

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

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

## Brief intervention in primary care

Benefit-cost estimates updated June 2016. Literature review updated September 2016.

Program Description: Patients in primary care are screened for "hazardous" alcohol and/or drug use (not dependence). Those screening positive receive a brief intervention. The intervention, commonly delivered by the primary care provider, includes feedback on the patients' consumption compared to their peers and motivational interview to encourage reduction in consumption. Patients typically receive a single intervention lasting 15 minutes to one hour. Some interventions included up to two brief telephone booster calls.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$1,558	Benefit to cost ratio	\$17.97
Participants	\$3,140	Benefits minus costs	\$4,579
Others	\$158	Chance the program will produce	
Indirect	(\$6)	benefits greater than the costs	93 %
<b>Total benefits</b>	<b>\$4,849</b>		
<b>Net program cost</b>	<b>(\$270)</b>		
<b>Benefits minus cost</b>	<b>\$4,579</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1	\$3	\$1	\$4
Labor market earnings associated with problem alcohol use	\$3,109	\$1,412	\$0	\$55	\$4,577
Property loss associated with problem alcohol use	\$4	\$0	\$8	\$0	\$12
Health care associated with problem alcohol use	\$17	\$95	\$91	\$48	\$251
Health care associated with emergency department visits	\$9	\$49	\$57	\$24	\$140
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$135)	(\$135)
<b>Totals</b>	<b>\$3,140</b>	<b>\$1,558</b>	<b>\$158</b>	<b>(\$6)</b>	<b>\$4,849</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

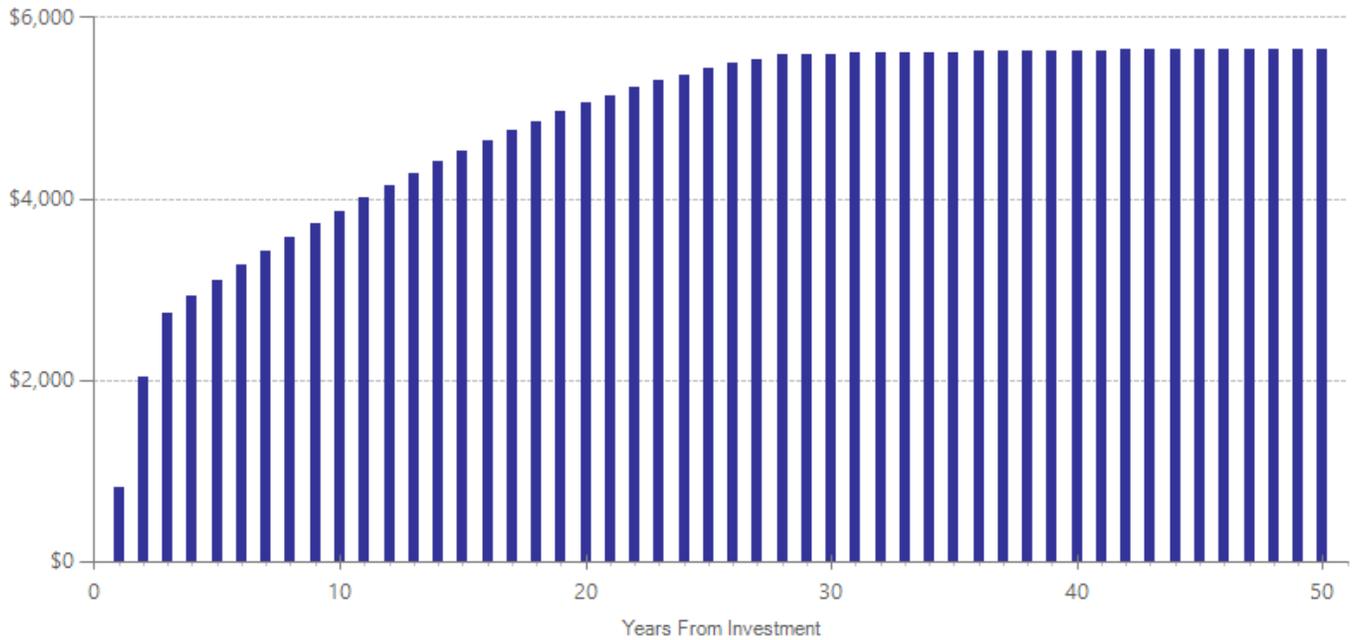
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$205	2000	Present value of net program costs (in 2015 dollars)	(\$270)
Comparison costs	\$0	2000	Cost range (+ or -)	20 %

This program consists of a single brief intervention during a visit to the doctor. Per-participant cost from Fleming, M.F., Mundt, M.P., French, M.T., Manwell, L.B., Stauffacher, E.A. & Barry, K.L. (2002). Brief physician advice for problem drinkers: Long-term efficacy and benefit-cost analysis. *Alcoholism: Clinical and Experimental Research*, 26(1), 36-43.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Illicit drug use	9	1773	-0.155	0.073	39	-0.021	0.109	41	-0.155	0.033
Cannabis use	7	519	-0.262	0.153	39	-0.036	0.230	41	-0.262	0.088
Drinking and driving	2	543	-0.307	0.284	39	-0.042	0.426	41	-0.307	0.279
Emergency department visits	2	784	-0.125	0.071	39	-0.017	0.107	41	-0.125	0.078
Hospitalization	2	652	-0.261	0.332	39	-0.036	0.498	41	-0.261	0.432
Problem alcohol use	48	7318	-0.195	0.024	39	-0.027	0.037	41	-0.195	0.001
Opioid drug use	4	249	-0.396	0.184	39	-0.054	0.276	41	-0.396	0.031

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Brief intervention in a medical hospital

Benefit-cost estimates updated June 2016. Literature review updated September 2016.

Program Description: Inpatients in medical hospitals are screened for "hazardous" alcohol use (not dependence). Those screening positive receive a brief intervention, delivered by health care staff or other professionals. The intervention includes feedback on the patients' consumption compared to their peers and a motivational interview to encourage reduction in consumption. Patients typically receive a single intervention lasting 15 minutes to one hour. Some interventions included up to two brief telephone booster calls.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,318	Benefit to cost ratio	\$26.14
Participants	\$2,737	Benefits minus costs	\$3,995
Others	\$88	Chance the program will produce	
Indirect	\$10	benefits greater than the costs	75 %
<b>Total benefits</b>	<b>\$4,154</b>		
<b>Net program cost</b>	<b>(\$159)</b>		
<b>Benefits minus cost</b>	<b>\$3,995</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1	\$2	\$0	\$3
Labor market earnings associated with problem alcohol use	\$2,678	\$1,216	\$0	\$48	\$3,943
Property loss associated with problem alcohol use	\$4	\$0	\$7	\$0	\$11
Health care associated with problem alcohol use	\$15	\$82	\$78	\$41	\$216
Adjustment for deadweight cost of program	\$41	\$19	\$1	(\$79)	(\$18)
<b>Totals</b>	<b>\$2,737</b>	<b>\$1,318</b>	<b>\$88</b>	<b>\$10</b>	<b>\$4,154</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

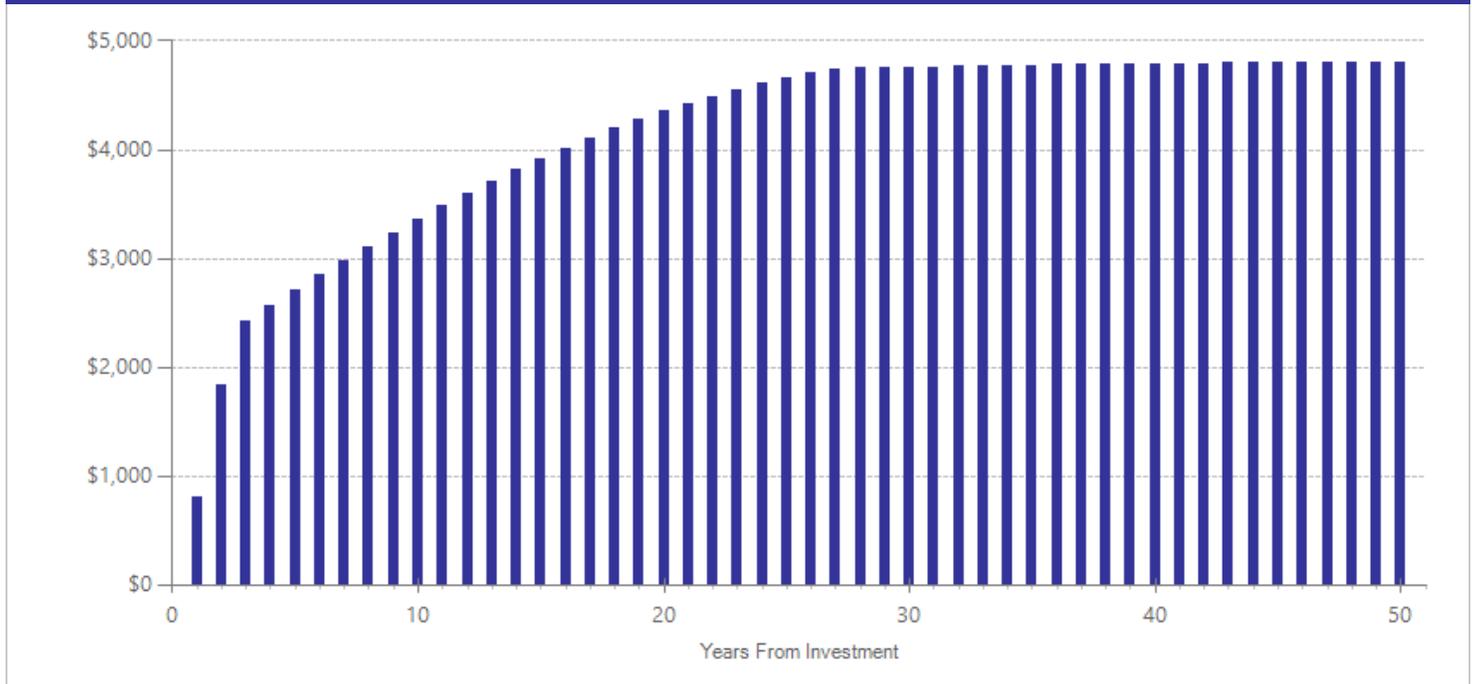
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$151	2011	Present value of net program costs (in 2015 dollars)	(\$159)
Comparison costs	\$0	2011	Cost range (+ or -)	20 %

This program consists of a single brief intervention during a visit to the hospital. The average duration of intervention in these studies was 0.65 hours. We assume it takes 15 minutes to screen patients and 20% of the screened patients meet eligibility requirements. We further assume that nurses conduct the screens and the intervention. To compute the cost per screened individual, we use salary information from the Bureau of Labor Statistics for registered nurses in surgical medical hospitals in 2011 multiplied by the time required by the intervention.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Drinking and driving	1	62	-0.686	0.340	40	-0.094	0.509	42	-0.686	0.043
Death	1	59	-0.045	0.701	40	0.000	0.000	42	-0.045	0.949
Problem alcohol use	15	1403	-0.170	0.050	40	-0.023	0.075	42	-0.170	0.001

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Teen Intervene

Benefit-cost estimates updated June 2016. Literature review updated June 2016.

Program Description: Teen Intervene is a brief motivational intervention for students using alcohol or drugs. School counselors identify youth suspected of using alcohol or drugs. Youth are then screened for substance abuse. Those meeting eligibility receive two 60-minute motivational interviews 7 to 10 days apart. In some of the studies included here the counselor also met separately with the parent, typically in the home.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$912	Benefit to cost ratio	\$9.44
Participants	\$1,729	Benefits minus costs	\$3,215
Others	\$1,108	Chance the program will produce	
Indirect	(\$154)	benefits greater than the costs	96 %
<u>Total benefits</u>	<u>\$3,596</u>		
<u>Net program cost</u>	<u>(\$381)</u>		
Benefits minus cost	\$3,215		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

#### Benefits from changes to:<sup>1</sup>

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$84	\$219	\$42	\$345
Labor market earnings associated with high school graduation	\$1,851	\$841	\$849	\$0	\$3,541
Health care associated with alcohol abuse or dependence	\$14	\$81	\$77	\$41	\$214
Property loss associated with alcohol abuse or dependence	\$3	\$0	\$6	\$0	\$10
Costs of higher education	(\$141)	(\$93)	(\$43)	(\$47)	(\$324)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$190)	(\$190)
<b>Totals</b>	<b>\$1,729</b>	<b>\$912</b>	<b>\$1,108</b>	<b>(\$154)</b>	<b>\$3,596</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

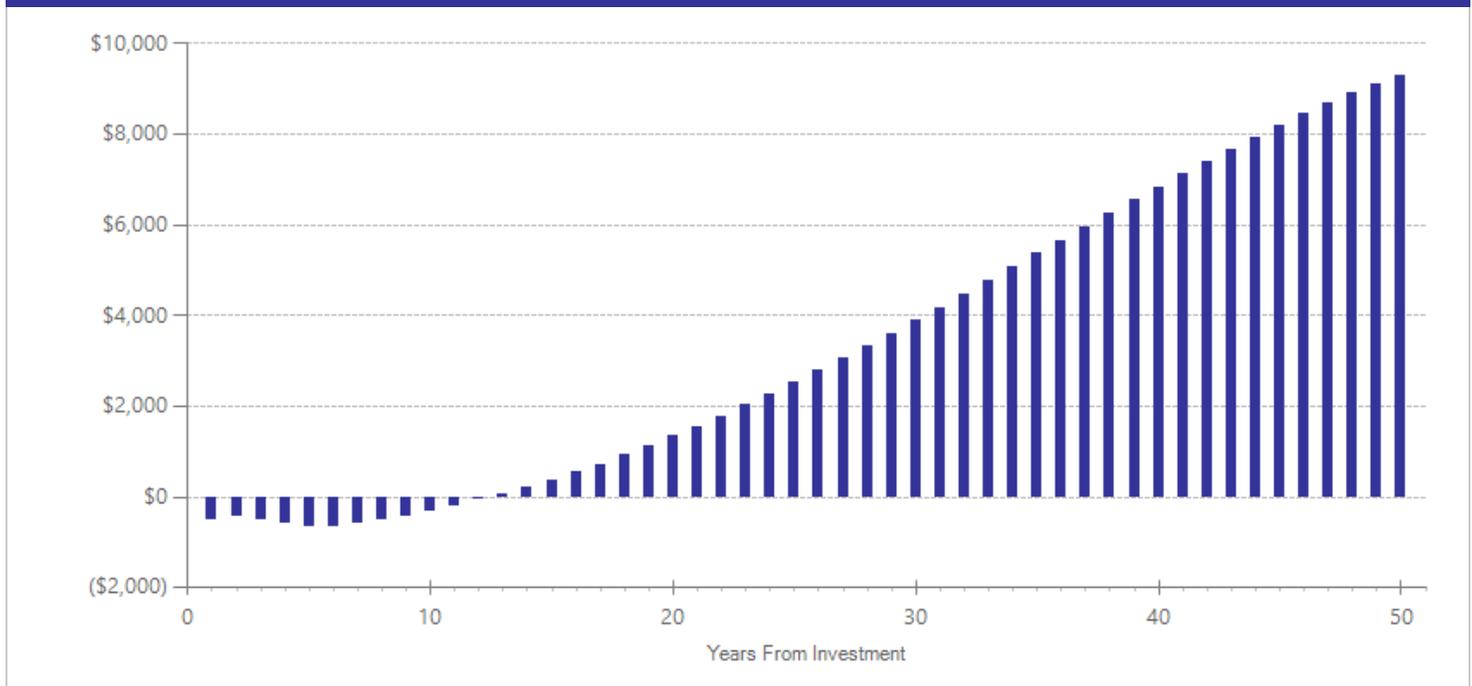
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$379	2014	Present value of net program costs (in 2015 dollars)	(\$381)
Comparison costs	\$0	2014	Cost range (+ or -)	10 %

Per-participant cost was estimated by multiplying the therapist time for two interviews times the rates for family therapy based on actuarial tables reported for non-disabled adults in Mercer (2013) Behavioral Health Data Book for the State of Washington For Rates Effective January 1, 2014. Half of the families in the studies also received a parent visit with the therapist. Family visits were estimated assuming therapist visits last 1 hour 30 minutes. Additional costs were added to account for screening, assuming 15 minutes of therapist time to screen students and that 70% of those screened are eligible for the intervention (personal communication with Ken Winters, Univ. of Minnesota, May 26, 2016.)

