Fact Sheet on Programmatic Example

(Note: this is just an example of the type of evidenced based or promising practice that may implement all or part of a BSK strategy.)

Strategy to be Addressed:

Build resiliency of youth and reduce risky-behaviors

Program Name:

Life Skills Training (LST)

Brief Program Description:

Classroom-based curriculum with core training, booster training and "train the trainer" components. The three major program components address the following: (1) personal self-management skills, (2) social skills, and (3) information and resistance skills specifically related to drug use. Skills are taught using instruction, demonstration, feedback, reinforcement, and practice. LST contains 30 sessions to be taught over three years (15, 10, and 5 sessions), and additional violence prevention lessons also are available each year (3, 2, and 2 sessions)

Prevention Results Achieved Elsewhere or in K.C. Pilot:

Numerous studies have been completed for LST, both short-term and long-term (5-6 year and 10 year follow ups). LST is effective at reducing a number of risk behaviors for young people, including risky driving, violence and delinquency, HIV/AIDS risk behaviors, tobacco use, alcohol and marijuana use, polydrug use and other illicit drug use.

Target Population and number of people served:

In King County LST has been used in select communities through the middle schools. The Center for Human Services, Therapeutic Health Services and Seattle Children's Hospital are providing LST through the MIDD 4c strategy.

Estimated Cost to Administer:

It would cost approximately $5 million annually to take LST to greater scale in all middle schools in the County, but can be scaled due to interest and desires of particular communities.

Estimated Cost Savings to Community:

LST cost per individual = approximately $97; and benefit per individual = $1,125 with a Net Positive Benefit or Savings per person of $1,028. Odds of achieving that benefit are quite high at 84%.

LifeSkills Training (LST)

LifeSkills Training (LST) is a school-based program that aims to prevent alcohol, tobacco, and marijuana use and violence by targeting the major social and psychological factors that promote the initiation of substance use and other risky behaviors. LST is based on both the social influence and competence enhancement models of prevention. Consistent with this theoretical framework, LST addresses multiple risk and protective factors and teaches personal and social skills that build resilience and help youth navigate developmental tasks, including the skills necessary to understand and resist prodrug influences. LST is designed to provide information relevant to the important life transitions that adolescents and young teens face, using culturally sensitive and developmentally and age-appropriate language and content. Facilitated discussion, structured small group activities, and role-playing scenarios are used to stimulate participation and promote the acquisition of skills. Separate LST programs are offered for elementary school (grades 3-6), middle school (grades 6-9), and high school (grades 9-12); the research studies and outcomes reviewed for this summary involved middle school students.

Descriptive Information

Areas of Interest	Substance abuse prevention
Outcomes	**Review Date: September 2008** 1: Substance use (alcohol, tobacco, inhalants, marijuana, and polydrug) 2: Normative beliefs about substance use and substance use refusal skills 3: Violence and delinquency
Outcome Categories	Alcohol Crime/delinquency Drugs Tobacco Violence
Ages	13-17 (Adolescent)
Genders	Male Female
Races/Ethnicities	American Indian or Alaska Native Asian Black or African American Hispanic or Latino White Race/ethnicity unspecified
Settings	School
Geographic Locations	Urban Suburban Rural and/or frontier
Implementation tory	Broad dissemination of LST began in 1995. Since then, an estimated 50,000 teachers, 10,000 schools/sites, and 3 million students have participated in the program. The duration of implementation varies; some sites have implemented LST for 5 years or longer. LST has been extensively evaluated in more than 30 scientific studies involving more than 330 schools/sites and 26,000 students in suburban, urban, and rural settings. Most of these studies were conducted by Dr. Gil Botvin and colleagues at Weill Medical College of Cornell University. To date, at least seven independent evaluation studies have been conducted by external research groups.

	LST has been used with youth in all 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands. Outside the United States, it has been used in 32 countries including Australia, Canada, Croatia, Denmark, England, France, Germany, Greece, Honduras, Hong Kong, Ireland, Italy, Japan, Kenya, Malaysia, Mexico, New Zealand, Nicaragua, Norway, Panama, Portugal, Qatar, Russia, Saudi Arabia, South Africa, South Korea, Spain, Sweden, Taiwan, Thailand, Turkey, and Venezuela.
NIH Funding/CER Studies	Partially/fully funded by National Institutes of Health: Yes Evaluated in comparative effectiveness research studies: Yes
Adaptations	LST curriculum materials are available in Spanish.
Adverse Effects	No adverse effects, concerns, or unintended consequences were identified by the developer.
IOM Prevention Categories	Universal

Quality of Research

Review Date: September 2008

Documents Reviewed

The documents below were reviewed for Quality of Research. The research point of contact can provide information regarding the studies reviewed and the availability of additional materials, including those from more recent studies that may have been conducted.

