14.4 - 21.7	361	13.0	8.4 - 17.6
Other	213	11.0	6.9 - 15.0	177	8.6	4.6 - 12.6
Multiracial	124	14.8	8.2 - 21.5	115	17.2	10.8 - 23.7

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Question referred to the past 12 months. Cyber-bullying was defined as being bullied through email, chat rooms, instant messaging, web sites, or texting.
† Insufficient data

Table 31: Experiences with Violence Among Massachusetts Middle School Students, YHS 2013						
	Physically hurt by family member [a]			***Victim of dating violence*** [b]		
	Middle School			**Middle School**		
	N	%	95% CI	N	%	95% CI
Overall	3509	10.4	9.5 - 11.3	2222	7.3	6.1 - 8.6
Sex						
Male	1762	11.8	10.3 - 13.2	1190	8.1	6.5 - 9.6
Female	1705	9.0	7.6 - 10.4	1004	6.0	4.4 - 7.6
Grade						
6th grade	1152	11.2	9.3 - 13.0	588	7.4	5.3 - 9.6
7th grade	1228	9.7	7.8 - 11.7	798	7.4	5.7 - 9.1
8th grade	1119	10.4	8.8 - 12.0	827	7.1	4.7 - 9.4
Race/Ethnicity*						
White	2285	8.7	7.5 - 9.8	1423	5.5	4.2 - 6.8
Black	179	12.1	6.8 - 17.5	128	9.6	4.6 - 14.7
Hispanic	490	14.9	11.1 - 18.7	376	13.0	9.8 - 16.3
Other	209	11.1	7.0 - 15.2	†		
Multiracial	123	13.7	7.5 - 20.0	†		

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Questions referred to experiences in the past 12 months.
(b) Victim of dating violence calculated as the percent of students who have been on a date.
† Insufficient data

Table 32: Dating Violence Among Massachusetts High School Students, YHS 2013			
	Victim of dating violence [a]		
	N	%	95% CI
Overall	2238	9.6	8.1 – 11.1
Sex			
Male	1081	5.8	4.4 – 7.2
Female	1117	13.0	10.7 – 15.3
Grade			
9th grade	552	9.4	6.2 – 12.7
10th grade	579	8.7	6.1 – 11.4
11th grade	580	8.2	5.9 – 10.5
12th grade	523	11.7	8.5 – 14.9
Race/Ethnicity*			
White	1505	9.1	7.4 – 10.7
Black	184	6.6	2.9 – 10.2
Hispanic	308	13.4	8.9 – 18.0
Other	†		
Multiracial	96	17.0	8.5 – 25.6

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Victim of dating violence calculated as the percent of students who had been on a date.
† Insufficient data

Table 33: Violence Initiation Among Massachusetts Youth, YHS 2013						
Initiated Bullying in School in past 12 months						
	Middle School			**High School**		
	N	%	95% CI	N	%	95% CI
Overall	3590	8.1	6.9 - 9.3	2711	9.3	7.9 - 10.6
Sex						
Male	1785	10.1	8.4 - 11.7	1275	12.6	10.5 - 14.7
Female	1762	6.1	4.9 - 7.4	1389	6.1	4.7 - 7.5
Grade						
6th grade	1183	6.3	4.6 - 8.1			
7th grade	1260	7.4	5.7 - 9.2			
8th grade	1135	10.5	8.6 - 12.4			
9th grade				707	12.3	9.5 - 15.0
10th grade				733	9.0	6.8 - 11.1
11th grade				675	7.7	5.4 - 10.0
12th grade				592	7.7	5.3 - 10.0
Race/Ethnicity*						
White	2326	6.7	5.4 - 8.1	1795	8.9	7.5 - 10.3
Black	183	10.1	5.8 - 14.3	224	11.5	7.2 - 15.8
Hispanic	510	13.1	9.9 - 16.3	348	10.0	5.3 - 14.6
Other	†			†		
Multiracial	125	11.6	5.1 - 18.1	114	12.3	5.9 - 18.6