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Cannabis use in high school	2	259	-0.292	0.183	17	-0.040	0.274	19	-0.292	0.109
Substance abuse	2	52	-0.759	0.265	17	-0.104	0.397	19	-0.759	0.004
Youth binge drinking	4	311	-0.844	0.172	17	-0.116	0.258	19	-0.844	0.001

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Brief intervention in emergency department (SBIRT)

Benefit-cost estimates updated June 2016. Literature review updated September 2016.

Program Description: Screening, Brief Intervention, and Referral to Treatment (SBIRT) for patients in emergency departments is used to identify and address "hazardous" alcohol use (not alcohol dependence). Those screening positive receive a brief intervention, delivered by health care staff or other professional. The intervention includes feedback on the patients' consumption compared to their peers and a motivational interview to encourage reduction in consumption. Patients typically receive a single intervention lasting 15 minutes to one hour. Some interventions included up to two brief telephone booster calls. Patients meeting diagnostic criteria for abuse or dependence would be referred to chemical dependency treatment in lieu of brief intervention.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,147	Benefit to cost ratio	\$7.98
Participants	\$2,225	Benefits minus costs	\$3,001
Others	\$168	Chance the program will produce	
Indirect	(\$108)	benefits greater than the costs	75 %
<b>Total benefits</b>	<b>\$3,431</b>		
<b>Net program cost</b>	<b>(\$430)</b>		
<b>Benefits minus cost</b>	<b>\$3,001</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$2	\$5	\$1	\$7
Labor market earnings associated with problem alcohol use	\$2,194	\$996	\$0	\$31	\$3,221
Property loss associated with problem alcohol use	\$3	\$0	\$6	\$0	\$9
Health care associated with problem alcohol use	\$12	\$70	\$66	\$35	\$183
Health care associated with emergency department visits	\$15	\$79	\$91	\$39	\$224
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$214)	(\$214)
<b>Totals</b>	<b>\$2,225</b>	<b>\$1,147</b>	<b>\$168</b>	<b>(\$108)</b>	<b>\$3,431</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

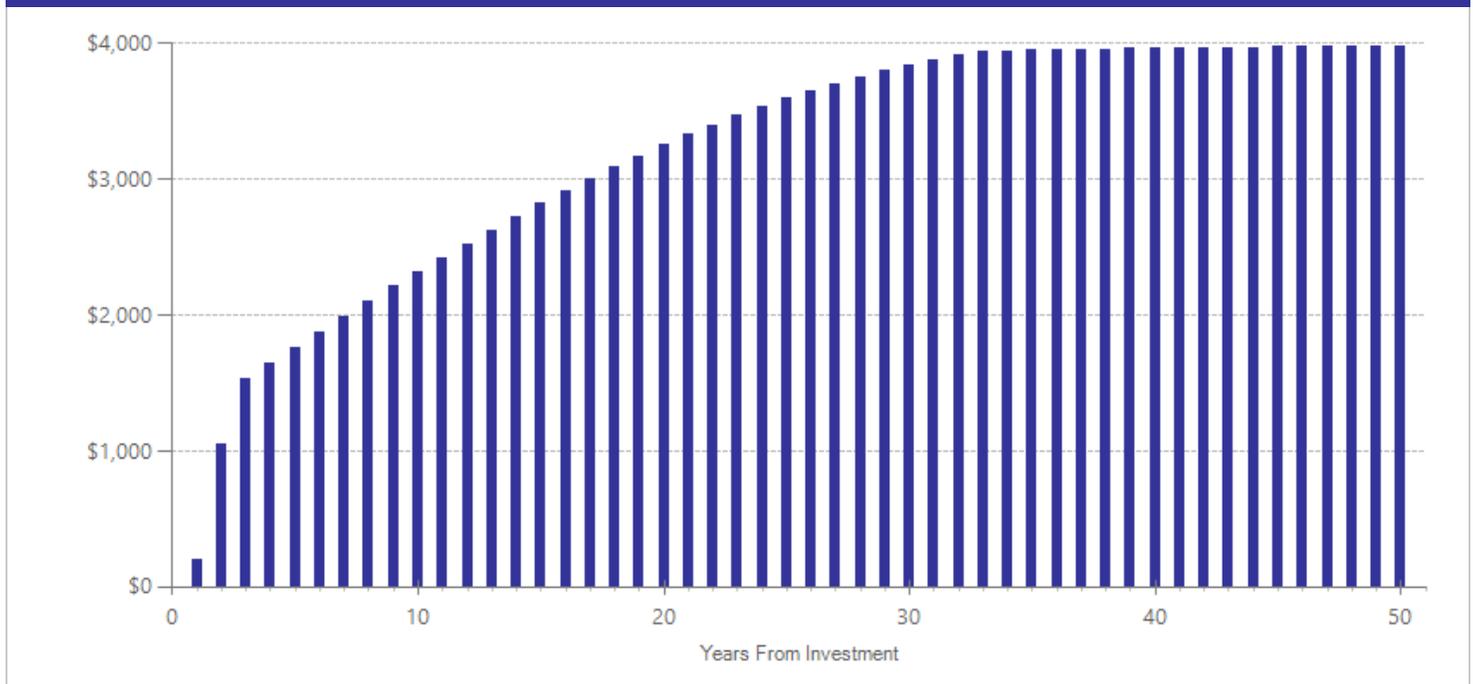
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$362	2005	Present value of net program costs (in 2015 dollars)	(\$430)
Comparison costs	\$0	2005	Cost range (+ or -)	20 %

This program consists of a single brief intervention during a visit to the emergency department. According to one multisite US study, of 7,751 patients screened, 1,132 were eligible and consented. (Academic ED SBIRT Research Collaborative. (2007). The impact of screening, brief intervention, and referral for treatment on emergency department patients' alcohol use. *Annals of Emergency Medicine*, 50(6), 699-710). In Washington State, cost estimates from 2005 indicate \$53 per patient screened based on an analysis by Washington State Division of Alcohol and Substance Abuse, presented at the 2006 Co-Occurring Disorders Conference.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Illicit drug use	2	721	-0.065	0.071	34	-0.009	0.107	36	-0.065	0.362
Cannabis use	2	372	-0.012	0.073	34	-0.002	0.109	36	-0.012	0.867
Drinking and driving	4	777	-0.158	0.080	34	-0.022	0.120	36	-0.158	0.048
Opioid drug use	1	87	0.000	0.150	34	0.000	0.225	36	0.000	1.000
Emergency department visits	1	52	-0.317	0.321	34	-0.043	0.481	36	-0.317	0.322
Injuries	1	122	-0.266	0.127	34	-0.036	0.191	36	-0.266	0.037
Problem alcohol use	27	4591	-0.139	0.032	34	-0.019	0.047	36	-0.139	0.001

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

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WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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# Brief Alcohol Screening and Intervention of College Students (BASICS): A Harm Reduction Approach

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: College students recruited or referred are screened for "hazardous" drinking (not alcohol dependence.) Those reporting high rates of consumption receive one to two brief motivational sessions that include comparison of the students' alcohol consumption relative to their peers. Interventions are typically delivered by graduate students or counselors.

## Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$410	Benefit to cost ratio	\$17.61
Participants	\$801	Benefits minus costs	\$1,203
Others	\$63	Chance the program will produce	
Indirect	\$0	benefits greater than the costs	70 %
<b>Total benefits</b>	<b>\$1,275</b>		
<b>Net program cost</b>	<b>(\$72)</b>		
<b>Benefits minus cost</b>	<b>\$1,203</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$7	\$18	\$4	\$29
Labor market earnings associated with problem alcohol use	\$792	\$360	\$0	\$11	\$1,162
Property loss associated with problem alcohol use	\$2	\$0	\$3	\$0	\$5
Health care associated with problem alcohol use	\$8	\$44	\$41	\$22	\$114
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$36)	(\$36)
<b>Totals</b>	<b>\$801</b>	<b>\$410</b>	<b>\$63</b>	<b>\$0</b>	<b>\$1,275</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

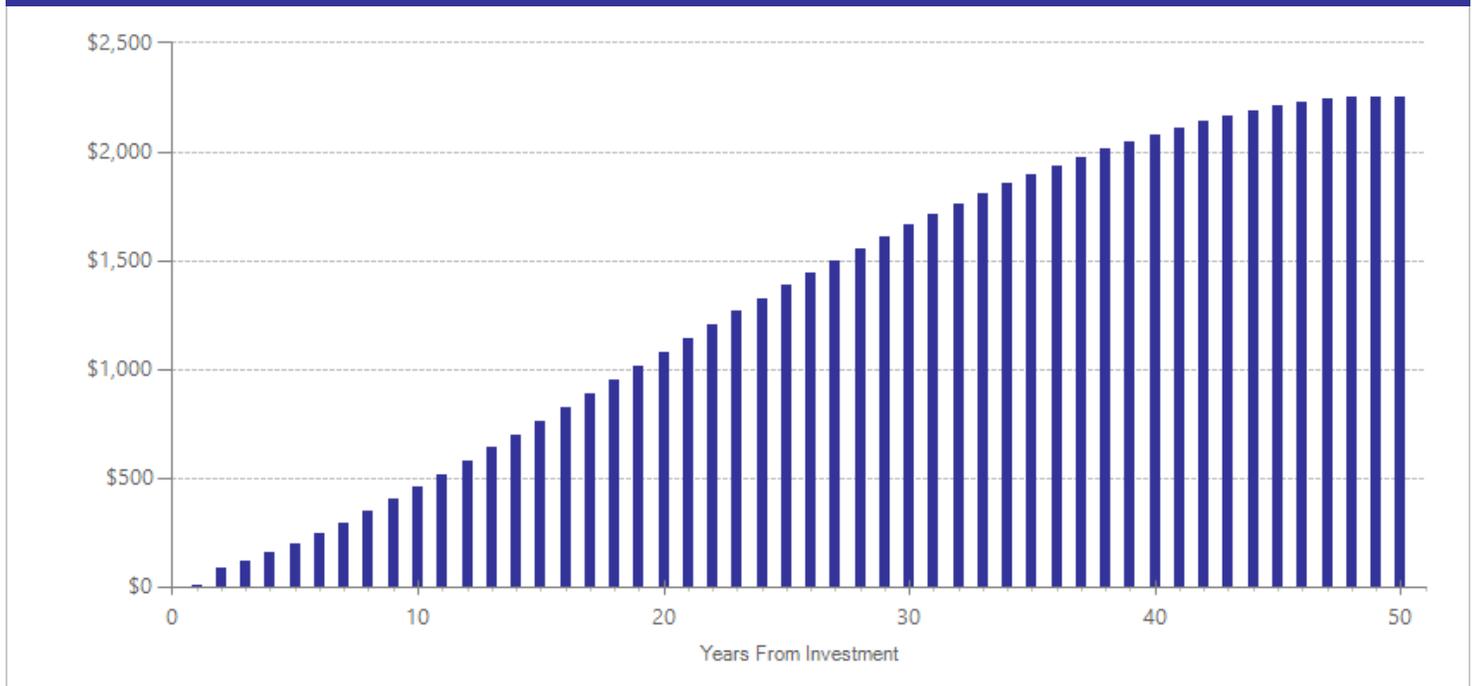
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$72	2014	Present value of net program costs (in 2015 dollars)	(\$72)
Comparison costs	\$0	2014	Cost range (+ or -)	20 %

The average duration of the intervention in these studies was 1.5 hours. We assume the following: (1) 36% of screened students are eligible and agree to the intervention (per Carey et al., 2006); (2) screening takes 30 minutes to administer the screen, score, and identify those with hazardous drinking; and (3) graduate students or counselors receive \$25 per hour (2014 dollars) to administer the screening and intervention.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Regular smoking	1	118	0.000	0.205	19	0.000	0.308	21	0.000	1.000
Problem alcohol use	20	3296	-0.166	0.031	19	-0.023	0.047	21	-0.166	0.001
Cannabis use	1	118	0.000	0.205	19	0.000	0.308	21	0.000	1.000

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Brief intervention for youth in medical settings

Benefit-cost estimates updated June 2016. Literature review updated February 2015.

