

MARIJUANA USE BY YOUNG PEOPLE: The Impact of State Medical Marijuana Laws

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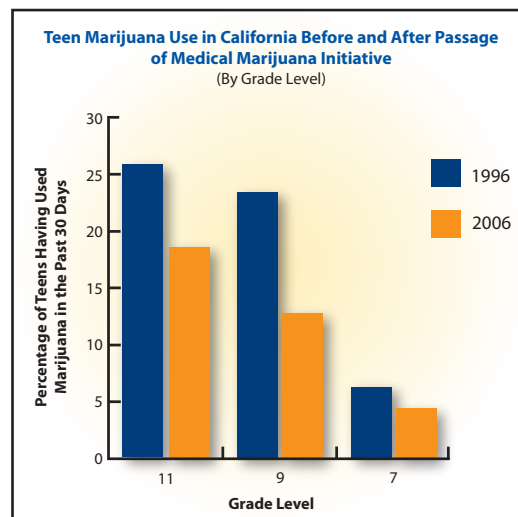
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EXECUTIVE SUMMARY

The debate over medical marijuana laws has included extensive discussion of whether such laws “send the wrong message to young people,” thus increasing teen marijuana use. This is the first report to analyze all available data to determine the trends in teen marijuana use in states that have passed medical marijuana laws.

More than a decade after the passage of the nation's first state medical marijuana law, California's Prop. 215, a considerable body of data shows that no state with a medical marijuana law has experienced an increase in youth marijuana use since their law's enactment. In fact, all states have reported overall decreases — exceeding 50% in some age groups — strongly suggesting that enactment of state medical marijuana laws does not increase teen marijuana use.

- In **California** — which has the longest-term, most detailed data available — the number of ninth graders reporting marijuana use in the last 30 days declined by 47% from 1996 (when the state's medical marijuana law passed) to 2006. An analysis commissioned by the California Department of Alcohol and Drug Programs found “no evidence supporting that the passage of Proposition 215 increased marijuana use during this period.”
- In **Washington** state (which passed its law in 1998), sixth and eighth graders' current and lifetime marijuana use has dropped by more than 50% since the 1998 enactment of the state's medical marijuana law. All other surveyed grade levels have seen both lifetime and current marijuana use drop significantly as well.



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- In *Hawaii and Nevada* (both passed laws in 2000), youth marijuana use has decreased among all surveyed grade levels — by as much as 53% in Hawaii (11th graders' current use) and 50% in Nevada (10th graders' current use).
- Data from *Montana* suggest a modest decline overall since the 2004 passage of Montana's law. Data from *Alaska* (which passed its law in 1998) show an overall decrease in marijuana use, and decreases in most individual grade levels. Data from *Oregon* (whose law passed in 1998) suggest fairly significant declines in marijuana use among the two grades surveyed in 2007. Data from *Vermont* (which passed its law in 2004) show an overall decline in use, as well as declines at all surveyed individual grade levels. *Colorado* (which passed its law in 2000) is the only state without an in-depth statewide survey; the limited data available suggest a modest decrease in Colorado teens' marijuana usage.
- In *Rhode Island*, (which passed its law in January 2006), current and lifetime youth marijuana use have decreased since the law passed. *New Mexico*, which enacted a medical marijuana law in April 2007, has not yet produced statistically valid data covering the period since its laws were passed.
- *Nationwide*, teenage marijuana use has decreased in the 11 years since California enacted the country's first effective medical marijuana law. Overall, the trends in states with medical marijuana laws are more favorable than the trends nationwide. California and Washington have seen much greater drops in marijuana usage than have occurred nationwide. Overall, Nevada's, Hawaii's, and Colorado's trends are also more favorable than nationwide trends, though some individual measures are less favorable. The Youth Risk Behavior Surveillance Survey found greater declines in Maine teens' marijuana use than occurred nationally, but comparing two different surveys suggests national declines that are somewhat sharper than declines among Maine's adolescents. The drop in high schoolers' marijuana use in Vermont and Rhode Island is slightly better than the national drop. In Montana, current use has not dropped quite as quickly as the national drop, but teens' lifetime use has decreased more than the national average. Most of the trends in Oregon are slightly less favorable than nationwide trends, although teen use is still down overall.

Conclusions and Recommendations:

When states consider proposals to allow the medical use of marijuana under state law, the concern often arises that such laws might “send the wrong message” and therefore cause an increase in marijuana use among young people. The available evidence strongly suggests that this hypothesis is incorrect and that enactment of state medical marijuana laws has not increased adolescent marijuana use. Consequently, legislators should evaluate medical marijuana proposals based on their own merits — without regard for the speculative and unsupported assertions about the bills sending the “wrong message.”

Methods and Data Sources:

Nearly every state that has enacted a medical marijuana law has conducted surveys on adolescent marijuana use both before and after their medical marijuana laws were enacted. We analyzed publicly available data from all such surveys considered statistically valid by the agencies that performed them.

OVERVIEW

Since 1996, 12 states — Alaska, California, Colorado, Hawaii, Maine, Montana, Nevada, New Mexico, Oregon, Rhode Island, Vermont, and Washington — have passed laws allowing the use of marijuana for medical purposes. Eight of these were enacted via voter-approved ballot measures, while Hawaii's, Vermont's, Rhode Island's, and, most recently, New Mexico's laws were passed by their legislatures. (The District of Columbia passed a similar ballot initiative in 1998, but due to congressional action, the law hasn't been implemented.) In addition, medical marijuana legislation was considered during the 2007 legislative sessions of at least 26 state legislatures.

One argument consistently raised in opposition to such measures is that they “send the wrong message to young people,” encouraging teen drug experimentation. For example, in an October 1996 letter to anti-drug advocates, U.S. Drug Enforcement Administration Administrator Thomas A. Constantine wrote, “How can we expect our children to reject drugs when some authorities are telling them that illegal drugs should no longer remain illegal, but should be used instead to help the sick? ... We cannot afford to send ambivalent messages about drugs.”

Such arguments continue to be raised by opponents of medical marijuana laws. In June 2005, Rhode Island Gov. Donald Carcieri (R) explained his veto of a medical marijuana bill in part by arguing that the measure would “place our children at increased risk of abusing marijuana.” That same month, U.S. Representatives Mark Souder (R-Ind.) and Frank Wolf (R-Va.) raised the “wrong message” concern during a floor debate on medical marijuana in the U.S. House of Representatives. Similarly, in June 2007, Connecticut Gov. M. Jodi Reil (R) explained in her veto statement of a medical marijuana bill, “I am also concerned that this bill would send the wrong message to our youth.”

In 1996, the issue of whether these laws would impact teen marijuana use was an open question: Both sides made assertions, but neither had concrete data for support. Now, more than 11 years after the passage of the first medical marijuana initiative, California’s Prop. 215, a considerable body of data exists. No state with a medical marijuana law has experienced an overall increase in youth marijuana use since the law’s enactment. All have reported overall decreases — in some cases exceeding 50% in specific age groups — strongly suggesting that the enactment of state medical marijuana laws does not increase teen marijuana use.

METHODOLOGY

All of the data in this report is from state and federal government surveys of drug use by young people. The most well-known of these are the annual Monitoring the Future study, conducted by the University of Michigan under contract with the U.S. National Institute on Drug Abuse, and the National Survey on Drug Use and Health (NSDUH) — formerly called the National Household Survey on Drug Abuse (NHSDA) — conducted by the Research Triangle Institute and sponsored by the U.S. Substance Abuse and Mental Health Services Administration. However, state-specific data were not available for all 50 states from NHSDA/NSDUH until 1999, so before-and-after data are not available for many states with medical marijuana laws. Even in the cases where such data are available, the NSDUH has determined that the state-level “estimates for 2002 and later years [are] not comparable with prior years” and “the relative rankings of States may have been affected” due to methodological changes.¹ Furthermore, the NSDUH’s state samples are very small and NSDUH reports the 12- to 17-year age range as a block, rather than breaking down specific ages or grade levels.

Many states — including California, Hawaii, Maine, Oregon, and Washington — conduct detailed state-level surveys with methodology similar to NSDUH, but they use far larger samples within each state. We have included all relevant data from such surveys where available.

Also of interest is the Youth Risk Behavior Surveillance (YRBS), conducted by many (but not all) states in conjunction with the U.S. Centers for Disease Control and Prevention. The YRBS has produced data for several individual states, including Alaska, Hawaii, Maine, Montana, Nevada, Oregon, Rhode Island, and Vermont.

Because some surveys are conducted only every other year, and because of the time needed to collect and process data, New Mexico — the state with the newest medical marijuana law — has not yet released results covering the period since their laws were enacted. Nevertheless, enough data are available now from the 11 other medical marijuana states to draw conclusions.

1. Substance Abuse and Mental Health Services Administration, Office of Applied Studies, “2002-2003 National Surveys on Drug Use and Health (NSDUH): State By State Model Based Estimates,” Appendix A: State Estimation Methodology.

Data were located through Internet searches and federal and state government agencies. In each case, we have reviewed all publicly available data from national and statewide teen drug use surveys, including the most recent figures available as of this writing, June 2008. The only results omitted from the analysis are from surveys in which the only available data are “unweighted.” This occurs, for example, when school-based surveys are unable to enroll a broadly representative sample of a state’s school population, meaning that the results cannot be considered statistically valid for the statewide youth population.

Most of these surveys ask whether participants have used drugs in the last 30 days (considered “current use”) and ever in their life. Washington changed the wording of its question regarding lifetime drug use in the 2000 survey, but it restored the old language in 2002. Other methodological changes were also made in 2002, including the time of year when surveys were administered. Oregon made substantial changes in the methodology of its 2001 survey, which makes it more difficult to draw firm conclusions across time.

