Washington State Institute for Public Policy
110 Fifth Avenue SE, Suite 214 ● PO Box 40999 ● Olympia, WA 98504 ● 360.586.2677 ● www.wsipp.wa.gov

Preventing and Treating Youth Marijuana Use:
An Updated Review of the Evidence

Benefit-Cost & Meta-Analysis Results

October 2014

Matt Lemon
Annie Pennucci
Sean Hanley &
Steve Aos

The benefit-cost results in this document are current as of October 2014.
For the most up-to-date benefit-cost results, please visit our website.
http://www.wsipp.wa.gov/BenefitCost

For further information, contact:
Matt Lemon at 360.586.2744, matt.lemon@wsipp.wa.gov

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Adolescent Assertive Continuing Care

Benefit-cost estimates updated August 2014. Literature review updated June 2013.

Program Description: This intervention was designed for youth returning to the community after residential substance abuse treatment. The aim of the intervention is to encourage youth to continue in outpatient treatment. Case workers make weekly home visits, advocate for needed services, and aid in job search and other pro-social activities.

Benefit-Cost Summary

Program benefits	
Participants	$7,190
Taxpayers	$3,387
Other (1)	$625
Other (2)	($114)
Total	$11,089
Costs	($2,181)
Benefits minus cost	$8,907

Summary statistics	
Benefit to cost ratio	$5.09
Benefits minus costs	$8,907
Probability of a positive net present value	68 %

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	$77	$278	$38	$393
Labor market earnings (alcohol abuse/dependence)	$7,087	$3,023	$0	$791	$10,901
Health care (alcohol abuse/dependence)	$90	$287	$323	$143	$843
Property loss (alcohol abuse/dependence)	$13	$0	$24	$0	$37
Adjustment for deadweight cost of program	$0	$0	$0	($1,086)	($1,086)
Totals	$7,190	$3,387	$625	($114)	$11,089

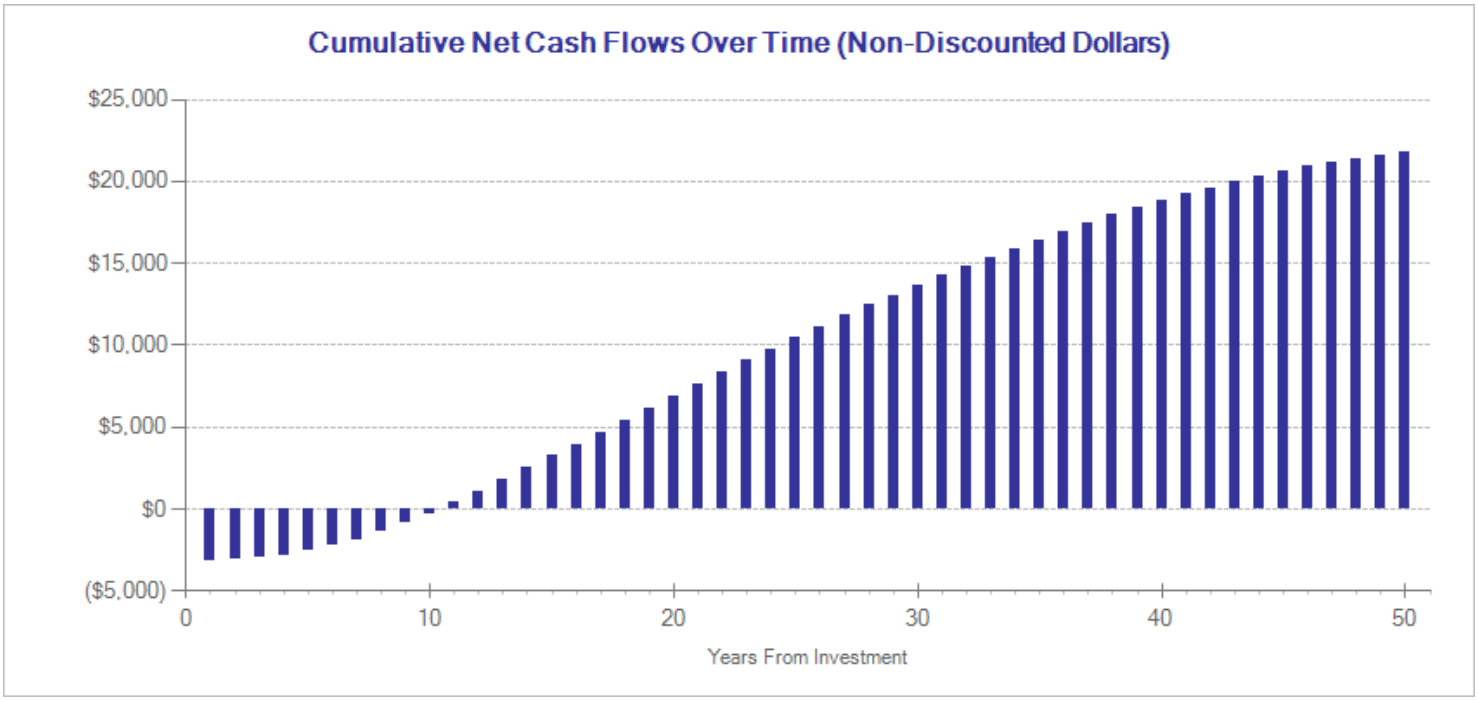
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "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
Program costs	$2,037	1	2008
Comparison costs	$0	1	2008

Summary statistics	
Present value of net program costs (in 2013 dollars)	($2,181)
Uncertainty (+ or - %)	10 %

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Substance abuse	Primary	1	-0.215	0.306	-0.159	0.210	16	-0.159	0.210	26
Alcohol abuse or dependence	Primary	1	-0.146	0.181	-0.108	0.181	16	-0.108	0.181	26
Cannabis abuse or dependence	Primary	1	-0.318	0.082	-0.236	0.183	16	-0.236	0.183	26

Citations Used in the Meta-Analysis

Godley, M.D., Godley, S.H., Dennis, M.L., Funk, R.R., & Passetti, L.L. (2007). Research report: The effect of assertive continuing care on continuing care linkage, adherence and abstinence following residential treatment for adolescents with substance use disorders. *Addiction*, *102*(1), 81-93.

Godley, M., Godley, S.H., Dennis, M.L., Funk, R.R., Passetti, L.L. , Petry, N.M. (n.d.) *A randomized trial of Assertive Continuing Care and Contingency Management for adolescents with substance use disorders*. Manuscript under review.

Caring School Community (formerly Child Development Project)

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

Program Description: Caring School Community, formerly called the Child Development Project, 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.Caring School Community includes four components designed to be implemented throughout the year: 1) Class Meetings, which promote communication and decision-making between teachers and students to improve the classroom climate; 2) Cross-Age Buddies, which pairs classes of younger and older students for academic and recreational activities to facilitate supportive relationships across ages; 3) Homeside Activities, which include parent-child activities completed at home that complement and reinforce the program's school components; and 4) School wide Community-Building Activities, which include a variety of activities designed to engage parents in the school environment and to link parents and their children to the greater community.

Benefit-Cost Summary

Program benefits	
Participants	$4,696
Taxpayers	$2,171
Other (1)	$2,271
Other (2)	($527)
Total	$8,611
Costs	($1,218)
Benefits minus cost	$7,393

Summary statistics	
Benefit to cost ratio	$7.06
Benefits minus costs	$7,393
Probability of a positive net present value	62 %

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	$16	$51	$8	$75
Labor market earnings (test scores)	$4,714	$2,011	$2,325	$0	$9,050
Property loss (alcohol abuse/dependence)	$1	$0	$2	$0	$3
Health care (educational attainment)	($19)	$144	($107)	$71	$90
Adjustment for deadweight cost of program	$0	$0	$0	($607)	($607)
Totals	$4,696	$2,171	$2,271	($527)	$8,611

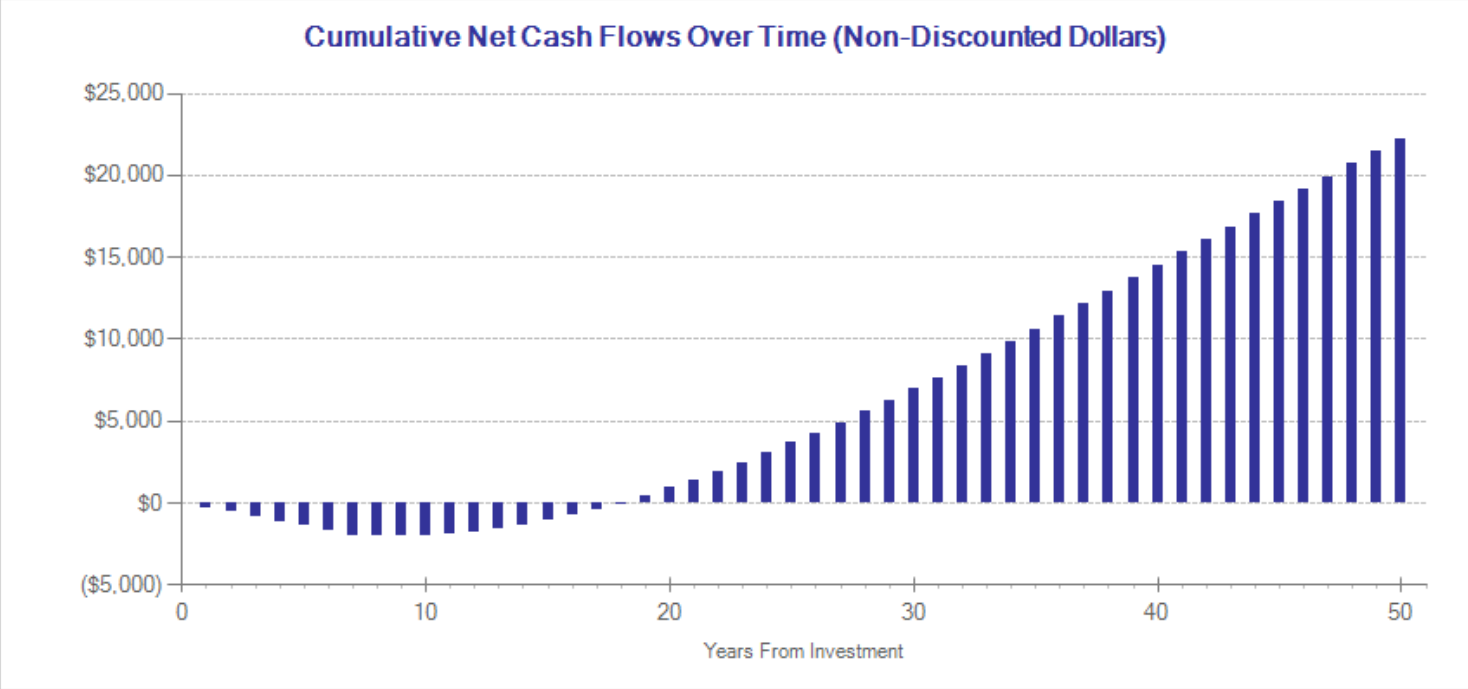
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "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	$192	7	2013	Present value of net program costs (in 2013 dollars)	($1,218)
Comparison costs	$0	7	2013	Uncertainty (+ or - %)	10 %

Cost data come from CSC developer (http://www.devstu.org/caring-school-community) and WA Office of Superintendent of Public Instruction.

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Smoking before end of middle school	Primary	1	-0.018	0.902	-0.006	0.146	13	-0.006	0.146	18
Alcohol use before end of middle school	Primary	1	-0.178	0.221	-0.059	0.146	13	-0.059	0.146	18
Cannabis use before end of middle school	Primary	1	-0.149	0.306	-0.049	0.146	13	-0.049	0.146	18
Test scores	Primary	1	0.109	0.544	0.109	0.179	13	0.065	0.197	18
High school grad via test scores	Primary	n/a	n/a	n/a	0.018	0.052	18	0.018	0.052	18

Citations Used in the Meta-Analysis

Battistich, V., Schaps, E., Watson, M., Solomon, D., & Lewis, C. (2000). Effects of the child development project on students' drug use and other problem behaviors. *Journal of Primary Prevention*, *21*(1), 75-99.

Muñoz, M.A., & Vanderhaar, J.E. (2006). Literacy-embedded character education in a large urban district. *Journal of Research in Character Education*, *4*(1&2), 27-44.

Case management in schools

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

Program Description: Case management involves placing a full-time social worker or counselor in a school to help identify at-risk students' needs and connect students and families with relevant services in and outside of the K–12 system. Three such models have been evaluated and are included in this analysis (in no particular order): Communities in Schools, City Connects, and Comer School Development Program. In practice, each of these models includes other services (such as extended learning time and educator training), but the program evaluations focus on the impact of the case management component.

Benefit-Cost Summary

Program benefits	
Participants	$2,650
Taxpayers	$1,479
Other (1)	$1,084
Other (2)	$39
Total	$5,252
Costs	($248)
Benefits minus cost	$5,005

Summary statistics	
Benefit to cost ratio	$21.21
Benefits minus costs	$5,005
Probability of a positive net present value	66 %

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	$0	$0	$0	$0
Labor market earnings (hs grad)	$2,692	$1,148	$1,328	$0	$5,169
Property loss (alcohol abuse/dependence)	$0	$0	$0	$0	$0
Health care (educational attainment)	($42)	$331	($244)	$163	$207
Adjustment for deadweight cost of program	$0	$0	$0	($123)	($123)
Totals	$2,650	$1,479	$1,084	$39	$5,252

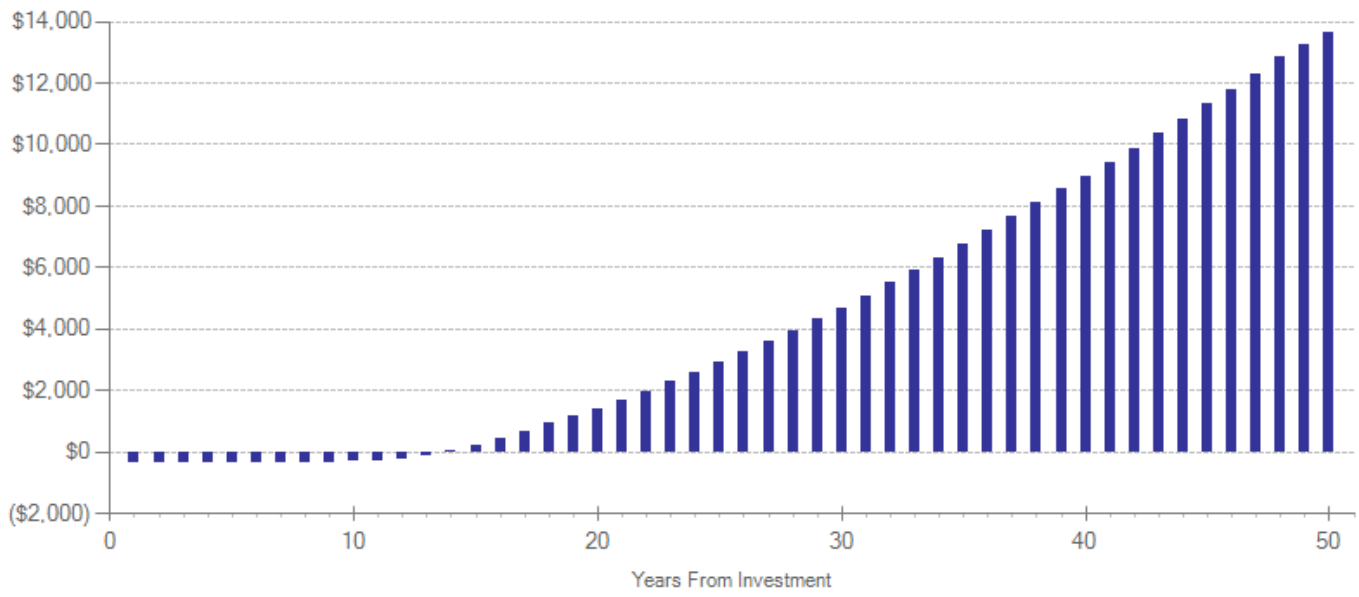
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "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	$248	1	2013	Present value of net program costs (in 2013 dollars)	($248)
Comparison costs	$0	1	2013	Uncertainty (+ or - %)	10 %

To calculate a per-student annual cost, we use average compensation costs (including benefits) for a social worker as reported by the Office of the Superintendent of Public Instruction, divided by the number of students in a prototypical elementary school and add per-student annual materials, supplies, and operating costs. The estimate also includes a half-hour of principal and administrative support time per week.