Study 1

Botvin, G. J., Baker, E., Dusenbury, L., Botvin, E. M., & Diaz, T. (1995). Long-term follow-up results of a randomized drug abuse prevention trial in a White middle-class population. Journal of the American Medical Association, 273(14), 1106-1112.

Study 2

Botvin, G. J., Griffin, K. W., Diaz, T., & Ifill-Williams, M. (2001). Drug abuse prevention among minority adolescents: Posttest and one-year follow-up of a school-based preventive intervention. Prevention Science, 2(1), 1-13.

Botvin, G. J., Griffin, K. W., Diaz, T., & Ifill-Williams, M. (2001). Preventing binge drinking during early adolescence: One- and two-year follow-up of a school-based preventive intervention. Psychology of Addictive Behaviors, 15(4), 360-365.

Griffin, K. W., Botvin, G. J., Nichols, T. R., & Doyle, M. M. (2003). Effectiveness of a universal drug abuse prevention approach for youth at high risk for substance use initiation. Preventive Medicine, 36(1), 1-7.

Study 3

Spoth, R. L., Randall, G. K., Trudeau, L., Shin, C., & Redmond, C. (2008). Substance use outcomes 5 1/2 years past baseline for partnership-based, family-school preventive interventions. Drug and Alcohol Dependence, 96(1-2), 57-68.

Trudeau, L., Spoth, R., Lillehoi, C., Redmond, C., & Wickrama, K. A. S. (2003). Effects of a preventive intervention on adolescent substance use initiation, expectancies, and refusal intentions. Prevention Science, 4(2), 109-122.

Study 4

Botvin, G. J., Griffin, K. W., & Nichols, T. R. (2006). Preventing youth violence and delinquency through a universal school-based prevention approach. Prevention Science, 7(4), 403-408.

Supplementary Materials

Botvin, G. J., & Griffin, K. W. (2004). Life Skills Training: Empirical findings and future directions. Journal of Primary Prevention, 25(2), 211-232.

Epstein, J. A., Botvin, G. J., Diaz, T., Baker, E., & Botvin, E. M. (1997). Reliability of social and personal competence measures for adolescents. Psychological Reports, 81(2), 449-450.

Macaulay, A. P., Griffin, K. W., & Botvin, G. J. (2002). Initial internal reliability and descriptive statistics for a brief assessment tool for the Life Skills Training drug-abuse prevention program. Psychological Reports, 91(2), 459-462.

Spoth, R. L., Clair, S., Shin, C., & Redmond, C. (2006). Long-term effects of universal preventive interventions on methamphetamine use

among adolescents. Archives of Pediatrics and Adolescent Medicine, 160(9), 876-882.

Outcomes

Outcome 1: Substance use (alcohol, tobacco, inhalants, marijuana, and polydrug)

