INTRODUCTION AND SURVEY METHODS

The Massachusetts Youth Risk Behavior Survey (MYRBS) is conducted every two years by the Massachusetts Department of Education with funding from the United States Centers for Disease Control and Prevention (CDC). The survey monitors adolescent risk behaviors related to the leading causes of morbidity and mortality among youth and adults. These behaviors include tobacco, alcohol, and other drug use; behaviors related to intentional and unintentional injuries; high-risk sexual behaviors; poor dietary patterns; and lack of physical activity.

The 2005 MYRBS was conducted in the spring of 2005 in 51 randomly selected public high schools across the Commonwealth. In total, 3,522 students in grades 9 through 12 participated in this voluntary and anonymous survey. Because of high student and school response rates, survey results can be generalized to apply to all public high school students across Massachusetts.

RESULTS

TOBACCO USE

Most measures of tobacco use among Massachusetts public high school students have decreased significantly since 1995. Many have also continued to drop since 2001.

- Daily cigarette smoking during the past month dropped from 10% in 2001 to 6% in 2005.
- Smokeless tobacco use declined from 8% in 1995 to 4% in 2003 and 2005.
- Smoking on school property has decreased from a high of 19% in 1995 to 9% in 2005.
- Cigar smoking declined from 16% in 1999, when it was first measured, to 14% in 2005, a non-significant decrease.

ALCOHOL USE

Most measures of alcohol use are lower than they were at their peak in 1995 or 1997, but have not changed significantly in the past two years:

- Any lifetime use of alcohol, reported by 79% of students in 1995, was 76% in 2005, a non-significant decrease.
- Early initiation of alcohol use (i.e., before age 13), which was 31% in 1995, dropped significantly to 22% in 2005.
- Current alcohol use (i.e., in the 30 days before the survey), currently at 48%, is significantly lower than the 53% reported in 1995.
- Binge drinking (i.e., consuming five or more drinks in a row within a couple of hours) in the past month, dropped from 33% (1995) to 27% (2005).
- Alcohol use on school property has continued to edge downward from 7% in 1995 to 4% in 2005.

ILLEGAL DRUG USE

Fewer than half (46%) of all Massachusetts high school students in 2005 reported having ever used an illegal drug in their lifetimes.
Figure A: Tobacco Use Among Massachusetts High School Students, 1995 - 2005

- Any cigarette smoking in lifetime (*a)
- Early initiation of cigarette smoking (*a)
- Cigarette smoking in past 30 days (*a)
- Daily cigarette smoking (*a)
- Smokeless tobacco use in past 30 days (*b)
- Cigarette smoking on school property (*a)

(*a) Statistically significant decrease from 2001, p<.05; (*b) Statistically significant decrease from 1995, p<.05;
Figure B: Alcohol and Other Drug Use by Massachusetts High School Students, 1995 - 2005

(*a) Statistically significant decrease from 2001, p< .05; (*b) Statistically significant decrease from 1999, p< .05; (*c) Statistically significant decrease from 1997 p< .05.
Marijuana remains the most commonly used illegal drug. Almost half (45%) of students have used marijuana in their lifetimes and 9% used marijuana before age 13, percentages that have not changed significantly since 1995.

Use of marijuana in the 30 days before the survey dropped significantly from 32% (1995) to 26% (2005). Use on school property also declined from 11% (1995) to 5% (2005).

Lifetime ecstasy use decreased significantly from 13% in 2001, the first time it was measured, to 7% in 2005.

Lifetime methamphetamine use also dropped from 8% (1999) to 4% (2005).

Lifetime use rates of other drugs have not changed significantly in recent years. In 2005, 8% used cocaine, 4% used steroids illegally, 2% used heroin, and 2% reported injected drug use.

Being offered, sold, or given a drug on school property decreased significantly from 42% (1997) to 30% (2005).

VIOLENCE-RELATED EXPERIENCES

Most violence-related behaviors have dropped substantially since 1995, but changes in the past few years have been small and non-significant.

- Weapon carrying in the past month (15% in 2005) is below the 1995 rate of 20%, but slightly up from 2003.
- Gun carrying in the past 30 days was 5% in 1995, but is now 3%.
- Physical fighting has continued to edge downward from 38% (1995) to 29% in 2005.
- Weapon carrying and physical fighting on school property have both decreased from their peaks in the mid-1990s, but have not changed significantly in the past two years.

Non-significant declines occurred from 2003 to 2005 in skipping school due to feeling unsafe (5% to 4%), being threatened or injured with a weapon at school (6% to 5%), and lifetime experience of dating violence (11% to 10%). Each rate is at its lowest point since 1995.