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Alcohol use before end of middle school	Primary	3	0.032	0.705	0.002	0.085	12	0.002	0.085	18
School attendance	Primary	9	-0.002	0.966	-0.002	0.045	12	0.002	0.054	13
Externalizing behavior symptoms	Primary	1	-0.325	0.044	-0.016	0.161	12	-0.016	0.161	18
Grade point average	Primary	7	0.078	0.238	0.033	0.066	12	0.115	0.148	13
High school graduation	Primary	3	0.048	0.583	0.040	0.089	18	0.040	0.089	18
Internalizing symptoms	Primary	4	-0.030	0.075	-0.002	0.075	12	-0.002	0.075	18
Cannabis use before end of middle school	Primary	3	0.013	0.880	0.001	0.085	12	0.001	0.085	18
Office discipline referrals	Primary	2	0.194	0.192	0.194	0.149	12	0.141	0.162	13
Illicit drug use before end of middle school	Primary	4	-0.034	0.654	-0.002	0.075	12	-0.002	0.075	18
Test scores	Primary	11	0.023	0.533	0.009	0.037	12	0.007	0.041	17
Smoking before end of middle school	Primary	3	0.015	0.862	0.001	0.085	12	0.001	0.085	17

Citations Used in the Meta-Analysis

Cook, T.D., Phillips, M., Settersten, R.A., Shagle, S.C., Degirmencioglu, S.M., & Habib, F.N. (1999). Comer's School Development Program in Prince George's County, Maryland: A theory-based evaluation. *American Educational Research Journal*, *36*(3), 543-597.

Cook, T.D., Murphy, R.F., & Hunt, H.D. (2000). Comer's school development program in Chicago: A theory-based evaluation. *American Educational Research Journal*, *37*(2), 535-597.

ICF International. (2008). *Communities in Schools National Evaluation*, *Volume 1: School-level report*. Retrieved from http://www.communitiesinschools.org/media/uploads/attachments/CIS_School_Level_Report_Volume_1.pdf.

ICF International. (2010). *Communities in Schools National Evaluation Volume 6: Randomized Controlled Trial Study*, Wichita, Kansas. Http://www.communitiesinschools.org/media/uploads/attachments/CIS_RCT_Study_Wichita_Volume_6.pdf

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ICF International. (2010). *Communities in Schools National Evaluation Volume 5: Randomized Controlled Trial Study*, Austin, Texas. Http://www.communitiesinschools.org/media/uploads/attachments/CIS_RCT_Study_Austin_Volume_5_final.pdf

Walsh, M., Foley, C., Denny, B.R., Lindsay, L., Coyle, J., & Howard, M. (2012). *The impact of City Connects* (Progress report 2012). Boston: Boston College Center for Optimized Student Support

Walsh, M., Foley, C., Denny, B.R., Lindsay, L., Coyle, J., & Howard, M. (2011). *The impact of City Connects* (Annual report 2011). Boston: Boston College Center for Optimized Student Support

Communities That Care

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Communities that Care (CTC) is a coalition-based community prevention program that aims to prevent youth problem behaviors including underage drinking, tobacco use, violence, delinquency, school dropout, and substance abuse. CTC works through a community board to assess risk and protective factors among the youth in their community. The board works to implement tested and effective programs to address the issues and needs that are identified.

Benefit-Cost Summary

Program benefits	
Participants	$862
Taxpayers	$626
Other (1)	$739
Other (2)	($148)
Total	$2,079
Costs	($574)
Benefits minus cost	$1,505

Summary statistics	
Benefit to cost ratio	$3.70
Benefits minus costs	$1,505
Probability of a positive net present value	85 %

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	$225	$683	$111	$1,019
Labor market earnings (alcohol abuse/dependence)	$825	$352	$0	$1	$1,178
Property loss (alcohol abuse/dependence)	$2	$0	$3	$0	$4
Health care (illicit drug abuse/dependence)	$36	$49	$53	$25	$163
Adjustment for deadweight cost of program	$0	$0	$0	($285)	($285)
Totals	$862	$626	$739	($148)	$2,079

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.

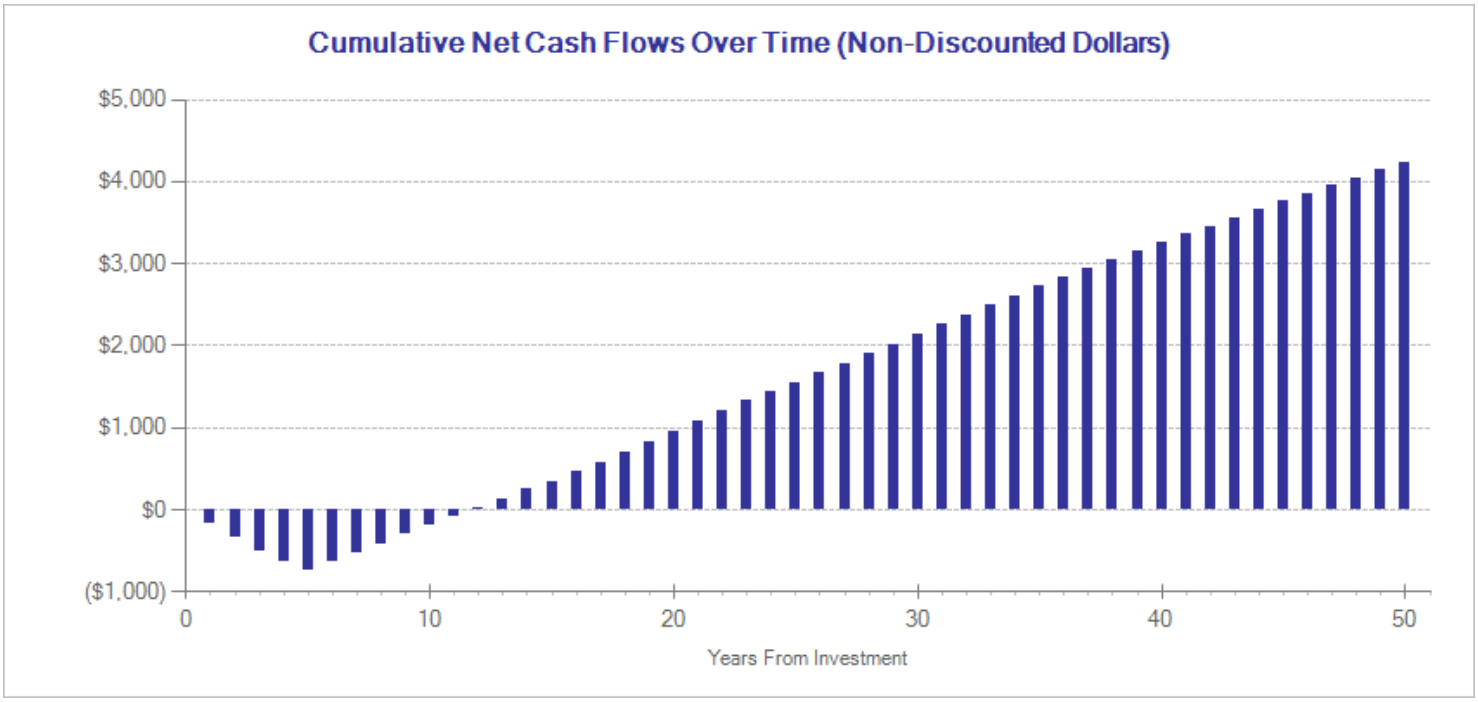
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$103	5	2004
Comparison costs	$0	1	2004

Summary statistics	
Present value of net program costs (in 2013 dollars)	($574)
Uncertainty (+ or - %)	35 %

Weighted average of per-child costs across twelve CtC demonstration communities. Provided by M. Kuklinski, Social Development Research Group, January 2013.

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Crime	Primary	1	-0.135	0.001	-0.051	0.042	16	-0.051	0.042	26
Smoking in high school	Primary	1	-0.092	0.017	-0.035	0.039	16	-0.035	0.039	26
Alcohol use in high school	Primary	1	-0.150	0.001	-0.057	0.045	16	-0.057	0.045	26
Cannabis use in high school	Primary	1	-0.041	0.291	-0.015	0.039	16	-0.015	0.039	26
Illicit drug use in high school	Primary	1	-0.039	0.314	-0.015	0.039	16	-0.015	0.039	26

Citations Used in the Meta-Analysis

Kuklinski, M.R., Briney, J.S., Hawkins, J.D., & Catalano, R.F. (2012). Cost-benefit analysis of communities that care outcomes at eighth grade. *Prevention Science*, *13*(2), 150-61.

Family Check-Up (also known as Positive Family Support)

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

Program Description: Positive Family Support/Family Check-Up (formerly Adolescent Transitions Program) is a three-tiered intervention implemented in middle schools.The first level is a universal component that involves the establishment of a family resource center and the implementation of a six-week prevention curriculum. The second tier is Family Check-Up, an assessment and brief motivational interview component for students identified as at-risk. The third tier is the Family Intervention Menu, which directs parents of substance-using adolescents to treatment options, parenting groups, and family therapy sessions. Our review is of the entire Positive Family Support model and not solely the second tier Family Check-Up component.

Benefit-Cost Summary

Program benefits	
Participants	$0
Taxpayers	$53
Other (1)	$161
Other (2)	($135)
Total	$79
Costs	($323)
Benefits minus cost	($244)

Summary statistics	
Benefit to cost ratio	$0.24
Benefits minus costs	($244)
Probability of a positive net present value	47 %

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	$51	$154	$26	$230
Property loss (alcohol abuse/dependence)	$2	$0	$4	$0	$6
Labor market earnings (major depression)	($3)	($1)	$0	$0	($4)
Health care (major depression)	$1	$3	$4	$1	$9
Adjustment for deadweight cost of program	$0	$0	$0	($163)	($163)
Totals	$0	$53	$161	($135)	$79

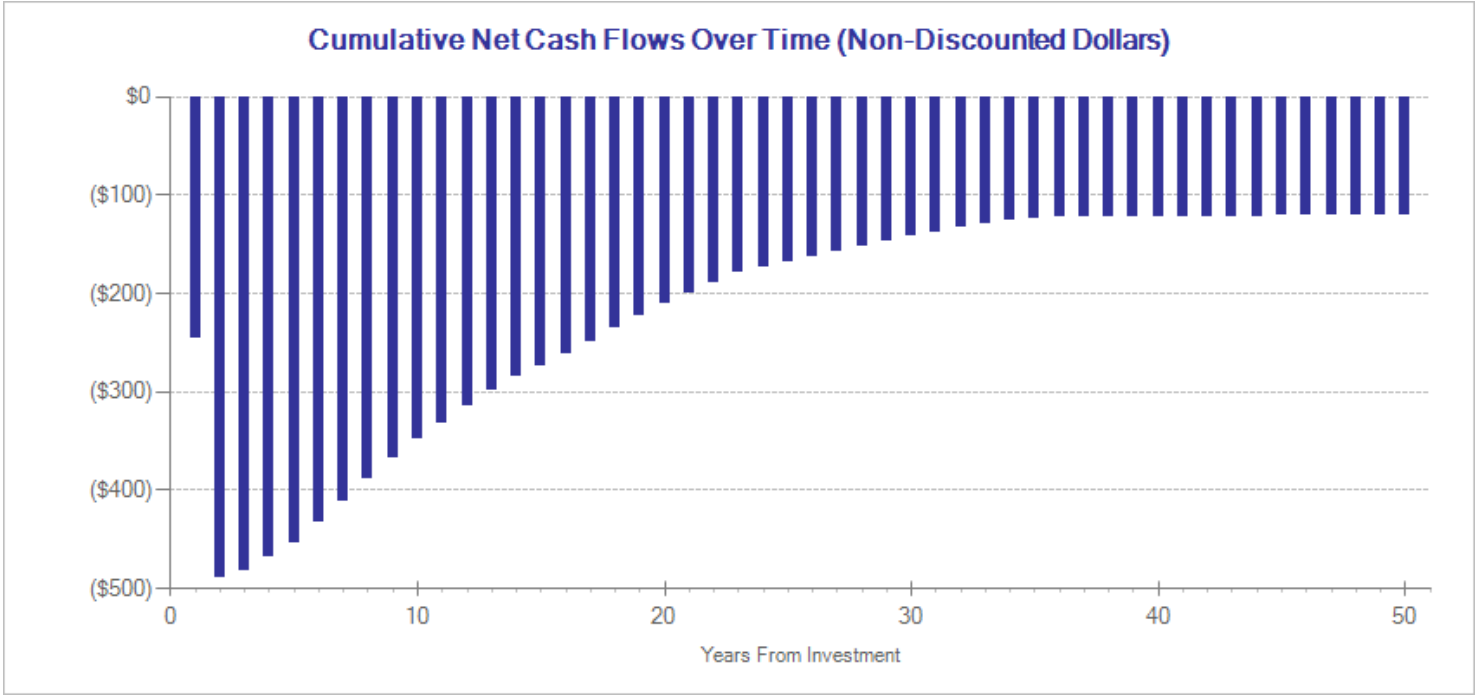
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "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	$164	2	2013	Present value of net program costs (in 2013 dollars)	($323)
Comparison costs	$0	2	2013	Uncertainty (+ or - %)	10 %

Cost data come from Blueprints for Healthy Youth Development (http://www.blueprintsprograms.com/programCosts.php?pid=b16a457a3302d7c1f4563df2ffc96dccf3779af7).

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Smoking before end of middle school	Primary	1	-0.727	0.001	-0.240	0.209	13	-0.240	0.209	18
Smoking in high school	Primary	1	-0.145	0.342	-0.048	0.153	14	-0.048	0.153	18
Alcohol use before end of middle school	Primary	1	-0.350	0.092	-0.116	0.208	13	-0.116	0.208	18
Alcohol use in high school	Primary	1	-0.050	0.741	-0.017	0.152	18	-0.017	0.152	18
Cannabis use before end of middle school	Primary	1	-0.305	0.142	-0.101	0.208	13	-0.101	0.208	18
Cannabis use in high school	Primary	1	-0.126	0.410	-0.041	0.153	18	-0.041	0.153	18
Major depressive disorder	Primary	1	-0.296	0.527	-0.098	0.469	15	0.000	0.039	16
Externalizing behavior symptoms	Primary	1	-0.012	0.939	-0.004	0.152	19	-0.002	0.079	22
Crime	Primary	1	-0.039	0.932	-0.013	0.152	18	-0.013	0.152	28
Grade point average	Primary	1	-0.062	0.685	-0.020	0.152	18	-0.020	0.152	18

Citations Used in the Meta-Analysis

Connell, A.M., & Dishion, T.J. (2008). Reducing depression among at-risk early adolescents: three-year effects of a family-centered intervention embedded within schools. *Journal of Family Psychology (division 43)*, *22*(4), 574-85.

