

September 2014

## Preventing Youth Substance Use: *A Review of Thirteen Programs*

Initiative 502 (I-502) was passed by Washington State voters in November 2012. The initiative legalized recreational marijuana use for adults age 21 and over and authorized Washington's Liquor Control Board to establish a state-licensed system for the production, processing, and retail sale of marijuana.

The initiative also directed the Washington State Institute for Public Policy (WSIPP) to conduct a benefit-cost evaluation of the implementation of I-502 by examining outcomes related to:

- public health,
- public safety,
- criminal justice,
- economic impacts, and
- agencies' administrative costs and revenues.<sup>1</sup>

WSIPP is consulting with a variety of state agencies to fulfill the requirements of the assignment, including the Division of Behavioral Health and Recovery (DBHR) in the Department of Social and Health Services (DSHS). I-502 directs DBHR to allocate at least 85% of its share of disbursements from the state's dedicated marijuana fund to "evidence-based and cost-beneficial programs and practices that produce objectively measurable results."<sup>2</sup>

<sup>1</sup> The initiative requires a progress report by September 2015 and the final outcome evaluation by 2032.

<sup>2</sup> Initiative Measure No. 502. Full text available at <http://apps.leg.wa.gov/documents/billdocs/2011-12/Pdf/Initiatives/Initiatives/INITIATIVE%20502.pdf>

### Summary

Initiative 502, passed by Washington voters in November 2012, legalized recreational marijuana use for adults in the state. The initiative directed WSIPP to evaluate the policy by considering benefits and costs across a number of key areas including public health, public safety, and criminal justice.

As part of this assignment, we reviewed the evaluation literature on 13 youth prevention programs. These programs are on the state Department of Behavioral Health and Recovery's preliminary list of evidence-based programs with marijuana prevention outcomes.

Using the WSIPP benefit-cost methodology, we determined whether implementing the programs in the state would yield benefits that outweigh costs. First, we reviewed all available evaluation literature to calculate whether each program achieves outcomes. We then considered the cost of implementing each program and derived a benefit-cost result and an estimated risk associated with the bottom-line findings.

We were not able to include two of the 13 programs in our analyses because we found no rigorous evaluations of them.

Of the remaining 11 programs, we found that nine can be expected to have favorable benefit-to-cost results, although the risk varies widely.

The legislature has established a three-tiered classification for programs: evidence-based, research-based, and promising. Using these definitions, one program—Life Skills Training—is a top-tier "evidence-based" program. Seven of the programs meet the criteria for a second-tier "research-based" designation, while two programs are "promising." One program produces poor outcomes.

These evidence-based programs must focus on the prevention or treatment of substance use among middle and high school-aged students.

To help DBHR meet this requirement and as part of our broader I-502 assignment, WSIPP conducted an independent benefit-cost analysis of 13 youth prevention programs (described in Section III of this report). These 13 programs are on DBHR's preliminary list of evidence-based programs with marijuana prevention outcomes.<sup>3</sup>

WSIPP applied its standard research methodology to determine whether—and to what degree of certainty—each program's benefits are likely to exceed costs. Our methodology involves a three-step procedure as described in the next section.

## I. Research Approach

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When WSIPP carries out study assignments from the legislature to identify what works in public policy, we implement a three-step research approach.

### Step 1: What Works? What Does Not?

In the first step, we estimate whether various programs and policies can achieve desired outcomes, such as reductions in marijuana use. We carefully analyze all high-quality studies from the United States and elsewhere to identify those programs and policies found to impact outcomes. We focus on research studies with strong evaluation designs and exclude studies with weak research methods.

Our empirical approach follows a meta-analytic framework to systematically assess all credible evaluations we can locate on a given topic. Given the weight of the collective evidence, we calculate an average expected effect of a program or policy on a particular outcome of interest.

In our analyses, we consider the programs' effects on all reported outcomes. When we reviewed the evaluation literature for these 13 programs and conducted the meta-analyses, we examined their effects on marijuana use, as well as outcomes related to alcohol, tobacco, or other drug use; mental health (e.g., anxiety or depression); school-related outcomes such as test scores and grade point average; and crime. Examining these additional outcomes allows us to get a comprehensive view of effectiveness and provide better estimates of the benefits and costs that can be expected from statewide implementation.