cription of Measures	Substance use (alcohol, cigarettes, inhalants, and marijuana) was assessed using self-report items from the LifeSkills Training questionnaire. Students were asked about the frequency and amount of substance use. Lifetime smoking, drinking, and marijuana use were assessed with items that asked if the respondent had ever used the substances (yes or no). Frequency of smoking, drinking, and marijuana use was assessed on a scale with responses ranging from "never" to "more than once a day." The amount of cigarette smoking was assessed on a scale with responses ranging from "never" to "more than a pack a day," and the amount of alcohol use was assessed on a scale with responses ranging from "don't drink" to "more than 6 drinks" per occasion. Frequency of getting drunk was assessed on a scale with responses ranging from "don't drink" to "more than once a day." In addition, a substance use initiation scale/index was constructed by combining three dichotomous items regarding the use of tobacco, alcohol, and marijuana. Students were asked if they had ever "smoked a cigarette," "had a drink of alcohol," or "smoked marijuana." Responses were coded 0 for no and 1 for yes and summed. For each wave of data, responses were corrected for consistency, so that if an individual answered "yes" at any point in time, the subsequent response to the same question was also coded "yes."
Key Findings	In one study, junior high schools were assigned to one of three conditions: LST with annual provider training workshops and ongoing consultation, LST with videotaped training and no consultation, or a usual care control group. Follow-up data were collected 6 years after the intervention. This study found a significant decrease in cigarette smoking, alcohol use (drunkenness), and polydrug use (concurrent tobacco, alcohol, and marijuana use) at follow-up for the two groups of students who received LST (all p values < .05). The strongest intervention effects were observed among students exposed to at least 60% of the LST program (operationally defined as the "fidelity sample"). At follow-up, the LST fidelity sample had significantly lower rates than controls on nearly every measure of tobacco, alcohol, marijuana, and polydrug use (all p values < .05). In another study, middle school students receiving LST were compared with a control group of students who received a program that was normally in place in New York City schools. Results at posttest and 1-year follow-up indicated that students who received LST reported less smoking, less alcohol use, less inhalant use, and less polydrug use relative to those in the control group (p values ranging from < .001 to < .05). The LST group had a 50% smaller proportion of binge drinkers relative to the control group at both the 1- and 2-year follow-up assessments ($p < .05$ and $p < .01$, respectively). In addition, among a subsample of youth at high risk for substance use initiation (participants with poor grades and friends who engage in substance use), those who received LST were found to engage in less smoking ($p < .01$), less drinking ($p < .01$), less inhalant use ($p < .05$), and less polydrug use ($p < .01$) compared with similarly matched controls who did not receive the intervention. In a third study, 7th-grade students who received LST had a significantly slower rate of increase in substance initiation (tobacco, alcohol, and marijuana) from pretest to posttest and 1-year follow-up compared with students from a minimal contact control condition ($p < .01$). Five and a half years past baseline (i.e., when the participants were in 12th grade), LST participants reported significantly lower scores on the overall substance use initiation index ($p < .01$) as well as less cigarette use initiation ($p < .05$) and less marijuana use initiation ($p < .05$) relative to controls. When growth over time was examined in the higher risk subsample, the LST group had slower increases in the rates of frequency of marijuana use ($p < .01$) and monthly and advanced polydrug use (all p values < .01) compared with the control group.
Studies Measuring Outcome	Study 1, Study 2, Study 3
dy Designs	Experimental
Quality of Research Rating	3.9 (0.0-4.0 scale)

Outcome 2: Normative beliefs about substance use and substance use refusal skills

Description of Measures	Normative beliefs about substance use and substance use refusal skills were assessed using self-report items from the LifeSkills Training Questionnaire. For normative beliefs, students were asked about the perceived prevalence of drug use among peers and adults, with separate items for specific substances (cigarettes, beer/wine, marijuana, cocaine or other "hard" drugs, and inhalants). Responses were on a 5-point scale ranging from 1 (none) to 5 (all or almost all). For refusal skills, 10 items from the questionnaire were used. Five items adapted from the Gambi Richey Assertion Inventory assessed refusal intentions; students were asked how likely they would be to say no if someone asked them to try a specific substance (tobacco, alcohol, marijuana, inhalants, and cocaine/other drugs). Another five items assessed students' anticipated likelihood of using various refusal strategies (e.g., "tell them not now," "change the subject," "make up an excuse and leave"). For all 10 items, responses were on a 5-point Likert scale ranging from 1 (definitely would) to 5 (definitely would not).
Key Findings	In one study, middle school students receiving LST were compared with a control group of students receiving a program that was normally in place in New York City schools. At the 3-month posttest, LST participants reported lower normative expectations than control students for peer smoking and drinking (both $p < .05$) and for adult smoking ($p < .05$), drinking ($p < .05$), cocaine/hard drug use ($p < .01$), and inhalant use ($p < .05$). Similarly, at the 1-year follow-up, LST participants reported lower normative expectations than control students for peer smoking ($p < .001$) and drinking ($p < .01$) and for adult smoking ($p < .01$) and drinking ($p < .05$). LST participants also scored higher than control students on drug refusal skills at 1-year follow-up ($p < .05$). Significant effects on normative expectations for peer drinking were seen at 2-year follow-up, with LST participants reporting lower normative expectations than controls ($p < .05$). Another study found that the rate of decrease in drug refusal skills was significantly slower from pretest to posttest and 1-year follow-up for 7th-grade students who received LST program compared with students from a minimal contact control condition ($p < .01$).
Studies Measuring Outcome	Study 2, Study 3
Study Designs	Experimental
Quality of Research Rating	3.9 (0.0-4.0 scale)