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Van, R.M.J., & Dishion, T.J. (2012). The impact of a family-centered intervention on the ecology of adolescent antisocial behavior: modeling developmental sequelae and trajectories during adolescence. *Development and Psychopathology*, *24*(3), 1139-55.

Guiding Good Choices (formerly Preparing for the Drug Free Years)

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

Program Description: Guiding Good Choices, formerly known as Preparing for the Drug-Free Years, 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. Sessions typically last two hours each and include a mix of group discussions, workbook activities, role plays, and multimedia presentations. Program content includes education about the prevalence of substance use and risk and protective factors associated with use, and the development of strategies in the home to prevent use (Session 1), establishing expectations and guidelines within the home regarding substance use (Session 2), education and opportunities to practice refusal skills (Session 3), managing family conflict and constructively handling disputes between family members (Session 4), and strategies for engaging the adolescent in family activities and ways to create supportive networks among parents (Session 5). Parents are required to attend all five sessions while the adolescents is required to attend Session 3.

Benefit-Cost Summary

Program benefits	
Participants	$1,243
Taxpayers	$653
Other (1)	$308
Other (2)	($253)
Total	$1,951
Costs	($655)
Benefits minus cost	$1,296

Summary statistics	
Benefit to cost ratio	$2.99
Benefits minus costs	$1,296
Probability of a positive net present value	64 %

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	$66	$213	$32	$311
Labor market earnings (alcohol abuse/dependence)	$1,180	$503	$0	$1	$1,684
Property loss (alcohol abuse/dependence)	$2	$0	$4	$0	$7
Health care (illicit drug abuse/dependence)	$61	$84	$91	$44	$279
Adjustment for deadweight cost of program	$0	$0	$0	($330)	($330)
Totals	$1,243	$653	$308	($253)	$1,951

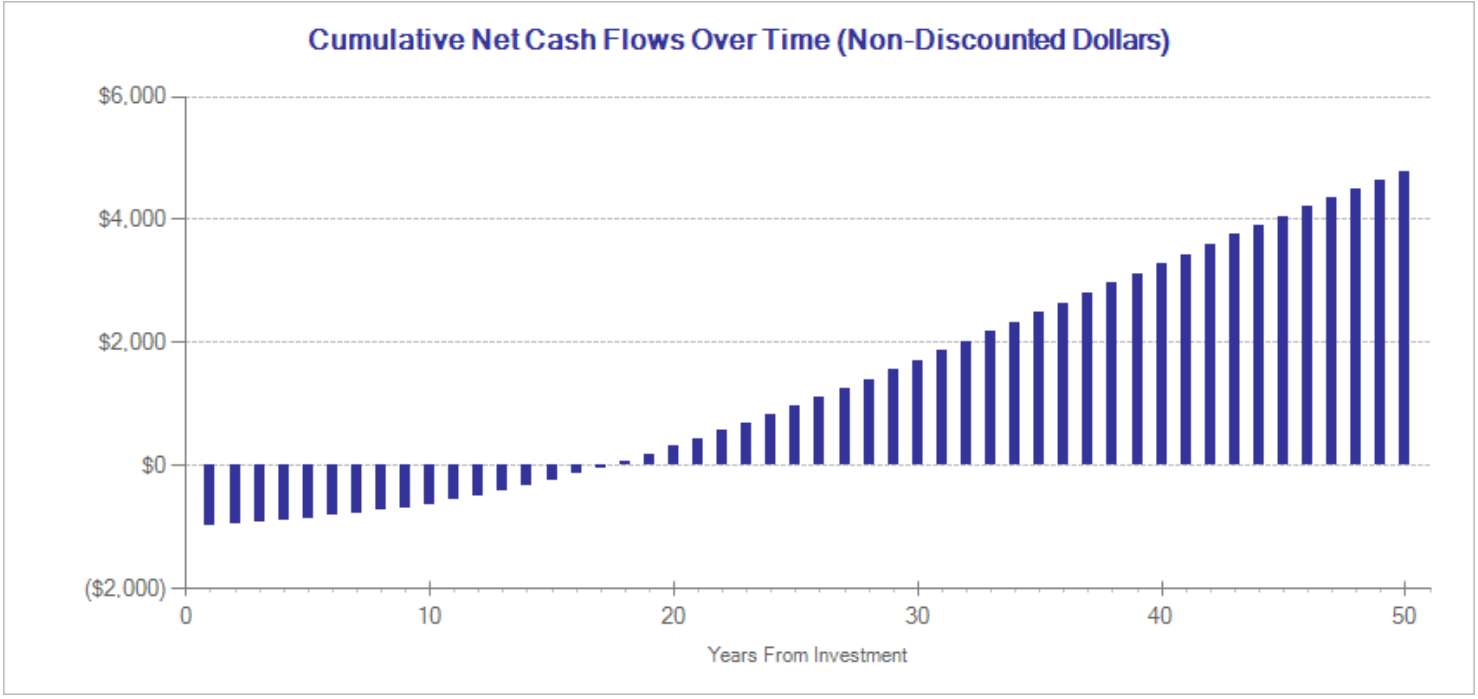
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "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	$655	1	2013	Present value of net program costs (in 2013 dollars)	($655)
Comparison costs	$0	1	2012	Uncertainty (+ or - %)	10 %

Cost data come from Spoth, R. L., Guyll, M., & Day, S. X. (2002). Universal family-focused interventions in alcohol-use disorder prevention: Cost-effectiveness and cost-benefit analyses of two interventions. *Journal of Studies on Alcohol and Drugs, 63*(2), 219.

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Alcohol use in high school	Primary	1	-0.256	0.030	-0.085	0.118	16	-0.085	0.118	18
Cannabis use in high school	Primary	1	-0.305	0.345	-0.101	0.324	16	-0.101	0.324	18
Smoking in high school	Primary	1	-0.187	0.175	-0.062	0.138	16	-0.062	0.138	18
Internalizing symptoms	Primary	1	-0.237	0.189	-0.078	0.180	18	-0.057	0.142	20
Illicit drug use in high school	Primary	2	-0.082	0.619	-0.027	0.164	16	-0.027	0.164	18

Citations Used in the Meta-Analysis

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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 & Adolescent Medicine*, *160*(9), 876-882.

Spoth, R.L., Redmond, C., & Shin, C. (2001). Randomized trial of brief family interventions for general populations: Adolescent substance use outcomes 4 years following baseline. *Journal of Consulting and Clinical Psychology*, *69*(4), 627-642.

Spoth, R., Trudeau, L., Guyll, M., Shin, C., & Redmond, C. (2009). Universal intervention effects on substance use among young adults mediated by delayed adolescent substance initiation. *Journal of Consulting and Clinical Psychology*, *77*(4), 620-32.

InShape

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

Program Description: 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. The first component includes a self-administered behavior image survey, followed by a brief (25-minute) motivational interview with the fitness specialist, and a set of recommendations to increase fitness and health through improved self-image.

Benefit-Cost Summary

Program benefits	
Participants	($225)
Taxpayers	($90)
Other (1)	$25
Other (2)	($19)
Total	($309)
Costs	($15)
Benefits minus cost	($324)

Summary statistics	
Benefit to cost ratio	($21.00)
Benefits minus costs	($324)
Probability of a positive net present value	47 %

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	$13	$33	$6	$52
Labor market earnings (smoking)	($218)	($93)	$0	($13)	($325)
Health care (smoking)	($7)	($9)	($10)	($5)	($31)
Property loss (alcohol abuse/dependence)	$1	$0	$1	$0	$2
Adjustment for deadweight cost of program	$0	$0	$0	($7)	($7)
Totals	($225)	($90)	$25	($19)	($309)

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.

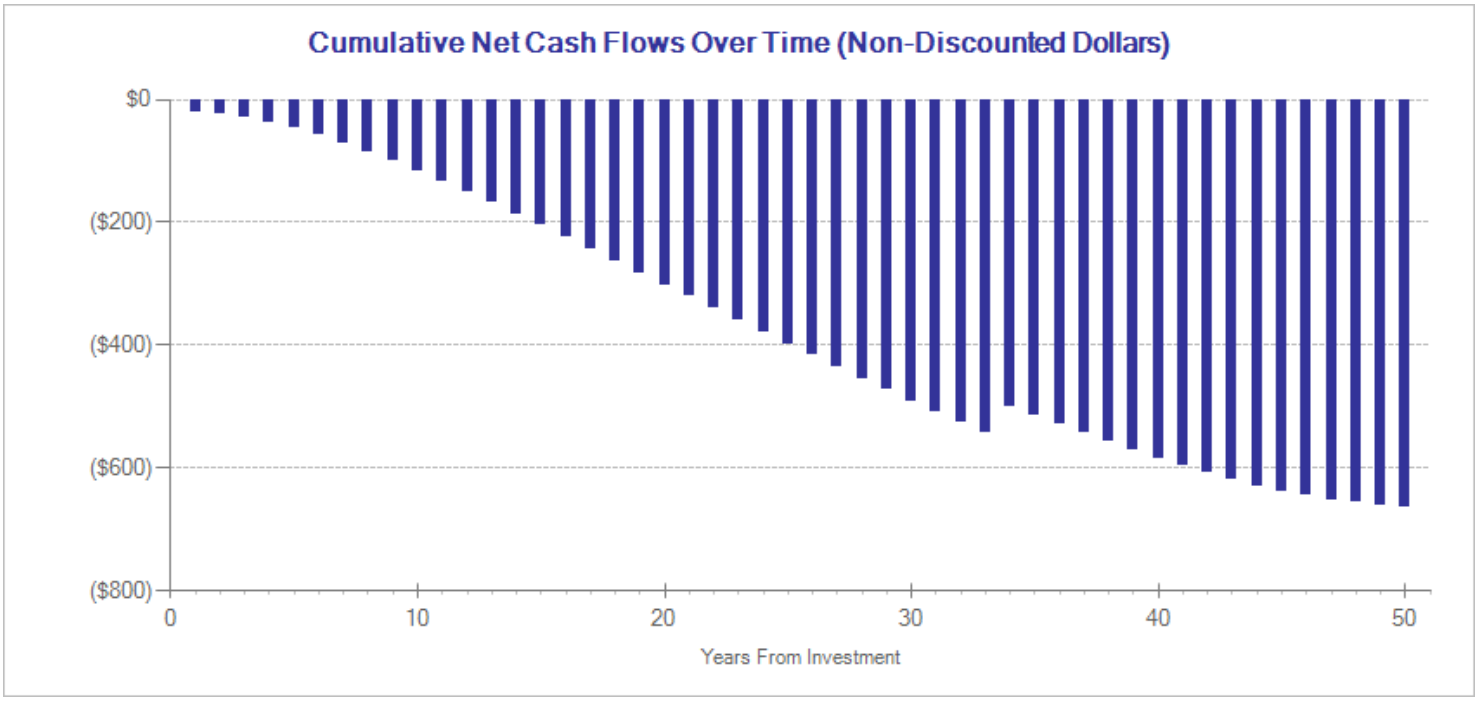
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$15	1	2014
Comparison costs	$0	1	2014

Summary statistics	
Present value of net program costs (in 2013 dollars)	($15)
Uncertainty (+ or - %)	10 %

Cost data come from developer website (http://preventionpluswellness.com/programs/inshape/).

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Regular smoking	Primary	1	0.032	0.789	0.010	0.119	19	0.010	0.119	29
Alcohol use	Primary	1	-0.203	0.574	-0.067	0.119	19	-0.067	0.119	29
Youth binge drinking	Primary	1	-0.082	0.820	-0.027	0.119	19	-0.027	0.119	29
Cannabis use	Primary	1	0.093	0.433	0.031	0.119	19	0.031	0.119	29

Citations Used in the Meta-Analysis

Werch, C., Moore, M., Bian, H., DiClemente, C., Ames, S., Weiler, R., Thombs, D., ... Huang, I.C. (2008). Efficacy of a brief image-based multiple-behavior intervention for college students. *Annals of Behavioral Medicine, 36*(2), 149-157.

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keepin' it REAL

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

Program Description: Keepin' it REAL is a universal school-based substance use prevention program designed in multicultural settings for middle school students. The curriculum is taught by classroom teachers in 45-minute sessions once a week for 10 weeks. Classroom sessions include group discussions, role plays, games, and five videos produced by youth designed to teach students drug resistance skills. Our review of the program is limited to the curriculum as implemented by the original developers and does not reflect the alternative implementation model used by D.A.R.E. America.

Benefit-Cost Summary

Program benefits	
Participants	$513
Taxpayers	$244
Other (1)	$65
Other (2)	($9)
Total	$813
Costs	($48)
Benefits minus cost	$765

Summary statistics	
Benefit to cost ratio	$16.98
Benefits minus costs	$765
Probability of a positive net present value	73 %

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	$14	$46	$7	$67
Labor market earnings (alcohol abuse/dependence)	$504	$215	$0	$0	$719
Health care (alcohol abuse/dependence)	$8	$15	$17	$8	$48
Property loss (alcohol abuse/dependence)	$1	$0	$2	$0	$3
Adjustment for deadweight cost of program	$0	$0	$0	($24)	($24)
Totals	$513	$244	$65	($9)	$813

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.

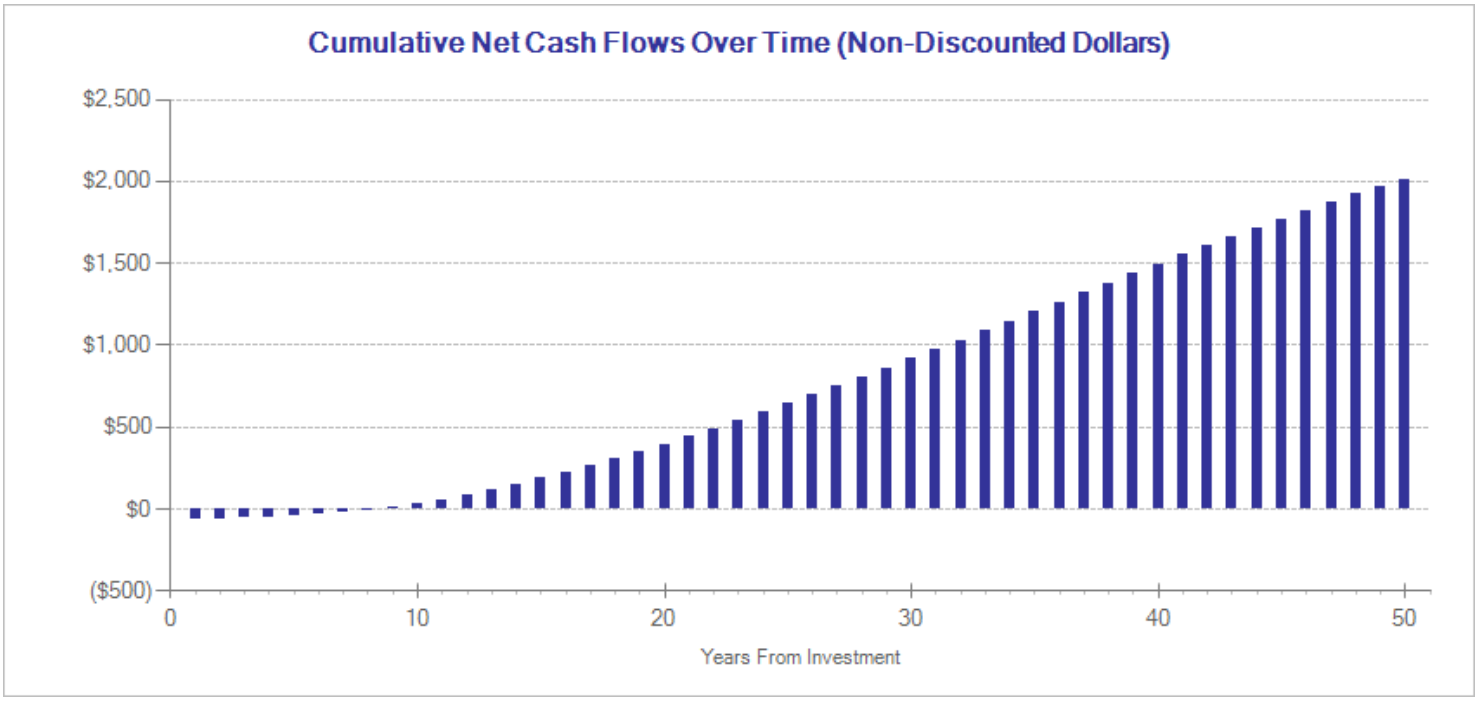
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$48	1	2014
Comparison costs	$0	1	2014

Summary statistics	
Present value of net program costs (in 2013 dollars)	($48)
Uncertainty (+ or - %)	10 %

Cost data come from developer website (http://www.kir.psu.edu/curriculum/order.shtml) and personal communication with developer.