No changes were observed in some other measures of violence-related behaviors and experiences:

- 24% of students reported having been bullied in school during the past year.
- 10% of students were involved in a gang in the year before the survey.
- 10% had experienced sexual contact against their will at some time in their lives.

Over one-fifth of students (22%) reported having their property stolen or deliberately damaged at school in the past year.

SUICIDAL THINKING AND BEHAVIOR

Significant and dramatic decreases have been observed in adolescent suicidality in the past decade:

- Having seriously considered suicide in the past year has been cut in half from 26% in 1995 to 13% in 2005.
- Having made a suicide plan decreased from 19% in 1995 to 12% in 2005.
- Reporting an actual past-year suicide attempt dropped from 10% (1995) to 6% (2005).
- Having made a suicide attempt requiring medical treatment decreased from 4% (1995) to 2% (2005).

Small, non-significant changes occurred in

- Having felt sad or hopeless for two weeks or more (30% in 1999 to 27% in 2005), and
- Having cut, burned, or tried to hurt oneself on purpose (18% in 2003 to 19% in 2005).
**Figure C: Behaviors Related to Suicidality, Violence, and Injury Among Massachusetts High School Students, 1995 - 2005**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>1995</th>
<th>1997</th>
<th>1999</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seriously considered suicide, past year (*a)</td>
<td>25.8</td>
<td>21.2</td>
<td>16.3</td>
<td>20.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attempted suicide, past year (*b)</td>
<td>10.4</td>
<td>9.5</td>
<td>8.3</td>
<td>9.6</td>
<td>8.4</td>
<td>6.4</td>
</tr>
<tr>
<td>Carried a weapon, past month (*c)</td>
<td></td>
<td></td>
<td>19</td>
<td>20.4</td>
<td>15.3</td>
<td></td>
</tr>
<tr>
<td>Physical fight, past year (*b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>35.5</td>
<td>36.7</td>
</tr>
<tr>
<td>Ever experienced dating violence (*d)</td>
<td>13.7</td>
<td>12.3</td>
<td>10.7</td>
<td>10.5</td>
<td>9.8</td>
<td></td>
</tr>
<tr>
<td>Never, rarely wore seat belt (*b)</td>
<td></td>
<td></td>
<td>20.7</td>
<td>24.4</td>
<td>29.8</td>
<td>29.2</td>
</tr>
<tr>
<td>Drove after drinking, past month (*d)</td>
<td></td>
<td></td>
<td>16.2</td>
<td>15.4</td>
<td>15.9</td>
<td>14.2</td>
</tr>
</tbody>
</table>

(*a) Statistically significant decrease since 2003, p<.05. (*b) Statistically significant decrease since 2001, p<.05. (*c) Statistically significant decrease since 1997, p<.05. (*d) Statistically significant decrease since 1999.
In the past decade, behaviors related to unintentional injuries have improved slowly and steadily:

- From 1995 to 2005, significant decreases occurred in the percent of youth who report riding with a driver who had been drinking (37% to 27%) or driving themselves after drinking (16% to 11%).
- The percent of students who rarely or never used a seatbelt dropped from 30% (1995) to 15% (2005).

**SEXUAL BEHAVIOR AND SEXUALITY EDUCATION**

There have been small, non-significant fluctuations in sexual behaviors over the past decade. In 2005,

- Less than one half (45%) of students had had sexual intercourse in their lives.
- About one third (34%) had had intercourse in the previous three months.
- Thirteen percent (13%) of students reported having four or more sexual partners in their lives.
- One in twenty (5%) had ever been diagnosed with a sexually transmitted disease; a similar percentage (5%) had ever been or gotten someone pregnant.

Some significant improvements have occurred since 1995:

- Fewer students in 2005 than in 1995 reported having had sexual intercourse before age 13 (5% vs. 8%)
- Among sexually active students (i.e., those who reported intercourse in the past 3 months), there has been a significant drop since 1995 in alcohol or drug use at last intercourse (31% to 23%).
- Among sexually active youth, condom use at last intercourse rose from 56% (1995) to 65% (2005), with the sharpest increase over the past two years.

Most Massachusetts high school students (93%) have received HIV/AIDS education in school, a percentage that has not changed significantly in the past 10 years.
Every sexual risk behavior was lower among adolescents who had received school HIV/AIDS education than among those who had not.

- Half (48%) of all students have been taught in school how to use a condom, a proportion similar to previous years. Among sexually active students, those who had been taught how to use a condom were significantly more likely to report using one.