Outcome 3: Violence and delinquency	
Description of Measures	Violent and delinquent behaviors were assessed using 20 self-report items from the LifeSkills Training Questionnaire. Items related to verbal and physical aggression were adapted from Elliott, Huizinga, and Menard. Verbal aggression was measured using 7 items asking students the number of times in the past month they committed acts such as name-calling, yelling, cursing, or telling someone off. Mild physical aggression was measured using 3 items asking students the number of times in the past month they had pushed or shoved, tripped, or hit someone. Items related to fighting and delinquent behaviors were adapted from Hawkins and associates. Fighting was measured using 4 items asking students the number of times in the past year they engaged in behaviors such as picking a fight with someone or hitting someone to hurt the person seriously. Delinquency was measured using 6 items asking students the number of times in the past year they committed acts such as destroying others' property, throwing objects at people or cars, or shoplifting.
Key Findings	Results of a study among middle school students demonstrated significant reductions in violence and delinquency at 3-month follow-up for LST participants relative to the control group of students who received a standard heath education curriculum (all p values $< .05$). Stronger effects were found for students who received at least half of the LST program. These effects included decreased verbal aggression ($p < .01$), physical aggression ($p < .01$), fighting ($p < .001$), and delinquency ($p < .05$).
Studies Measuring Outcome	Study 4
Study Designs	Experimental
Quality of Research Rating	4.0 (0.0-4.0 scale)

Study Populations

The following populations were identified in the studies reviewed for Quality of Research.

Study	Age	Gender	Race/Ethnicity
Study 1	13-17 (Adolescent)	52% Male 48% Female	91% White 2% Asian 2% Black or African American 2% Hispanic or Latino 2% Race/ethnicity unspecified 1% American Indian or Alaska Native
Study 2	13-17 (Adolescent)	53% Female 47% Male	61% Black or African American 22% Hispanic or Latino 6% Asian 6% White 5% Race/ethnicity unspecified
Study 3	13-17 (Adolescent)	52% Male 48% Female	97% White 3% Race/ethnicity unspecified
Study 4	13-17 (Adolescent)	51% Male 49% Female	39% Black or African American 33% Hispanic or Latino 10% Race/ethnicity unspecified 10% White 6% Asian 2% American Indian or Alaska Native

Quality of Research Ratings by Criteria (0.0-4.0 scale)

External reviewers independently evaluate the Quality of Research for an intervention's reported results using six criteria:

1. Reliability of measures
2. Validity of measures
3. Intervention fidelity
4. Missing data and attrition
5. Potential confounding variables
6. Appropriateness of analysis

For more information about these criteria and the meaning of the ratings, see Quality of Research.

Outcome	Reliability of Measures	Validity of Measures	Fidelity	Missing Data/Attrition	Confounding Variables	Data Analysis	Overall Rating
1: Substance use (alcohol, tobacco, inhalants, marijuana, and polydrug)	4.0	4.0	3.8	3.9	4.0	4.0	**3.9**
2: Normative beliefs about substance use and substance use refusal skills	4.0	4.0	3.7	3.9	4.0	4.0	**3.9**
3: Violence and delinquency	4.0	4.0	3.8	4.0	4.0	4.0	**4.0**

Study Strengths

The outcome measures have excellent reliability and validity indicators and are supported by independent research. The investigators considered and controlled for confounding variables through the use of block randomization design and standardized data collections and [illegible] tablishing baseline equivalence between groups. Sophisticated techniques were used to statistically account for attrition and missing [illegible]. Significant efforts were made to measure intervention fidelity, and adherence rates were high in some studies. The data analyses [illegible]ere appropriate for the study designs and types of data collected and support the inferences made about causal relationships.

Study Weaknesses

Attrition and adherence rates to fidelity were a minor concern in some studies.

Readiness for Dissemination

Review Date: September 2008

Materials Reviewed

The materials below were reviewed for Readiness for Dissemination. The implementation point of contact can provide information regarding implementation of the intervention and the availability of additional, updated, or new materials.

Botvin, G. J. (1999). LifeSkills Training level one: Grades 3/4 student guide. White Plains, NY: Princeton Health Press.