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Smoking before end of middle school	Primary	2	-0.113	0.171	-0.037	0.083	15	-0.037	0.083	18
Alcohol use before end of middle school	Primary	2	-0.150	0.072	-0.050	0.083	15	-0.050	0.083	18
Cannabis use before end of middle school	Primary	1	-0.141	0.269	-0.046	0.127	15	-0.046	0.127	18

Citations Used in the Meta-Analysis

Hecht, M.L., Marsiglia, F.F., Elek, E., Wagstaff, D.A., Kulis, S., Dustman, P., & Miller-Day, M. (2003). Culturally grounded substance use prevention: an evaluation of the keepin' it R.E.A.L. curriculum. *Prevention Science, 4*(4), 233-48.

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Life Skills Training

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

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	$1,593
Taxpayers	$804
Other (1)	$1,034
Other (2)	$30
Total	$3,461
Costs	($97)
Benefits minus cost	$3,363

Summary statistics	
Benefit to cost ratio	$35.66
Benefits minus costs	$3,363
Probability of a positive net present value	93 %

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	$52	$173	$26	$250
Labor market earnings (hs grad)	$1,515	$646	$749	$0	$2,910
Health care (smoking)	$77	$106	$111	$53	$347
Property loss (alcohol abuse/dependence)	$1	$0	$1	$0	$2
Adjustment for deadweight cost of program	$0	$0	$0	($49)	($49)
Totals	$1,593	$804	$1,034	$30	$3,461

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.

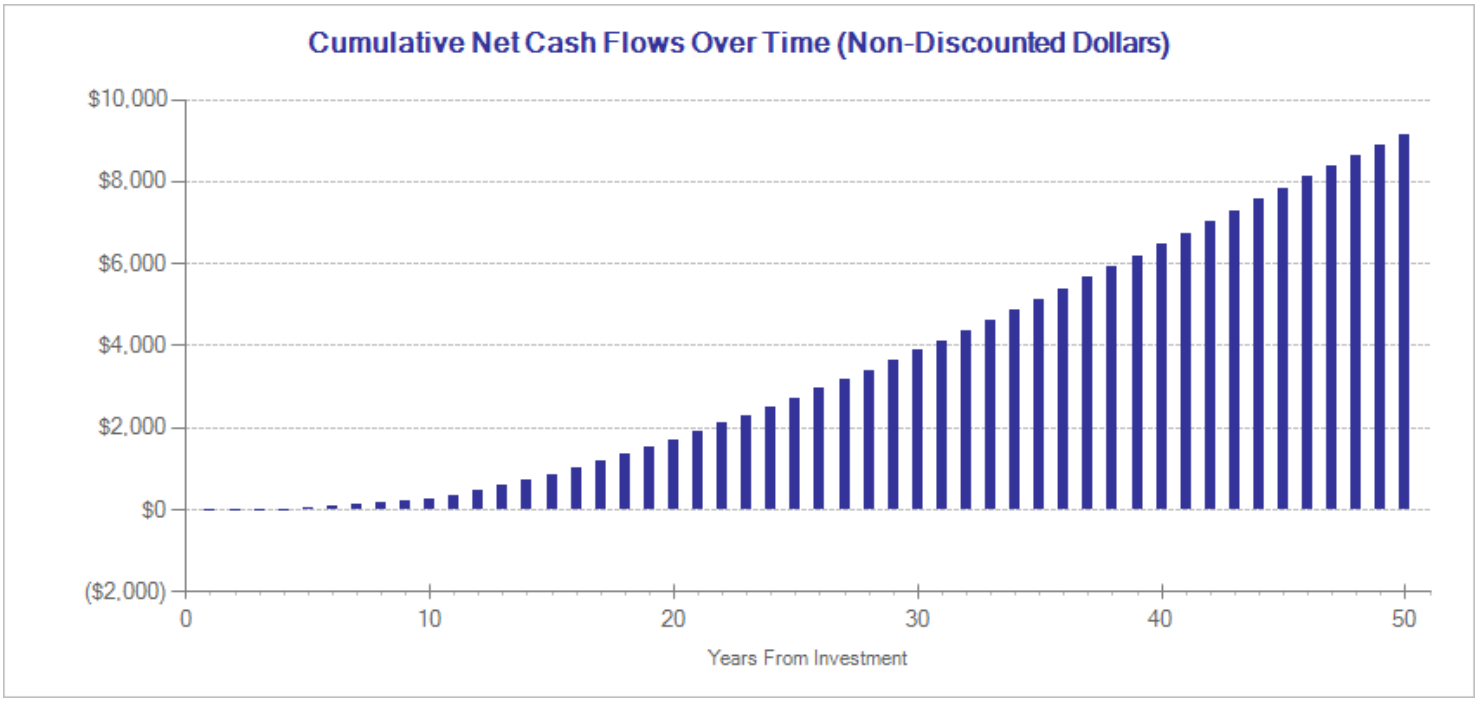
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$34	3	2013
Comparison costs	$0	1	2013

Summary statistics	
Present value of net program costs (in 2013 dollars)	($97)
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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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	-0.054	0.549	-0.018	0.091	14	-0.013	0.071	16
Alcohol use in high school	Primary	3	-0.022	0.843	-0.010	0.109	18	-0.010	0.109	28
Smoking in high school	Primary	4	-0.213	0.036	-0.136	0.102	18	-0.136	0.102	28
Cannabis use in high school	Primary	3	-0.096	0.427	-0.079	0.121	18	-0.079	0.121	28
Alcohol use before end of middle school	Primary	5	-0.088	0.422	-0.029	0.110	14	-0.029	0.110	24
Cannabis use before end of middle school	Primary	4	-0.051	0.647	-0.017	0.113	14	-0.017	0.113	24
Smoking before end of middle school	Primary	8	-0.138	0.163	-0.045	0.099	14	-0.045	0.099	24
Youth binge drinking	Primary	2	-0.154	0.593	-0.017	0.244	15	-0.017	0.244	25

Citations Used in the Meta-Analysis

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Vicary, J., Smith, E., Swisher, J., Hopkins, A., Elek, E., Bechtel, L., & Henry, K. (2006). Results of a 3-year study of two methods of delivery of life skills training. *Health Education & Behavior*, *33*(3), 325-339.

Lions Quest Skills for Adolescence

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

Program Description: Lions Quest Skills for Adolescence is a school-based life skills education program designed for students in middle school grades. The curriculum's 45-minute sessions are designed to prevent substance use and bullying behaviors while also teaching anger and stress management skills. Although Lions Quest Skills for Adolescence typically comprises 80 or more sessions and may include whole-school components, our review is based on the 40-lesson version evaluated by Eisen et al. (2002).

Benefit-Cost Summary

Program benefits	
Participants	$168
Taxpayers	$89
Other (1)	$245
Other (2)	($41)
Total	$461
Costs	($95)
Benefits minus cost	$366

Summary statistics	
Benefit to cost ratio	$4.88
Benefits minus costs	$366
Probability of a positive net present value	75 %

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	$26	$85	$13	$123
Labor market earnings (hs grad)	$353	$150	$174	$0	$677
Labor market earnings (alcohol abuse/dependence)	($173)	($74)	$0	$0	($247)
Health care (alcohol abuse/dependence)	$6	$11	$12	$5	$34
Property loss (alcohol abuse/dependence)	$0	$0	$1	$0	$1
Health care (illicit drug abuse/dependence)	($18)	($24)	($26)	($12)	($80)
Adjustment for deadweight cost of program	$0	$0	$0	($47)	($47)
Totals	$168	$89	$245	($41)	$461

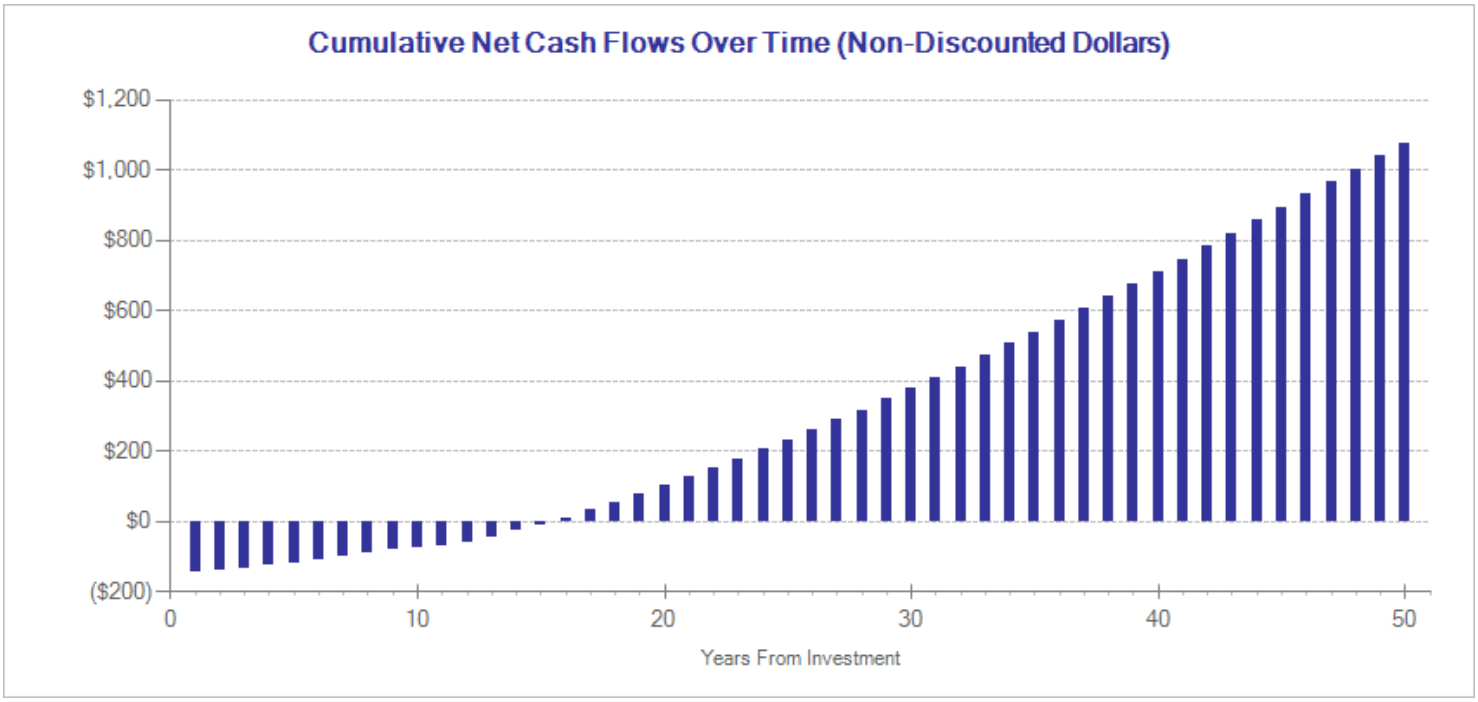
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "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	$95	1	2013	Present value of net program costs (in 2013 dollars)	($95)
Comparison costs	$0	1	2013	Uncertainty (+ or - %)	10 %

Cost data come from NREPP and developer website (http://www.nrepp.samhsa.gov/ViewIntervention.aspx?id=24; http://www.lions-quest.org/ordermaterials.php).

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Alcohol use before end of middle school	Primary	1	0.017	0.660	0.017	0.040	13	0.017	0.040	18
Smoking before end of middle school	Primary	1	0.015	0.698	0.015	0.039	13	0.015	0.039	18
Youth binge drinking	Primary	1	-0.024	0.671	-0.024	0.056	13	-0.024	0.056	18
Cannabis use before end of middle school	Primary	1	-0.096	0.053	-0.096	0.050	13	-0.096	0.050	18
Illicit drug use before end of middle school	Primary	1	0.020	0.661	0.020	0.046	13	0.020	0.046	18

Citations Used in the Meta-Analysis

Eisen, M., Zellman, G.L., & Murray, D.M. (2003). Evaluating the Lions-Quest Skills for Adolescence drug education program: Second-year behavior outcomes. *Addictive Behaviors*, *28*(5), 883-897.

Mentoring for students: community-based (with volunteer costs)

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

Program Description: In community-based mentoring programs, volunteer adults are paired with at-risk middle- and high-school students to meet weekly at locations of their choosing for relationship building and guidance. Community-based organizations provide the adult mentors with training and oversight. Mentors are expected to build relationships with mentees with the aim of improving a variety of outcomes including crime rates, academic achievement, and substance abuse. This analysis includes evaluation findings (in no particular order) for the Washington State Mentors program, Big Brothers Big Sisters, Across Ages, Sponsor-a-Scholar, Career Beginnings, the Buddy System, and other, locally developed programs.