As with all polls and surveys, the surveys analyzed for this report have a statistical margin of error. (Hawaii is the exception because its data is from a census sampling that was given to all public school students whose parents returned consent forms.) The margin of error ranges from 0.3% to 9.5% (the margin of error data was not available for Washington state in 1998 and 2000 or for California’s surveys).

Statements from those raising the “wrong message” concern have often been vague as to whether they believe the harm comes from actual implementation of medical marijuana laws or from the public discussion stimulated by the campaigns. Because many of their statements (including that of the DEA administrator cited above) focus on public discussion, and because the campaigns for the state laws produced intense debate and media coverage, we have focused on the date of enactment as the key time-point in before-and-after comparisons.

NATIONWIDE DATA

Since California voters enacted Prop. 215, the debate over it and similar proposals has been covered widely on national television and radio, as well as in local and national newspapers and magazines, including *USA Today*’s front-page story on Prop. 215’s passage; the *New York Times*’ 1999 front-page story on the Institute of Medicine’s report on the medical use of marijuana, and many others. If medical marijuana laws “send the wrong message” to children, this widespread attention would be expected to produce a nationwide increase in marijuana use, with the largest increase in those states enacting medical marijuana laws. But just the opposite has occurred.

Since 1996, Monitoring the Future surveys show 50%, 30%, and 14% decreases in eighth, 10th, and 12th graders’ current marijuana use, respectively.² Regarding lifetime use, it shows a 39% drop in eighth graders’ use, a 22% decline in 10th graders’, and a 7% decrease among 12th graders.³ The biennial national YRBS shows similar trends, with a 20% decrease in high schoolers’ current marijuana use since 1995 and a 9.4% decrease in their lifetime use. It found decreases in every measure in every high school grade level since 1995, except 12th graders’ lifetime marijuana use, which shows a slight increase.⁴ As the state-by-state section of this paper will discuss, as a whole, the medical marijuana states’ teen use trends compare favorably to nationwide trends.

The Monitoring the Future survey randomly samples approximately 120 high schools nationally for 12th grade data, surveying about 15,000 students annually. For its survey of eighth graders each year, approximately 17,000 students from 140 randomly selected schools are surveyed annually. For the 10th graders, approximately 130 high schools are sampled, and about 15,000 students are surveyed annually. The national YRBS uses a three-stage, cluster sample design to obtain a nationally representative sample of students in grades nine through in the United States. Approximately 13,950 surveys were completed in 2005, 10,200 in 2003, 9,900 in 1999, 11,220 in

2. “Monitoring the Future: National Results on Adolescent Drug Use 2007,” Table 3.

3. *Ibid.*, Table 1.

4. U.S. Centers for Disease Control and Prevention, “Youth Risk Behavior Surveillance, Youth Online: Comprehensive Results,” available at <<http://apps.nccd.cdc.gov/yrbss/SelQuestYear.asp?Loc=XX&cat=3>>.

1997, and 6,540 in 1995.

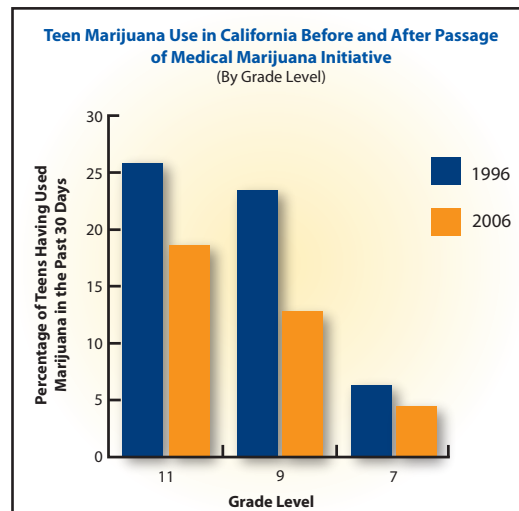
As will be seen below, states enacting medical marijuana laws have been slightly more successful than the nation as a whole at reducing adolescent marijuana use.

STATE-BY-STATE DATA

CALIFORNIA (medical marijuana initiative passed November 5, 1996)

As the first state to pass an effective medical marijuana law, California provides the longest period to evaluate such a law's effect on teen marijuana use. California officials were concerned enough about the "sends the wrong message" theory to commission a special analysis examining this issue.

The biennial California Student Survey (CSS), conducted by the California attorney general's office, provides some of the most detailed information on teen drug use trends in any single state. It measures three grade levels' weekly, monthly, and past-six-month marijuana use. The pre-Prop. 215 survey (1995-1996) was based on the responses of 5,775 students, while the most recent survey (2005-2006) was based on responses from about 10,635 students. In the years prior to the 1996 passage of Prop. 215, the CSS charted steady increases in marijuana use by California teenagers in all surveyed grades — seventh, ninth, and 11th graders. That period of increase ended in 1996, with CSS data showing a clear, swift downward trend since Prop. 215 passed on November 5, 1996. For all grades, marijuana use dropped markedly by every measure between early 1996 and 2006. Among ninth graders, current use dropped by nearly half.



7th grade weekly: 11% decrease since late 1995/early 1996 (from 1.9% to 1.7%)

9th grade weekly: 53% decrease since late 1995/early 1996 (from 12.3% to 5.8%)

11th grade weekly: 38% decrease since late 1995/early 1996 (from 16.5% to 10.2%)

7th grade past 30 days: 24% decrease since late 1995/early 1996 (from 6.2% to 4.7%)

9th grade past 30 days: 47% decrease since late 1995/ early 1996 (from 23.6% to 12.6%)

11th grade past 30 days: 26% decrease since late 1995/ early 1996 (from 25.9% to 19.2%)

7th grade past six months: 33% decrease since late 1995/early 1996 (from 10.9% to 7.3%)

9th grade past six months: 45% decrease since late 1995/early 1996 (from 34.2% to 18.7%)

11th grade past six months: 30% decrease since late 1995/early 1996 (from 42.8% to 29.8%)

7th grade lifetime: 28% decrease since late 1995/early 1996 (from 10.9% to 7.9%)

9th grade lifetime: 36% decrease since late 1995/early 1996 (from 35.0% to 22.3%)

11th grade lifetime: 19% decrease since late 1995/early 1996 (from 46.9% to 38.2%)⁵

California teens' marijuana use rates since 1995 compare favorably to national numbers. Of the national surveys measuring teen marijuana use, only the YRBS surveyed some of the same grades as the CSS — ninth and 11th. While the YRBS found decreases in youth marijuana use, the decreases were not nearly as sharp as

5. California Office of the Attorney General, "Eighth Biennial California Student Survey," Tables 5 and 9; California Office of the Attorney General, "11th Biennial California Student Survey," Tables 2.1, 2.2, 2.3, 2.8, and 2.12.

California's decreases. The YRBS estimates a 9.4% decrease in ninth graders' lifetime marijuana use since 1995. In the same time period, lifetime marijuana use has decreased by 36% among California ninth graders. Ninth graders' past 30-day marijuana usage has decreased by 47% in California, but by only 20% nationwide.⁶ (See Appendix for side-by-side comparisons of national data and data in each medical marijuana state with before-and-after data.)

California saw so much concern about Prop. 215's possible effect on youth marijuana use that the 1997-98 version of the CSS included an added set of questions intended to gauge the measure's impact. Researchers from the educational research firm WestEd, located in Los Alamitos, California, analyzed the data. Their report — never formally published but considered public information by the California Department of Alcohol and Drug Programs — was prepared in September 1999.

The researchers found that “students were well aware of the proposition and its meaning,” with 63.5% of ninth graders and 74% of 11th graders saying they had either read about the measure or heard adults talk about it in person or in the media.⁷ Regarding the impact of Prop. 215 on marijuana use, they concluded:

Use of marijuana by youth, which had been on an upward trend since the early 1990s at all three grade levels, did not intensify as predicted by the “wrong message” theory. Instead, it leveled off between 1995-96 and the current (1997-98) survey. **There is no evidence supporting that the passage of Proposition 215 increased marijuana use during this period** [emphasis added].⁸

The researchers did sound a note of caution about “the softening of perceived harm,” writing, “Marijuana use should be followed over the next several years to assess the impact of Proposition 215 on the marijuana use in California's youth.”⁹ In this context, the steep declines in use recorded by later surveys are noteworthy.

WASHINGTON (medical marijuana initiative passed November 3, 1998)

Washington, Oregon, and Alaska voters all enacted medical marijuana laws on November 3, 1998. Unfortunately, none of these three states has produced data on teen marijuana use that can be satisfactorily compared to determine trends since their laws' passage. Washington and Oregon have both changed the methodology of their surveys since the passage of their laws, and Alaska's weighted data from before its law was enacted was gathered three years before the law's passage. Of the three, Washington has the most extensive data on teen usage rates since the law's enactment. However, the survey conducted before the law's passage — the Washington State Survey of Adolescent Health Behaviors (WSSAHB) — was replaced by the Healthy Youth Survey (HYS) in 2002.

The WSSAHB was conducted both before the law's passage — in spring of 1998 — and two years later — in 2000. Similar to the California survey, Washington data showed a substantial increase in adolescent marijuana use during the years prior to 1998. This increase was followed by a sharp drop in use by all age groups in 2000. Although the wording of the lifetime use question was changed for the 2000 survey, the question regarding use in the past 30 days was not changed and shows a similar trend.