Program Description: This category of treatment for youth using alcohol, marijuana, or other drugs is defined by several features: (1) substance abusing youth are identified in primary care or emergency department settings, often using a structured substance abuse screening instrument, and (2) interventions are brief, typically one session of less than one hour duration, and often utilize motivational interviewing techniques.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$138	Benefit to cost ratio	\$1.25
Participants	\$274	Benefits minus costs	\$81
Others	\$162	Chance the program will produce	
Indirect	(\$164)	benefits greater than the costs	49 %
<b>Total benefits</b>	<b>\$410</b>		
<b>Net program cost</b>	<b>(\$329)</b>		
<b>Benefits minus cost</b>	<b>\$81</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

#### Benefits from changes to:<sup>1</sup>

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$9	\$23	\$5	\$37
Labor market earnings associated with high school graduation	\$294	\$134	\$136	\$0	\$564
Health care associated with alcohol abuse or dependence	\$2	\$10	\$9	\$5	\$25
Property loss associated with alcohol abuse or dependence	\$0	\$0	\$1	\$0	\$1
Costs of higher education	(\$22)	(\$15)	(\$7)	(\$7)	(\$51)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$166)	(\$166)
<b>Totals</b>	<b>\$274</b>	<b>\$138</b>	<b>\$162</b>	<b>(\$164)</b>	<b>\$410</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

## Detailed Annual Cost Estimates Per Participant

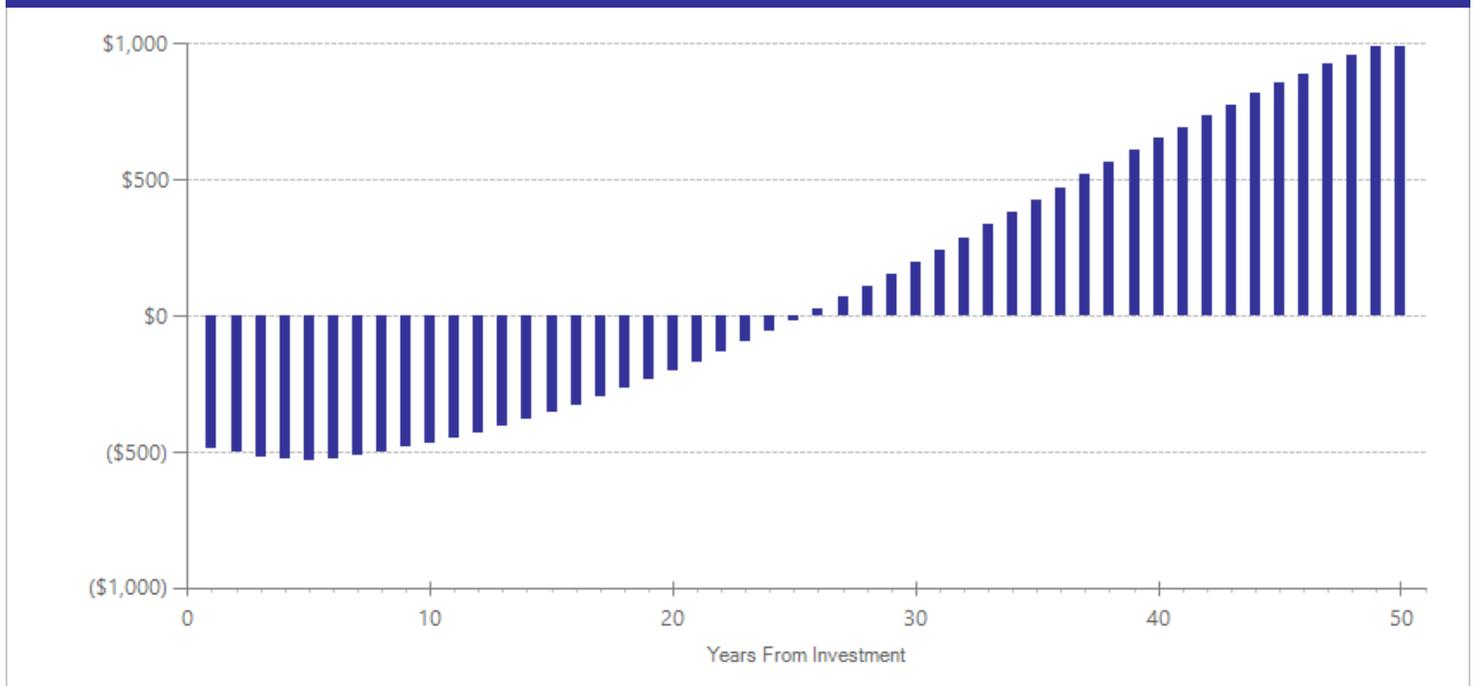
	Annual cost	Year dollars	Summary	
Program costs	\$328	2014	Present value of net program costs (in 2015 dollars)	(\$329)
Comparison costs	\$0	2014	Cost range (+ or -)	10 %

These interventions typically take place during a single visit to a primary care or emergency department setting. We estimate the per-participant cost for youth based on similar programs for adults. For primary care, we use the estimate from Fleming, M.F., Mundt, M.P., French, M.T., Manwell, L.B., Stauffacher, E.A. & Barry, K.L. (2002). Brief physician advice for problem drinkers: Long-term efficacy and benefit-cost analysis. *Alcoholism: Clinical and Experimental Research*, 26(1), 36-43.

In emergency departments, we use a cost estimate from a study in Washington State of \$53 per person screened. O'Neil, S. (2006). *Expanding the continuum— Improving care: Washington State brief intervention and referral to treatment program*, paper delivered at the Co-occurring Disorder Conference. In the collection of studies in our meta-analysis, 11,613 patients were screened to identify 2,171 youth eligible for the intervention. Our cost estimate is weighted by the numbers in treatment groups in these studies.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Cannabis use in high school	4	596	-0.025	0.113	18	-0.003	0.170	20	-0.025	0.825
Youth binge drinking	5	854	-0.099	0.068	17	-0.014	0.102	19	-0.099	0.145

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Alcohol Literacy Challenge (for college students)

Benefit-cost estimates updated June 2016. Literature review updated June 2016.

Program Description: Alcohol Literacy Challenge is a universal intervention for high school students and college students. In a single 60 to 90 minute group session, the intervention provides information about standard drinks, the range of alcohol expectancies, the difference between pharmacological effects and placebo effects, and efforts by alcohol companies to portray positive alcohol expectancies in advertisements. Part of the lesson involves watching video clips of commercials advertising alcohol. Students deconstruct the advertisements, identifying the positive alcohol expectancies conveyed and discussing the contradictions between those expectancies and alcohol's pharmacological and behavioral effects. In the high school version of ALC, students also divide into teams and assess the alcohol effects portrayed in alcohol-related video clips, earning points for correct answers.

### Benefit-Cost Summary Statistics Per Participant

Benefit-Cost Summary Statistics Per Participant			
<b>Benefits to:</b>			
Taxpayers	(\$106)	Benefit to cost ratio	(\$86.84)
Participants	(\$196)	Benefits minus costs	(\$340)
Others	(\$20)	Chance the program will produce	
Indirect	(\$15)	benefits greater than the costs	48 %
<u>Total benefits</u>	<u>(\$337)</u>		
<u>Net program cost</u>	<u>(\$4)</u>		
Benefits minus cost	(\$340)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Detailed Monetary Benefit Estimates Per Participant					
Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$1)	(\$3)	(\$1)	(\$5)
Labor market earnings associated with problem alcohol use	(\$192)	(\$87)	\$0	(\$4)	(\$283)
Property loss associated with problem alcohol use	\$0	\$0	(\$1)	\$0	(\$1)
Health care associated with problem alcohol use	(\$3)	(\$18)	(\$16)	(\$8)	(\$45)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2)	(\$2)
<b>Totals</b>	<b>(\$196)</b>	<b>(\$106)</b>	<b>(\$20)</b>	<b>(\$15)</b>	<b>(\$337)</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

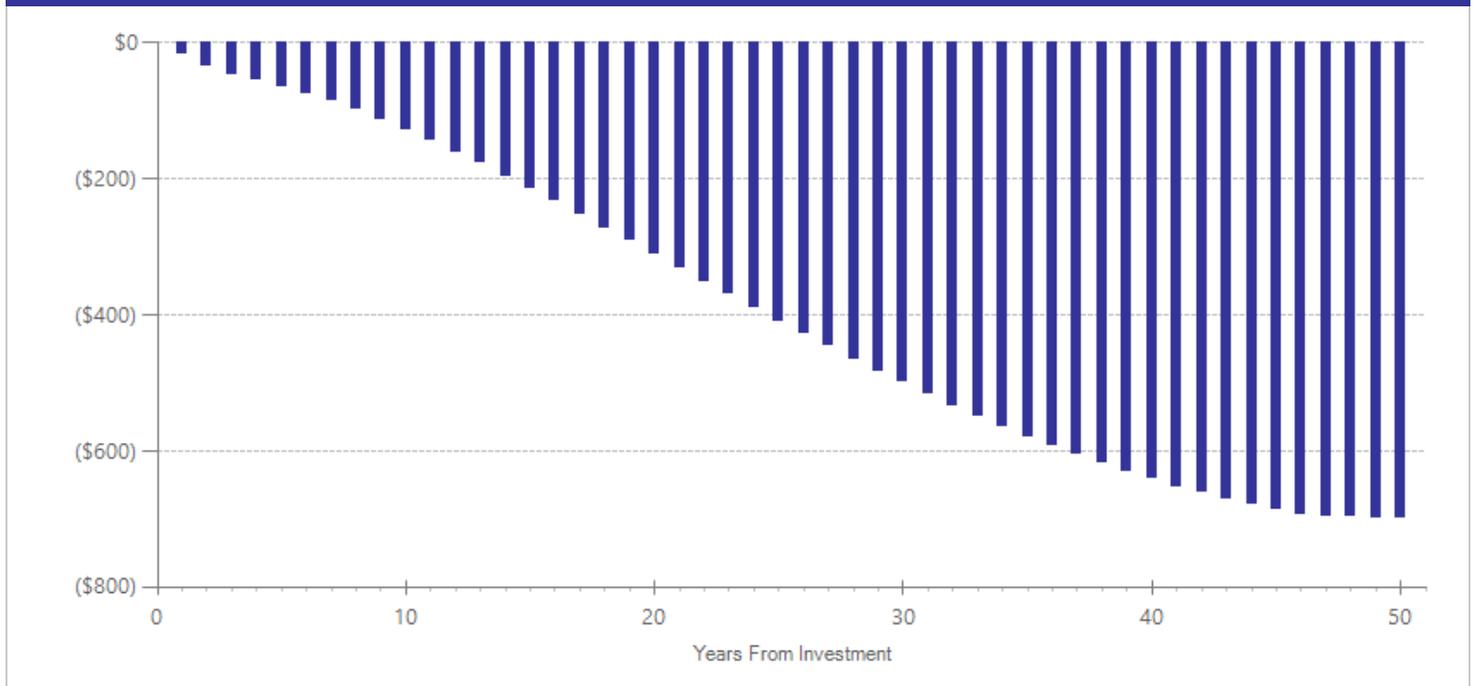
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$4	2014	Present value of net program costs (in 2015 dollars)	(\$4)
Comparison costs	\$0	2014	Cost range (+ or -)	15 %

We estimate per-participant costs assuming a training cost of \$5000 plus \$1500 for travel, that 5 school counselors would be trained at one time (training amortized over 3 years), and that one facilitator would provide the intervention to 200 students each year. An additional cost of \$1 per student is required by the program license. More information is available at: <http://medialiteracy.net/alcohol-literacy-challenge-curricula/>.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol use	2	297	-0.203	0.152	21	-0.028	0.229	23	-0.615	0.001
Problem alcohol use	1	54	0.020	0.191	21	0.003	0.286	23	0.059	0.757

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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- Fried, A.B. (2013). *Evaluation of digitally enhanced Expectancy Challenge Alcohol Literacy Curriculum (ECALC) for use with mandated college students*. Orlando, Fla: University of Central Florida.

## Teen Marijuana Check-Up

Benefit-cost estimates updated June 2016. 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. Those who were concerned about reducing cannabis use are screened for eligibility. Participants receive two 45- to 60-minute motivational interviews a week apart. The intervention is provided during the school day without parental involvement.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$794	Benefit to cost ratio	\$22.95
Participants	\$1,599	Benefits minus costs	\$2,366
Others	\$96	Chance the program will produce	
Indirect	(\$15)	benefits greater than the costs	100 %
<u>Total benefits</u>	<u>\$2,474</u>		
<u>Net program cost</u>	<u>(\$108)</u>		
Benefits minus cost	\$2,366		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Labor market earnings associated with cannabis abuse or dependence	\$1,575	\$715	\$0	\$0	\$2,291
Health care associated with cannabis abuse or dependence	\$24	\$78	\$96	\$39	\$237
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$54)	(\$54)
<b>Totals</b>	<b>\$1,599</b>	<b>\$794</b>	<b>\$96</b>	<b>(\$15)</b>	<b>\$2,474</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

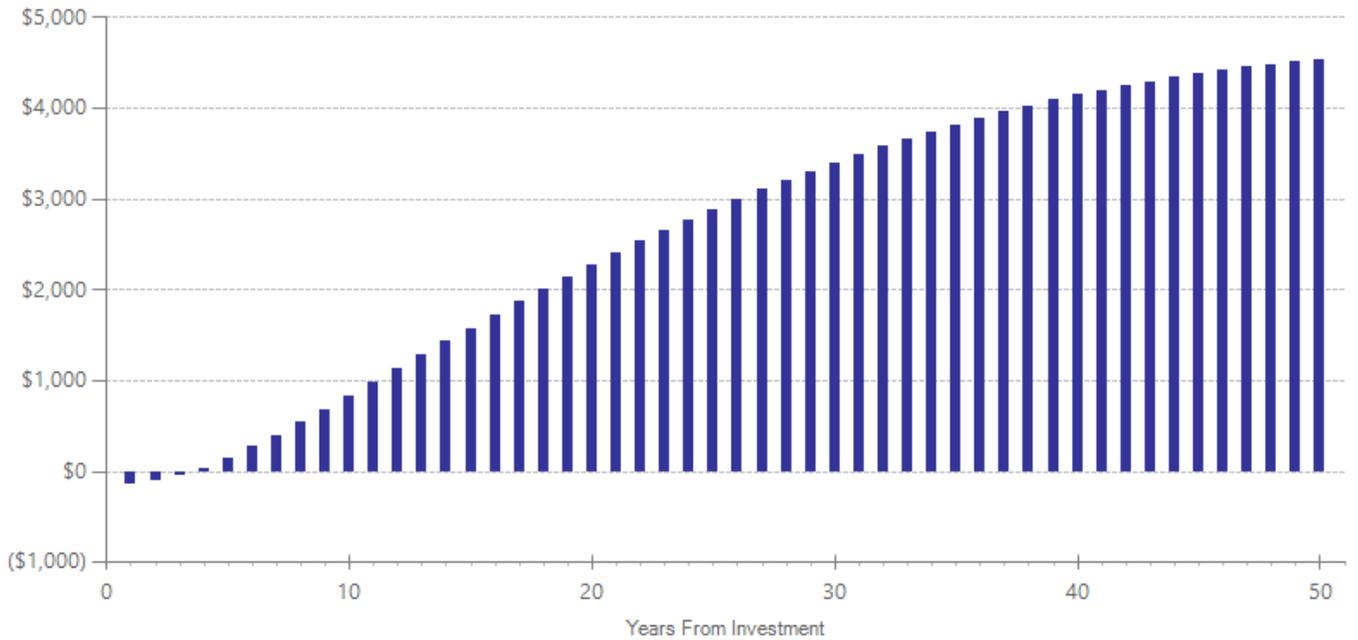
### Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$106	2013	Present value of net program costs (in 2015 dollars)	(\$108)
Comparison costs	\$0	2013	Cost range (+ or -)	10 %

This program is typically provided over a one-week period. Per-participant cost data was provided by the program developer (email from Denise Walker to Marna Miller, 10/9/2014). The cost 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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Cannabis abuse or dependence	2	148	-0.284	0.142	16	-0.190	0.018	17	-0.284	0.045

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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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.