Benefit-Cost Summary

Program benefits	
Participants	$6,946
Taxpayers	$3,513
Other (1)	$1,587
Other (2)	($1,353)
Total	$10,694
Costs	($3,193)
Benefits minus cost	$7,501

Summary statistics	
Benefit to cost ratio	$3.36
Benefits minus costs	$7,501
Probability of a positive net present value	60 %

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	($399)	($1,242)	($200)	($1,841)
Labor market earnings (hs grad)	$7,060	$3,011	$3,491	$0	$13,562
Property loss (alcohol abuse/dependence)	$2	$0	$3	$0	$5
Health care (educational attainment)	($115)	$901	($665)	$454	$575
Adjustment for deadweight cost of program	$0	$0	$0	($1,607)	($1,607)
Totals	$6,946	$3,513	$1,587	($1,353)	$10,694

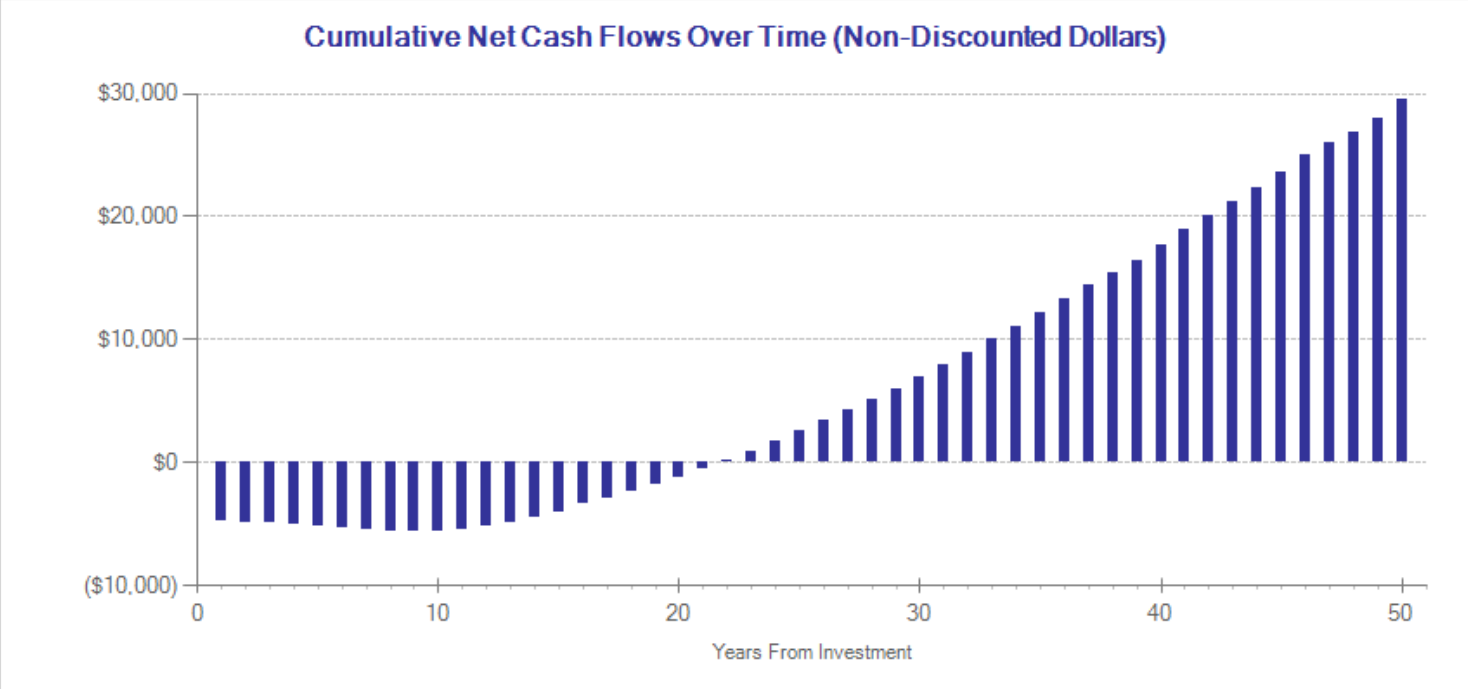
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "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	$2,748	1	2005	Present value of net program costs (in 2013 dollars)	($3,193)
Comparison costs	$0	1	2005	Uncertainty (+ or - %)	10 %

Cost estimates are based on the Big Brothers/Big Sisters program as described in Herrera, C., Grossman, J.B., Kauh, T.J., Feldman, A.F., & McMaken, J. (2007). *Making a difference in schools: The Big Brothers Big Sisters school-based mentoring impact study.* Philadelphia, PA: Public/Private Ventures. The cost of volunteer time is based on the Office of Financial Management State Data Book average adult salary for 2012 multiplied by 1.44 to account for benefits. In the evaluated community-based programs, mentors meet with mentees, on average, once per week over the course of one year. Cost estimates exclude donated space.

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Grade point average	Primary	5	0.095	0.027	0.077	0.043	14	0.077	0.043	17
School attendance	Primary	4	0.007	0.886	-0.005	0.114	14	-0.005	0.114	17
High school graduation	Primary	2	0.293	0.040	0.101	0.143	18	0.101	0.143	18
Crime	Primary	6	0.093	0.025	0.082	0.041	14	0.082	0.041	24
Alcohol use before end of middle school	Primary	1	-0.295	0.178	-0.091	0.219	14	-0.091	0.219	17
Cannabis use before end of middle school	Primary	1	-0.179	0.412	-0.056	0.218	14	-0.056	0.218	17
Smoking in high school	Primary	1	-0.212	0.343	-0.212	0.223	17	-0.212	0.223	17
Illicit drug use in high school	Primary	1	-0.406	0.005	-0.406	0.143	17	-0.406	0.143	17

Citations Used in the Meta-Analysis

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Multidimensional Family Therapy (MDFT) for substance abusers

Benefit-cost estimates updated August 2014. Literature review updated December 2012.

Program Description: Multidimensional Family Therapy (MDFT) is an integrative, family-based, multiple systems treatment for youth with drug abuse and related behavior problems. The therapy consists of four domains: 1) Engage adolescent in treatment, 2) Increase parental involvement with youth and improve limit-setting, 3) Decrease family-interaction conflict, and 4) Collaborate with extra-familial social systems. Youth are generally aged 11 to 15 and have been clinically referred to outpatient treatment. For this meta-analysis, only one study measured the effects of MDFT on delinquency and four measured the effects on subsequent substance use. All five studies included youth who were referred from the juvenile justice system as well as other avenues.

Benefit-Cost Summary

Program benefits	
Participants	$1,751
Taxpayers	$4,308
Other (1)	$10,356
Other (2)	($2,123)
Total	$14,292
Costs	($7,804)
Benefits minus cost	$6,488

Summary statistics	
Benefit to cost ratio	$1.84
Benefits minus costs	$6,488
Probability of a positive net present value	67 %

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	$3,516	$10,294	$1,755	$15,565
Labor market earnings (cannabis abuse/dependence)	$1,737	$741	$0	$0	$2,478
Health care (cannabis abuse/dependence)	$14	$51	$62	$26	$153
Adjustment for deadweight cost of program	$0	$0	$0	($3,904)	($3,904)
Totals	$1,751	$4,308	$10,356	($2,123)	$14,292

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
Program costs	$6,168	1	2001
Comparison costs	$0	1	2001

Summary statistics	
Present value of net program costs (in 2013 dollars)	($7,804)
Uncertainty (+ or - %)	10 %

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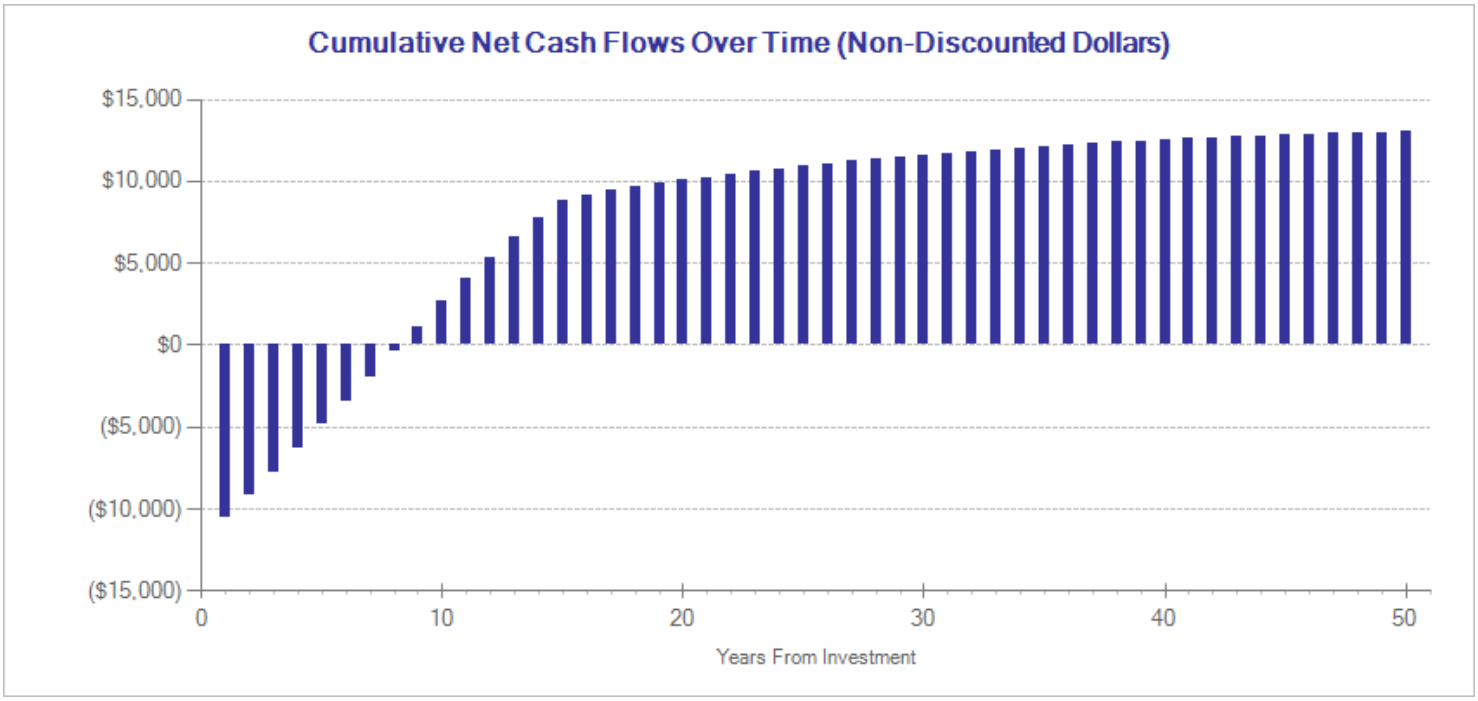
The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in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



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Crime	Primary	2	-0.332	0.135	-0.172	0.158	15	-0.172	0.158	25
Grade point average	Primary	1	0.169	0.441	0.061	0.220	15	0.061	0.220	18
Substance abuse	Primary	4	-0.498	0.001	-0.223	0.107	15	-0.223	0.107	25
Cannabis abuse or dependence	Primary	10	-0.272	0.012	-0.136	0.108	15	-0.136	0.108	25

Citations Used in the Meta-Analysis

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Multidimensional Treatment Foster Care

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

Program Description: Multidimensional Treatment Foster Care (MTFC) is an intensive therapeutic foster care alternative to institutional placement for adolescents who have problems with chronic antisocial behavior, emotional disturbance, and delinquency. MTFC activities include skills training and therapy for youth as well as behavioral parent training and support for foster parents and biological parents. In our analysis, we only include effect sizes from programs that were delivered competently and with fidelity to the program model.

Benefit-Cost Summary

Program benefits	
Participants	$1,931
Taxpayers	$4,256
Other (1)	$13,439
Other (2)	($2,339)
Total	$17,286
Costs	($8,111)
Benefits minus cost	$9,175

Summary statistics	
Benefit to cost ratio	$2.13
Benefits minus costs	$9,175
Probability of a positive net present value	67 %

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	$3,368	$12,401	$1,675	$17,444
Labor market earnings (hs grad)	$1,905	$813	$942	$0	$3,661
Property loss (alcohol abuse/dependence)	$1	$0	$2	$0	$4
Health care (disruptive behavior disorder)	$24	$75	$93	$37	$230
Adjustment for deadweight cost of program	$0	$0	$0	($4,052)	($4,052)
Totals	$1,931	$4,256	$13,439	($2,339)	$17,286

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.

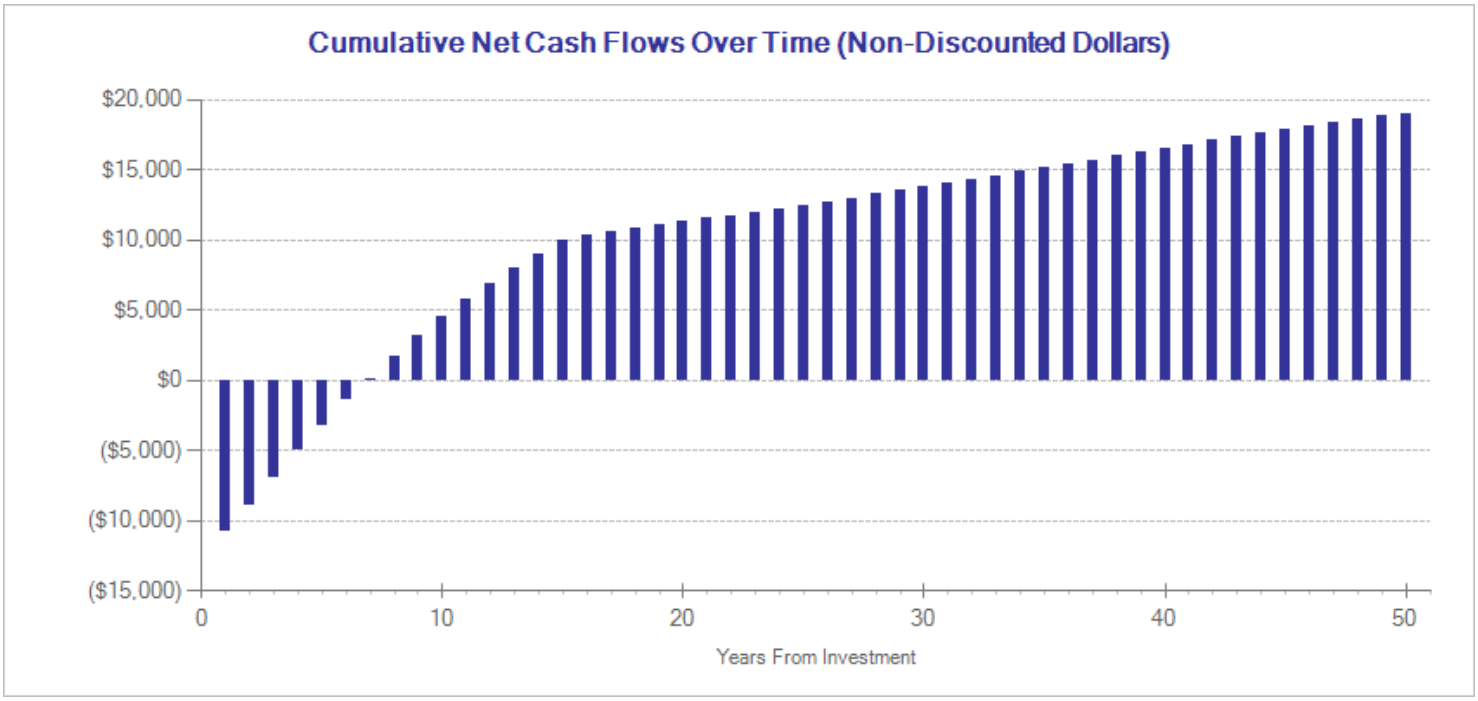
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$31,883	1	2007
Comparison costs	$24,536	1	2007

Summary statistics	
Present value of net program costs (in 2013 dollars)	($8,111)
Uncertainty (+ or - %)	10 %

Estimate provided by the Juvenile Rehabilitation Administration is based on an average length in the program during 2010 and includes oversight, coordination, and administration of the program. Aftercare programming for MTFC is discretionary and the additional associated cost calculation formulas are currently in development. The MTFC cost estimate is compared with alternative cost for youth in group homes.

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Crime	Primary	3	-0.544	0.015	-0.111	0.127	17	-0.111	0.127	27
Teen pregnancy (under age 18)	Primary	1	-0.469	0.001	-0.352	0.028	17	-0.352	0.028	19
Smoking in high school	Primary	1	-0.190	0.429	-0.068	0.240	17	-0.068	0.240	18
Alcohol use in high school	Primary	1	-0.126	0.601	-0.045	0.240	17	-0.045	0.240	18
Cannabis use in high school	Primary	1	-0.230	0.015	-0.083	0.240	17	-0.083	0.240	18
Illicit drug use in high school	Primary	1	-0.261	0.279	-0.094	0.240	17	-0.094	0.240	18
Internalizing symptoms	Primary	1	-0.428	0.216	-0.428	0.346	17	-0.312	0.296	19
Externalizing behavior symptoms	Primary	1	-0.627	0.073	-0.627	0.350	17	-0.299	0.221	20

Citations Used in the Meta-Analysis

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Project ALERT

Benefit-cost estimates updated August 2014. Literature review updated July 2014.

Program Description: Project ALERT is a middle/junior high school-based program to prevent tobacco, alcohol, and marijuana use. Over 11 sessions in the 7th grade and three boosters in the 8th grade, the program helps students understand that most people do not use drugs and teaches them to identify and resist the internal and social pressures that encourage substance use.