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
† Insufficient data

Table 34: Violence Initiation Among Massachusetts Youth, YHS 2013						
Initiated Cyber-Bullying in past 12 months						
	Middle School			High School		
	N	%	95% CI	N	%	95% CI
Overall	3576	4.0	3.3 - 4.7	2702	5.9	5.1 - 6.8
Sex						
Male	1777	3.2	2.3 - 4.0	1272	5.9	4.6 - 7.2
Female	1756	4.9	3.7 - 6.0	1383	5.7	4.5 - 6.8
Grade						
6th grade	1179	2.0	1.3 - 2.8			
7th grade	1251	3.3	2.3 - 4.4			
8th grade	1134	6.6	5.2 - 7.9			
9th grade				700	6.5	4.4 - 8.5
10th grade				732	4.9	3.4 - 6.3
11th grade				674	6.2	4.6 - 7.8
12th grade				591	6.0	3.9 - 8.0
Race/Ethnicity*						
White	2324	3.8	3.0 - 4.6	1795	5.1	4.2 - 6.1
Black	†			217	7.1	3.7 - 10.6
Hispanic	505	7.0	4.5 - 9.5	347	8.8	5.2 - 12.4
Other	†			176	6.5	3.2 - 9.8
Multiracial	†			†		

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
† Insufficient data

MENTAL HEALTH AND SUICIDE

Youth with better mental health are physically healthier, demonstrate more socially positive behaviors, and engage in fewer risky behaviors; whereas youth with mental health problems, such as depression, are more likely to engage in health risk behaviors.[22] Suicide is a serious public health problem that affects even young people. For youth between the ages of 10 and 24, suicide is the third leading cause of death. It results in approximately 4,400 lives lost each year.[23]

All respondents were asked if they ever felt so sad or hopeless almost every day for two weeks or more in a row during the past year that they stopped doing some usual activities.

All respondents were asked if they ever seriously considered attempting suicide in the past 12 months, how many times they actually attempted suicide in the past 12 months, and how many times they hurt or injured themselves on purpose without wanting to die in the past 12 months.

Table 35: Mental Health Among Massachusetts Youth, YHS 2013						
Sad or hopeless two weeks or more [a]						
	Middle School			**High School**		
	N	%	95% CI	N	%	95% CI
Overall	3600	16.1	14.2 - 18.0	2756	23.8	21.4 - 26.3
Sex						
Male	1795	11.4	9.7 - 13.2	1301	15.9	13.2 - 18.5
Female	1764	20.9	17.8 - 23.9	1406	31.3	27.9 - 34.6
Grade						
6th grade	1181	12.8	10.2 - 15.3			
7th grade	1264	15.8	12.9 - 18.7			
8th grade	1144	19.5	16.5 - 22.4			
9th grade				719	26.3	21.5 - 31.1
10th grade				741	19.8	16.3 - 23.4
11th grade				692	24.8	21.7 - 28.0
12th grade				600	24.5	19.7 - 29.2
Race/Ethnicity*						
White	2327	11.6	10.1 - 13.0	1825	20.5	18.1 - 23.0
Black	189	22.3	15.7 - 28.8	229	29.5	25.2 - 33.7
Hispanic	519	30.7	25.7 - 35.7	355	35.6	29.9 - 41.3
Other	211	18.5	11.5 - 25.6	176	21.0	13.2 - 28.8
Multiracial	125	26.9	18.9 - 34.9	115	29.2	20.5 - 37.9

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Question referred to the past 12 months.

Table 36: Suicide Among Massachusetts Youth, YHS 2013						
Seriously considered suicide in the past 12 months						
	Middle School			**High School**		
	N	%	95% CI	N	%	95% CI
Overall	3573	8.4	7.2 - 9.5	2758	11.9	10.6 - 13.3
Sex						
Male	1781	5.8	4.7 - 7.0	1305	8.1	6.5 - 9.7
Female	1750	11.0	9.2 - 12.8	1404	15.4	13.4 - 17.4
Grade						
6th grade	1179	4.7	3.2 - 6.2			
7th grade	1253	8.4	6.5 - 10.2			
8th grade	1129	12.0	9.9 - 14.1			
9th grade				719	14.5	11.7 - 17.3
10th grade				742	10.9	8.7 - 13.1
11th grade				694	12.4	9.8 - 14.9
12th grade				598	9.6	6.8 - 12.5
Race/Ethnicity*						
White	2311	6.7	5.5 - 7.9	1828	10.4	8.9 - 12.0
Black	189	15.4	10.4 - 20.5	231	11.0	7.2 - 14.7
Hispanic	512	12.0	8.9 - 15.1	354	16.3	10.8 - 21.8
Other	209	7.8	3.8 - 11.8	175	13.1	5.9 - 20.2
Multiracial	125	15.5	9.1 - 21.9	115	21.8	15.6 - 28.1

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.