## Adolescent Assertive Continuing Care

Benefit-cost estimates updated June 2016. 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 ten weekly home visits, meet twice with parents over 12 weeks, advocate for needed services, and aid in job search and other pro-social activities.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$25	Benefit to cost ratio	(\$0.44)
Participants	\$45	Benefits minus costs	(\$3,202)
Others	\$15	Chance the program will produce	
Indirect	(\$1,059)	benefits greater than the costs	37 %
<u>Total benefits</u>	<u>(\$974)</u>		
<u>Net program cost</u>	<u>(\$2,228)</u>		
Benefits minus cost	(\$3,202)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$3	\$12	\$2	\$17
Labor market earnings associated with alcohol abuse or dependence	\$44	\$20	\$0	\$50	\$114
Health care associated with alcohol abuse or dependence	\$0	\$1	\$2	\$1	\$5
Property loss associated with alcohol abuse or dependence	\$1	\$0	\$1	\$0	\$2
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,111)	(\$1,111)
<b>Totals</b>	<b>\$45</b>	<b>\$25</b>	<b>\$15</b>	<b>(\$1,059)</b>	<b>(\$974)</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

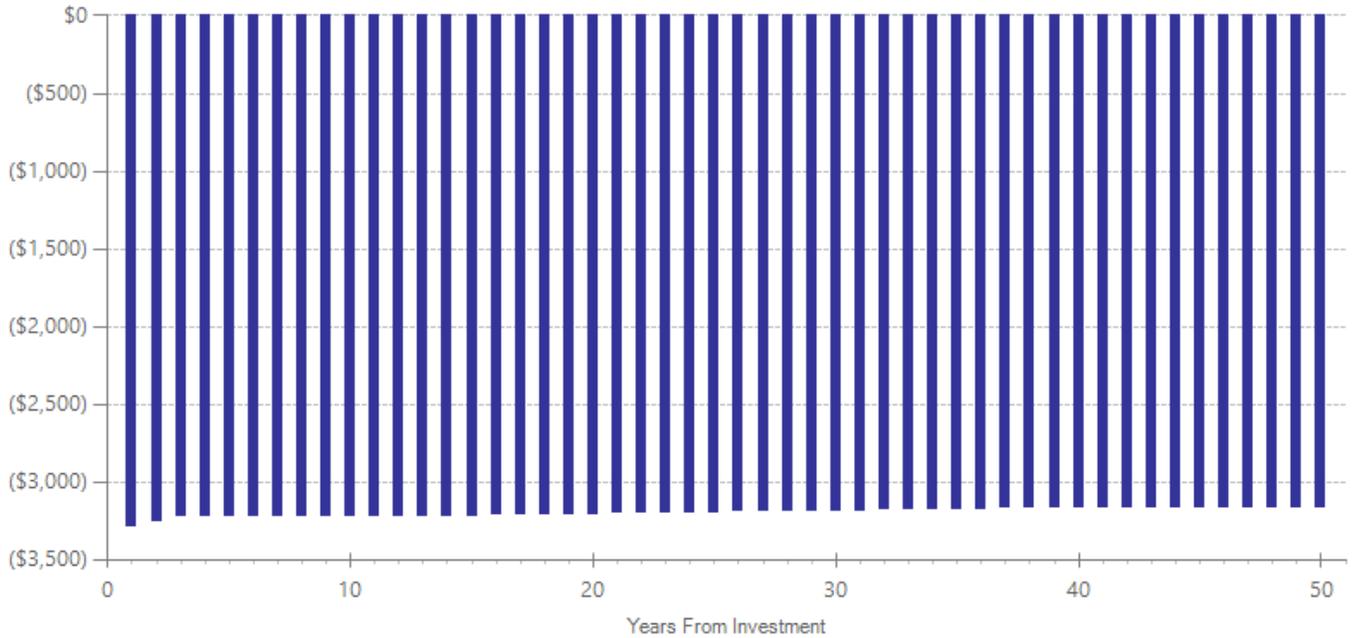
<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

### Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary
Program costs	\$2,037	2008	Present value of net program costs (in 2015 dollars) (\$2,228)
Comparison costs	\$0	2008	Cost range (+ 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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	1	71	-0.146	0.181	16	0.000	0.187	19	-0.146	0.421
Substance abuse	1	71	-0.215	0.210	16	0.000	0.187	19	-0.215	0.306
Cannabis abuse or dependence	1	71	-0.318	0.183	16	0.000	0.187	19	-0.318	0.082

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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- 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.

# Functional Family Therapy for substance abusing adolescents (FFT-SA)

Benefit-cost estimates updated June 2016. Literature review updated June 2016.

Program Description: Functional Family Therapy (FFT) is a structured family-based intervention that uses a multi-step approach to enhance protective factors and reduce risk factors in the family. Functional Family Therapy is a Blueprint program identified by the University of Colorado's Center for the Study and Prevention of Violence.

## Benefit-Cost Summary Statistics Per Participant

### Benefits to:

Taxpayers	\$227	Benefit to cost ratio	(\$0.13)
Participants	\$155	Benefits minus costs	(\$3,889)
Others	\$237	Chance the program will produce	
Indirect	(\$1,081)	benefits greater than the costs	0 %
<u>Total benefits</u>	<u>(\$462)</u>		
<u>Net program cost</u>	<u>(\$3,427)</u>		
Benefits minus cost	(\$3,889)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

### Benefits from changes to:<sup>1</sup>

### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$20	\$68	\$10	\$98
K-12 grade repetition	\$0	(\$3)	\$0	(\$2)	(\$5)
K-12 special education	\$0	(\$9)	\$0	(\$5)	(\$14)
Labor market earnings associated with alcohol abuse or dependence	\$110	\$50	\$0	\$538	\$697
Health care associated with alcohol abuse or dependence	\$31	\$173	\$164	\$87	\$455
Property loss associated with alcohol abuse or dependence	\$9	\$0	\$16	\$0	\$25
Health care associated with disruptive behavior disorder	(\$2)	(\$7)	(\$8)	(\$3)	(\$21)
Costs of higher education	\$8	\$5	\$3	\$3	\$19
Adjustment for deadweight cost of program	\$0	(\$2)	(\$6)	(\$1,709)	(\$1,716)
<b>Totals</b>	<b>\$155</b>	<b>\$227</b>	<b>\$237</b>	<b>(\$1,081)</b>	<b>(\$462)</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

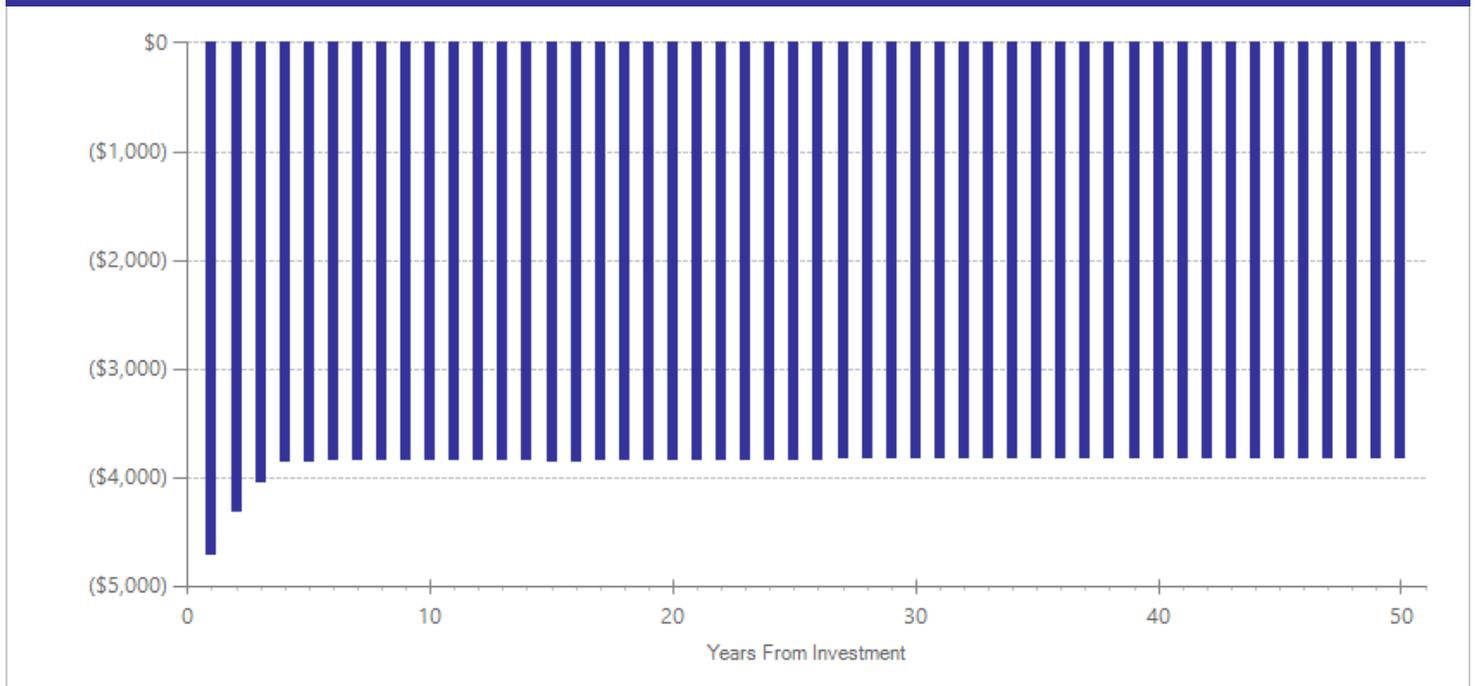
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,134	2008	Present value of net program costs (in 2015 dollars)	(\$3,427)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

Per-participant cost from Barnoski, R. (2009, December). Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis (Document No. 09-12-1201). Olympia: Washington State Institute for Public Policy.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	1	40	-0.664	0.228	16	0.000	0.187	19	-0.664	0.004
Cannabis abuse or dependence	1	30	-0.745	0.653	16	0.000	0.187	19	-0.745	0.254
Substance abuse	1	85	0.099	0.230	16	0.000	0.187	19	0.099	0.667
Major depressive disorder	1	40	-0.247	0.222	16	0.000	0.027	17	-0.247	0.265
Externalizing behavior symptoms	1	40	0.040	0.221	16	0.019	0.115	19	0.040	0.855
Internalizing symptoms	1	40	0.058	0.221	16	0.042	0.173	18	0.058	0.795

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

- Slesnick, N., & Prestopnik, J.L. (2009). Comparison of family therapy outcome with alcohol-abusing, runaway adolescents. *Journal of Marital and Family Therapy, 35*(3), 255-277.
- Slesnick, N., & Prestopnik, J.L. (2009). Comparison of family therapy outcome with alcohol-abusing, runaway adolescents. *Journal of Marital and Family Therapy, 35*(3), 255-277.
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## Multidimensional Family Therapy (MDFT)

Benefit-cost estimates updated June 2016. Literature review updated May 2015.

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 16 and have been clinically referred to outpatient treatment. For this meta-analysis, two studies measured the effects of MDFT on delinquency and ten measured the effects on subsequent substance use. All 12 studies included youth who were referred from the juvenile justice system as well as schools, child welfare agencies, health and mental health agencies, and parents.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,026	Benefit to cost ratio	(\$0.01)
Participants	(\$112)	Benefits minus costs	(\$8,049)
Others	\$2,483	Chance the program will produce	
Indirect	(\$3,473)	benefits greater than the costs	12 %
<u>Total benefits</u>	<u>(\$76)</u>		
<u>Net program cost</u>	<u>(\$7,973)</u>		
Benefits minus cost	(\$8,049)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1,007	\$2,436	\$506	\$3,950
K-12 grade repetition	\$0	\$3	\$0	\$1	\$4
K-12 special education	\$0	\$33	\$0	\$17	\$50
Labor market earnings associated with cannabis abuse or dependence	\$39	\$18	\$0	\$0	\$57
Health care associated with cannabis abuse or dependence	\$25	\$82	\$100	\$41	\$249
Costs of higher education	(\$176)	(\$117)	(\$54)	(\$59)	(\$406)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,979)	(\$3,979)
<b>Totals</b>	<b>(\$112)</b>	<b>\$1,026</b>	<b>\$2,483</b>	<b>(\$3,473)</b>	<b>(\$76)</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

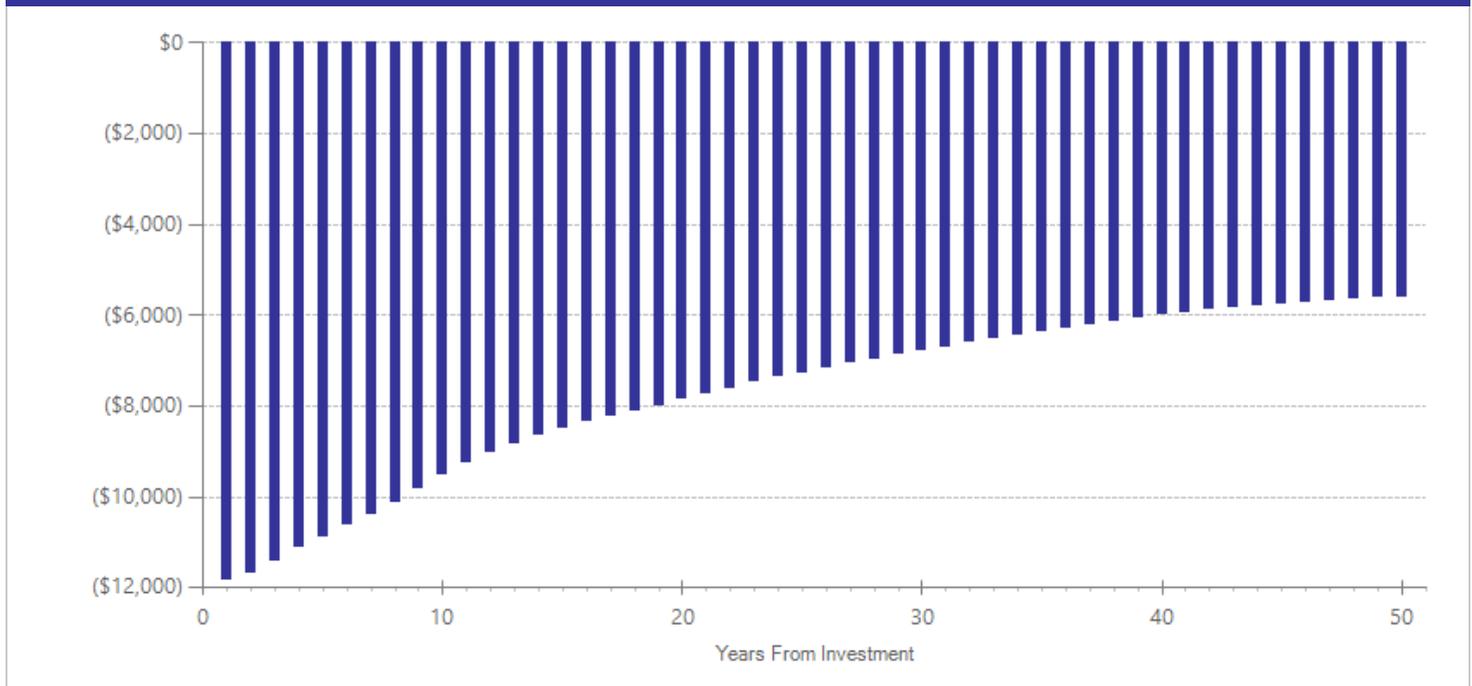
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$6,168	2001	Present value of net program costs (in 2015 dollars)	(\$7,973)
Comparison costs	\$0	2001	Cost range (+ or -)	10 %