Botvin, G. J. (1999). LifeSkills Training level two: Grades 4/5 student guide. White Plains, NY: Princeton Health Press.

Botvin, G. J. (1999). LifeSkills Training level two: Grades 4/5 teacher's manual. White Plains, NY: Princeton Health Press.

Botvin, G. J. (1999). LifeSkills Training level three: Grades 5/6 teacher's manual. White Plains, NY: Princeton Health Press.

Botvin, G. J. (1999). LifeSkills Training level three: Grades 5/6 student guide. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2000). LifeSkills Training teacher's manual 2. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2002). LifeSkills trainer's manual for TOT participants. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2004). LifeSkills Training level one: Grades 3/4 teacher's manual. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2004). LifeSkills Training student guide 1. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2004). LifeSkills Training student guide 2. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2004). LifeSkills Training student guide 3. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2004). LifeSkills Training teacher's manual 1. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2004). LifeSkills Training teacher's manual 3. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2004). Middle school 101: Skills for success [CD-ROM]. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2006). LifeSkills Training high school student guide. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2006). LifeSkills Training high school teacher's manual. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2006). LifeSkills Training parent program leader's guide. White Plains, NY: Princeton Health Press.

Botvin, G. J. (2008). LifeSkills: Stress management techniques [CD]. White Plains, NY: Princeton Health Press.

National Health Promotion Associates. (2005). LifeSkills Training overview [CD-ROM]. White Plains, NY: Princeton Health Press.

National Health Promotion Associates. (2007). LifeSkills Training fidelity checklists. White Plains, NY: Princeton Health Press.

National Health Promotion Associates. (2007). LifeSkills Training outcome instruments. White Plains, NY: Princeton Health Press.

National Health Promotion Associates. (2008). LifeSkills: Smoking and biofeedback [DVD]. White Plains, NY: Princeton Health Press.

National Health Promotion Associates. (2008). LifeSkills Training: Elementary and middle school training materials. White Plains, NY: Princeton Health Press.

National Health Promotion Associates. (2008). LifeSkills Training: High school training materials. White Plains, NY: Princeton Health Press.

National Health Promotion Associates. (2008). LifeSkills Training: Training of trainers materials. White Plains, NY: Author.

Program Web site, http://www.lifeskillstraining.com

Research articles for the training-of-trainers/technical assistance model

Readiness for Dissemination Ratings by Criteria (0.0-4.0 scale)

External reviewers independently evaluate the intervention's Readiness for Dissemination using three criteria:

1. Availability of implementation materials
2. Availability of training and support resources
3. Availability of quality assurance procedures

For more information about these criteria and the meaning of the ratings, see Readiness for Dissemination.

Implementation Materials	Training and Support Resources	Quality Assurance Procedures	Overall Rating
4.0	4.0	4.0	**4.0**

Dissemination Strengths

Implementation materials are clear, concise, practical, and effectively targeted to multiple age groups. Initial core training, booster training, and train-the-trainer workshops are provided to support implementation. Training can be delivered on site or at open workshops across the country. Customized technical assistance is available. A comprehensive trainer certification process and an array of brief, easy-to-use outcome and fidelity tools are provided to support quality assurance.

Dissemination Weaknesses

No weaknesses were identified by reviewers.

Costs

The cost information below was provided by the developer. Although this cost information may have been updated by the developer since the time of review, it may not reflect the current costs or availability of items (including newly developed or discontinued items). The implementation point of contact can provide current information and discuss implementation requirements.

Item Description	Cost	Required by Developer
Grade level curriculum set	$175-$275 depending on grade level	Yes
tional student guides	$40-$60 for 10 depending on grade level	No
Elementary Program CD-ROM (available for some grade levels)	$45.95 each	No
Smoking and biofeedback DVD	$20 each	Yes (for middle school program only)
Stress management techniques audio CD	$10 each	Yes (for middle school program only)
1-day, on-site workshop	$200 per participant for up to 20 participants, plus travel expenses	No
2-day, on-site workshop	$250 per participant for up to 20 participants, plus travel expenses	No
Off-site and online trainings	$235 per participant	No
1-day, on-site consultation	$1,000 for up to 20 participants, plus travel expenses	No
Half-day, on-site consultation	$500 for up to 20 participants, plus travel expenses	No
Phone and online consultation	$75 per hour	No
ail consultation	Free	No
Pre- and posttest instruments	Free	No
Fidelity checklists	Free	No

Additional Information

Additional resources can be accessed for free at http://www.lifeskillstraining.com. Resources include the LST Planning Workbook, grant writing support, and curriculum samples.