- Slightly over half of all students (52%) had had a discussion in the past year with their parents or other family adults about sexuality or how to prevent HIV, STDs, or pregnancy.

**DIETARY AND WEIGHT CONTROL BEHAVIORS**

Most dietary and weight control behaviors have not improved in recent years; some have worsened.

- In 2005, 27% of all students were either at risk for overweight (16%) or definitely overweight (11%) on the basis of their Body Mass Index. This is significantly higher than the 23% found in 1999, when height and weight questions were first included in the YRBS.

- One third (31%) of students thought they were overweight; 47% were trying to lose weight.

- Some students reported trying to lose or control their weight through unhealthy means such as fasting (11%), using diet pills (5%) or vomiting/using laxatives (6%). These figures have changed little in the past decade.

- The percent of youth who ate the recommended five or more servings of fruits and vegetables per day declined from 14% in 1999 to 10% in 2005.

- Only 15% of students drank three or more glasses of milk per day, the amount needed to provide recommended levels of calcium.

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**Figure E: Sexual Behaviors of Massachusetts High School Students, 1995 - 2005**

<table>
<thead>
<tr>
<th>Year</th>
<th>Lifetime sexual intercourse</th>
<th>Condom use at last intercourse (*a)</th>
<th>Four or more lifetime partners</th>
<th>Ever been or gotten someone pregnant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>40.6</td>
<td>44.7</td>
<td>14.8</td>
<td>4.9</td>
</tr>
<tr>
<td>1997</td>
<td>44.1</td>
<td>44.3</td>
<td>12.7</td>
<td>5.7</td>
</tr>
<tr>
<td>1999</td>
<td>44.3</td>
<td>44.3</td>
<td>12.1</td>
<td>7.0</td>
</tr>
<tr>
<td>2001</td>
<td>44.1</td>
<td>44.3</td>
<td>12.1</td>
<td>7.0</td>
</tr>
<tr>
<td>2003</td>
<td>44.1</td>
<td>44.3</td>
<td>12.1</td>
<td>7.0</td>
</tr>
<tr>
<td>2005</td>
<td>44.1</td>
<td>44.3</td>
<td>12.1</td>
<td>7.0</td>
</tr>
</tbody>
</table>

(*a) Among adolescents who reported sexual intercourse within the past three months; significant increase from 1995 to 2005, p < .05.
(a) Significant decrease since 1999, p < .05; (b) Significant increase since 1999, p < .05; (c) Significant decrease since 1995, p < .05.
− One in three (33%) adolescents ate breakfast every day in the week before the survey; 16% did not eat breakfast on any of those days.

PHYSICAL ACTIVITY

The percent of high school students who reported attending any physical education class during an average school week was significantly lower in 2005 (59%) than it had been a decade earlier (80%).

Other measures of physical activity have not changed significantly:
− 55% of students played on a sports team during the previous year.
− 63% of students reported engaging in vigorous physical activity (enough to make them sweat or breathe hard) for at least 20 minutes at least three days per week.
− 25% engaged in moderate physical activity at least five days per week.
− One third of students (33%) watch three or more hours of television on an average school day.

SUMMARY OF OTHER KEY FINDINGS

Almost all risk behaviors were significantly associated with lower rates of academic achievement. Students who reported participating in a risky behavior were generally less likely to report receiving mostly good grades in school.

Different risk behaviors were more prevalent in some groups than in others. Male students had higher rates of violence-related behaviors, but females were more likely to report suicidal ideation and unhealthy weight control methods. White students had the highest rates of current smoking, current alcohol use and lifetime cocaine use, but lower rates of many sexual behaviors than other ethnic groups. Some youth, such as homeless students and sexual minority students, were more often victimized and also reported higher rates of multiple risk behaviors than their peers.

Risk behaviors tended to cluster together. Students who engaged in one high-risk or health-compromising behavior were often likely to engage in other risk behaviors as well.

− Certain factors in a student's life appeared to have a protective effect on behavior. These include perceived adult support in and out of school and participation in volunteer work and other organized extra-curricular activities.

CONCLUSION

The 2005 MYRBS results highlight continued and significant progress in reducing adolescent risk behaviors in the Commonwealth. Many measures of substance use, violence, and suicide have decreased markedly over the past decade.

A few areas, notably those related to nutrition and physical activity, have not improved in recent years. In fact, more Massachusetts youth are overweight or at risk of overweight than ever before. This is of special concern because of the current national epidemic of obesity.

It is important that the positive momentum in most areas be sustained, and that efforts to improve dietary behaviors and physical activity among youth be strengthened. Comprehensive school health programs and continued emphasis on the relationship between health and academic achievement can contribute toward these goals.