This program is typically administered over a three-month period. Per-participant costs from Zavala, S. K., French, M. T., Henderson, C. E., Alberga, L., Rowe, C., & Liddle, H.A. (2005). Guidelines and challenges for estimating the economic costs and benefits of adolescent substance abuse treatments. *Journal of Substance Abuse Treatment*, 29(3), 191-205.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	3	151	-0.215	0.157	17	-0.215	0.157	17	-0.215	0.169
Substance abuse	7	354	-0.406	0.102	17	0.000	0.187	20	-0.406	0.001
Cannabis abuse or dependence	6	251	-0.308	0.128	17	0.000	0.187	20	-0.308	0.016
Grade point average	1	40	0.168	0.301	17	0.168	0.301	20	0.168	0.577
Externalizing behavior symptoms	4	346	-0.145	0.084	17	-0.069	0.052	20	-0.145	0.085
Internalizing symptoms	3	290	-0.049	0.132	17	-0.048	0.085	19	-0.049	0.710

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Contingency management (higher-cost) for substance abuse

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Contingency management is a supplement to counseling treatment that rewards participants for attending treatment and/or abstaining from substance use. The intervention reviewed here focused on those with drug and/or alcohol abuse or dependence (excluding marijuana dependence) where contingencies were provided for remaining abstinent. Two methods of contingency management were reviewed: (1) A voucher system where abstinence earned vouchers that were exchangeable for goods provided by the clinic or counseling center, and (2) a prize or raffle system where clients who remained abstinent could earn the opportunity to draw from a prize bowl. Higher-cost contingency management was determined by maximum voucher or maximum expected value of prizes possible. Based on a statistical analysis of contingency management studies, we determined that programs with a maximum value of vouchers or prizes greater than \$500 (in 2012 dollars) represent higher-cost contingency management. Treatment lasted two to three months and reward opportunities occurred two to three times per week.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$1,563	Benefit to cost ratio	\$32.52
Participants	\$2,386	Benefits minus costs	\$17,831
Others	\$468	Chance the program will produce	
Indirect	\$13,979	benefits greater than the costs	77 %
<b>Total benefits</b>	<b>\$18,397</b>		
<b>Net program cost</b>	<b>(\$566)</b>		
<b>Benefits minus cost</b>	<b>\$17,831</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

#### Benefits from changes to:<sup>1</sup>

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1	\$2	\$0	\$3
Property loss associated with alcohol abuse or dependence	\$1	\$0	\$1	\$0	\$2
Labor market earnings associated with illicit drug abuse or dependence	\$2,296	\$1,043	\$0	\$13,999	\$17,338
Health care associated with illicit drug abuse or dependence	\$90	\$519	\$465	\$262	\$1,337
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$283)	(\$283)
<b>Totals</b>	<b>\$2,386</b>	<b>\$1,563</b>	<b>\$468</b>	<b>\$13,979</b>	<b>\$18,397</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

## Detailed Annual Cost Estimates Per Participant

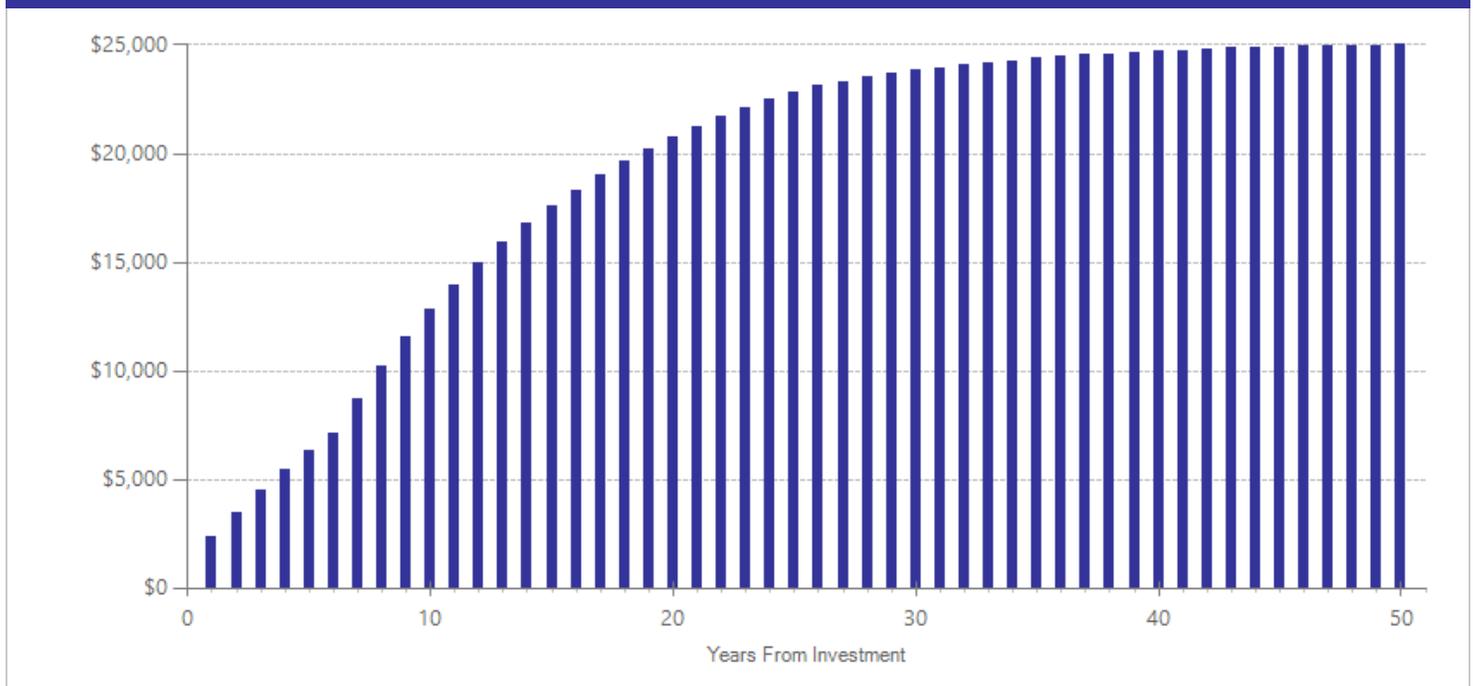
	Annual cost	Year dollars	Summary	
Program costs	\$548	2012	Present value of net program costs (in 2015 dollars)	(\$566)
Comparison costs	\$0	2012	Cost range (+ or -)	20 %

Contingency management is typically provided for less than a year. We calculated the weighted average of the variable per-participant treatment and comparison group costs across studies estimating the cost-effectiveness of an incentive program with an average cost of greater than \$500 in 2012 (Olmstead & Petry, 2009; Olmstead, Sindelar, & Petry, 2007; Olmstead et al., 2007). Costs of administering the incentive program include staff costs to inventory, shop, and restock prizes; material cost of items; counseling session costs; and toxicology screens. All staff costs include salary, benefits, and overhead. All costs are calculated from the clinic perspective. Note that because treatment group participants have higher retention rates than the control group, costs also reflect the increased number of counseling sessions attended and urinalysis tests performed for the treated group.

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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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	1	19	-0.096	0.310	39	0.000	0.125	40	-0.096	0.758
Illicit drug abuse or dependence	37	1323	-0.519	0.060	39	-0.154	0.238	40	-0.519	0.001
Cannabis use	1	19	-0.301	0.312	39	0.000	0.125	40	-0.301	0.334

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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# Seeking Safety: A Psychotherapy for Trauma/PTSD and Substance Abuse

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Seeking Safety is a manualized, standalone therapy designed to treat comorbid trauma/PTSD and substance use disorders. Seeking Safety covers 25 topics over two to three months. In the included studies, each topic is independent of the others, and allows for flexible use (mixed settings, fewer topics, etc.). The five main principles of Seeking Safety are (1) safety in relationships, thinking, behavior, and emotions; (2) treating trauma/PTSD and substance abuse at the same time; (3) a focus on ideals; (4) four content areas: cognitive, behavioral, interpersonal, and case management; and (5) attention to clinician processes (e.g. clinician self-care).

## Benefit-Cost Summary Statistics Per Participant

### Benefits to:

Taxpayers	\$607	Benefit to cost ratio	\$24.29
Participants	\$921	Benefits minus costs	\$9,118
Others	\$162	Chance the program will produce	
Indirect	\$7,820	benefits greater than the costs	66 %
<b>Total benefits</b>	<b>\$9,509</b>		
<b>Net program cost</b>	<b>(\$391)</b>		
<b>Benefits minus cost</b>	<b>\$9,118</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

### Benefits from changes to:<sup>1</sup>

### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$0	\$0	\$0	\$0
Property loss associated with alcohol abuse or dependence	\$0	\$0	\$0	\$0	\$0
Labor market earnings associated with illicit drug abuse or dependence	\$1,086	\$493	\$0	\$7,914	\$9,493
Health care associated with illicit drug abuse or dependence	\$44	\$256	\$230	\$128	\$658
Labor market earnings associated with PTSD	(\$192)	(\$87)	\$0	\$0	(\$279)
Health care associated with PTSD	(\$18)	(\$55)	(\$68)	(\$26)	(\$168)
Adjustment for deadweight cost of program	\$0	\$0	\$1	(\$196)	(\$196)
<b>Totals</b>	<b>\$921</b>	<b>\$607</b>	<b>\$162</b>	<b>\$7,820</b>	<b>\$9,509</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

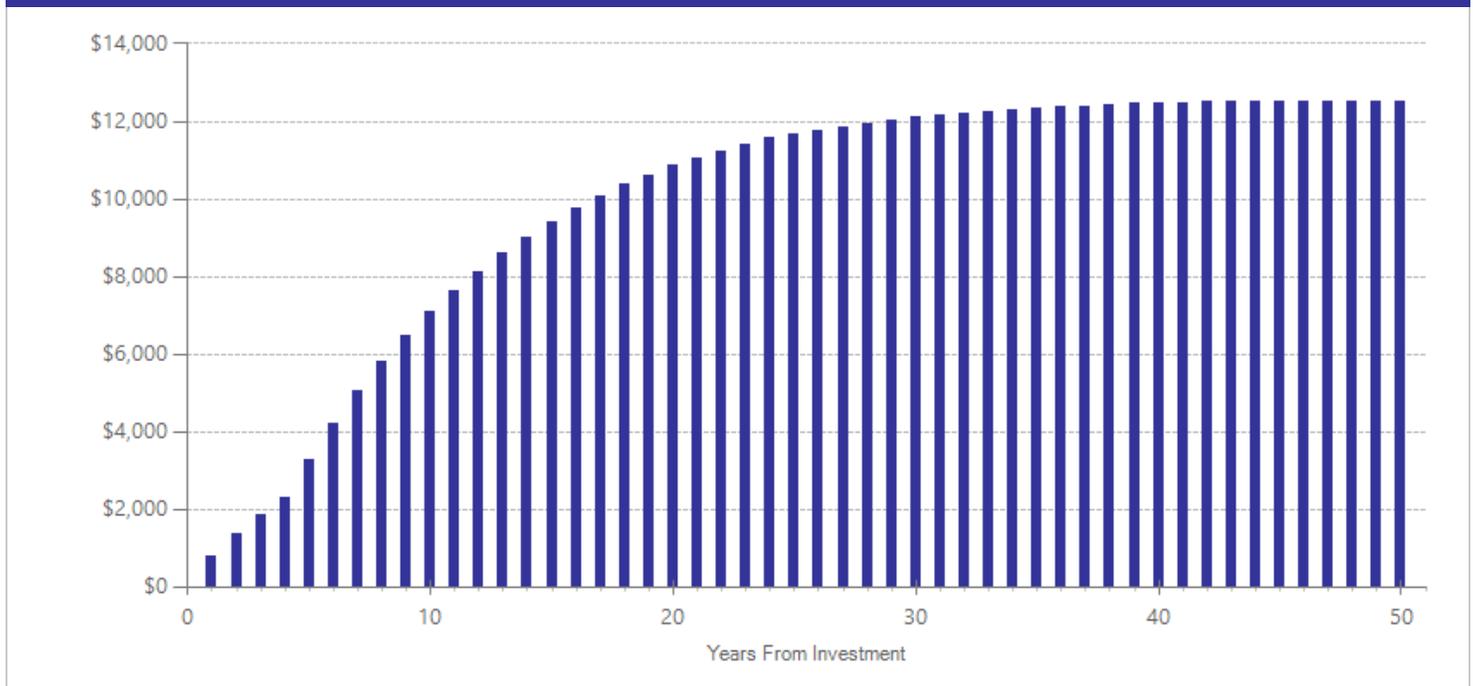
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$526	2013	Present value of net program costs (in 2015 dollars)	(\$391)
Comparison costs	\$141	2013	Cost range (+ or -)	10 %

In the included studies, Seeking Safety was administered over a two- to three-month period. The per-participant cost of treatment is the weighted average estimate of the individual or group therapy sessions provided in the studies included in the analysis. We calculated this average estimate using Washington's Medicaid hourly reimbursement rate for outpatient individual and group therapy multiplied by the weighted average of the total hours of these therapies across the studies (averaging 24 total hours). Comparison group costs are computed in a similar manner based on treatment received in the studies (no treatment or standard group treatment).