Table 37: Self-injury Among Massachusetts Youth, YHS 2013						
Non-suicidal self-injury [a]						
	Middle School			**High School**		
	N	%	95% CI	N	%	95% CI
Overall	3587	14.3	12.7 - 15.8	2719	15.2	13.7 - 16.6
Sex						
Male	1793	12.5	10.7 - 14.4	1282	9.7	7.7 - 11.7
Female	1753	16.1	14.0 - 18.2	1388	20.1	17.9 - 22.3
Grade						
6th grade	1181	13.3	10.7 - 15.9			
7th grade	1259	14.7	12.2 - 17.2			
8th grade	1135	14.7	12.2 - 17.1			
9th grade				706	16.6	13.4 - 19.8
10th grade				733	14.9	12.3 - 17.5
11th grade				682	15.9	13.5 - 18.2
12th grade				593	13.0	10.1 - 16.0
Race/Ethnicity*						
White	2319	10.6	9.2 - 12.0	1804	15.2	13.3 - 17.2
Black	190	20.6	15.8 - 25.3	228	12.3	8.8 - 15.8
Hispanic	517	25.1	20.7 - 29.6	352	16.9	11.4 - 22.5
Other	204	19.0	12.8 - 25.3	169	14.0	9.4 - 18.6
Multiracial	124	18.8	11.4 - 26.3	111	15.0	7.9 - 22.1

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Question referred to the past 12 months.

SEXUAL BEHAVIOR

While more than half of high school students in Massachusetts report never having had sex, negative sexual health outcomes are disproportionately clustered among young people. This suggests that among those youth who are engaging in sexual behaviors, they may be doing so without protecting their sexual health. Young people aged 15-19 in Massachusetts experience rates of gonorrhea and chlamydia two to four times higher, respectively, than the statewide all-age rates.[24] Sexual minority youth – those who self-identify as gay, lesbian, bisexual, or transgender - are at an increased risk for certain negative health outcomes. Young gay and bisexual males have disproportionately high rates of HIV, syphilis, and other STDs, and adolescent lesbian and bisexual females are more likely to have ever been pregnant than their heterosexual peers.[25]

All **High School students** were asked to indicate 1) their sexual identity, 2) with whom they have had sexual contact with during their life, 3) whether they were transgender and 4) what method of contraception they used during last intercourse.

Table 38: Sexual Behavior Among Massachusetts High School Students, YHS 2013				
During your life, with whom have you had sexual contact? [a]				
	Males		**Females**	
	%	95%CI	%	95% CI
Never had sexual contact	37.5	33.1 – 41.9	44.9	41.3 – 48.5
Females	59.5	55.2 – 63.8	1.9	1.2 – 2.6
Males	1.0	0.5 – 1.6	46.2	42.9 – 49.5
Females and Males	2.0	1.2 – 2.9	7.0	5.2 – 8.7

(a) Response options included: 'I have never had sexual contact', 'Females', 'Males', and 'Females and Males'

Table 39: Used any form of birth control at last intercourse [a], Among Massachusetts High School Students, YHS 2013			
	High School		
	N	%	95% CI
Overall	912	90.9	89.1 - 92.7
Sex			
Male	459	92.1	89.8 - 94.4
Female	438	89.8	86.9 - 92.8
Grade			
9th grade	142	88.5	83.0 - 93.9
10th grade	182	92.4	88.3 - 96.6
11th grade	272	93.4	90.8 - 95.9
12th grade	313	89.8	86.0 - 93.5
Race/Ethnicity*			
White	568	92.0	89.9 - 94.2
Black	91	91.5	86.5 - 96.4
Hispanic	163	89.1	84.7 - 93.4
Other	†		
Multiracial	53	94.2	88.3 - 100.0