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<sup>3</sup> To compile this list, DBHR received technical assistance from the federal Substance Abuse and Mental Health Services Administration's (SAMHSA) Collaborative for the Application of Prevention Technologies Western Resource Team and researchers from the University of Washington's Social Development Research Group. For more detail visit: <http://www.theathenaforum.org/sites/default/files/Preliminary%20List%20of%20Evidence-based%20Programs%20-%20Preventing%20and%20Reducing%20Marijuana%20Use%20in%20Youth%207-10-13.pdf>

## Step 2: What Makes Economic Sense?

Next, we consider the costs and benefits of implementing the program or policy by answering two questions:

- How much would it cost Washington taxpayers to produce the results found in Step 1?
- How much would it be worth to people in Washington State to achieve the results found in Step 1?

That is, in dollars and cents, what are the costs and benefits of each program or policy?

To answer these questions, we have developed, and continue to refine, an economic model that estimates benefits and costs. The model provides an internally consistent monetary valuation so program and policy options can be compared on an apples-to-apples basis. Our benefit-cost results include standard financial statistics: net present values and benefit-cost ratios.

We present monetary estimates from three perspectives:

- a) program participants,
- b) taxpayers, and
- c) other people in society.

The sum of the three perspectives provides a “total Washington” view on whether a program or policy produces benefits that exceed costs.

## Step 3: What is the Risk in the Benefit-Cost Findings?

Any tabulation of benefits and costs involves a degree of risk about the estimates calculated. This is expected in any investment analysis, whether in the private or public sector. To assess the riskiness of our conclusions, we perform a “Monte Carlo simulation” in which we vary key factors in our calculations. The purpose of this analysis is to determine the probability that a particular program or policy will at least break even.

Thus, we produce two “big picture” findings for each program: an expected benefit-cost result and, given our understanding of the risks, the probability that the program will at least have benefits that are greater than costs.

Further information on the thirteen individual programs contained in this report can be found on our website.<sup>4</sup> Readers interested in an in-depth description of the research methods for these three steps can review our Technical Documentation.<sup>5</sup>

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<sup>4</sup>[http://www.wsipp.wa.gov/ReportFile/1563/Wsipp\\_Preventing-Youth-Substance-Use-A-Review-of-Thirteen-Programs\\_Benefit-Cost-Results.pdf](http://www.wsipp.wa.gov/ReportFile/1563/Wsipp_Preventing-Youth-Substance-Use-A-Review-of-Thirteen-Programs_Benefit-Cost-Results.pdf)

<sup>5</sup> Washington State Institute for Public Policy, (2014). *Benefit-cost technical documentation*. Olympia, WA: Author. Available online at <http://www.wsipp.wa.gov/TechnicalDocumentation/WsippBenefitCostTechnicalDocumentation.pdf>

## II. Youth Marijuana Use Prevention

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Recent estimates indicate that about one in seven 8<sup>th</sup> grade students in Washington has used marijuana in their lifetime, while nearly one out of two 12<sup>th</sup> graders has done so.<sup>6</sup> Past-month marijuana use among those under 21 is higher in Washington compared to the U.S. as a whole and it appears to be rising in recent years.<sup>7</sup>

One common strategy for addressing youth marijuana use is through school-based prevention programs. These programs, which usually include a manual and are delivered by a trained teacher or interventionist, use a variety of teaching techniques including didactic instruction, role playing, videos, games, small group discussions, and individual seat work. The content often addresses the social and biological consequences of substance use, the social pressures to use substances, and the development of strategies to resist these pressures.

Another common prevention strategy is family-based programs. Similar to school-based programs, the content is often standardized and addresses many of the same underlying factors. However, unlike many school-based programs, family-based programs involve parents and other family members. The programs may be implemented in the home, in after-school or

community settings, by telephone, or through mailed materials. The programs also often address family-related influences on use, as well as factors such as parent-child communication and rule-setting.

Other intervention types exist, such as community-wide programs and policy and enforcement approaches. The 13 programs reviewed here are school- and family-based programs. Some include elements of both. A brief description of each, arranged alphabetically, follows.