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	2	72	0.009	0.175	41	0.000	0.187	44	0.009	0.957
Illicit drug abuse or dependence	5	346	-0.058	0.093	41	-0.098	0.131	42	-0.058	0.535
Post-traumatic stress	6	409	-0.211	0.102	41	0.020	0.106	42	-0.211	0.039
Psychiatric symptoms	2	84	0.057	0.305	41	0.000	0.000	42	0.057	0.852

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Contingency management (higher-cost) for marijuana use

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Contingency management is a supplement to counseling treatment that rewards participants for attending treatment and/or abstaining from substance use. The intervention reviewed here focused on those with marijuana abuse or dependence where contingencies were provided for remaining abstinent. Two methods of contingency management were reviewed: (1) A voucher system where abstinence earned vouchers that were exchangeable for goods provided by the clinic or counseling center, and (2) a prize or raffle system where clients who remained abstinent could earn the opportunity to draw from a prize bowl. Higher-cost contingency management was determined by maximum voucher or maximum expected value of prizes possible. Based on a statistical analysis of contingency management studies, we determined that programs with a maximum value of vouchers or prizes greater than \$500 (in 2012 dollars) represent higher-cost contingency management. Treatment in the included studies lasted between 1 and 6.5 months with a weighted average of three months of contingency management and reward opportunities occurring two times per week, on average.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$2,921	Benefit to cost ratio	\$16.00
Participants	\$6,136	Benefits minus costs	\$8,476
Others	\$190	Chance the program will produce	
Indirect	(\$206)	benefits greater than the costs	77 %
<b>Total benefits</b>	<b>\$9,041</b>		
<b>Net program cost</b>	<b>(\$565)</b>		
<b>Benefits minus cost</b>	<b>\$8,476</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

#### Benefits from changes to:<sup>1</sup>

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Labor market earnings associated with cannabis abuse or dependence	\$6,090	\$2,765	\$0	\$0	\$8,855
Health care associated with cannabis abuse or dependence	\$47	\$155	\$190	\$77	\$469
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$283)	(\$283)
<b>Totals</b>	<b>\$6,136</b>	<b>\$2,921</b>	<b>\$190</b>	<b>(\$206)</b>	<b>\$9,041</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

## Detailed Annual Cost Estimates Per Participant

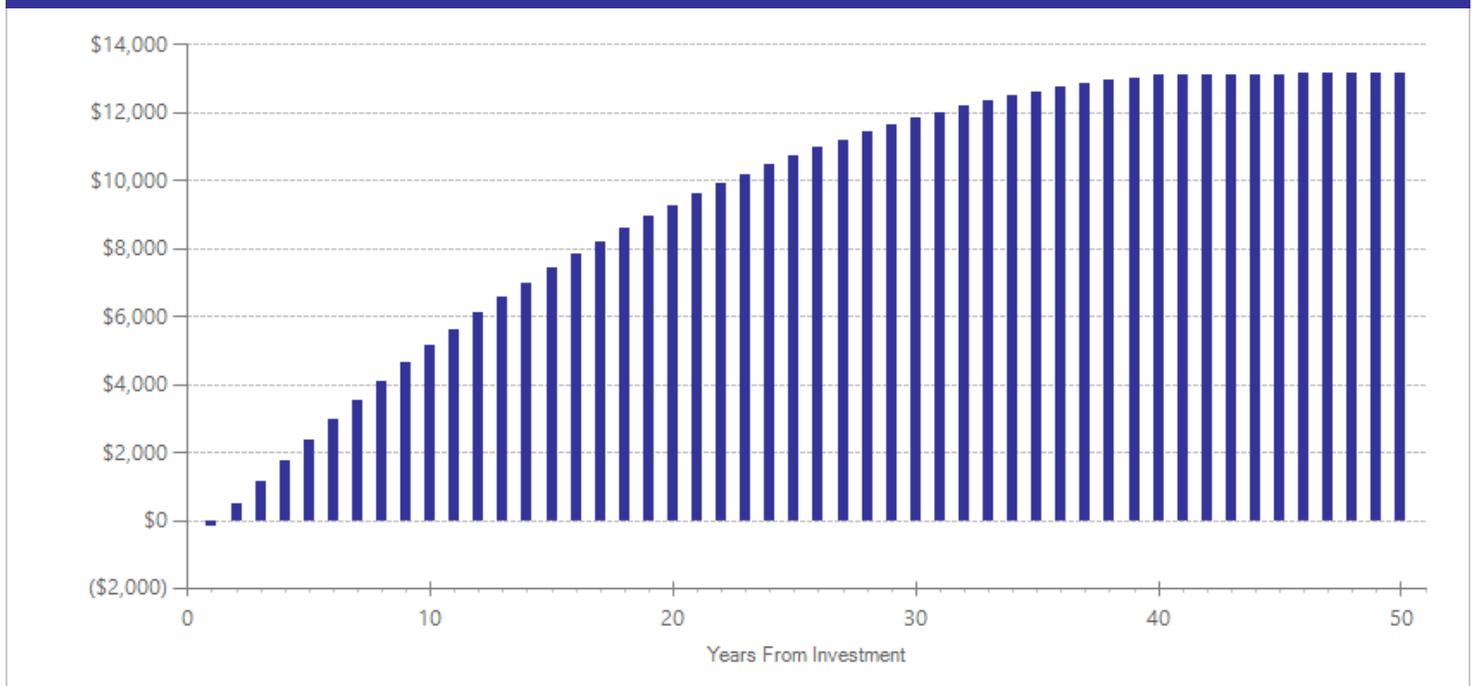
	Annual cost	Year dollars	Summary	
Program costs	\$548	2012	Present value of net program costs (in 2015 dollars)	(\$565)
Comparison costs	\$0	2012	Cost range (+ or -)	20 %

Contingency management is typically provided for less than a year. We calculated the weighted average of the variable per-participant treatment and comparison group costs across studies estimating the cost-effectiveness of an incentive program with an average cost of greater than \$500 in 2012 (Olmstead & Petry, 2009; Olmstead, Sindelar, & Petry, 2007; Olmstead et al., 2007). Costs of administering the incentive program include staff costs to inventory, shop for, and restock prizes; material cost of items; counseling session costs; and toxicology screens. All staff costs include salary, benefits, and overhead. All costs are calculated from the clinic perspective. Note that because treatment group participants have higher retention rates than the control group, costs also reflect the increased number of counseling sessions attended and urinalysis tests performed for the treated group.

Olmstead, T.A., & Petry, N.M. (2009). The cost-effectiveness of prize-based and voucher-based contingency management in a population of cocaine- or opioid-dependent outpatients. *Drug and Alcohol Dependence*, 102(1), 108-115. Olmstead, T.A., Sindelar, J.L., & Petry, N.M. (2007). Cost-effectiveness of prize-based incentives for stimulant abusers in outpatient psychosocial treatment programs. *Drug and Alcohol Dependence*, 87(2), 175-182. Olmstead, T.A., Sindelar, J.L., Easton, C.J., & Carroll, K.M. (2007). The cost-effectiveness of four treatments for marijuana dependence. *Addiction*, 102(9), 1443-1453.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Cannabis abuse or dependence	4	116	-0.354	0.154	26	-0.325	0.412	27	-0.354	0.021

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

- Carroll, K.M., Easton, C.J., Nich, C., Hunkele, K.A., Neavins, T.M., Sinha, R., . . . Rounsaville, B.J. (2006). The use of contingency management and motivational/skills-building therapy to treat young adults with marijuana dependence. *Journal of Consulting and Clinical Psychology, 74*(5), 955-966.
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## Brief marijuana dependence counseling

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Brief marijuana dependence counseling is a standalone treatment that combines motivational enhancement therapy (usually two sessions) and cognitive-behavioral therapy (usually seven sessions) as well as case management. Sessions are generally individual in nature and focus on motivations and readiness for change; building cognitive, behavioral, and emotional skills; and assisting the client with access to additional support services.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$2,693	Benefit to cost ratio	\$15.10
Participants	\$5,685	Benefits minus costs	\$7,774
Others	\$158	Chance the program will produce	
Indirect	(\$210)	benefits greater than the costs	91 %
<u>Total benefits</u>	<u>\$8,325</u>		
<u>Net program cost</u>	<u>(\$551)</u>		
Benefits minus cost	\$7,774		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Labor market earnings associated with cannabis abuse or dependence	\$5,646	\$2,564	\$0	\$0	\$8,210
Health care associated with cannabis abuse or dependence	\$39	\$129	\$158	\$65	\$390
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$275)	(\$275)
<b>Totals</b>	<b>\$5,685</b>	<b>\$2,693</b>	<b>\$158</b>	<b>(\$210)</b>	<b>\$8,325</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

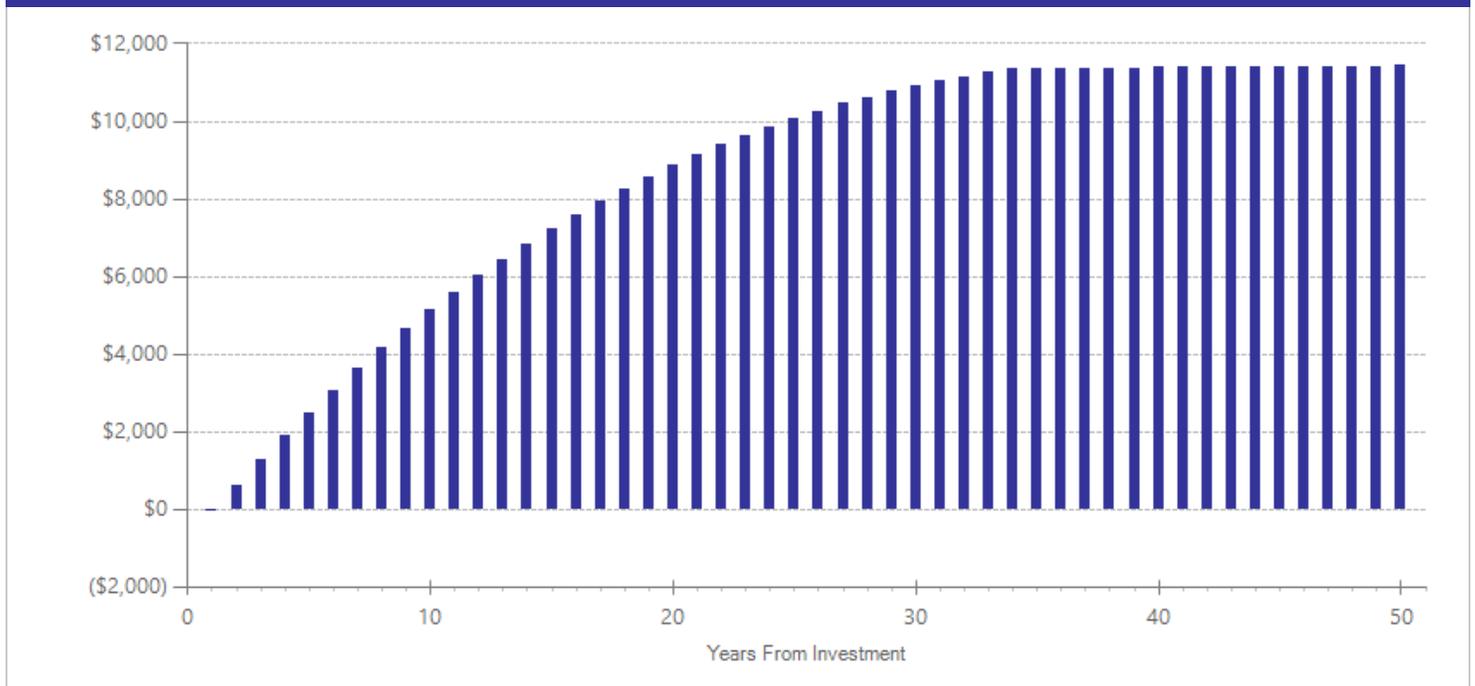
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$822	2013	Present value of net program costs (in 2015 dollars)	(\$551)
Comparison costs	\$280	2013	Cost range (+ or -)	10 %

Brief marijuana dependence counseling was provided over a two- to three-month period in the included studies. The per-participant cost of treatment is the weighted average estimate for studies included in the analysis. We calculated this average estimate using Washington's Medicaid hourly reimbursement rates for individual and/or group outpatient therapy multiplied by the weighted average of total hours of outpatient individual and/or group therapy across the studies (averaging 12 total hours). Comparison group costs are computed in a similar manner based on treatment received in the studies (individual or group treatment as usual or no treatment).

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Cannabis abuse or dependence	8	506	-0.364	0.138	32	-0.323	0.226	33	-0.364	0.009

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Family Behavior Therapy (FBT)

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Family Behavior Therapy is a standalone behavioral treatment based on the Community Reinforcement Approach aimed at reducing substance use. Participants attend sessions with at least one family member, typically a parent or cohabitating partner. The treatment consists of several parts including behavioral contracting, skills to reduce interaction with individuals and situations related to drug use, impulse and urge control, communication skills, and vocational or educational training. Treatment in the included studies occurred over a 6- to 12-month period. Our findings reflect only adults treated in the program and exclude results for adolescents.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,822	Benefit to cost ratio	\$4.66
Participants	\$2,320	Benefits minus costs	\$6,877
Others	\$757	Chance the program will produce	
Indirect	\$3,856	benefits greater than the costs	60 %
<b>Total benefits</b>	<b>\$8,756</b>		
<b>Net program cost</b>	<b>(\$1,879)</b>		
<b>Benefits minus cost</b>	<b>\$6,877</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$6	\$16	\$3	\$25
Labor market earnings associated with illicit drug abuse or dependence	\$2,177	\$989	\$0	\$4,384	\$7,550
Health care associated with illicit drug abuse or dependence	\$143	\$827	\$741	\$409	\$2,121
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$940)	(\$940)
<b>Totals</b>	<b>\$2,320</b>	<b>\$1,822</b>	<b>\$757</b>	<b>\$3,856</b>	<b>\$8,756</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

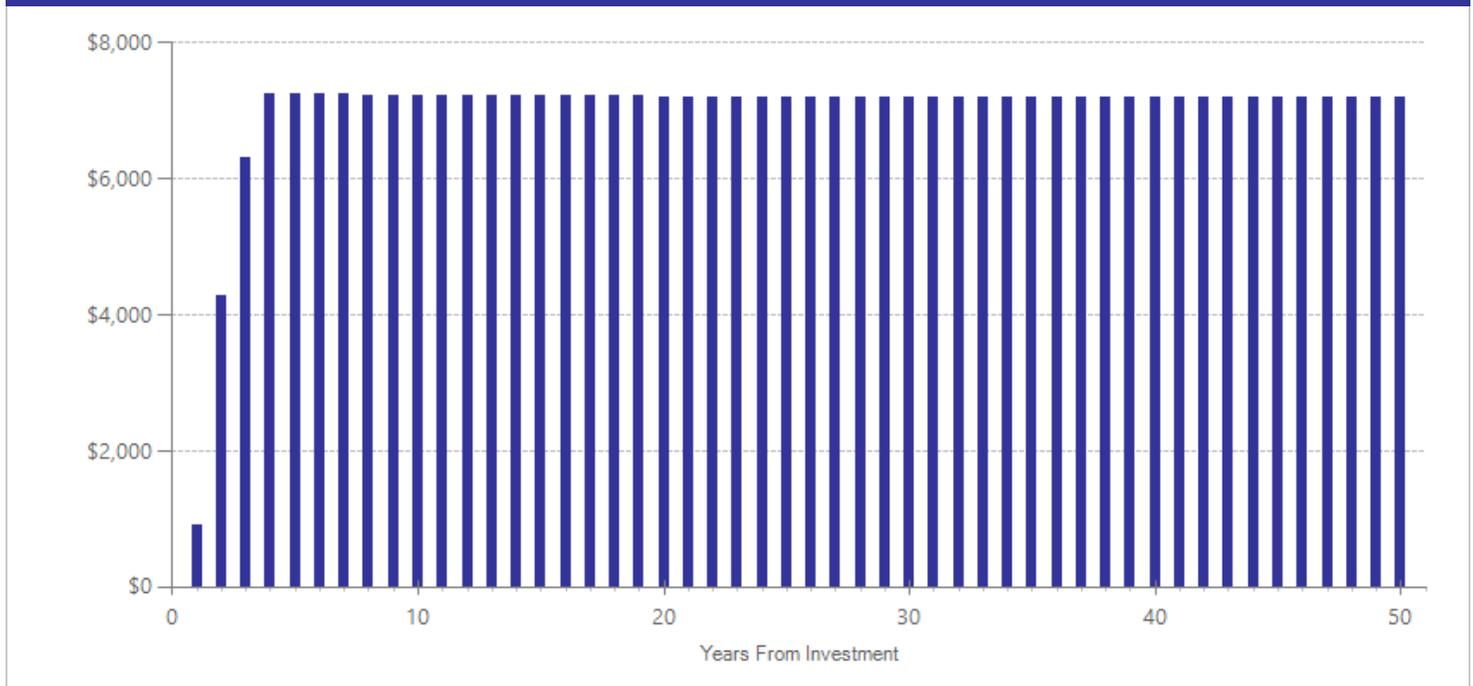
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,698	2013	Present value of net program costs (in 2015 dollars)	(\$1,879)
Comparison costs	\$1,851	2013	Cost range (+ or -)	10 %

The per-participant cost of treatment is based on a single study and includes one hour of weekly individual counseling for 12 months, estimated using Washington's Medicaid hourly reimbursement rate for individual treatment. Comparison group costs incurred in this single study included the cost of a two-hour weekly group session for 12 months, estimated using Washington's Medicaid hourly reimbursement rate for group treatment.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the "break-even" point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Illicit drug abuse or dependence	1	38	-0.670	0.251	31	0.000	0.187	34	-0.670	0.008

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Motivational interviewing to enhance treatment engagement

Benefit-cost estimates updated June 2016. Literature review updated December 2014.