The 1998 survey sampled 6,510 sixth grade students and 6,727 eighth grade students. The 10th and 12th grade sample was combined, sampling 13,082 students. The 2006 survey reached 8,825 students in sixth grade, 8,912 students in eighth grade, 8,514 students in 10th grade, and 6,280 students in 12th grade.

Since 2002, the Washington HYS has been conducted on the same age groups. The wording of the lifetime use question was restored to the language used in 1998 in these surveys. Although there are methodological differences between the 1998 and 2004 surveys — including that the 1998 and 2006 surveys were conducted

6. *Ibid.*, “Youth Risk Behavior Surveillance, Youth Online: Comprehensive Results.”

7. Rodney Skager, Greg Austin and Mamie M. Wong, “Marijuana Use and the Response to Proposition 215 Among California Youth, a Special Study From the California Student Substance Use Survey (Grades 7, 9, and 11), 1997-98,” p. 7.

8. *Ibid.*, p. 8.

9. *Ibid.*, p. 7.

in the spring, while the 2002, 2004, and 2006 surveys were administered in the fall — they provide the only comprehensive statewide data available, so the comparisons are worth noting. Comparing the 1998 WSSAHB with the 2006 HYS shows dramatic decreases in all surveyed grade levels' current and lifetime marijuana use since the enactment of its medical marijuana law. Even the smallest decrease — 22% fewer 12th graders had used marijuana in their lifetimes in 2006 than in the spring of 1998 — was a significant decline. The most dramatic decreases were among sixth and eighth graders: Their lifetime usage rates have decreased by roughly 54% and 62%, respectively.

The drop in past 30-day usage among sixth and eighth graders has been equally dramatic — at 56% and 58%, respectively.

A comparison of the 1998 WSSAHB with the 2006 HYS shows the following changes:

- 6th grade past 30 days: 56% decrease since 1998 (from 3.4% to 1.5%)
- 8th grade past 30 days: 58% decrease since 1998 (from 16.5% to 7.0%)
- 10th grade past 30 days: 31% decrease since 1998 (from 26.6% to 18.3%)
- 12th grade past 30 days: 25% decrease since 1998 (from 28.7% to 21.6%)

- 6th grade lifetime: 54% decrease since 1998 (from 7.0% to 3.2%)
- 8th grade lifetime: 62% decrease since 1998 (from 28.2% to 10.7%)
- 10th grade lifetime: 38% decrease since 1998 (from 49.5% to 30.8%)
- 12th grade lifetime: 22% decrease since 1998 (from 55.1% to 43.1%)¹⁰

As was the case in California, Washington's current and lifetime teen use rates have decreased far more rapidly among all age groups surveyed than national use rates have. Between 1998 and 2006, eighth graders' current marijuana use decreased by 29% nationally and their lifetime rates decreased by 33%. In Washington, eighth graders' current use decreased by 58% and their lifetime use decreased by 62%. Washington 10th graders' current use decreased by 31% and their lifetime use dropped by 38%, while those national rates decreased by 24% and 20% respectively.¹¹

OREGON (medical marijuana initiative passed November 3, 1998)

While Oregon data are available both before and after the 1998 passage of the state's medical marijuana law, Oregon made a number of significant changes in the survey's methodology in 2001, combining the Oregon Public Schools Drug Use Survey (OPSDUS) and Youth Risk Behavior Surveillance (YRBS) into one survey — Oregon Healthy Teens (OHT). While many questions were repeated essentially unchanged from the older surveys, the timing of the survey and the method of selection of participating schools were altered.¹²

In 1997, Oregon YRBS received usable surveys from about 34,933 students. In 2007, the OHT collected usable information from over 25,000 Oregon adolescents. The 1998 survey sampled 6,796 students in eighth grade, and 4,929 students in 11th grade. The 2007 survey sampled roughly 15,000 students in eighth grade and 10,500 students in 11th grade.

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10. Washington State Department of Health, "Washington State Survey of Adolescent Health Behaviors," Tables 2, 3, 4, 5, 7, 8, 9, and 10; Washington State Department of Health, "Healthy Youth Survey 2006 Survey Results," Questions 18 and 35. Available online at < <http://www3.doh.wa.gov/HYS/ASPX/HYS-reports.aspx>>.
 11. *Ibid.*; "Monitoring the Future: National Results on Adolescent Drug Use 2007," Table 1 and 3. The Monitoring the Future survey is the only national survey administered to the same grades on the same years as the Washington Health Youth Survey.
 12. When asked if Oregon's Office of Mental Health and Addiction Services considers results from the Oregon Healthy Teens survey statistically comparable to the 1998 Oregon Public Schools Drug Youth Survey, the chief drug and alcohol research analyst noted that the OHT relies on voluntary samples and responded, "I would say that the OHT information is useful to show overall, aggregate changes in the state but it's not to the level of being statistically comparable (which would imply that the exact same population of kids is asked the same set of questions every year)." Pamela Clark, chief drug and alcohol research analyst, Oregon Office of Mental Health and Addiction Services, e-mail comm., August 24, 2005.

Although methodological changes between the studies make it hard to draw firm conclusions, the data are nonetheless encouraging, suggesting a decrease in teen marijuana use since the passage of Oregon's medical marijuana initiative. **Marijuana use declined in both grades that were surveyed between the passage of the law and 2007.**¹³ These results certainly allay any fears that medical marijuana laws would increase teen use.

Comparing the 2007 OHT survey to the 1998 OPSDUS shows the following marijuana use trends:

8th grade, past 30 days: 23% decrease since 1998 (from 11.6% to 8.9%)¹⁴

11th grade, past 30 days: 11% decrease since 1998 (from 21.0% to 18.6%)¹⁵

8th grade, lifetime: 33% decrease since 1998 (from 25.3% to 16.9%)¹⁶

11th grade, lifetime: 13% decrease since 1998 (from 45.4% to 39.4%)¹⁷

Comparing the 2007 OHT survey to the 1997 YRBS shows the following marijuana use trends:

11th grade, past 30 days: 20% decrease since 1997 (from 23.3% to 18.6%)

11th grade, lifetime: 16% decrease since 1997 (from 47% to 39.4%)¹⁸

Unlike in Washington and California, Oregon teen marijuana usage rates have not decreased by as much as national rates have since Oregon enacted its medical marijuana law. Although Oregon's 11th graders' lifetime marijuana use decreased by 11% between 1997 and 2007, the national YRBS suggests a decrease of 16% among 11th graders' nationwide between those years.¹⁹ More specific comparisons to national trends are available in the appendix.

ALASKA (medical marijuana initiative passed November 3, 1998)

Relatively little data are available on Alaska teens' use of marijuana before and after the 1998 passage of its medical marijuana law. The only available weighted data from those timeframes are the Alaska Youth Risk Behavior Surveys (YRBS), which provide estimates of high schoolers' marijuana use in 1995 — three years before the law's passage — and in 2007. The 1995 survey received 10,904 completed questionnaires, a 60% response rate for students surveyed, while the 2007 survey received 1,318 surveys, for a 66% response rate. Although the sample size was reduced, the study design remained consistent and the authors use their data for comparison to 1995.

The YRBS data suggest that **since Alaska passed its medical marijuana law, high school students' lifetime usage of marijuana has slightly declined — by 8% — and their current marijuana use declined more significantly — by 29%.** Current marijuana use decreased among all grade levels. Lifetime marijuana use has decreased among ninth, 11th, and 12th graders since the law's passage, while it has slightly increased among 10th graders.

Past 30-days marijuana users, high schoolers: 29% decrease since 1995 (from 28.7% to 20.5%)

Past 30-days marijuana users, 9th graders: 39% decrease since 1995 (from 27.8% to 16.9%)

Past 30-days marijuana users, 10th graders: 8% decrease since 1995 (from 25.7% to 23.7%)

Past 30-days marijuana users, 11th graders: 38% decrease since 1995 (from 31.7% to 19.8%)

Past 30-days marijuana users, 12th graders: 28% decrease since 1995 (from 30.9% to 22.2%)

13. Data from an age range that is no longer surveyed — all high schoolers — suggest a slight overall decrease in lifetime marijuana use among high schoolers and an even smaller increase in their past 30-day marijuana use between 1997 and 2003. In 1997, 1999, 2001, and 2003, the YRBS studied past 30-day and lifetime marijuana use in ninth through twelfth graders. As was noted, the methodology changed in 2001. Those figures suggest that lifetime marijuana use decreased by 5% — from 43.5% to 41.3% — and that current marijuana use rose by 3% — from 22.5% to 23.2%. Those data are not included in the main survey because it is four years old and newer data are available.

14. "1998 Oregon Public Schools Drug Use Survey," p. 8; "Oregon Healthy Teens 2007" — Eighth Grade, Q 117. Available online at <http://www.dhs.state.or.us/dhs/ph/chs/youthsurvey/ohsteens/2007/8/results8.shtml#Tobacco_Alcohol_Other_Drugs>.

15. "1998 Oregon Public Schools Drug Use Survey," p. 8; "Oregon Healthy Teens 2007" — 11th Grade, Q 117.

16. "1998 Oregon Public Schools Drug Use Survey"; "Oregon Healthy Teens 2007" — Eighth Grade, Q 119.

17. "1998 Oregon Public Schools Drug Use Survey"; "Oregon Healthy Teens 2007" — 11th Grade, Q 119.

18. Centers for Disease Control and Prevention, "1997 Oregon Youth Risk Behavior Survey" — Q 54 and 55; "Oregon Healthy Teens 2007" — 11th Grade, Q 117 and 119. The 1997 Youth Risk Behavior Survey results for eighth graders could not be compared because the data are unweighted.