### [Caring School Community \(formerly Child Development Project\)](#)

Caring School Community is a whole-school program aimed at promoting positive youth development. Designed for elementary schools, the program attempts to promote prosocial values, improve academic achievement, and prevent drug use, violence, and delinquency by encouraging collaboration among students, staff, and parents.

### [Family Check-Up \(also known as Positive Family Support\)](#)

Family Check-Up is a three-tiered intervention implemented in middle schools. The first tier involves the establishment of a family resource center in the school and the implementation of a six-week prevention curriculum. The second tier is Family Check-Up, an assessment and brief motivational interview component for at-risk students. The third tier is the Family Intervention Menu, which directs parents of substance-

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<sup>6</sup> Healthy Youth Survey (2012). Retrieved from <https://www.askhys.net/> on July 24, 2014.

<sup>7</sup> Hanley, S. (2013). *Legalization of recreational marijuana in Washington: Monitoring trends in use prior to the implementation of I-502*. (Doc. No. 13-11-1401). Olympia: Washington State Institute for Public Policy.

using adolescents to treatment options, parenting groups, and family therapy sessions.

### [Guiding Good Choices \(formerly Preparing for the Drug Free Years\)](#)

Guiding Good Choices is a skills training program for middle school students and their parents typically implemented outside normal school hours. The five-session drug resistance and education program, implemented one night per week for five weeks, aims to improve parent-child interactions that reduce the risk for substance use initiation.

### [InShape](#)

InShape is a college-based brief motivational interviewing intervention that aims to increase physical activity, diet, and stress management while reducing substance use through the promotion of positive self-image. The program components are typically delivered to young adults in a college health clinic setting by a designated fitness specialist.

### [keepin' it REAL](#)

keepin' it REAL is a school-based substance use prevention program designed for multicultural settings for middle school students. The curriculum is taught by classroom teachers in 45-minute sessions once a week for ten weeks and is designed to teach students drug resistance skills.

### [Life Skills Training](#)

Life Skills Training is a school-based classroom intervention to reduce the risks of alcohol, tobacco, drug abuse, and violence by targeting social and psychological factors associated with initiation of risky behaviors. Teachers deliver the program to middle school students in 24 to 30 sessions over three years.

### [Lions Quest Skills for Adolescence](#)

Lions Quest Skills for Adolescence is a school-based life skills education program designed for middle school. The curriculum's 45-minute sessions are designed to prevent substance use and bullying behaviors while also teaching anger and stress management skills.

### [Multidimensional Treatment Foster Care](#)

Multidimensional Treatment Foster Care is an intensive therapeutic foster care alternative to institutional placement for adolescents who have problems with chronic antisocial behavior, emotional disturbance, and delinquency. Activities include skills training and therapy for youth as well as behavioral parent training and support for foster parents and biological parents.

### [Project Northland](#)

Project Northland is a multilevel intervention designed to prevent substance use among adolescents in middle school. The 6<sup>th</sup> grade home component targets parent-child communication via homework assignments, group discussions, and the establishment of a communitywide task

force. The 7<sup>th</sup> grade school-based curriculum focuses on improving resistance skills and social norms regarding teen alcohol use. The 8<sup>th</sup> grade components include the peer-led Powerlines school curriculum, a mock town meeting, and a community action project.

### [Project Towards No Drug Abuse](#)

Project Towards No Drug Abuse is a prevention program for youth in regular and alternative high schools. The curriculum comprises twelve 45-minute lessons implemented in classroom settings by teachers or health educators. Using a variety of activities, the program aims to increase self-control, communication, decision-making, and motivation to not use substances.

### [Project Venture](#)

Project Venture is a youth development program primarily for 5<sup>th</sup>- to 8<sup>th</sup>-grade Native American youth. Through the use of outdoor experiential activities such as hiking and camping trips and service learning projects, the program attempts to help youth develop social and emotional competencies to resist alcohol, tobacco, and other drug use.

### [Red Cliff Wellness School Curriculum](#)

The Red Cliff Wellness School Curriculum is a school-based substance use curriculum grounded in Native American tradition and culture. Designed for students in grades K–12, the curriculum aims to reduce risk factors and enhance protective factors related to substance use by enhancing core Native American values such as sharing, kindness, honesty, and respect.