Program Description: Motivational interviewing is a non-confrontational technique, used early in treatment, to help clients increase their motivation and commitment to change. Most commonly, motivation interviewing involves one or two individual sessions.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$2,078	Benefit to cost ratio	\$26.17
Participants	\$4,223	Benefits minus costs	\$6,627
Others	\$178	Chance the program will produce	
Indirect	\$411	benefits greater than the costs	62 %
<b>Total benefits</b>	<b>\$6,890</b>		
<b>Net program cost</b>	<b>(\$263)</b>		
<b>Benefits minus cost</b>	<b>\$6,627</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$3	\$8	\$1	\$12
Labor market earnings associated with alcohol abuse or dependence	\$4,185	\$1,901	\$0	\$455	\$6,541
Property loss associated with alcohol abuse or dependence	\$7	\$0	\$13	\$0	\$21
Health care associated with illicit drug abuse or dependence	\$30	\$175	\$156	\$86	\$448
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$131)	(\$131)
<b>Totals</b>	<b>\$4,223</b>	<b>\$2,078</b>	<b>\$178</b>	<b>\$411</b>	<b>\$6,890</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

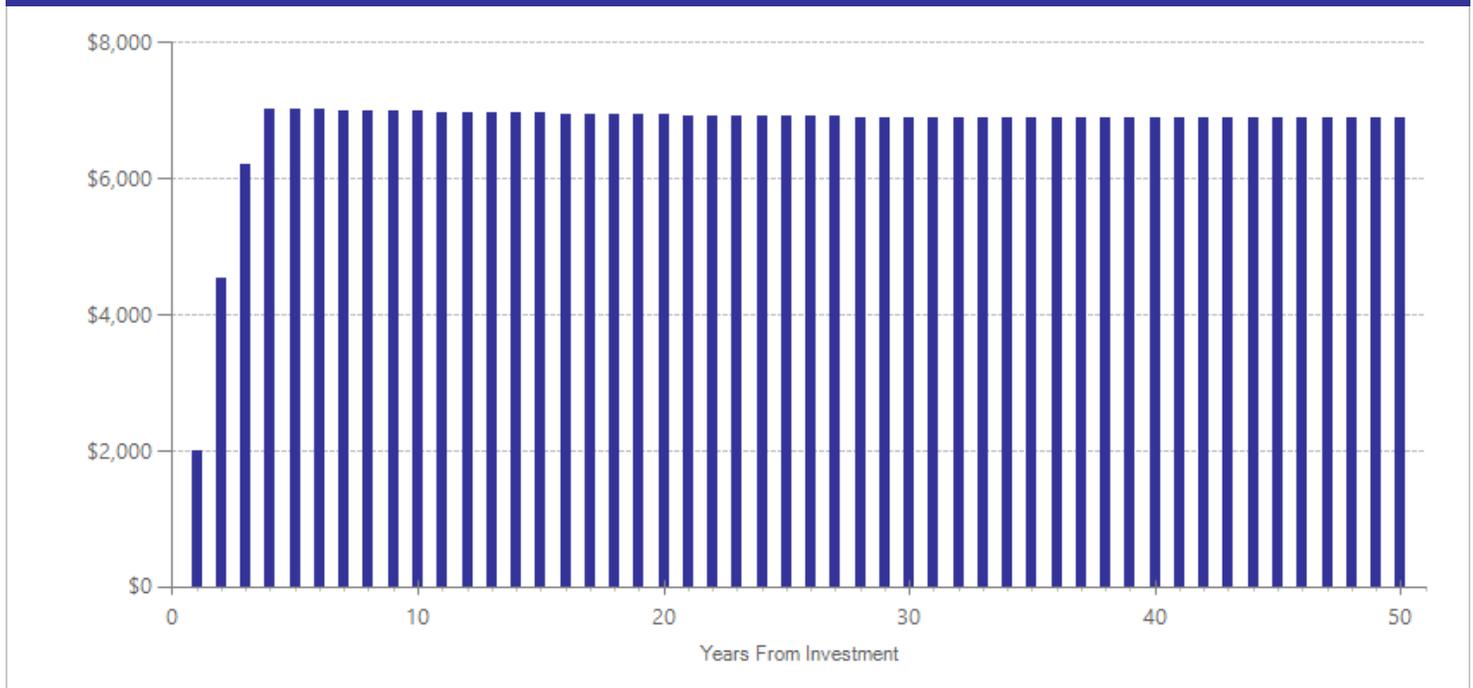
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$263	2014	Present value of net program costs (in 2015 dollars)	(\$263)
Comparison costs	\$0	2014	Cost range (+ or -)	10 %

This program typically consists of one or two individual sessions. Our per-participant cost is the weighted average estimate of the individual and group sessions provided in the studies included in the analysis, using rates for Medicaid clients paid by Washington State for substance abuse treatment in 2014. The costs of this intervention are in addition to other treatment clients might receive.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	4	238	-0.378	0.187	35	0.000	0.187	38	-0.378	0.043
Substance abuse	5	250	-0.083	0.105	35	0.000	0.187	38	-0.083	0.428
Illicit drug abuse or dependence	9	650	-0.150	0.064	35	0.000	0.187	38	-0.150	0.020
Opioid drug abuse or dependence	1	52	-0.392	0.201	35	0.000	0.187	38	-0.392	0.051
Engagement/Retention	19	1024	0.156	0.071	35	0.000	0.187	38	0.156	0.035

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

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## Brief cognitive behavioral intervention for amphetamine users

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Brief cognitive behavioral interventions for amphetamine users is a manualized, standalone treatment that consists of two to four individual weekly sessions of cognitive-behavioral therapy. Key approaches included in this intervention include motivational interviewing, coping skills, controlling thoughts, and relapse prevention. While the manual focuses on a four-session model, the developer indicates that practitioners may use a two-session model according to client needs.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,298	Benefit to cost ratio	\$32.37
Participants	\$1,636	Benefits minus costs	\$6,526
Others	\$546	Chance the program will produce	
Indirect	\$3,254	benefits greater than the costs	60 %
<b>Total benefits</b>	<b>\$6,734</b>		
<b>Net program cost</b>	<b>(\$208)</b>		
<b>Benefits minus cost</b>	<b>\$6,526</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$4	\$11	\$2	\$17
Labor market earnings associated with illicit drug abuse or dependence	\$1,533	\$696	\$0	\$3,062	\$5,291
Health care associated with illicit drug abuse or dependence	\$103	\$598	\$536	\$293	\$1,530
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$104)	(\$104)
<b>Totals</b>	<b>\$1,636</b>	<b>\$1,298</b>	<b>\$546</b>	<b>\$3,254</b>	<b>\$6,734</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

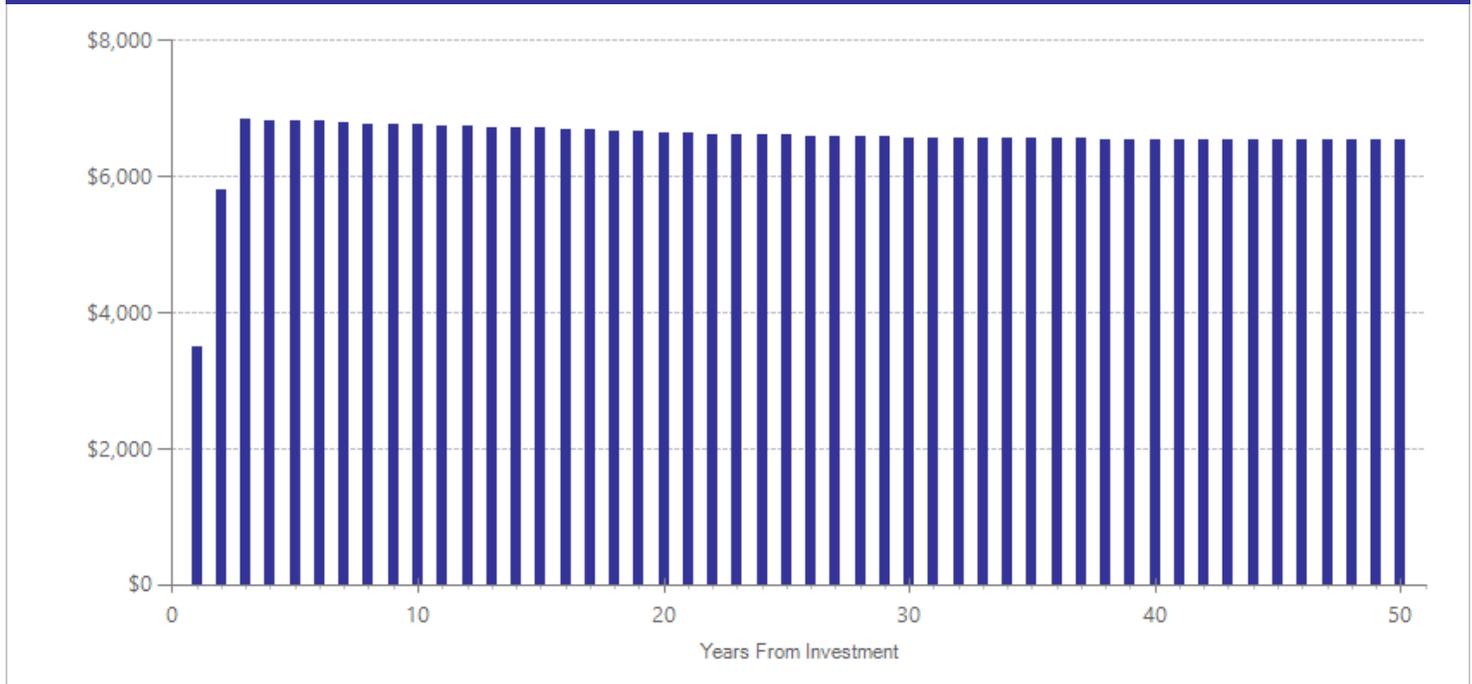
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$204	2013	Present value of net program costs (in 2015 dollars)	(\$208)
Comparison costs	\$0	2013	Cost range (+ or -)	10 %

This program is administered over a two- to four-week period. The per-participant cost of treatment is the weighted average estimate for studies included in the analysis. We calculated this average estimate using Washington's Medicaid hourly reimbursement rates for individual outpatient therapy multiplied by the weighted average of total hours of outpatient individual therapy across the studies. Treatment group therapy costs are in addition to the costs of a self-help book provided to both the comparison and treated groups.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Illicit drug abuse or dependence	2	172	-0.703	0.193	30	0.000	0.187	33	-0.703	0.001

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

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## Cognitive-behavioral coping skills therapy

Benefit-cost estimates updated June 2016. Literature review updated September 2016.

Program Description: Cognitive-behavioral coping-skills therapy is a manualized, standalone treatment for alcohol and/or drug abuse or dependence. This intervention emphasizes identifying high-risk situations that could lead to relapse such as social situations, depression, etc. and developing skills to cope with those situations. Clients engage in problem solving, role playing, and homework practice. The intervention is often provided in an individual therapy format but can be conducted in groups as well. Treatment in the included studies occurred over an average of three months.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$620	Benefit to cost ratio	\$21.57
Participants	\$961	Benefits minus costs	\$5,406
Others	\$192	Chance the program will produce	
Indirect	\$3,896	benefits greater than the costs	60 %
<b>Total benefits</b>	<b>\$5,669</b>		
<b>Net program cost</b>	<b>(\$263)</b>		
<b>Benefits minus cost</b>	<b>\$5,406</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1	\$3	\$1	\$5
Property loss associated with alcohol abuse or dependence	\$5	\$0	\$9	\$0	\$13
Labor market earnings associated with illicit drug abuse or dependence	\$922	\$419	\$0	\$3,923	\$5,264
Health care associated with illicit drug abuse or dependence	\$35	\$200	\$180	\$103	\$518
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$131)	(\$131)
<b>Totals</b>	<b>\$961</b>	<b>\$620</b>	<b>\$192</b>	<b>\$3,896</b>	<b>\$5,669</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