19. "1998 Oregon Public Schools Drug Use Survey"; "1997 Oregon Youth Risk Behavior Survey" — Q 54 and 55; "Oregon Healthy Teens 2007" — 11th Grade, Q 119"; National data is not yet available for the 2007 YRBS survey.

Lifetime marijuana users, high schoolers: 8% decrease since 1995 (from 48.4% to 44.7%)
 Lifetime marijuana users, 9th graders: 21% decrease since 1995 (from 43.9% to 34.8%)
 Lifetime marijuana users, 10th graders: 13% increase since 1995 (from 44.7% to 50.3%)
 Lifetime marijuana users, 11th graders: 18% decrease since 1995 (from 52.8% to 43.3%)
 Lifetime marijuana users, 12th graders: 0.5% decrease since 1995 (from 52.6% to 52.3%)²⁰

The rate at which Alaska high schoolers currently use marijuana dropped by a larger margin than national numbers did between 1995 and 2007. The national YRBS found a 22% decrease in high schoolers' past 30-day marijuana use, while Alaska's YRBS show a 29% drop. During the same time frame, Alaska teens' lifetime marijuana use declined by about the same percentage as their counterparts nationwide: 10% fewer reported trying marijuana throughout the U.S., while 8% fewer Alaskans reported having ever tried marijuana.²¹

MAINE (medical marijuana initiative passed November 2, 1999)

Available data on teen marijuana use suggest usage has decreased among nearly every age group since Maine enacted its medical marijuana law. Two statewide student surveys provide detailed information about Maine adolescents' marijuana use. The Maine Youth Drug and Alcohol Use Surveys (MYDAUS) estimate decreases in all age groups — for both current and lifetime use — between 1998/1999 and 2006. Similarly, the Maine Youth Risk Behavior Survey (YRBS) shows a 28% decrease in current high school marijuana use from 1997 to 2007, with decreases among each high school grade level. This is slightly better than the 25% decrease nationwide.²²

The 1998 MYDAUS was administered to 22,162 students, and the 2006 MYDAUS was administered to 77,200 students.

The MYDAUS shows the following changes:

Total past 30 days: 10% decrease since 1999 (from 15.7% to 14.1%)
 6th grade past 30 days: 17% decrease since 1999 (from 1.2% to 1.0%)
 7th grade past 30 days: 22% decrease since 1999 (from 3.2% to 2.5%)
 8th grade past 30 days: 20% decrease since 1999 (from 8.2% to 6.6%)
 9th grade past 30 days: 26% decrease since 1999 (from 18.5% to 13.7%)
 10th grade past 30 days: 10% decrease since 1999 (from 22.7% to 20.4%)
 11th grade past 30 days: 11% decrease since 1999 (from 28.5% to 25.5%)
 12th grade past 30 days: 11% decrease since 1999 (from 30.4% to 27.2%)²³

Total lifetime: 13% decrease since 1999 (from 28.6% to 25.0%)
 6th grade lifetime: 14% decrease since 1999 (from 2.2% to 1.9%)
 7th grade lifetime: 24% decrease since 1999 (from 6.6% to 5.0%)
 8th grade lifetime: 28% decrease since 1999 (from 17.2% to 12.3%)
 9th grade lifetime: 23% decrease since 1999 (from 31.2% to 24.0%)
 10th grade lifetime: 15% decrease since 1999 (from 40.8% to 34.8%)
 11th grade lifetime: 11% decrease since 1999 (from 50.6% to 45.1%)
 12th grade lifetime: 14% decrease since 1999 (from 57.7% to 49.7%)²⁴

20. National Center for Chronic Disease Prevention and Health Promotion, "Alaska Youth Risk Behavior Survey" 1995; "2007 Alaska Youth Risk Behavior Survey Results" breakdowns available at < <http://www.hss.state.ak.us/dph/chronic/school/YRBSresults.htm>>.
 21. *Ibid.* Youth Risk Behavior Surveillance, Youth Online: Comprehensive Results. National data is not yet available for the 2007 YRBS surveys.
 22. National Center for Chronic Disease Prevention and Health Promotion, "1997 Maine Youth Risk Behavior Survey"; "2007 Maine Youth Risk Behavior Survey" breakdowns available at < <http://apps.nccd.cdc.gov/yrbss/SelQuestyear.asp?cat=3&desc=Alcohol%20and%20Other%20Drug%20Use&loc=ME>>; "Youth Risk Behavior Surveillance, Youth Online: Comprehensive Results."
 23. Maine Office of Substance Abuse, "The 2006 Maine Youth Drug and Alcohol Use Survey" breakdowns available at < http://www.maine.gov/maineosa/survey/report.php?mode=question&survey_id=6&graph_type=simple+pie&question_id=142&participant_group_id=m1>.
 24. *Ibid.*, breakdowns available at < http://www.maine.gov/maineosa/survey/report.php?mode=question&survey_id=6&graph_type=simple+pie&question_id=142&participant_group_id=m1>.

The Maine YRBS shows the following trends:

Total high schoolers' past 30 days: 28% decrease since 1997 (from 30.4% to 22.0%)

9th grade past 30 days: 57% decrease since 1997 (from 25.1% to 10.7%)

10th grade past 30 days: 34% decrease since 1997 (from 29.5% to 19.4%)

11th grade past 30 days: 13% decrease since 1997 (from 35.0% to 30.5%)

12th grade past 30 days: 15% decrease since 1997 (from 33.1% to 28.2%)²⁵

The YRBS data suggest that the percent of Maine teens using marijuana in the past 30 days has decreased more rapidly than nationwide teen use has: 25% nationwide and 28% in Maine. However, comparing Monitoring the Future's nationwide trends with MYDAUS trends suggests the drop in current marijuana use by Maine teenagers might be lagging behind the national decrease in some years. For example, between 1999 and 2005, MTF found 32%, 22%, and 14% decreases in eighth, 10th, and 12th graders' marijuana use, respectively, while MYDAUS found 20%, 10%, and 11% decreases, respectively.²⁶

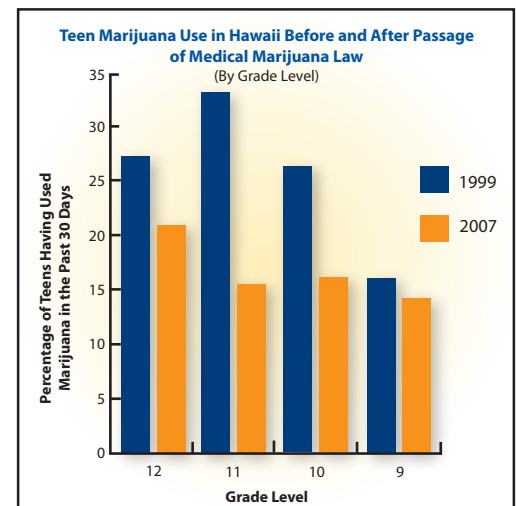
HAWAII (medical marijuana bill signed into law on June 14, 2000)

Data that can be validly compared to trend Hawaiians' teen marijuana use before and after the state's medical marijuana bill was enacted is available from the Hawaii Student Alcohol, Tobacco, and Other Drug Use Studies (HSATODUS) and the Hawaii Youth Risk Behavior Survey (YRBS).²⁷ The results of both studies show decreases in marijuana use in every surveyed grade level — both in current use and lifetime use. However, the HSATODUS does note, "When looking at comparison data from previous years, please note that 2003 data was collected during the fall semester, whereas the 2000 and 2002 data were collected during the spring semester."

The 2007 Hawaii Youth Risk Behavior Surveillance (YRBS) **shows a decrease of 36% in Hawaii high schoolers' current use of marijuana since the medical marijuana law was enacted.** Furthermore, the YRBS shows a 33% decrease in lifetime use by Hawaii high school students since 1999.

The National Surveys on Drug Use and Health (NSDUH) cautions that its state-level data from 2002 and subsequent years should not be compared to prior years' data.²⁸ However, if it is compared, NSDUH data suggests a 15% decrease in marijuana use by 12- to 17-year-olds since its medical marijuana law passed.

The HSATODUS and YRBS are much better surveys to use for comparison purposes. The Hawaii survey and YRBS both provided estimates for four individual grade levels, while the NSDUH failed to break down the data by age group or control for age, despite numerous surveys showing far higher marijuana usage among 10th and 11th graders than middle schoolers. In addition, the NSDUH surveyed a mere 350 Hawaiian 12- to 17-year-olds in 1999, while the Hawaii Student Alcohol, Tobacco, and Other Drug Use Study interviewed 25,860 students in 2000 and 30,361 in 2003.²⁹



25. National Center for Chronic Disease Prevention and Health Promotion, "1997 Maine Youth Risk Behavior Survey"; "2005 Maine Youth Risk Behavior Survey" breakdowns available at < <http://apps.nccd.cdc.gov/yrbss/SelQuestyear.asp?cat=3&desc=Alcohol%20and%20Other%20Drug%20Use&loc=ME>>.

26. "1997 Maine Youth Risk Behavior Survey"; "The 2006 Maine Youth Drug and Alcohol Use Survey"; "Youth Risk Behavior Surveillance, Youth Online: Comprehensive Results"; "Monitoring the Future: National Results on Adolescent Drug Use, 1975-2005," Table 2-3.

27. "The 2003 Hawaii Student Alcohol, Tobacco, and Other Drug Use Survey," p. 2.; National Center for Chronic Disease Prevention and Health Promotion, "1999 Hawaii Youth Risk Behavior Survey"; "2007 Hawaii Youth Risk Behavior Survey" breakdowns available at < <http://apps.nccd.cdc.gov/yrbss/SelQuestyear.asp?cat=3&desc=Alcohol%20and%20Other%20Drug%20Use&loc=HI>>.