Replications

Selected citations are presented below. An asterisk indicates that the document was reviewed for Quality of Research.

Botvin, G. J., Baker, E., Dusenbury, L., Tortu, S., & Botvin, E. M. (1990). Preventing adolescent drug abuse through a multimodal cognitive-behavioral approach: Results of a three-year study. Journal of Consulting and Clinical Psychology, 58, 437-446.

Botvin, G. J., Baker, E., Filazzola, A., & Botvin, E. M. (1990). A cognitive-behavioral approach to substance abuse prevention: One-year follow-up. Addictive Behaviors, 15(1), 47-63.

Botvin, G. J., Dusenbury, L., Baker, E., James-Ortiz, S., Botvin, E. M., & Kerner, J. (1992). Smoking prevention among urban minority youth: Assessing effects on outcome and mediating variables. Health Psychology, 11(5), 290-299.

Botvin, G. J., Epstein, J. A., Baker, E., Diaz, T., & Ifill-Williams, M. (1997). School-based drug abuse prevention with inner-city minority youth. Journal of Child and Adolescent Substance Abuse, 6(1), 5-20.

Botvin, G. J., Griffin, K. W., Diaz, T., Scheier, L. M., Williams, C., & Epstein, J. A. (2000). Preventing illicit drug use in adolescents: Long-term follow-up data from a randomized control trial of a school population. Addictive Behaviors, 25(5), 769-774.

Botvin, G. J., Griffin, K. W., Paul, E., & Macaulay, A. P. (2003). Preventing tobacco and alcohol use among elementary school students through Life Skills Training. Journal of Child and Adolescent Substance Abuse, 12, 1-17.

Fraguela, J. A., Martin, A. L., & Trinanes, E. R. (2003). Drug abuse prevention in the school: Four-year follow-up of a programme. Psychology in Spain, 7, 29-38.

Griffin, K. W., Botvin, G. J., & Nichols, T. R. (2004). Long-term follow-up effects of a school-based drug abuse prevention program on adolescent risky driving. Prevention Science, 5(3), 207-212.

Griffin, K. W., Botvin, G. J., & Nichols, T. R. (2006). Effects of a school-based drug abuse prevention program for adolescents on HIV risk behavior in young adulthood. Prevention Science, 7(1), 103-112.

Spoth, R., Clair, S., Shin, C., & Redmond, C. (2006). Long-term effects of universal preventive interventions on methamphetamine use among adolescents. Archives of Pediatrics and Adolescent Medicine, 160(9), 876-882.

Contact Information

To learn more about implementation, contact:
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Consider these Questions to Ask (PDF, 54KB) as you explore the possible use of this intervention.

Web Site(s):

- **http://www.lifeskillstraining.com**

Washington State Institute for Public Policy

Benefit-Cost Results

Life Skills Training

Benefit-cost estimates updated December 2014. Literature review updated June 2014.

Current estimates replace old estimates. Numbers will change over time as a result of model inputs and monetization methods.

The WSIPP benefit-cost analysis examines, on an apples-to-apples basis, the monetary value of programs or policies to determine whether the benefits from the program exceed its costs. WSIPP's research approach to identifying evidence-based programs and policies has three main steps. First, we determine "what works" (and what does not work) to improve outcomes using a statistical technique called meta-analysis. Second, we calculate whether the benefits of a program exceed its costs. Third, we estimate the risk of investing in a program by testing the sensitivity of our results. For more detail on our methods, see our technical documentation.

Program Description: Life Skills Training (LST) 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/junior high school students in 24 to 30 sessions over three years. Students in the program are taught general self-management and social skills and skills related to avoiding substance use.

Benefit-Cost Summary

Program benefits	
Participants	$401
Taxpayers	$246
Other (1)	$487
Other (2)	($9)
Total	$1,125
Costs	($97)
Benefits minus cost	$1,028

Summary statistics	
Benefit to cost ratio	$11.58
Benefits minus costs	$1,028
Probability of a positive net present value	84 %

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our technical documentation.