* Students were allowed to indicate multiple race categories. White, Black, Other and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.
(a) Among students who had sexual intercourse in their lifetime. Birth control forms include: birth control pills, condoms, IUD or implants, birth control shot, patch or ring, and withdrawal or some other method.
† Insufficient data

Table 40: Used condom at last intercourse [a], Among Massachusetts High School Students, YHS 2013			
	High School		
	N	%	95% CI
Overall	912	64.9	61.8 - 68.1
Sex			
Male	459	72.6	68.4 - 76.8
Female	438	56.3	51.4 - 61.1
Grade			
9th grade	142	77.0	70.3 - 83.7
10th grade	182	69.1	62.0 - 76.1
11th grade	272	65.2	59.5 - 70.9
12th grade	313	58.0	51.4 - 64.6
Race/Ethnicity*			
White	568	61.9	57.5 - 66.3
Black	91	76.1	67.4 - 84.9
Hispanic	163	66.9	59.5 - 74.4
Other	†		
Multiracial	53	77.9	66.4 - 89.4

* Students were allowed to indicate multiple race categories. White, Black, Other, and Multiracial categories refer to non-Hispanic. If Hispanic/Latino was indicated as an ethnic identification, the student was categorized as Hispanic/Latino regardless of race category. The Other category includes American Indian or Alaska Natives, Asian, Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify as Hispanic/Latino.

(a) Among students that had sexual intercourse in their lifetime.

† Insufficient data

Table 41: Sexual Identity Among Massachusetts High School Students, YHS 2013		
Which of the following best describes you? [a]		
	%	95% CI
Heterosexual	90.1	88.7 – 91.6
Gay, lesbian	1.8	1.3 – 2.3
Bisexual	4.9	3.9 – 5.9
Unsure	3.2	2.3 – 4.0
(a) Response options included 'Heterosexual (straight)', 'Gay or lesbian', 'Bisexual', 'Not sure'.		

Table 42: Transgender Identity Among Massachusetts High School Students, YHS 2013		
	%	95% CI
Yes [a]	2.6	1.9 – 3.3
No	90.0	88.2 – 91.7
Do not know what question is asking	6.3	5.1 – 7.6
Do not know if I am transgender	1.1	0.7 – 1.5
(a) Yes category includes 'Yes, I identify as a boy or man', 'Yes, I identify as a girl or woman', and 'Yes, I identify in some other way'.		

LIMITATIONS

- The data collected by the YHS and the YRBS are based on self-report from students. Self-reported data are subject to bias since students may answer questions based on what they think survey administrators will want to hear or to impress their peers. Students may also have had trouble remembering events that happened to them during their lives.
- The data are only representative of 6th through 12th grade public school students in Massachusetts. The data are not representative of home-schooled students, private school students, or youth enrolled in alternative education settings.
- Students with severe limitations or disabilities may not have been represented in the survey, as the students were required to fill out the survey by themselves.
- Students who are often absent from school may be under-represented and may have different health and risk behaviors than students who are nearly always present.
- All data presented in this report are cross-sectional and therefore no inferences about causality should be made.

CONCLUSIONS

Results from this report illustrate the wide range of issues that currently affect Massachusetts youth. Some emerging policy issues include gambling and sports-related traumatic brain injury. The data presented in this report will help public health programs understand the most pressing issues for youth in the state and will allow them to develop effective interventions. In addition, the results will help guide youth health policy and legislation. Continuation of the Youth Health Survey will eventually allow for analyses of risk factors over time to determine areas of improvement.

APPENDIX 1

METHODOLOGY

ANALYSIS AND STATISTICS PRESENTED

The statistics presented in this report are **weighted** (i.e., adjusted for nonresponse and distribution of students by grade, sex and race/ethnicity) in order to be representative of Massachusetts public high school and middle school students as a whole. *For a more detailed explanation, see weighting and variance estimation below.*

Many questions have several response options. Where applicable, response options with a positive response were grouped as 'Yes' and response options with a negative response were grouped as 'No'. The underlying **sample size (N)** in each cell of the presented tables is the number of people who answered "Yes" or "No" to the corresponding question. The crude proportion is a weighted ratio of those who answered "Yes" to the corresponding question versus all who responded to the question. Those who responded "Don't know" or refused to respond to a question were excluded from the analysis of that question unless otherwise noted.