28. Substance Abuse and Mental Health Services Administration, Office of Applied Studies, "1999 National Household Survey on Drug Abuse (NHSDA)," Table 3B; "2002-2003 NSDUH: State By State Model Based Estimates," Table 2A.

29. NHSDA, Table 1N.

The Hawaii Student Alcohol, Tobacco, and Other Drug Use Studies show the following changes:³⁰

6th grade past 30-days: 23% decrease since 2000 (from 1.3% to 1.0%)
8th grade past 30-days: 26% decrease since 2000 (from 8.9% to 6.6%)
10th grade past 30-days: 14% decrease since 2000 (from 17.2% to 14.8%)
12th grade past 30-days: 19% decrease since 2000 (from 22.7% to 18.4%)³¹

6th grade lifetime: 38% decrease since 2000 (from 2.4% to 1.5%)
8th grade lifetime: 24% decrease since 2000 (from 15.9% to 12.1%)
10th grade lifetime: 8% decrease since 2000 (from 33.2% to 30.5%)
12th grade lifetime: 3% decrease since 2000 (from 45.8% to 44.4%)

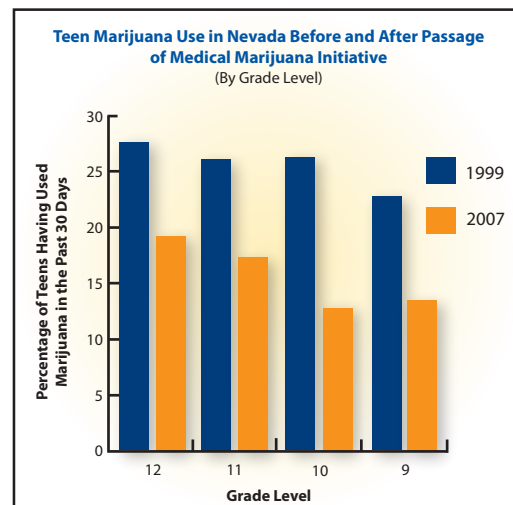
The Hawaii YRBS shows the following changes:³²

All high schoolers' past 30 days: 36% decrease since 1999 (from 24.7% to 15.7%)
9th grade past 30 days: 27% decrease since 1999 (from 15.8% to 11.5%)
10th grade past 30 days: 38% decrease since 1999 (from 25.6% to 15.8%)
11th grade past 30 days: 53% decrease since 1999 (from 33.3% to 15.5%)
12th grade past 30 days: 23% decrease since 1999 (from 27.2% to 21.0%)

All high schoolers' lifetime: 33% decrease since 1999 (from 44.6% to 29.9%)
9th grade lifetime: 30% decrease since 1999 (from 27.8% to 19.6%)
10th grade lifetime: 35% decrease since 1999 (from 45.0% to 29.4%)
11th grade lifetime: 42% decrease since 1999 (from 55.3% to 32.0%)
12th grade lifetime: 29% decrease since 1999 (from 58.0% to 41.4%)

Trends in Hawaii teens' marijuana use since that state removed criminal penalties for the medical use of marijuana compare favorably to nationwide trends. Teenagers' current marijuana use in Hawaii decreased as much as or more than it did nationwide since 2000. The national YRBS estimates a 26% decrease in current use of marijuana, compared to a 36% decrease in use by Hawaii high schoolers. From 1999 to 2007, the national YRBS estimated a 19% drop in the lifetime use of marijuana by America's high school students, while the Hawaii YRBS shows a 33% decrease.³³ Comparing the HSATODUS data to national Monitoring the Future data indicates that the percentage of 8th and 12th grade Hawaiians who used marijuana within the past month dropped by significantly more than nationwide 8th and 12th graders' current use. Hawaiian eighth graders' lifetime marijuana use decreased by a substantially higher percent than nationwide 8th graders' use, but 10th and 12th graders' lifetime use decreased at a slightly lower rate than their counterparts nationwide.³⁴

Although the NSDUH advised that data from 2002 and later are not comparable to earlier data, it should be noted that if those years were compared, Hawaii has an estimated 15%



30. "2000 Hawaii Student Alcohol, Tobacco, and Other Drug Use Study Executive Summary," p. 29; "The 2003 Hawaii Student Alcohol, Tobacco, and Other Drug Use Survey," p. 8.
31. Hawaii Department of Health, "2000 Hawaii Student Alcohol, Tobacco, and Other Drug Use Survey Executive Summary," p. 10; Hawaii Department of Health, "The 2003 Hawaii Student Alcohol, Tobacco, and Other Drug Use Survey," p. 9.
32. National Center for Chronic Disease Prevention and Health Promotion, "Hawaii Youth Risk Behavior Survey 1999"; "Hawaii Youth Risk Behavior Survey 2007"; breakdowns available at < <http://apps.nccd.cdc.gov/yrbss/SelQuestyear.asp?cat=3&desc=Alcohol%20and%20Other%20Drug%20Use&loc=HI>>.
33. National Center for Chronic Disease Prevention and Health Promotion, "1999 Hawaii Youth Risk Behavior Survey"; "2007 Hawaii Youth Risk Behavior Survey" breakdowns available at < <http://apps.nccd.cdc.gov/yrbss/SelQuestyear.asp?cat=3&desc=Alcohol%20and%20Other%20Drug%20Use&loc=HI>>; "Youth Risk Behavior Surveillance, Youth Online: Comprehensive Results."
34. Ibid.; "Monitoring the Future: National Results on Adolescent Drug Use, 1975-2004," Table 5-5 a and 5-5c.

decrease, while there was a 6% decrease in the nationwide marijuana use by 12- to 17-year-olds.

NEVADA (medical marijuana initiative passed November 7, 2000)

Both available surveys of adolescent marijuana usage in Nevada show a decrease since Nevada voters passed a medical marijuana initiative on November 7, 2000. In 2007, the Nevada YRBS found that roughly 40% fewer higher schoolers used marijuana in the past 30 days than in 1999, before the initiative first passed. It also showed a 29% drop in high schoolers' lifetime marijuana use.

The NSDUH data (which suffer the methodological shortcomings noted in the Hawaii section) also estimate a 35% decrease in youth marijuana use since the medical marijuana law passed.

The Nevada YRBS shows the following changes:³⁵

All high schoolers' past 30 days: 40% decrease since 1999 (from 25.9% to 15.5%)

9th grade past 30 days: 43% decrease since 1999 (from 23.6% to 13.5%)

10th grade past 30 days: 50% decrease since 1999 (from 26.1% to 13.0%)

11th grade past 30 days: 31% decrease since 1999 (from 25.9% to 18.0%)

12th grade past 30 days: 29% decrease since 1999 (from 27.5% to 19.5%)

All high schoolers' lifetime: 29% decrease since 1999 (from 49.5% to 35.3%)

9th grade lifetime: 32% decrease since 1999 (from 40.6% to 27.7%)

10th grade lifetime: 35% decrease since 1999 (from 51.0% to 33.2%)

11th grade lifetime: 25% decrease since 1999 (from 52.1% to 39.1%)

12th grade lifetime: 13% decrease since 1999 (from 54.9% to 47.8%)

The decline in high schoolers' current marijuana use and lifetime marijuana use in Nevada is greater than the nationwide numbers. The national YRBS estimates a 26% decline in high schoolers' past 30-day marijuana use, while Nevada estimates a 40% decline. The Nevada YRBS suggests a 29% decrease in high schoolers' lifetime marijuana use, while the national YRBS shows a 19% decline.³⁶

The NSDUH data (which are not supposed to be trended) suggest dramatically better trends in Nevada than nationwide: The data suggest a 6% decrease in marijuana use between 1999 and 2005-2006 nationwide, while Nevada's NSDUH data suggest a drop of 35%.

COLORADO (medical marijuana initiative passed November 7, 2000)

The only weighted survey showing statewide teen marijuana use both before and after the passage of Colorado's medical marijuana law is the NSDUH. As noted earlier, the NSDUH has said that the data from 2002 and subsequent years are not comparable to prior years' data. Colorado participated in the Youth Behavior Risk Survey in 2005, but this was the first time since 1995 that the state had done so. Therefore, accurate data on teen marijuana use rates before the enactment of the state's medical marijuana law are not available.

Furthermore, the other NSDUH methodological shortcomings noted above — a small sample size (of 895 in Colorado) and lack of differentiation by age — apply to the Colorado data as well. The available data, however, suggest a decrease in teen marijuana use. According to the NSDUH estimates, past month marijuana use by 12- to 17-year-olds decreased by 28% between 1999 and 2005-2006, from 10.3% to 7.44%.³⁷ It is worth noting that the

35. National Center for Chronic Disease Prevention and Health Promotion, "Nevada Youth Risk Behavior Survey 1999"; "Nevada Youth Risk Behavior Survey 2007"; breakdowns available at <<http://apps.nccd.cdc.gov/yrbs/SelQuestyear.asp?cat=3&desc=Alcohol%20and%20Other%20Drug%20Use&loc=NV>>.

36. *Ibid.*; "Youth Risk Behavior Surveillance, Youth Online: Comprehensive Results."

37. "State Estimates of Substance Use from the 2005-2006 National Surveys on Drug Use and Health," Table B.3. Data available online at <<http://www.oas.samhsa.gov/2k6state/AppB.htm>>.