Benefit-Cost Summary

Program benefits	
Participants	$248
Taxpayers	$119
Other (1)	$30
Other (2)	($65)
Total	$331
Costs	($147)
Benefits minus cost	$184

Summary statistics	
Benefit to cost ratio	$2.25
Benefits minus costs	$184
Probability of a positive net present value	55 %

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	$5	$16	$2	$23
Health care (smoking)	$9	$12	$13	$6	$41
Labor market earnings (alcohol abuse/dependence)	$238	$102	$0	$0	$340
Property loss (alcohol abuse/dependence)	$0	$0	$1	$0	$1
Adjustment for deadweight cost of program	$0	$0	$0	($74)	($74)
Totals	$248	$119	$30	($65)	$331

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.

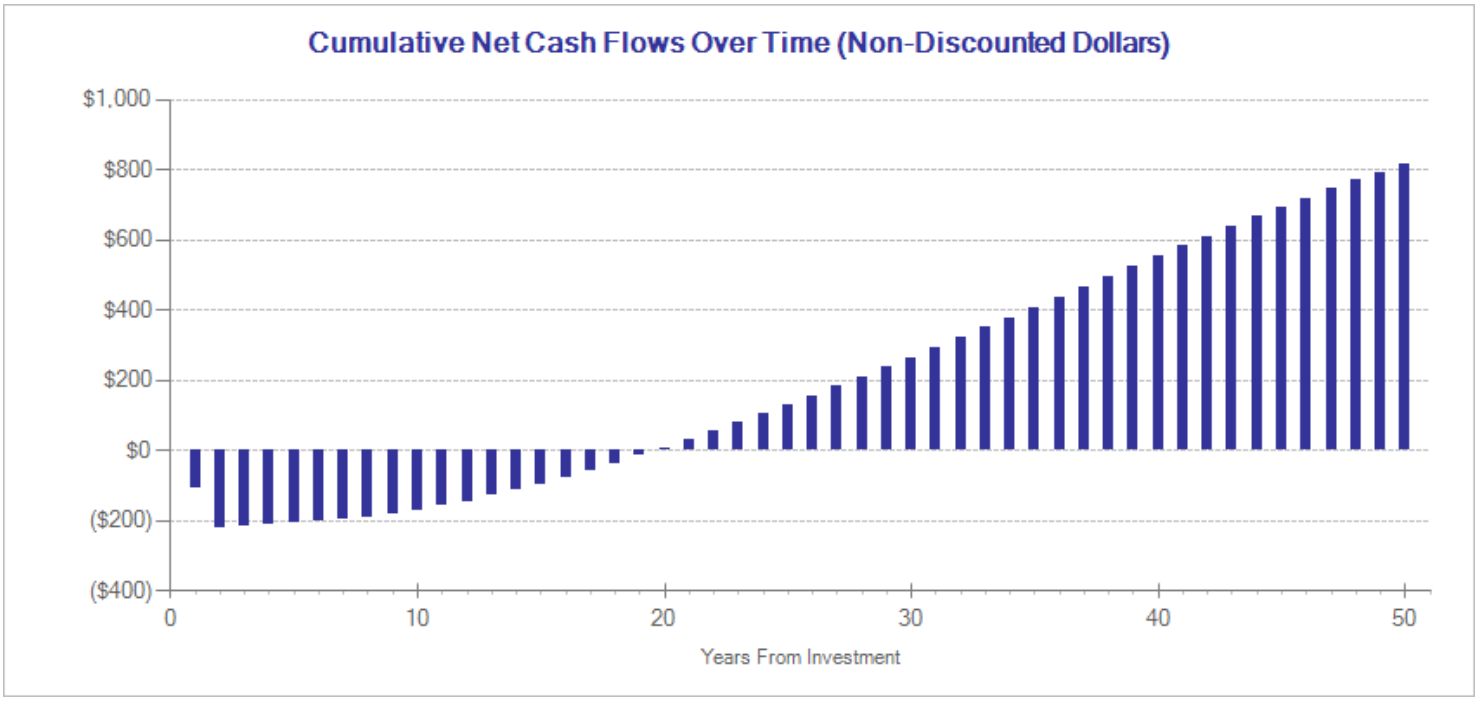
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$60	2	2002
Comparison costs	$0	2	2002

Summary statistics	
Present value of net program costs (in 2013 dollars)	($147)
Uncertainty (+ or - %)	10 %

$120 in 2002 dollars (Miller and Hendrie 2005)

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Alcohol use in high school	Primary	4	-0.035	0.465	-0.016	0.047	15	-0.016	0.047	25
Smoking in high school	Primary	4	-0.048	0.200	-0.015	0.038	15	-0.015	0.038	25
Cannabis use in high school	Primary	4	-0.045	0.677	-0.007	0.108	15	-0.007	0.108	25

Citations Used in the Meta-Analysis

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St Pierre, T.L., Osgood, D.W., Mincemoyer, C C., Kaltreider, D.L., & Kauh, T.J. (2005). Results of an independent evaluation of Project ALERT delivered in schools by cooperative extension. *Prevention Science*, *6*(4), 305-317.

Project Northland

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

Program Description: Project Northland is a multilevel, universal intervention designed to prevent substance use among adolescents in middle school. The 6th grade home component targets parent-child communication via homework assignments, group discussions, and the establishment of a communitywide task force. The 7th grade school-based curriculum, which focuses on improving resistance skills and social norms regarding teen alcohol use, includes class discussions, games, and role plays. The 8th grade components include the peer-led Powerlines curriculum, a mock town meeting, and a community action project. Our review of Project Northland is limited to the 6th-8th grade implementation model and does not include the Class Action high school component.

Benefit-Cost Summary

Program benefits	
Participants	$366
Taxpayers	$184
Other (1)	$243
Other (2)	($76)
Total	$717
Costs	($185)
Benefits minus cost	$532

Summary statistics	
Benefit to cost ratio	$3.87
Benefits minus costs	$532
Probability of a positive net present value	65 %

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	$14	$47	$7	$69
Labor market earnings (hs grad)	$351	$150	$174	$0	$675
Health care (smoking)	$14	$19	$20	$10	$64
Property loss (alcohol abuse/dependence)	$1	$0	$1	$0	$2
Adjustment for deadweight cost of program	$0	$0	$0	($93)	($93)
Totals	$366	$184	$243	($76)	$717

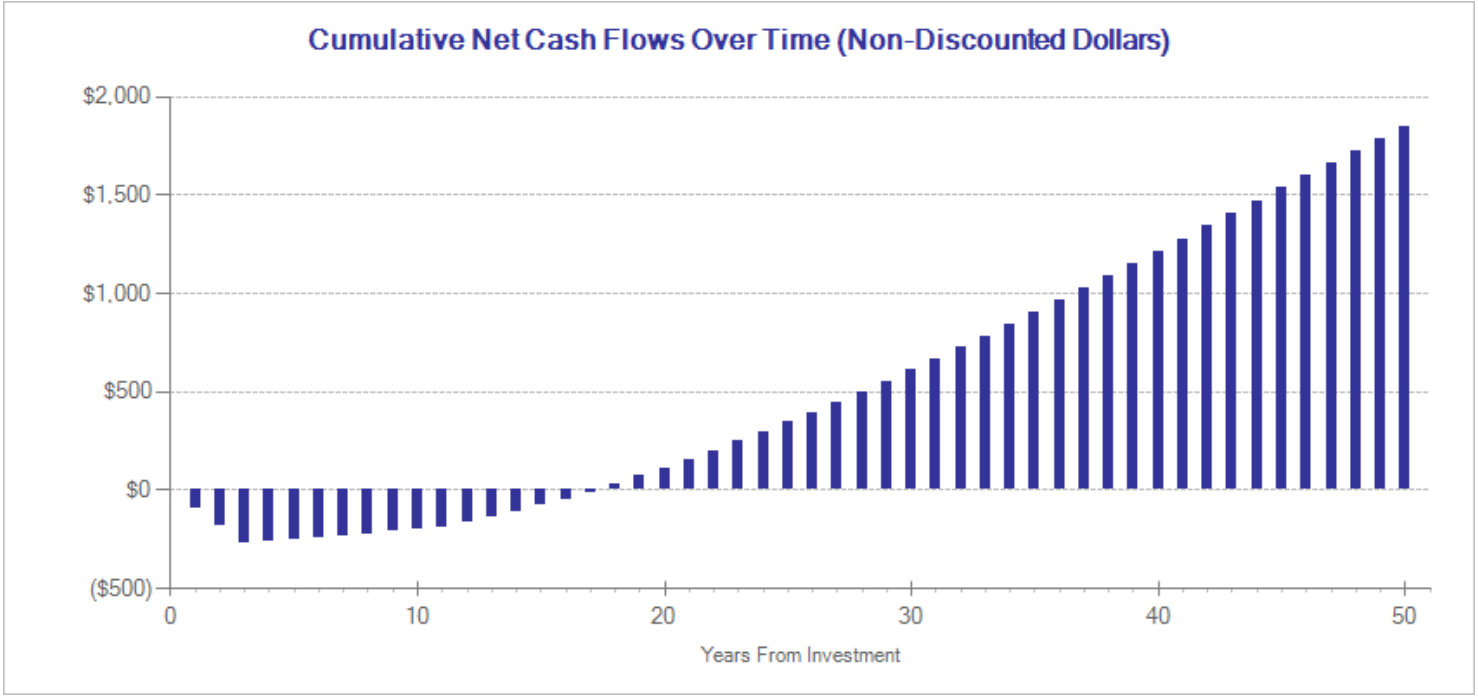
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "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	$64	3	2013	Present value of net program costs (in 2013 dollars)	($185)
Comparison costs	$0	3	2013	Uncertainty (+ or - %)	10 %

Cost data come from NREPP and curriculum publisher (http://www.hazelden.org/OA_HTML/ibeCCtpItmDspRte.jsp?a=b&item=15546; http://www.nrepp.samhsa.gov/ViewIntervention.aspx?id=25#divContacts).

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Smoking before end of middle school	Primary	1	-0.179	0.065	-0.059	0.097	14	-0.059	0.097	18
Alcohol use before end of middle school	Primary	3	-0.096	0.154	-0.035	0.067	14	-0.035	0.067	18
Youth binge drinking	Primary	1	-0.076	0.624	-0.025	0.155	14	-0.025	0.155	18
Cannabis use before end of middle school	Primary	1	-0.099	0.535	-0.033	0.159	14	-0.033	0.159	18

Citations Used in the Meta-Analysis

Komro, K.A., Perry, C.L., Veblen-Mortenson, S., Farbakhsh, K., Toomey, T.L., Stigler, M.H., Jones-Webb, R., . . . Williams, C.L. (2008). Outcomes from a randomized controlled trial of a multi-component alcohol use preventive intervention for urban youth: Project Northland Chicago. *Addiction*, *103*(4), 606-618.

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Project STAR

Benefit-cost estimates updated August 2014. Literature review updated July 2014.

Program Description: Also known as the Midwestern Prevention Project, Project STAR is a multi-component prevention program with the goal of reducing adolescent tobacco, alcohol, and marijuana use. The program consists of a 6th- and 7th-grade intervention supported by parent, community, and mass media components addressing the multiple influences of substance use.

Benefit-Cost Summary

Program benefits	
Participants	$1,722
Taxpayers	$941
Other (1)	$1,383
Other (2)	($129)
Total	$3,917
Costs	($499)
Benefits minus cost	$3,418

Summary statistics	
Benefit to cost ratio	$7.86
Benefits minus costs	$3,418
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	$136	$456	$68	$659
Labor market earnings (hs grad)	$1,644	$701	$813	$0	$3,158
Health care (smoking)	$76	$104	$109	$52	$340
Property loss (alcohol abuse/dependence)	$3	$0	$6	$0	$9
Adjustment for deadweight cost of program	$0	$0	$0	($248)	($248)
Totals	$1,722	$941	$1,383	($129)	$3,917

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.

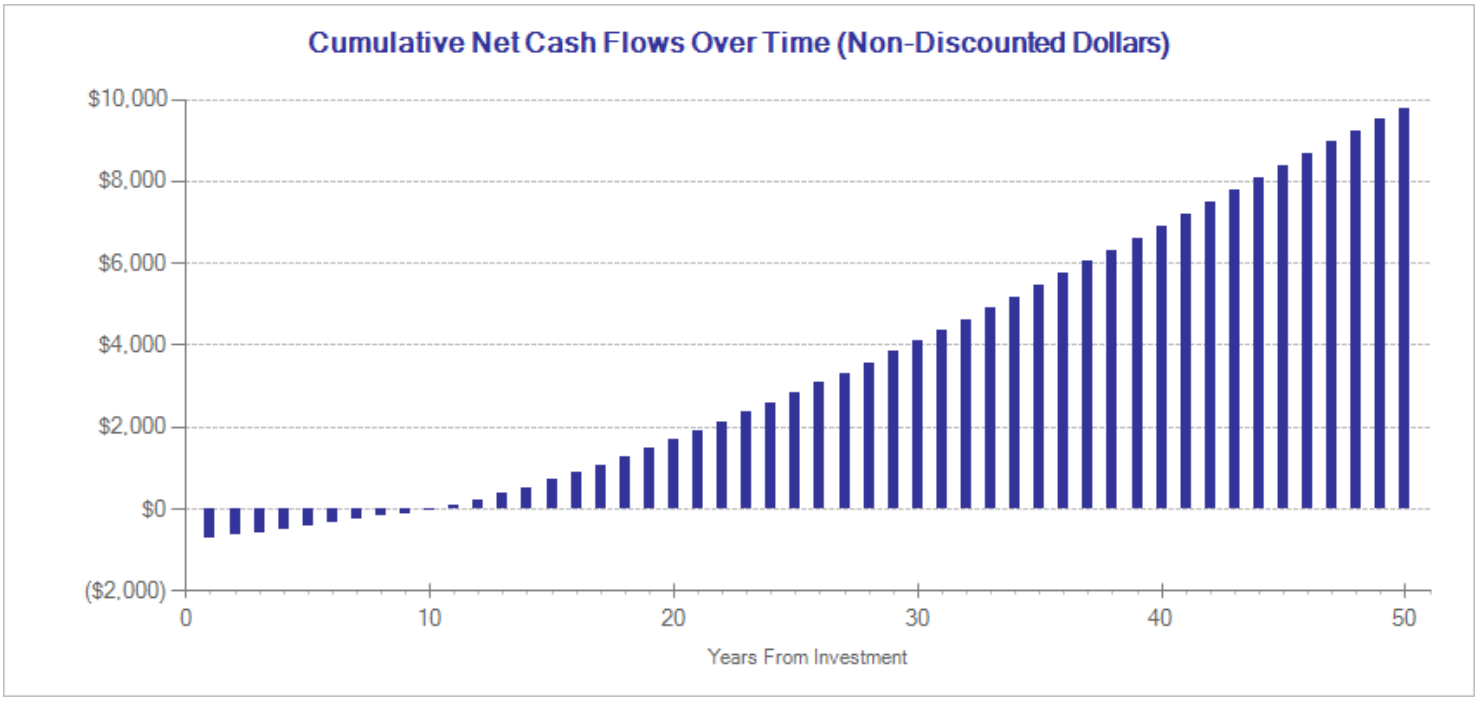
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$400	1	2002
Comparison costs	$0	1	2002

Summary statistics	
Present value of net program costs (in 2013 dollars)	($499)
Uncertainty (+ or - %)	10 %

$400 per pupil (Miller and Hendrie 2005).