### [SPORT](#)

SPORT is a high school-based brief intervention designed to promote a healthy lifestyle via improved physical activity, diet, and sleep. Students participate in a 12 minute one-on-one counseling session with a fitness specialist during which they receive a booklet and tailored consultation. Students then complete a fitness plan designed to create behavior change and an improved self-image. Four weekly fliers that complement the intervention's core content are then sent to parents.

### III. Findings

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For 11 of the 13 programs on DBHR’s list, we were able to identify at least one evaluation study that met our research standards. We did not find any evaluations of two programs, Project Venture and Red Cliff Wellness School Curriculum that met our criteria. As a result, we cannot determine the potential effectiveness of these two programs and they are not included in our benefit-cost results.

The findings from our benefit-cost analyses are presented in [Exhibit 1](#). Of the 11 programs for which we were able to calculate benefits and costs, nine have a favorable result. That is, nine of the programs have benefits that exceed costs, on average.

In [Exhibit 1](#), we also present the second key bottom-line finding for each program: the odds that benefits will exceed costs, after we take into account the uncertainty in our estimates. The higher the odds, the more confident we are that benefits will, in fact, outweigh costs.

The legislature has established a three-tiered classification for programs: evidence-based, research-based, and promising.<sup>8</sup> Using these definitions, one program in [Exhibit 1](#)—Life Skills Training—has a sufficiently high probability (93%) to

establish it as a top-tier “evidence-based” program. Seven of the programs meet the criteria for second-tier “research-based” programs, while two programs are “promising.” One program (InShape) produces poor outcomes.

#### Evidence-based:

Life Skills Training

#### Research-based:

Family Check-Up  
Guiding Good Choices  
keepin' it REAL  
Lions Quest Skills for Adolescence  
Multidimensional Treatment Foster Care  
Project Northland  
SPORT

#### Promising:<sup>9</sup>

Caring School Community  
Project Towards No Drug Abuse

#### Produces poor outcomes:

InShape

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<sup>8</sup> RCW 71.24.025. WSIPP has been directed by the legislature to create evidence-based, research-based, and promising program inventories for adult behavioral health, child welfare, children’s mental health services, juvenile justice, adult corrections, and the K–12 Learning Assistance Program. A classification as “evidence-based” requires multiple evaluations and odds of breaking even of at least 75%. Life Skills Training meets both of these criteria. The Lions Quest program meets the 75% criterion but only has one evaluation; thus it is classified as “research-based.”

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<sup>9</sup> A program is regarded as “promising” if there is evidence that outcomes are achieved, but the result is not statistically significant ( $p > 0.20$ ).

### Exhibit 1

Program name	Total Benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Odds of a positive net present value
Multidimensional Treatment Foster Care	\$17,286	\$4,256	\$13,031	(\$8,111)	\$9,175	\$2.13	67%
Caring School Community (formerly Child Development Project)	\$8,611	\$2,171	\$6,440	(\$1,218)	\$7,393	\$7.06	62%
Life Skills Training	\$3,461	\$804	\$2,657	(\$97)	\$3,363	\$35.66	93%
SPORT	\$1,339	\$308	\$1,030	(\$38)	\$1,300	\$34.84	73%
Guiding Good Choices (formerly Preparing for the Drug Free Years)	\$1,951	\$653	\$1,298	(\$655)	\$1,296	\$2.99	64%
keepin' it REAL	\$813	\$244	\$569	(\$48)	\$765	\$16.98	73%
Project Northland	\$717	\$184	\$533	(\$185)	\$532	\$3.87	65%
Lions Quest Skills for Adolescence	\$461	\$89	\$372	(\$95)	\$366	\$4.88	75%
Project Towards No Drug Abuse (TND)	\$174	\$44	\$130	(\$64)	\$110	\$2.73	51%
Family Check-Up (also known as Positive Family Support)	\$79	\$53	\$26	(\$323)	(\$244)	\$0.24	47%
InShape	(\$309)	(\$90)	(\$219)	(\$15)	(\$324)	(\$21.00)	47%



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## Washington State Institute for Public Policy

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