NSDUH stated that the 2002 data showed higher prevalence rates than can be accounted for based on year-to-year trends.³⁸

The 2005-2006 NSDUH estimates that 6.74% of 12- to 17-year olds nationwide had used marijuana in the past 30 days. This was a 6% decrease from the 7.2% reported in 1999. In contrast, its 2005-2006 data for Colorado suggest a much larger, 28% decrease.³⁹

VERMONT (medical marijuana bill became law without governor's signature on May 26, 2004)

Vermont's medical marijuana law took effect on July 1, 2004. The most reliable available data to compare teen use before and after the law took effect is the Vermont Youth Risk Behavior Surveillance (YRBS) survey. This survey of Vermont high school students was conducted in 2003 and in 2007. Overall, Vermont high school students' current marijuana usage has decreased by more than 15% during that time. The Vermont YRBS does not have data on lifetime marijuana use for 2003, so we cannot compare that trend.

The Vermont YRBS shows the following trends:⁴⁰

All high schoolers' past 30 days: 15% decrease since 2003 (from 28.2% to 24.1%)

9th grade past 30 days: 28% decrease since 2003 (from 19.5% to 14%)

10th grade past 30 days: 16% decrease since 2003 (from 26.6% to 22.4%)

11th grade past 30 days: 12% decrease since 2003 (from 30.7% to 26.9%)

12th grade past 30 days: 9% decrease since 2003 (from 37.2% to 33.7%)

The decline in Vermont high schoolers' current marijuana usage is better than the national average — decreasing by 15% between 2003 and 2007, while the national average decreased by 9.8%.⁴¹

The NSDUH data for Vermont suggest a 9% decrease in marijuana use by 12- to 17-year-olds between 2003-2004 and 2005-2006. Nationally, the NSDUH data estimates that teen use decreased by 12%.⁴²

MONTANA (medical marijuana initiative passed November 2, 2004)

Montana's medical marijuana initiative was enacted on November 2, 2004. The most reliable survey data available to analyze teen marijuana use in Montana before and after the enactment of the medical marijuana initiative is the Montana Youth Risk Behavior Surveillance (YRBS) survey. **The data from the 2003 Montana YRBS and the 2007 YRBS show an overall decrease in both current marijuana use and lifetime marijuana use by Montana high school students**, as well as decreases for both current and lifetime use at all grade levels, except 11th graders current usage, which had a slight increase of 2%.⁴³

All high schoolers' past 30 days: 9% decrease since 2003 (from 23.1% to 21.0%)

9th grade past 30 days: 1% decrease since 2003 (from 16.7% to 16.5%)

10th grade past 30 days: 13% decrease since 2003 (from 22.9% to 19.9%)

11th grade past 30 days: 2% increase since 2003 (from 24.0% to 24.5%)

12th grade past 30 days: 20% decrease since 2003 (from 29.1% to 23.4%)

38. NSDUH 2003, Introduction, 1.2. "An unanticipated result of these changes was that the prevalence rates for 2002 were in general substantially higher than those for 2001—substantially higher than could be attributable to the usual year-to-year trend—and thus are not comparable with estimates for 2001 and prior years."

39. Compared to surveys that divide the sample by grade, are comparable across years, and have large sample sizes, the NSDUH data is not nearly as reliable.

40. National Center for Chronic Disease Prevention and Health Promotion, "2003 Vermont Youth Risk Behavior Survey," breakdowns available at < <http://apps.nccd.cdc.gov/yrbss/SelQuestyear.asp?cat=3&desc=Alcohol%20and%20Other%20Drug%20Use&loc=VT>>. "2007 Vermont Youth Risk Behavior Survey," breakdowns available at < http://healthvermont.gov/pubs/yrbss2007/yrbss_2007.aspx>.

41. Ibid. Youth Risk Behavior Surveillance, Youth Online: Comprehensive Results.

42. "State Estimates of Substance Use from the 2005-2006 National Surveys on Drug Use and Health," Table B.3. Data available online at <<http://www.oas.samhsa.gov/2k6state/AppB.htm>>.

43. National Center for Chronic Disease Prevention and Health Promotion, "2003 Montana Youth Risk Behavior Survey"; "2007 Montana Youth Risk Behavior Survey" breakdowns available at < <http://apps.nccd.cdc.gov/yrbss/SelQuestyear.asp?cat=3&desc=Alcohol%20and%20Other%20Drug%20Use&loc=MT>>.

All high schoolers' lifetime: 11% decrease since 2003 (from 43.9% to 39.1%)

9th grade lifetime: 12% decrease since 2003 (from 30.0% to 26.4%)

10th grade lifetime: 13% decrease since 2003 (from 42.3% to 36.8%)

11th grade lifetime: 7% decrease since 2003 (from 49.2% to 45.8%)

12th grade lifetime: 13% decrease since 2003 (from 55.8% to 48.5%)

The Montana YRBS data for lifetime usage compares favorably with the national data. Between 2003 and 2007, Montana high schoolers' lifetime marijuana usage decreased by 11%, while nationally, between 2003 and 2007, high schoolers' lifetime usage only decreased by 5%.

Unlike most of the other medical marijuana states, Montana teens' current marijuana usage rates have not decreased by as much as national rates have since it enacted its medical marijuana law. The national YRBS data suggest a decrease in teens' current marijuana usage of 12% between 2003 and 2007; however, Montana high schoolers' current marijuana usage decreased by 9% during that period.⁴⁴

The NSDUH data for Montana, which is not as reliable as the YRBS data, actually suggest that Montana's 12- to 17-year-olds' usage of marijuana has decreased by 17%, which is greater than the national estimate of a 12% decline amongst 12- to 17-year-olds.⁴⁵

RHODE ISLAND (medical marijuana bill became law January 3, 2006)

Rhode Island's medical marijuana bill became law on January 3, 2006, following the override of Governor Donald Carcieri's veto. The only survey data available to analyze teen marijuana use in Rhode Island before and after the enactment of the medical marijuana initiative is the Rhode Island Youth Risk Behavior Surveillance (YRBS) survey. The data from the 2005 Rhode Island YRBS and the 2007 YRBS show an overall decrease in both current marijuana use and lifetime marijuana use by Rhode Island high school students.⁴⁶

All high schoolers' past 30 days: 7% decrease since 2005 (from 25.0% to 23.2%)

9th grade past 30 days: 3% increase since 2005 (from 18.3% to 18.9%)

10th grade past 30 days: 2% increase since 2005 (from 21.8% to 22.2%)

11th grade past 30 days: 11% decrease since 2005 (from 27.4% to 24.3%)

12th grade past 30 days: 17% decrease since 2005 (from 34.3% to 28.5%)

All high schoolers' lifetime: 4% decrease since 2005 (from 42.6% to 40.3%)

9th grade lifetime: 4% increase since 2005 (from 30.4% to 29.2%)

10th grade lifetime: 7% decrease since 2005 (from 36.4% to 37.9%)

11th grade lifetime: 11% decrease since 2005 (from 48.6% to 45.3%)

12th grade lifetime: 5% decrease since 2005 (from 58.6% to 52.0%)

The Rhode Island YRBS data for lifetime and current usage compares favorably with the national data. Between 2005 and 2007, Rhode Island high schoolers' lifetime marijuana usage decreased by 4%, while nationally, between 2005 and 2007, high schoolers' lifetime usage only decreased by 1%. Rhode Island high schoolers' current marijuana usage decreased by 7% between 2005 and 2007, while nationally, current usage only decreased by 2%.⁴⁷

NEW MEXICO (medical marijuana bill became law April 2, 2007)

44. "2007 Montana Youth Risk Behavior Survey," results available at <<http://opi.mt.gov/YRBS>>.

45. "State Estimates of Substance Use from the 2005-2006 National Surveys on Drug Use and Health," Table B.3. Data available online at <<http://www.oas.samhsa.gov/2k6state/AppB.htm>>.

46. National Center for Chronic Disease Prevention and Health Promotion, "2005 Rhode Island Youth Risk Behavior Survey"; "2007 Rhode Island Youth Risk Behavior Survey" breakdowns available at <<http://apps.nccd.cdc.gov/yrbss/SelQuestyear.asp?cat=3&desc=Alcohol%20and%20Other%20Drug%20Use&loc=RI>>.

47. Ibid; "Youth Risk Behavior Surveillance, Youth Online: Comprehensive Results." Available at <<http://apps.nccd.cdc.gov/yrbss/SelQuestyear.asp?cat=3&desc=Alcohol%20and%20Other%20Drug%20Use&loc=XX>>.

Governor Bill Richardson signed New Mexico's medical marijuana bill on April 2, 2007. As of this writing, no publicly released surveys have estimated teens' marijuana use since the law's passage.

CONCLUSIONS AND RECOMMENDATIONS

Since the mid-1990s, the U.S. has witnessed a well-publicized and sometimes emotional national debate over the medical use of marijuana. Contrary to the fears expressed by opponents of medical marijuana laws, there is no evidence that the enactment of 12 state medical marijuana laws has produced an increase in adolescent marijuana use in those states or nationwide. Instead, data from those states suggest a modest decline overall, with very large declines in some age groups in some states. Overall, the decrease in teen marijuana use in medical marijuana states has slightly exceeded the national decline. No state with a medical marijuana law has experienced an overall increase in youth marijuana use since it passed its medical marijuana law.

While it is not possible with existing data to determine conclusively that state medical marijuana laws caused the documented declines in adolescent marijuana use, the overwhelming downward trend strongly suggests that the effect of state medical marijuana laws on teen marijuana use has been either neutral or positive, discouraging youthful experimentation with the drug. California researchers, who appear to be the only ones to specifically study the issue in the context of a survey of adolescent drug use, found no evidence of a "wrong message" effect. The reasons for this lack of impact have not been adequately studied. Perhaps medical marijuana laws send a very different message than opponents of such laws have suggested: Marijuana is a treatment for serious illness, not a toy, and requires cautious and careful handling. Legislators considering medical marijuana proposals should evaluate the bills on their own merits, without concern for unproven claims that such laws increase teen marijuana use. Opponents of medical marijuana laws should cease making such unsubstantiated claims.