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Alcohol use in high school	Primary	2	-0.323	0.025	-0.107	0.144	15	-0.107	0.144	25
Cannabis use in high school	Primary	2	-0.667	0.003	-0.220	0.225	15	-0.220	0.225	25
Smoking in high school	Primary	2	-0.401	0.006	-0.132	0.145	15	-0.132	0.145	25

Citations Used in the Meta-Analysis

Chou, C.P., Montgomery, S., Pentz, M.A., Rohrbach, L.A., Johnson, C.A., Flay, B.R., & MacKinnon, D.P. (1998). Effects of a community-based prevention program on decreasing drug use in high-risk adolescents. *American Journal of Public Health*, *88*(6), 944-948.

Pentz, M.A., Dwyer, J.H., MacKinnon, D.P., Flay, B.R., Hansen, W.B., Wang, E.Y., Johnson, C.A. (1989). A multicommunity trial for primary prevention of adolescent drug abuse: Effects on drug use prevalence. *JAMA*, *261*(22), 3259

Project SUCCESS

Benefit-cost estimates updated August 2014. Literature review updated August 2014.

Program Description: Project SUCCESS is a school-based prevention program that focuses on high-risk youth. The program's four components include: 1) prevention education provided in small groups by a professional counselor; 2) individual and group counseling; 3) communications with parents; and 4) referrals to community agencies. A program counselor is situated in the school throughout the academic year.

Benefit-Cost Summary

Program benefits	
Participants	$45
Taxpayers	($20)
Other (1)	($140)
Other (2)	($95)
Total	($209)
Costs	($155)
Benefits minus cost	($364)

Summary statistics	
Benefit to cost ratio	($1.35)
Benefits minus costs	($364)
Probability of a positive net present value	46 %

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	($41)	($141)	($21)	($203)
Labor market earnings (smoking)	$45	$19	$0	$3	$66
Health care (smoking)	$1	$2	$3	$1	$7
Property loss (alcohol abuse/dependence)	($1)	$0	($1)	$0	($2)
Adjustment for deadweight cost of program	$0	$0	$0	($77)	($77)
Totals	$45	($20)	($140)	($95)	($209)

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.

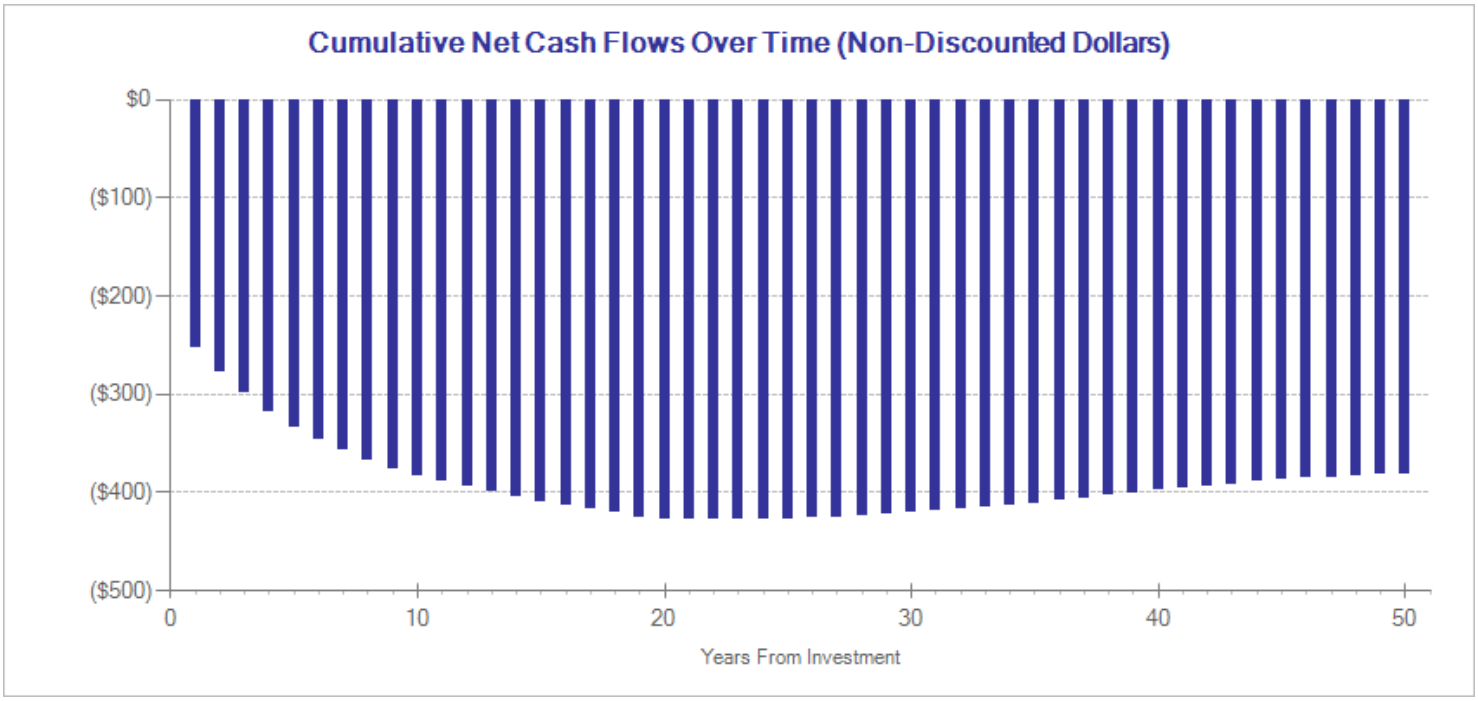
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$155	1	2013
Comparison costs	$0	1	2013

Summary statistics	
Present value of net program costs (in 2013 dollars)	($155)
Uncertainty (+ or - %)	10 %

To calculate a per-student annual cost, we use average compensation costs (including benefits) for a counselor as reported by the Office of the Superintendent of Public Instruction, divided by the number of students in a prototypical high school. The estimate also includes training costs available at the developer's website (http://www.sascorp.org/CurrentFiles/SUCCESS_Order_Form.pdf).

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Smoking in high school	Primary	1	-0.127	0.692	-0.042	0.321	17	-0.042	0.321	18
Regular smoking	Primary	1	0.000	0.999	0.000	0.113	17	0.000	0.113	18
Alcohol use in high school	Primary	1	0.020	0.859	0.020	0.113	17	0.020	0.113	18
Illicit drug use in high school	Primary	1	0.020	0.859	0.020	0.113	17	0.020	0.113	18
Cannabis use in high school	Primary	1	0.060	0.594	0.060	0.113	17	0.060	0.113	18

Citations Used in the Meta-Analysis

Clark, H.K., Ringwalt, C.L., Hanley, S., Shamblen, S.R., Flewelling, R.L., & Hano, M.C. (2010). Project SUCCESS' effects on the substance use of alternative high school students. *Addictive Behaviors, 35*(3), 209-217.

Morehouse, E.R., & Tobler, N.S. (2000). *Project SUCCESS final report*: Grant number 4 HD1 SP07240. Report submitted January 26, 2000, to the Center for Substance Abuse Prevention, U.S. Department of Health and Human Services.

Project Towards No Drug Abuse (TND)

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

Program Description: Project Towards No Drug Abuse is a substance use prevention program for youth in regular and alternative high schools. The curriculum comprises 12 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.

Benefit-Cost Summary

Program benefits	
Participants	$96
Taxpayers	$44
Other (1)	$65
Other (2)	($31)
Total	$174
Costs	($64)
Benefits minus cost	$110

Summary statistics	
Benefit to cost ratio	$2.73
Benefits minus costs	$110
Probability of a positive net present value	51 %

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	$6	$21	$3	$30
Labor market earnings (hs grad)	$97	$41	$48	$0	$186
Property loss (alcohol abuse/dependence)	$0	$0	$0	$0	$0
Health care (disruptive behavior disorder)	($1)	($3)	($4)	($2)	($10)
Adjustment for deadweight cost of program	$0	$0	$0	($32)	($32)
Totals	$96	$44	$65	($31)	$174

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.

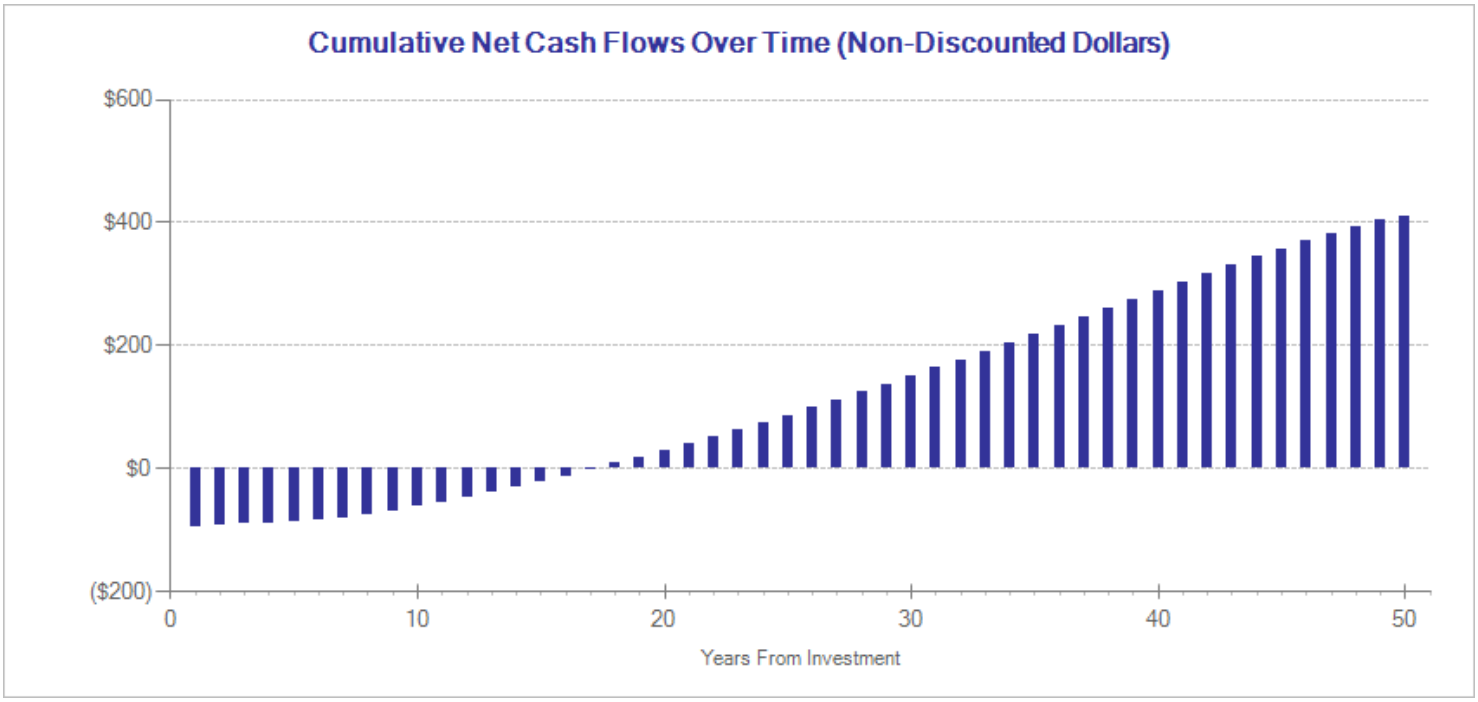
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$63	1	2012
Comparison costs	$0	1	2012

Summary statistics	
Present value of net program costs (in 2013 dollars)	($64)
Uncertainty (+ or - %)	10 %

Cost data come from program developer (http://tnd.usc.edu).

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Alcohol use in high school	Primary	6	0.025	0.915	-0.003	0.073	18	-0.003	0.073	18
Illicit drug use in high school	Primary	6	-0.070	0.381	-0.023	0.080	18	-0.023	0.080	18
Cannabis use in high school	Primary	6	0.027	0.777	-0.009	0.094	18	-0.009	0.094	18
Smoking in high school	Primary	6	-0.033	0.723	-0.011	0.092	18	-0.011	0.092	18
Externalizing behavior symptoms	Primary	1	0.047	0.814	0.016	0.202	18	0.008	0.105	21

Citations Used in the Meta-Analysis

Rohrbach, L.A., Gunning, M., Sun, P., & Sussman, S. (2010). The Project Towards No Drug Abuse (TND) dissemination trial: Implementation fidelity and immediate outcomes. *Prevention Science*, *11*(1), 77-88.

Simon, T.R., Sussman, S., Dahlberg, L.L., & Dent, C.W. (2002). Influence of a substance-abuse-prevention curriculum on violence-related behavior. *American Journal of Health Behavior*, 26, 2.

Sun, W., Skara, S., Sun, P., Dent, C.W., & Sussman, S. (2006). Project Towards No Drug Abuse: Long-term substance use outcomes evaluation. *Preventive Medicine*, *42*(3), 188-192.

Sun, P., Sussman, S., Dent, C.W., & Rohrbach, L.A. (2008). One-year follow-up evaluation of Project Towards No Drug Abuse (TND-4). *Preventive Medicine*, *47*(4), 438-442.

Sussman, S., Sun, P., McCuller, W.J., & Dent, C.W. (2003). Project Towards No Drug Abuse: Two-year outcomes of a trial that compares health educator delivery to self-instruction. *Preventive Medicine*, *37*(2), 155-162.

Sussman, S., Sun, P., Rohrbach, L.A., & Spruijt-Metz, D. (2012). One-year outcomes of a drug abuse prevention program for older teens and emerging adults: evaluating a motivational interviewing booster component. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, *31*(4), 476-85.

Valente, T.W., Ritt-Olson, A., Stacy, A., Unger, J.B., Okamoto, J., & Sussman, S. (2007). Peer acceleration: Effects of a social network tailored substance abuse prevention program among high-risk adolescents. *Addiction*, *102*(11), 1804-1815.

SPORT

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

Program Description: SPORT is a school-based brief intervention implemented in high schools 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. Flyers that complement the intervention's core content are sent to parents for four weeks post-intervention.

Benefit-Cost Summary

Program benefits	
Participants	$604
Taxpayers	$308
Other (1)	$414
Other (2)	$13
Total	$1,339
Costs	($38)
Benefits minus cost	$1,300

Summary statistics	
Benefit to cost ratio	$34.84
Benefits minus costs	$1,300
Probability of a positive net present value	73 %

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	$26	$87	$13	$126
Labor market earnings (hs grad)	$574	$245	$284	$0	$1,104
Health care (smoking)	$28	$38	$40	$19	$124
Property loss (alcohol abuse/dependence)	$1	$0	$2	$0	$4
Adjustment for deadweight cost of program	$0	$0	$0	($19)	($19)
Totals	$604	$308	$414	$13	$1,339

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.