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to: Participants	Taxpayers	Other (1)	Other (2)	Total benefits
From primary participant					
Crime	$0	$11	$33	$5	$48
Labor market earnings (hs grad)	$798	$340	$394	$0	$1,531
Health care (smoking)	$14	$87	$76	$43	$221
Labor market earnings (alcohol abuse/dependence)	($408)	($174)	$0	$0	($582)
Health care (alcohol abuse/dependence)	($3)	($17)	($16)	($9)	($45)
Property loss (alcohol abuse/dependence)	$0	$0	$1	$0	$1
Adjustment for deadweight cost of program	$0	$0	$0	($48)	($48)
Totals	**$401**	**$246**	**$487**	**($9)**	**$1,125**

We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

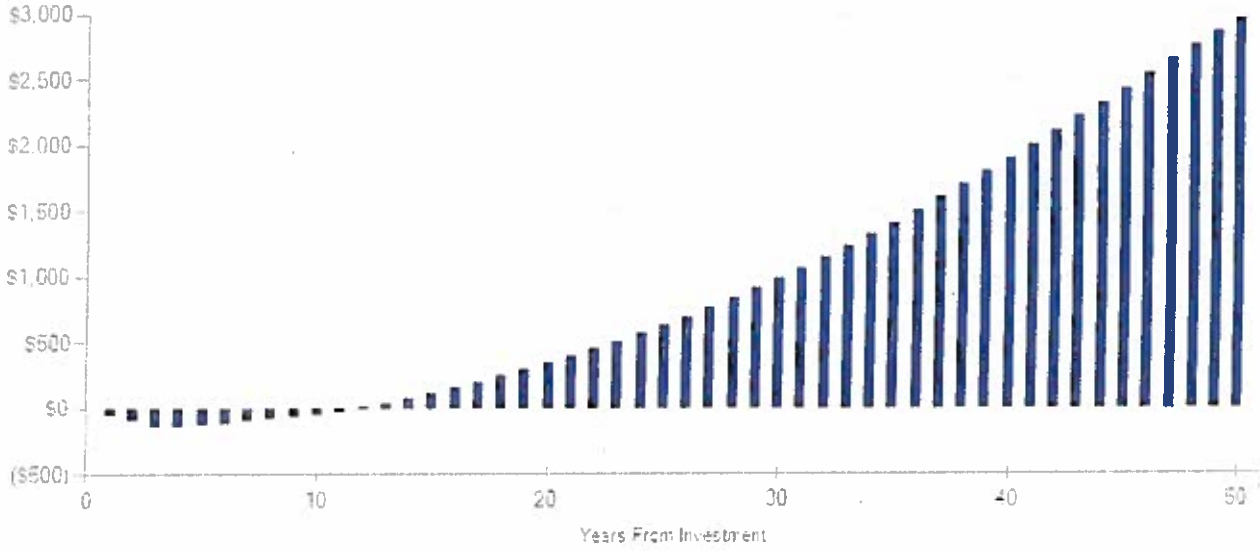
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	$34	3	2013	Present value of net program costs (in 2013 dollars)	($97)
Comparison costs	$0	1	2013	Uncertainty (+ or - %)	10 %

Cost data come from Blueprints for Healthy Youth Development and developer website (http://www.blueprintsprograms.com/programCosts.php?pid=ac3478d69a3c81fa62e60f5c3696165a4e5e6ac4)

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our technical documentation.

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Treatment N	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
				ES	p-value	ES	SE	Age	ES	SE	Age
Internalizing symptoms	Primary	4	3092	-0.054	0.549	-0.018	0.091	14	-0.013	0.071	16
Alcohol use in high school	Primary	3	280	0.029	0.695	0.035	0.074	18	0.035	0.074	28
Smoking in high school	Primary	4	359	-0.122	0.138	-0.070	0.072	18	-0.070	0.072	28
Cannabis use in high school	Primary	3	280	-0.004	0.962	0.003	0.078	18	0.003	0.078	28
Alcohol use before end of middle school	Primary	5	3150	-0.080	0.017	-0.026	0.033	14	-0.026	0.033	24
Cannabis use before end of middle school	Primary	4	3056	-0.041	0.217	-0.014	0.033	14	-0.014	0.033	24
Smoking before end of middle school	Primary	8	3617	-0.083	0.012	-0.027	0.033	14	-0.027	0.033	24
Youth binge drinking	Primary	2	1947	-0.154	0.593	-0.017	0.244	15	-0.017	0.244	25

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