APPENDIX

Comparing Marijuana Use Trends in Medical Marijuana States with National Trends

The following tables compare before-and-after data on teen marijuana use in medical marijuana states with the national data.⁴⁸ In each case, the state data were compared to national data that were the closest match in terms of grades surveyed and years in which the surveys were conducted. If both national and statewide YRBS's were conducted, those data were compared.

California

The following table compares trends between California's 1995/1996 and its 2005/2006 CSS with trends between the 1995 and 2005 national YRBS.

| Lifetime use | YRBS | California | YRBS | California |
|------------------------|--------------|-------------------|----------------|-------------------|
| 9 th grade | 13% decrease | 36% decrease | 33.8% to 29.3% | 35% to 22.3% |
| 11 th grade | 8% decrease | 19% decrease | 45.8% to 42.3% | 46.9% to 38.2% |

| Past 30-day | YRBS | California | YRBS | California |
|------------------------|--------------|-------------------|----------------|-------------------|
| 9 th grade | 11% decrease | 47% decrease | 20.9% to 18.5% | 23.6% to 12.6% |
| 11 th grade | 12% decrease | 26% decrease | 27.6% to 24.1% | 25.9% to 19.2% |

Washington

The following table compares trends between Washington's 1998 WSSAHB and its 2006 HYS with trends between the 1998 and 2006 Monitoring the Future surveys.

| LIFETIME USE | MTF | WASHINGTON | MTF | WASHINGTON |
|------------------------|--------------|-------------------|----------------|-------------------|
| 8 th grade | 29% decrease | 62% decrease | 22.2% to 15.7% | 28.2% to 10.7% |
| 10 th grade | 20% decrease | 38% decrease | 39.6% to 31.8% | 49.5% to 30.8% |
| 12 th grade | 14% decrease | 22% decrease | 49.1% to 42.3% | 55.1% to 43.1% |

| Past 30-day | MTF | Washington | MTF | Washington |
|------------------------|--------------|-------------------|----------------|-------------------|
| 8 th grade | 33% decrease | 58% decrease | 9.7% to 6.5% | 16.5% to 7.0% |
| 10 th grade | 24% decrease | 31% decrease | 18.7% to 14.2% | 26.6% to 18.3% |
| 12 th grade | 20% decrease | 25% decrease | 22.8% to 18.3% | 28.7% to 21.6% |

48. "Youth Risk Behavior Surveillance, Youth Online: Comprehensive Results;" "Monitoring the Future: National Results on Adolescent Drug Use 2007," Table 1 and 3. Citations for state data are available in each appropriate state's section.

Oregon

The following table compares marijuana use trends between a number of Oregon surveys and the national YRBS and Monitoring the Future (MTF) surveys. It compares Oregon's 1997 YRBS and 2007 OHT data on 11th graders' marijuana use with the national YRBS from the same years. It also compares 1998 OPSDUS data and 2005 OHT on eighth grade and eleventh grade use with national YRBS data from 1997 and 2005. Finally, it compares 1998 OPSDUS data and 2007 OHT data on eighth graders' use with the national 1998 and 2007 MTF data.

| Lifetime use | YRBS | Oregon | YRBS | Oregon |
|--|--------------|---------------|----------------|----------------|
| 11 th grade (‘97 YRBS) | 16% decrease | 16% decrease | 50.3% to 42.3% | 47% to 39.4% |
| 11 th grade (‘98 OPSDUS) | 16% decrease | 13% decrease | 50.3% to 42.3% | 45.4% to 39.4% |
| Past 30-day use | YRBS | Oregon | YRBS | Oregon |
| 11 th grade (‘97 YRBS) | 28% decrease | 11% decrease | 29.3% to 21.0% | 21.0% to 18.6% |
| 11 th grade (‘98 OPSDUS) | 28% decrease | 20% decrease | 29.3% to 21.0% | 23.3% to 18.6% |
| Lifetime use | MTF | Oregon | MTF | Oregon |
| 8 th grade | 36% decrease | 33% decrease | 22.2% to 14.2% | 25.3% to 16.9% |
| Past 30-day use | MTF | Oregon | MTF | Oregon |
| 8 th grade | 41% decrease | 23% decrease | 9.7% to 5.7% | 11.6% to 8.9% |

Alaska

The following table compares trends between Alaska's 1995 and 2007 YRBS with the national YRBS surveys from the identical years.

| Lifetime use | YRBS | Alaska | YRBS | Alaska |
|------------------------|--------------|---------------|----------------|----------------|
| Total | 10% decrease | 8% decrease | 42.4% to 38.1% | 48.4% to 44.7% |
| 9 th grade | 19% decrease | 21% decrease | 33.8% to 27.5% | 43.9% to 34.8% |
| 10 th grade | 11% decrease | 13% increase | 41.4% to 36.9% | 44.7% to 50.3% |
| 11 th grade | 7% decrease | 18% decrease | 45.8% to 42.4% | 52.8% to 43.3% |
| 12 th grade | 4% increase | 0.5% decrease | 47% to 49.1% | 52.6% to 52.3% |
| Past 30-day | YRBS | Alaska | YRBS | Alaska |
| Total | 22% decrease | 29% decrease | 25.3% to 19.7% | 28.7% to 20.5% |
| 9 th grade | 30% decrease | 39% decrease | 20.9% to 14.7% | 27.8% to 16.9% |
| 10 th grade | 24% decrease | 8% increase | 25.5% to 19.3% | 25.7% to 23.7% |
| 11 th grade | 22% decrease | 38% decrease | 27.6% to 21.4% | 31.7% to 19.8% |
| 12 th grade | 4% decrease | 28% decrease | 26.2% to 25.1% | 30.9% to 22.2% |

Maine

The following table compares trends between two different Maine surveys and the national YRBS and Monitoring the Future surveys. It compares Maine's 1997 and 2007 YRBS data with national data from the same years. (Maine did not conduct the YRBS in 1999.) It also compares 1998/1999 and 2006 MYDAUS data with Monitoring the Future data from 1999 and 2006. Finally, it compares 1998/1999 and 2006 MYDAUS data with national YRBS data from 1999 and 2007.

| Past 30-day | YRBS | Maine | YRBS | Maine |
|------------------------|--------------|--------------|----------------|----------------|
| Total | 25% decrease | 28% decrease | 26.2% to 19.7% | 30.4% to 22.0% |
| 9 th grade | 38% decrease | 57% decrease | 23.6% to 14.7% | 25.1% to 10.7% |
| 10 th grade | 23% decrease | 34% decrease | 25% to 19.3% | 29.5% to 19.4% |
| 11 th grade | 27% decrease | 13% decrease | 29.3% to 21.4% | 35.0% to 30.5% |
| 12 th grade | 6% decrease | 15% decrease | 26.6% to 25.1% | 33.1% to 28.2% |

| Lifetime | MTF | Maine (MYDAUS) | MTF | Maine (MYDAUS) |
|------------------------|--------------|----------------|----------------|----------------|
| 8 th grade | 25% decrease | 28% decrease | 22% to 16.5% | 17.2% to 12.3% |
| 10 th grade | 17% decrease | 15% decrease | 40.9% to 34.1% | 40.8% to 34.8% |
| 12 th grade | 10% decrease | 14% decrease | 49.7% to 44.8% | 57.7% to 49.7% |

| Past 30-day | MTF | Maine (MYDAUS) | MTF | Maine (MYDAUS) |
|------------------------|--------------|----------------|----------------|----------------|
| 8 th grade | 32% decrease | 20% decrease | 9.7% to 6.6% | 8.2% to 6.6% |
| 10 th grade | 22% decrease | 10% decrease | 19.4% to 15.2% | 22.7% to 20.4% |
| 12 th grade | 14% decrease | 11% decrease | 23.1% to 19.8% | 30.4% to 27.2% |

| Past 30-day | YRBS | Maine (MYDAUS) | YRBS | Maine (MYDAUS) |
|------------------------|--------------|----------------|----------------|----------------|
| 9 th grade | 38% decrease | 26% decrease | 21.7% to 14.7% | 18.5% to 13.7% |
| 11 th grade | 27% decrease | 11% decrease | 26.7% to 21.4% | 28.5% to 25.5% |

| Lifetime | YRBS | Maine (MYDAUS) | YRBS | Maine (MYDAUS) |
|------------------------|--------------|----------------|----------------|----------------|
| 9 th grade | 21% decrease | 23% decrease | 34.8% to 27.5% | 31.2% to 24.0% |
| 11 th grade | 15% decrease | 11% decrease | 49.7% to 42.4% | 50.6% to 45.1% |

Hawaii

The following table compares trends between the 2000 and 2003 Hawaii Student Alcohol, Tobacco, and other Drug Use Studies with the Monitoring the Future surveys from the identical years.

| Lifetime use | MTF | Hawaii | MTF | Hawaii |
|------------------------|--------------|--------------|----------------|----------------|
| 8 th grade | 14% decrease | 24% decrease | 20.3% to 17.5% | 15.9% to 12.1% |
| 10 th grade | 10% decrease | 8% decrease | 40.3% to 36.4% | 33.2% to 30.5% |
| 12 th grade | 6% decrease | 3% decrease | 48.8% to 46.1% | 45.8% to 44.4% |

| Past 30-day | MTF | Hawaii | MTF | Hawaii |
|------------------------|--------------|--------------|----------------|----------------|
| 8 th grade | 18% decrease | 26% decrease | 9.1% to 7.5% | 8.9% to 6.6% |
| 10 th grade | 14% decrease | 14% decrease | 19.7% to 17% | 17.2% to 14.8% |
| 12 th grade | 2% decrease | 19% decrease | 21.6% to 21.2% | 22.7% to 18.4% |