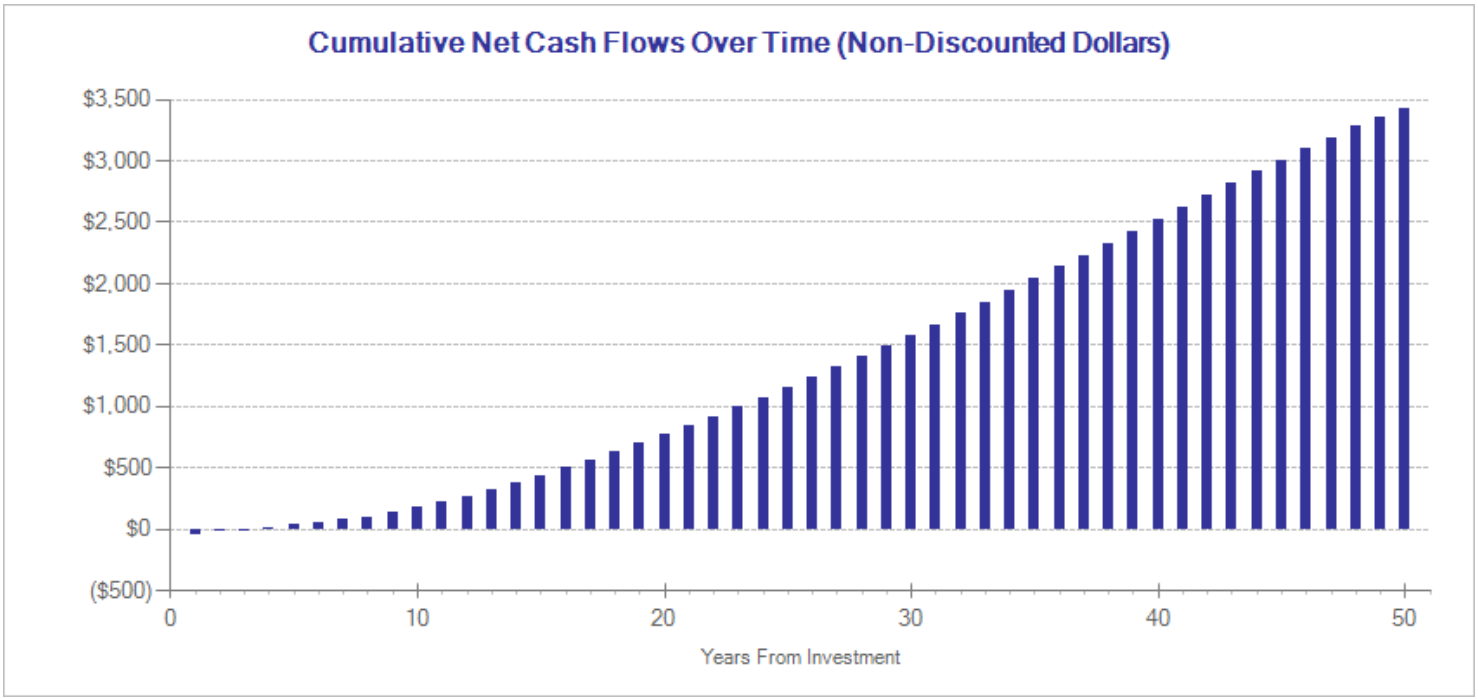
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$38	1	2013
Comparison costs	$0	1	2013

Summary statistics	
Present value of net program costs (in 2013 dollars)	($38)
Uncertainty (+ or - %)	10 %

Cost data come from developer website (http://preventionpluswellness.com/programs/inshape/).

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Smoking in high school	Primary	1	-0.144	0.103	-0.047	0.088	18	-0.047	0.088	18
Alcohol use in high school	Primary	1	-0.027	0.762	-0.009	0.088	18	-0.009	0.088	18
Youth binge drinking	Primary	1	-0.144	0.104	-0.047	0.088	18	-0.047	0.088	18
Cannabis use in high school	Primary	1	-0.083	0.346	-0.027	0.088	18	-0.027	0.088	18

Citations Used in the Meta-Analysis

Werch, C.C., Moore, M., DiClemente, C., Bledsoe, R., & Jobli, E. (2005). A Multihealth Behavior Intervention Integrating Physical Activity and Substance Use Prevention for Adolescents. *Prevention Science*, *6*(3), 213-226.

Strengthening Families for Parents and Youth 10-14

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Strengthening Families for Parents and Youth 10-14 (also known as the Iowa Strengthening Families Program) is a family-based program that attempts to reduce behavior problems and substance use by enhancing parenting skills, parent-child relationships, and family communication. The seven-week intervention is designed for 6th-grade students and their families.

Benefit-Cost Summary

Program benefits	
Participants	$2,043
Taxpayers	$1,061
Other (1)	$1,606
Other (2)	($452)
Total	$4,259
Costs	($1,098)
Benefits minus cost	$3,160

Summary statistics	
Benefit to cost ratio	$3.89
Benefits minus costs	$3,160
Probability of a positive net present value	70 %

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	$178	$575	$89	$842
Labor market earnings (hs grad)	$2,036	$869	$1,008	$0	$3,912
Property loss (alcohol abuse/dependence)	$2	$0	$4	$0	$7
Health care (disruptive behavior disorder)	$5	$15	$19	$7	$46
Adjustment for deadweight cost of program	$0	$0	$0	($549)	($549)
Totals	$2,043	$1,061	$1,606	($452)	$4,259

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.

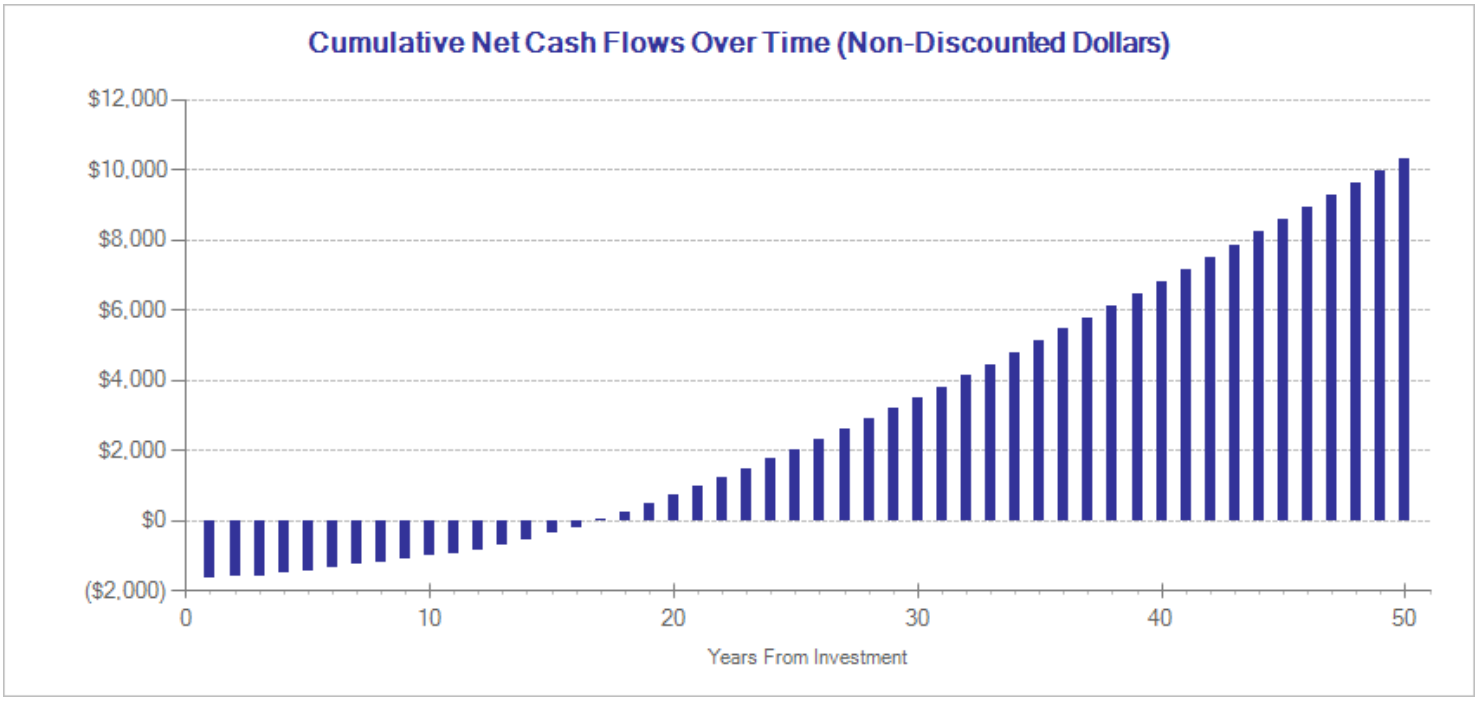
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$880	1	2002
Comparison costs	$0	1	2002

Summary statistics	
Present value of net program costs (in 2013 dollars)	($1,098)
Uncertainty (+ or - %)	10 %

$880 per family (Miller and Hendrie 2005).

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Disruptive behavior disorder symptoms	Primary	1	-0.246	0.172	-0.081	0.181	13	-0.039	0.095	16
Smoking in high school	Primary	1	-0.523	0.222	-0.172	0.222	15	-0.172	0.222	18
Alcohol use in high school	Primary	1	-0.210	0.359	-0.069	0.228	15	-0.069	0.228	18
Cannabis use in high school	Primary	1	-0.874	0.011	-0.288	0.345	15	-0.288	0.345	18
Illicit drug use in high school	Primary	1	-0.317	0.038	-0.105	0.153	15	-0.105	0.153	18
Alcohol use before end of middle school	Primary	1	-0.387	0.036	-0.128	0.184	13	-0.128	0.184	18

Citations Used in the Meta-Analysis

Spoth, R., Redmond, C., & Lepper, H. (1999). Alcohol initiation outcomes of universal family-focused preventive interventions: One- and two-year follow-ups of a controlled study. *Journal of Studies on Alcohol*, 13, 103-111.

Spoth, R., Reyes, M.L., Redmond, C., & Shin, C. (1999). Assessing a public health approach to delay onset and progression of adolescent substance use: Latent transition and loglinear analyses of longitudinal family preventive intervention outcomes. *Journal of Consulting and Clinical Psychology*, *67*(5), 619-630.

Spoth, R.L., Redmond, C., & Shin, C. (2000). Reducing adolescents' aggressive and hostile behaviors: Randomized trial effects of a brief family intervention 4 years past baseline. *Archives of Pediatrics & Adolescent Medicine*, *154*(12), 1248-1258.

Spoth, R.L., Redmond, C., & Shin, C. (2001). Randomized trial of brief family interventions for general populations: Adolescent substance use outcomes 4 years following baseline. *Journal of Consulting and Clinical Psychology*, *69*(4), 627-642.

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 & Adolescent Medicine*, *160*(9), 876-882.

Trudeau, L., Spoth, R., Randall, G., & Azevedo, K. (2007). Longitudinal Effects of a Universal Family-Focused Intervention on Growth Patterns of Adolescent Internalizing Symptoms and Polysubstance Use: Gender Comparisons. *Journal of Youth and Adolescence*, *36*(6), 725-740.

Teen Marijuana Check-Up

Benefit-cost estimates updated August 2014. Literature review updated July 2014.

Program Description: Teen Marijuana Check-Up is a brief, school-based intervention for youth meeting diagnostic criteria for cannabis use disorders. Youth are introduced to the program via classroom presentations. Students receive two 45 to 60 minute motivational interviews a week apart. The intervention is provided during the school day without parental involvement. We are unable to estimate costs at this time.

Benefit-Cost Summary

Program benefits	
Participants	$1,293
Taxpayers	$588
Other (1)	$50
Other (2)	($32)
Total	$1,898
Costs	($106)
Benefits minus cost	$1,793

Summary statistics	
Benefit to cost ratio	$17.94
Benefits minus costs	$1,793
Probability of a positive net present value	100 %

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					
Labor market earnings (cannabis abuse/dependence)	$1,281	$546	$0	$0	$1,828
Health care (cannabis abuse/dependence)	$12	$41	$50	$21	$124
Adjustment for deadweight cost of program	$0	$0	$0	($53)	($53)
Totals	$1,293	$588	$50	($32)	$1,898

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.

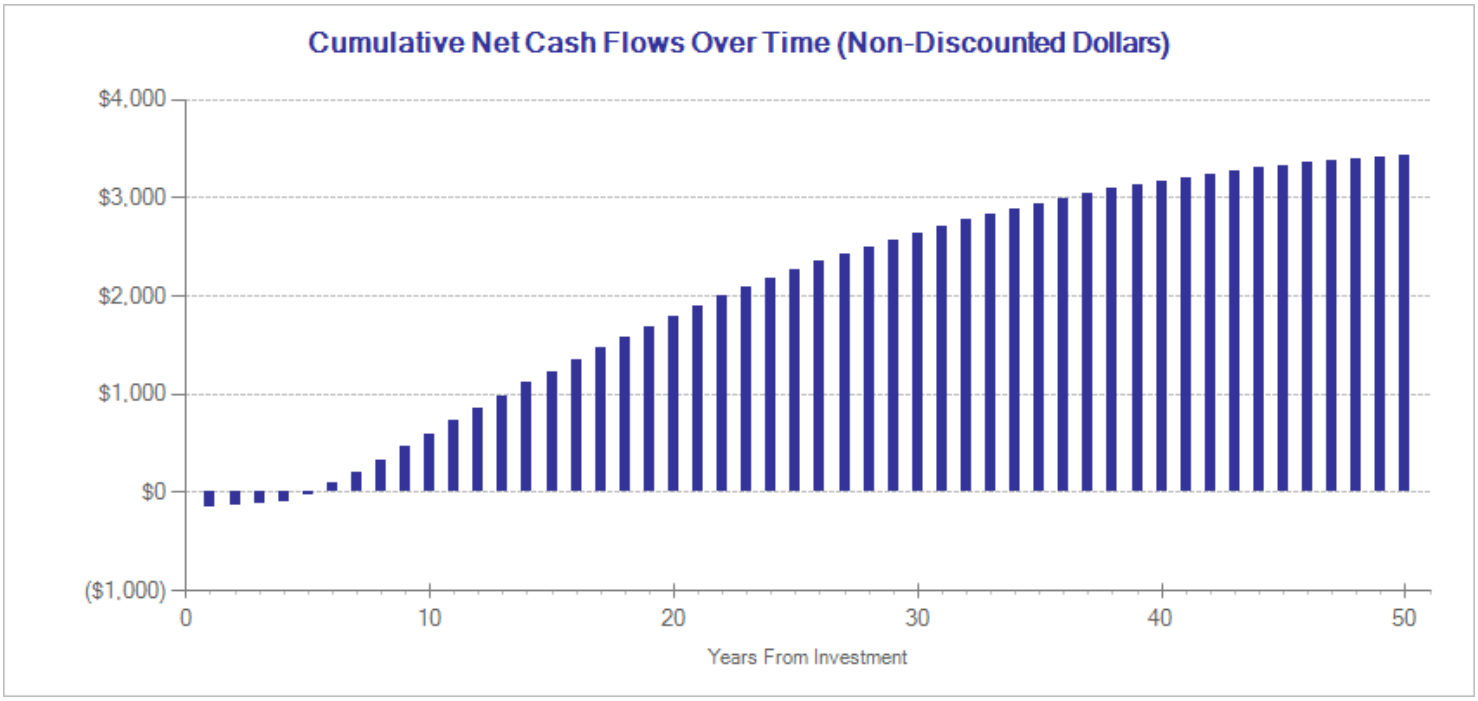
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars
Program costs	$106	1	2013
Comparison costs	$0	1	2013

Summary statistics	
Present value of net program costs (in 2013 dollars)	($106)
Uncertainty (+ or - %)	10 %

Cost data provided by program developer. Includes recruitment, screening, and direct intervention hours.

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.



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	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
Cannabis abuse or dependence	Primary	2	-0.284	0.045	-0.284	0.148	16	-0.190	0.018	17

Citations Used in the Meta-Analysis

Walker, D.D., Roffman, R.A., Stephens, R.S., Wakana, K., Berghuis, J., & Kim, W. (2006). Motivational enhancement therapy for adolescent marijuana users: a preliminary randomized controlled trial. *Journal of Consulting and Clinical Psychology*, *74*(3), 628-32.

Walker, D.D., Stephens, R., Roffman, R., Demarce, J., Lozano, B., Towe, S., & Berg, B. (2011). Randomized controlled trial of motivational enhancement therapy with nontreatment-seeking adolescent cannabis users: a further test of the Teen Marijuana Check-Up. *Psychology of Addictive Behaviors*, *25*(3), 474-84.

WSIPP's Preventing and Treating Youth Marijuana Use: An Updated Review of the Evidence can be found on our website at www.wsipp.wa.gov/ReportFile/1571/Wsipp_Preventing-and-Treating-Youth-Marijuana-Use-An-Updated-Review-of-the-Evidence_Report.pdf

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