The data presented here are **univariate, descriptive percentages**. No multivariate analysis was performed on these data. In addition, all data presented here are cross-sectional and thus this report contains no inferences about causality.

The 95% confidence interval (95% CI) is a range of values determined by the degree of variability of the data within which the true value is likely to lie. The confidence interval indicates the precision of a calculation; the wider the interval the less precision in the estimate. The 95% confidence intervals used in this report for crude percentages are the indicators of reliability (or stability) of the estimate. Smaller population subgroups or smaller numbers of respondents yield less precise estimates.

Suppression of the presented estimates:

a) Estimates and their 95% confidence intervals are not presented in the tables if the underlying sample size is less than 50 respondents.

b) Following recommendations of the National Center for Health Statistics, data are not presented in the tables if a ratio of standard error to the estimate itself exceeds 30% (relative standard error of greater than 30%). Standard error of the estimate is a measure of its variability. Bigger standard errors yield wider confidence intervals and less reliable estimates.[26]

Statistical significance (at the 95% probability level) was considered as a basis when we used the terms "more likely", "less likely", "about the same", "increase" or "decrease." We considered the difference between two percentages to be statistically significant (with 95% probability) if the 95% confidence intervals surrounding the two percentages do not overlap, which is a conservative estimation for determining statistical significance.[27] Descriptions in the text refer mainly to statistically significant differences, unless otherwise noted. In some instances, which are noted, differences between percentages were not significant but are reported as a matter of epidemiological importance.

Race-ethnicity categories in this report include White, Black, Hispanic, Other and Multiracial. When referring to White, Black, Other, or Multiracial, these categories include only non-Hispanic respondents. All respondents reporting Hispanic ethnicity are included in the Hispanic category regardless of race. The Other category includes American Indian or Alaska Natives, Asian, and Hawaiian or Pacific Islander. The Multiracial category includes youth who indicated more than one race but did not identify

as Hispanic/Latino. The most common Multiracial combinations among students were White and American Indian or Alaska Natives, White and Asian, and White and Black.

Shaded cells in all tables refer to non-applicable grade levels.

SAMPLE AND PARTICIPATION

For the YHS and YRBS high school surveys, a two-stage sampling method was used by the Centers for Disease Control and Prevention (CDC) to produce a representative sample of all public school students in Massachusetts in grades nine through twelve[28]. The first stage was the random selection of high schools in the state with a probability proportional to school enrollment size. The second stage included the random selection of six classes of a required subject within the high schools. Half of the classes were randomly assigned to receive the YHS and the other half the YRBS. Seventy-five high schools were selected for the sample and 54 agreed to participate, resulting in a school cooperation rate of 76.0%. CSR staff administered the surveys, collecting data from a total of 2,801 students for YHS in grades nine through twelve. The student response rate was 89.5% for YHS. The overall response rate (i.e., the school response rate multiplied by the student response rate) was 68.0% for YHS.

For the YHS middle school survey, a similar sampling method was used by CSR which randomly selected 116 public schools from a list obtained from ESE with at least one of grades six through eight. Eighty-seven of these schools agreed to participate, resulting in a school cooperation rate of 75.0%. Two classes from each school were randomly selected to complete the survey. Data was collected from 3,666 students in grades six through eight. The student response rate was 90.6%. This resulted in an overall response rate for the middle school YHS of 68.0%.

WEIGHTING AND VARIANCE ESTIMATION

Weights for the YHS high school data were constructed using the recommended CDC protocol[29]. Base weights reflecting the inverse of the probability of selection were provided by the CDC for each high school. Three adjustments were then applied to these weights:

1) **A school level non-response adjustment**. This adjustment was computed by first dividing the sampled schools into three strata, namely small schools, medium schools and large schools. These strata were created to have approximate equal total enrollments. The weight adjustment within each stratum was then simply the total enrollment from participating schools within the stratum divided by the total enrollment from all schools within the stratum regardless of whether they participated in the survey or not. The purpose of this adjustment factor was to increase the weights for students in participating schools to account for schools that did not participate.