The following table notes the differences between trends in the national YRBS data from 1999 until 2007 and Hawaii's data from 1999 until 2007.

| Lifetime use | YRBS | Hawaii | YRBS | Hawaii |
|------------------------|--------------|--------------|----------------|----------------|
| Total | 19% decrease | 33% decrease | 47.2% to 38.1% | 44.6% to 29.9% |
| 9 th grade | 21% decrease | 30% decrease | 34.8% to 27.5% | 27.8% to 19.6% |
| 10 th grade | 25% decrease | 35% decrease | 49.1% to 36.9% | 45% to 29.4% |
| 11 th grade | 15% decrease | 42% decrease | 49.7% to 42.4% | 55.3% to 32.0% |
| 12 th grade | 16% decrease | 29% decrease | 58.4% to 49.1% | 58% to 41.4% |

| Past 30-day | YRBS | Hawaii | YRBS | Hawaii |
|------------------------|--------------|--------------|----------------|----------------|
| Total | 26% decrease | 36% decrease | 26.7% to 19.7% | 24.7% to 15.7% |
| 9 th grade | 32% decrease | 27% decrease | 21.7% to 14.7% | 15.8% to 11.5% |
| 10 th grade | 31% decrease | 38% decrease | 27.8% to 19.3% | 25.6% to 15.8% |
| 11 th grade | 20% decrease | 53% decrease | 26.7% to 21.4% | 33.3% to 15.5% |
| 12 th grade | 20% decrease | 23% decrease | 31.5% to 25.1% | 27.2% to 21.0% |

The following table notes the differences between trends in the national NSDUH data from 1999 until 2005/2006 with Hawaii's data from 1999 until 2005/2006. However, the state's data are not considered comparable by the NSDUH due to methodological changes.

| Past 30-day | NSDUH | Hawaii | NSDUH | Hawaii |
|------------------|-------------|--------------|---------------|---------------|
| 12- to 17- years | 6% decrease | 15% decrease | 7.2% to 6.74% | 8.3% to 7.04% |

Nevada

The following table compares trends between Nevada's 1999 and 2007 YRBS with the national YRBS surveys from the identical years.

| Lifetime use | YRBS | Nevada | YRBS | Nevada |
|------------------------|--------------|--------------|----------------|----------------|
| Total | 19% decrease | 29% decrease | 47.2% to 38.1% | 49.5% to 39.3% |
| 9 th grade | 21% decrease | 32% decrease | 34.8% to 27.5% | 40.6% to 32.6% |
| 10 th grade | 25% decrease | 35% decrease | 49.1% to 36.9% | 51.0% to 35.1% |
| 11 th grade | 15% decrease | 25% decrease | 49.7% to 42.4% | 52.1% to 45.3% |
| 12 th grade | 16% decrease | 13% decrease | 58.4% to 49.1% | 54.9% to 48.4% |

| Past 30-day | YRBS | Nevada | YRBS | Nevada |
|------------------------|--------------|--------------|----------------|----------------|
| Total | 26% decrease | 40% decrease | 26.7% to 19.7% | 25.9% to 15.5% |
| 9 th grade | 32% decrease | 43% decrease | 21.7% to 14.7% | 23.6% to 13.5% |
| 10 th grade | 31% decrease | 50% decrease | 27.8% to 19.3% | 26.1% to 13.0% |
| 11 th grade | 20% decrease | 31% decrease | 26.7% to 21.4% | 25.9% to 28.0% |
| 12 th grade | 20% decrease | 29% decrease | 31.5% to 25.1% | 27.5% to 19.5% |

The following table notes the differences between trends in the national NSDUH data from 1999 until 2005/2006 and Nevada's NSDUH data from 1999 until 2005/2006. As noted, the state data are not considered comparable by the NSDUH due to methodological changes.

| Past 30-day | NSDUH | Nevada | NSDUH | Nevada |
|------------------|-------------|--------------|---------------|----------------|
| 12- to 17- years | 6% decrease | 35% decrease | 7.2% to 6.47% | 11.6% to 7.57% |

Colorado

The following table notes the differences between trends in the national NSDUH data from 1999 until 2005/2006 and Colorado's NSDUH data from 1999 until 2005/2006. As noted, the state data are not considered comparable by the NSDUH due to methodological changes.

| Past 30-day | NSDUH | Colorado | NSDUH | Colorado |
|------------------|-------------|--------------|---------------|----------------|
| 12- to 17- years | 6% decrease | 28% decrease | 7.2% to 6.74% | 10.3% to 7.44% |

Vermont

The following table compares the trends between Vermont's 2003 and 2007 YRBS with the national YRBS surveys from the same years.

| Past 30-day | YRBS | Vermont | YRBS | Vermont |
|------------------------|--------------|--------------|----------------|----------------|
| Total | 12% decrease | 15% decrease | 22.4% to 19.7% | 28.2% to 24.1% |
| 9 th grade | 21% decrease | 28% decrease | 18.5% to 14.7% | 19.5% to 14.0% |
| 10 th grade | 12% decrease | 16% decrease | 22.0% to 19.3% | 26.6% to 22.4% |
| 11 th grade | 11% decrease | 12% decrease | 24.1% to 21.4% | 30.7% to 26.9% |
| 12 th grade | 3% decrease | 9% decrease | 25.8% to 25.1% | 37.2% to 33.7% |

The following table notes the differences between trends in the national NSDUH data from 2003/2004 until 2005/2006 and Vermont's NSDUH data from 2003/2004 until 2005/2006.

| Past 30-day | NSDUH | Vermont | NSDUH | Vermont |
|------------------|--------------|-------------|---------------|------------------|
| 12- to 17- years | 12% decrease | 9% decrease | 7.7% to 6.74% | 11.11% to 10.08% |

Montana

The following table compares the trends between Montana's 2003 and 2007 YRBS with the national YRBS surveys from the same years.

| Past 30-day | YRBS | Montana | YRBS | Montana |
|------------------------|--------------|--------------|----------------|----------------|
| Total | 12% decrease | 9% decrease | 22.4% to 19.7% | 23.1% to 21.0% |
| 9 th grade | 21% decrease | 1% decrease | 18.5% to 14.7% | 16.7% to 16.5% |
| 10 th grade | 12% decrease | 13% decrease | 22.0% to 19.3% | 22.9% to 19.9% |
| 11 th grade | 11% decrease | 2% increase | 24.1% to 21.4% | 24.0% to 24.5% |
| 12 th grade | 3% decrease | 20% decrease | 25.8% to 25.1% | 29.1% to 23.4% |

| Lifetime Use | YRBS | Montana | YRBS | Montana |
|------------------------|--------------|----------------|----------------|----------------|
| Total | 5% decrease | 11% decrease | 40.2% to 38.1% | 43.9% to 39.1% |
| 9 th grade | 10% decrease | 12% decrease | 30.7% to 27.5% | 30% to 26.4% |
| 10 th grade | 9% decrease | 13% decrease | 40.4% to 36.9% | 42.3% to 36.8% |
| 11 th grade | 5% decrease | 7% decrease | 44.5% to 42.4% | 49.2% to 45.8% |
| 12 th grade | 1% increase | 13% decrease | 48.5% to 49.1% | 55.8% to 54.2% |

The following table notes the differences between trends in the national NSDUH data from 2003/2004 until 2005/2006 and Montana's NSDUH data from 2003/2004 until 2005/2006.

| Past 30-day | NSDUH | Montana | NSDUH | Montana |
|--------------------|--------------|----------------|---------------|------------------|
| 12- to 17- years | 12% decrease | 17% decrease | 7.7% to 6.74% | 12.73% to 10.56% |

Rhode Island

The following table compares the trends between Rhode Island's 2005 and 2007 with the national YRBS surveys from the same years.

| Past 30-day | YRBS | Rhode Island | YRBS | Rhode Island |
|------------------------|--------------|---------------------|----------------|---------------------|
| Total | 2% decrease | 7% decrease | 20.2% to 19.7% | 25.0% to 23.2% |
| 9 th grade | 16% decrease | 3% increase | 17.4% to 14.7% | 18.3% to 18.9% |
| 10 th grade | 4% decrease | 2% increase | 20.2% to 19.3% | 21.8% to 22.2% |
| 11 th grade | 2% increase | 11% decrease | 21.0% to 21.4% | 27.4% to 24.3% |
| 12 th grade | 10% increase | 17% decrease | 22.8% to 25.1% | 34.3% to 28.5% |

| Lifetime Use | YRBS | Rhode Island | YRBS | Rhode Island |
|------------------------|-----------------|---------------------|----------------|---------------------|
| Total | 1% decrease | 4% decrease | 38.4% to 38.1% | 42.6% to 40.3% |
| 9 th grade | 6% decrease | 4% increase | 29.3% to 27.5% | 30.4% to 29.2% |
| 10 th grade | 1% decrease | 7% decrease | 37.4% to 36.9% | 36.4% to 37.9% |
| 11 th grade | slight increase | 11% decrease | 42.3% to 42.4% | 48.6% to 45.3% |
| 12 th grade | 3% increase | 5% decrease | 47.6% to 49.1% | 58.6% to 52.0% |