2) **A student non-response adjustment**. This adjustment is done within class at each school. The adjustment is to increase the weights of students within a class who completed a survey to account for students within the class who did not. This adjustment was simply the sum of the weights for the students who completed the survey in the class divided by the sum of the weights for all students enrolled in the class.

3) **A post-stratification adjustment**. This adjustment was to make the weighted sample estimates agree with known or estimated outside estimates for several demographic factors. The particular factors used in this adjustment were grade (9 through 12), gender, and race/ethnicity. For Massachusetts, the race/ethnicity weight cells were White, Hispanic, Black and Other.

These weights are placed on the final YHS data files in a variable named FINWGT. The weight can be interpreted as the number of students represented by each completed questionnaire.

Weights for the YHS middle school file were computed in a similar fashion. YRBS weighting was performed by the CDC using the protocol described above.

The sample for this study is a complex sample design due to the clustering of students within randomly selected schools. Therefore, an assumption of simple random sampling for data analysis will almost certainly lead to estimated variances and standard errors of sample statistics that are too small. To account for the complex sample design, a cluster variable (school ID) was created in the YHS data files to represent students clustered within each school using a numeric code that cannot be used to identify an individual school.

APPENDIX 2

COMPARISON TABLES

Massachusetts Youth Health Survey **Middle School** Comparison Table			
Variables	**2011 %**	**2013 %**	**Difference**
Mostly grades of D's and F's	3.2	2.7	↔
Lifetime cigarette smoking	10.0	8.5	↔
Current cigarette smoking	3.0	2.7	↔
Lifetime smokeless tobacco	2.1	1.8	↔
Current marijuana use	3.6	3.4	↔
3+ fruits or vegetables on previous day	67.2	67.5	↔
3+ sugar sweetened beverages on previous day	23.0	16.9	↓
Overweight	15.0	12.8	↔
Obese	9.0	8.9	↔
Saw dentist in past year	92.1	91.1	↔
Had cavity in the past year	27.3	26.9	↔
Ever told have asthma	19.6	22.8	↔
Ever told have diabetes	1.1	1.0	↔
Never/rarely wore a seatbelt	6.9	6.5	↔
Symptoms of sports-related TBI	20.8	19.9	↔
Victim of bullying in school	36.1	36.3	↔
Victim of cyber-bullying	13.7	13.6	↔
Victim of dating violence (among those that have been on a date)	8.5	7.3	↔
Physically hurt by family member	11.4	10.4	↔
Sad or hopeless for two weeks or more	15.4	16.1	↔
Seriously considered suicide in past 12 months	7.2	8.4	↔
Non-suicidal self-injury	13.4	14.3	↔
↑ - increase ↓ - decrease ↔ - no difference			

Massachusetts Youth Health Survey **High School** Comparison Table			
Variables	**2011**	**2013**	**Difference**
Mostly grades of D's and F's	6.7	5.1	↔
Lifetime cigarette smoking	34.2	27.0	↔
Current cigarette smoking	13.2	9.4	↔
Lifetime smokeless tobacco	12.6	9.0	↔
Current marijuana	26.5	24.0	↔
3+ fruits or vegetables on previous day	57.7	57.8	↔
3+ sugar sweetened beverages on previous day	23.6	16.6	↓
Overweight	14.2	13.3	↔
Obese	10.2	9.7	↔
Examined by dentist in past year	89.4	89.7	↔
Had a cavity in the past year	32.3	29.6	↔
Ever told have asthma	24.3	24.9	↔
Ever told have diabetes	1.8	1.3	↔
Symptoms of sports-related TBI	21.3	15.7	↓
Victim of bullying in school	25.8	24.5	↔
Victim of cyber-bullying	14.7	11.7	↔
Victim of dating violence (among those who have been on a date)	11.0	9.6	↔
Sad or hopeless for two weeks or more	23.2	23.8	↔
Seriously considered suicide in past 12 months	11.0	11.9	↔
Non-suicidal self-injury	15.4	15.2	↔
↑ - increase ↓ - decrease ↔ - no difference			

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