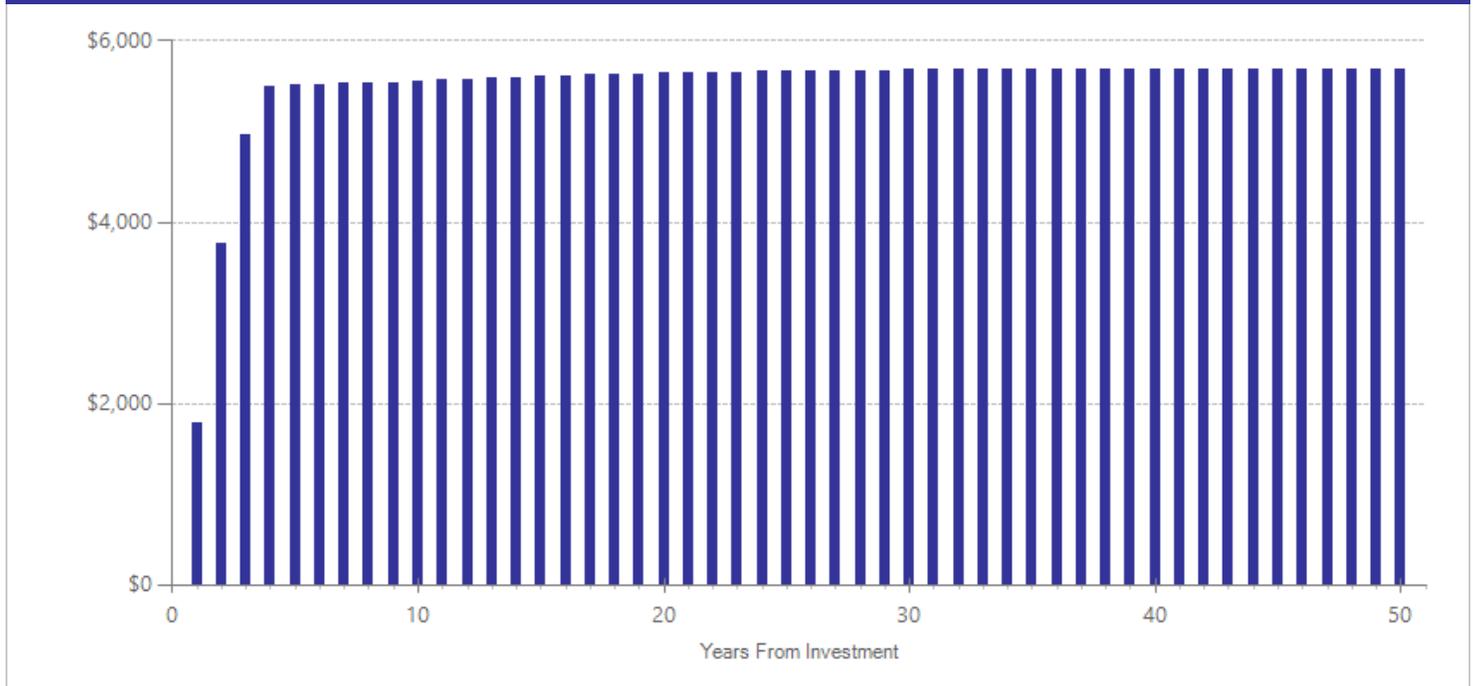
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$842	2013	Present value of net program costs (in 2015 dollars)	(\$263)
Comparison costs	\$584	2013	Cost range (+ or -)	10 %

The per-participant cost of treatment is the weighted average estimate for studies included in the analysis. We calculated this average estimate using Washington's Medicaid hourly reimbursement rates for individual and group outpatient therapy multiplied by the weighted average of total hours of outpatient individual and group therapy across the studies (averaging 18 total hours). Comparison group costs are computed in a similar manner based on treatment received in the studies (individual or group treatment as usual or no treatment).

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the "break-even" point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	7	190	-0.229	0.122	37	0.000	0.187	40	-0.229	0.060
Employment	2	44	0.363	0.291	37	0.000	0.000	38	0.363	0.673
Illicit drug abuse or dependence	6	312	-0.218	0.095	37	0.000	0.187	40	-0.218	0.021
Post-traumatic stress	1	34	-0.269	0.247	37	0.000	0.000	40	-0.269	0.276

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Motivational Enhancement Therapy (MET) (problem drinkers)

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Motivational Enhancement Therapy was designed as a stand-alone intervention, delivered in four individual sessions over six weeks. MET seeks to build motivation to change, strengthen the commitment to change, develop a plan for change, and review of progress and motivation.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,674	Benefit to cost ratio	\$16.63
Participants	\$3,488	Benefits minus costs	\$5,277
Others	\$108	Chance the program will produce	
Indirect	\$344	benefits greater than the costs	59 %
<b>Total benefits</b>	<b>\$5,615</b>		
<b>Net program cost</b>	<b>(\$338)</b>		
<b>Benefits minus cost</b>	<b>\$5,277</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1	\$3	\$1	\$4
Labor market earnings associated with alcohol abuse or dependence	\$3,465	\$1,573	\$0	\$461	\$5,499
Health care associated with alcohol abuse or dependence	\$18	\$99	\$95	\$51	\$264
Property loss associated with alcohol abuse or dependence	\$6	\$0	\$10	\$0	\$16
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$169)	(\$169)
<b>Totals</b>	<b>\$3,488</b>	<b>\$1,674</b>	<b>\$108</b>	<b>\$344</b>	<b>\$5,615</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

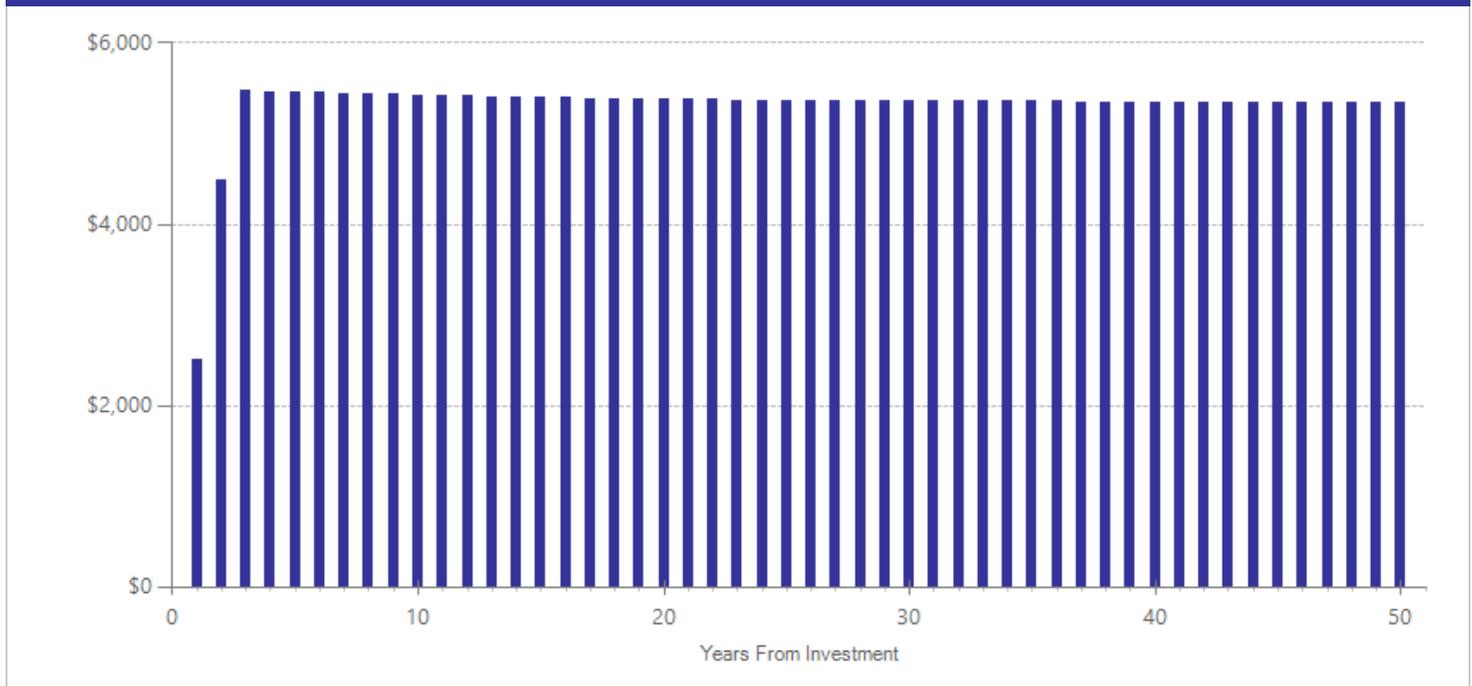
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$226	1993	Present value of net program costs (in 2015 dollars)	(\$338)
Comparison costs	\$0	1993	Cost range (+ or -)	10 %

This intervention typically takes place over a four- to six-week period. Per-participant costs based on Cisler, R., Holder, H.D., Longabaugh, R., Stout, R.L., & Zweben, A., 1998. Actual and estimated replication costs for alcohol treatment modalities: Case study from Project MATCH. *Journal of Studies on Alcohol*, 59(5), 503-12. In the single study used here, the comparison group received no treatment.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	1	42	-0.449	0.353	38	0.000	0.187	41	-0.449	0.203

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

Sellman, J.D., Sullivan, P.F., Dore, G.M., Adamson, S.J., & MacEwan, I. (2001). A randomized controlled trial of motivational enhancement therapy (MET) for mild to moderate alcohol dependence. *Journal of Studies on Alcohol*, 62(3), 389-396.

## 12-Step Facilitation Therapy

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: 12-Step Facilitation Therapy is a stand-alone program that encourages patients' active participation in 12-step programs such as Alcoholics Anonymous or Narcotics Anonymous. The intervention involves a brief, structured, and manual-driven approach, typically delivered in 12 to 15 weekly individual sessions.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$490	Benefit to cost ratio	n/a
Participants	\$752	Benefits minus costs	\$5,016
Others	\$155	Chance the program will produce	
Indirect	\$3,300	benefits greater than the costs	60 %
<b>Total benefits</b>	<b>\$4,697</b>		
<b>Net program cost</b>	<b>\$320</b>		
<b>Benefits minus cost</b>	<b>\$5,016</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1	\$2	\$0	\$3
Property loss associated with alcohol abuse or dependence	\$4	\$0	\$8	\$0	\$12
Labor market earnings associated with illicit drug abuse or dependence	\$720	\$327	\$0	\$3,062	\$4,109
Health care associated with illicit drug abuse or dependence	\$28	\$162	\$145	\$78	\$414
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$160	\$160
<b>Totals</b>	<b>\$752</b>	<b>\$490</b>	<b>\$155</b>	<b>\$3,300</b>	<b>\$4,697</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

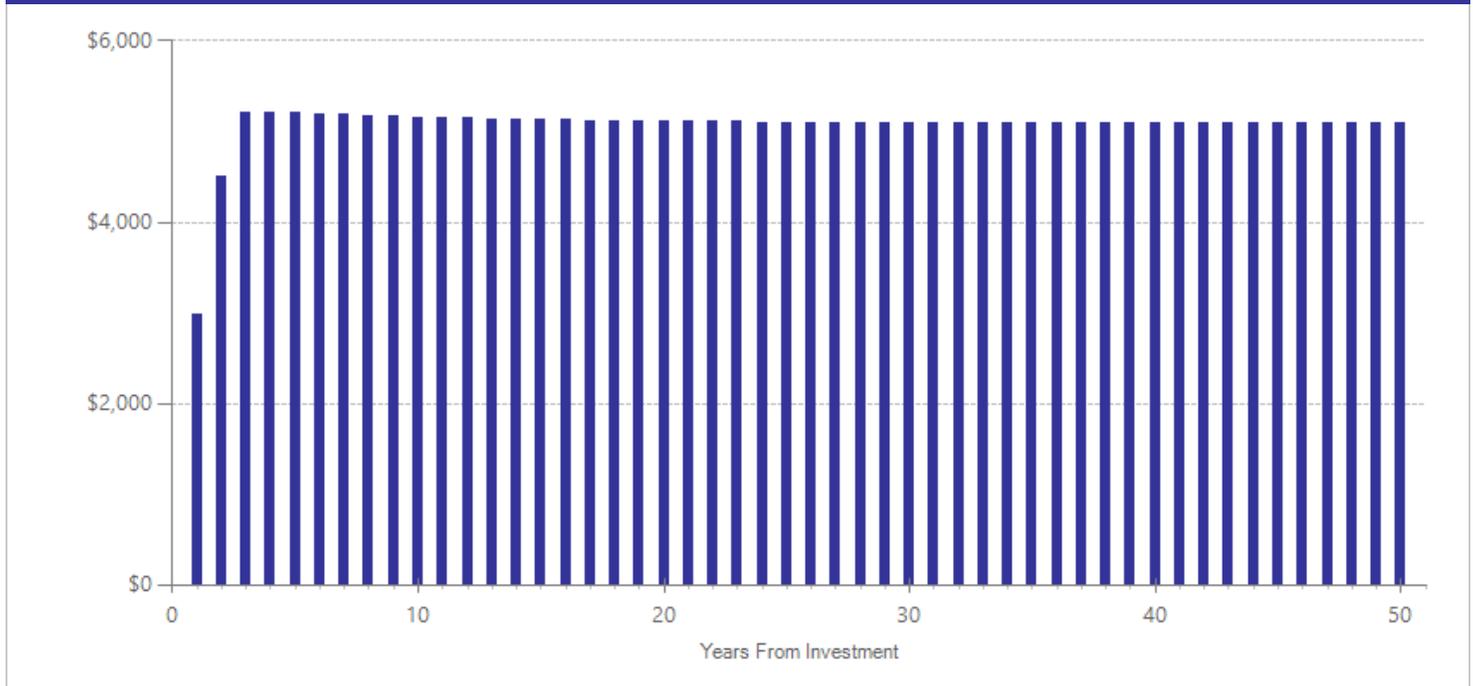
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$407	1993	Present value of net program costs (in 2015 dollars)	\$320
Comparison costs	\$924	2014	Cost range (+ or -)	10 %

12-Step Facilitation Therapy typically takes place over a three- to four-month period. Our per-participant costs are based on Cisler, R., Holder, H.D., Longabaugh, R., Stout, R.L., & Zweben, A., et al., (1998). Actual and estimated replication costs for alcohol treatment modalities: Case study from Project MATCH. *Journal of Studies on Alcohol*, 59(5), 503-12. Comparison groups in the largest studies received 12 individual hour-long sessions. We estimated the cost of this with Washington's Medicaid reimbursement rate for substance abuse treatment.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	6	627	-0.331	0.132	39	0.000	0.189	42	-0.317	0.016
Illicit drug abuse or dependence	5	545	-0.360	0.118	39	0.000	0.189	42	-0.374	0.002

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

- Carroll, K., Nich, C., Ball, S., Mccance, E., & Rounsavile, B. (1998). Treatment of cocaine and alcohol dependence with psychotherapy and disulfiram. *Addiction, 93*(5), 713-727.
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## Community Reinforcement Approach (CRA) with vouchers

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: This intervention combines the Community Reinforcement Approach with contingency management. The Community Reinforcement Approach to therapy is relatively intensive and consists of four main topics: (1) minimizing contact with known antecedents to substance use and recognizing consequences of use, (2) counseling to find alternative activities, (3) employment counseling (if needed), and (4) reciprocal relationship counseling if partner was not involved in substance use. Counseling generally occurs twice a week for the first three months and once a week for the next three months. The contingency management portion of the intervention rewards clients with vouchers if they have negative urinalysis exams. These vouchers can be exchanged for prizes that range in value.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,105	Benefit to cost ratio	\$4.57
Participants	\$1,445	Benefits minus costs	\$4,248
Others	\$443	Chance the program will produce	
Indirect	\$2,445	benefits greater than the costs	56 %
<b>Total benefits</b>	<b>\$5,439</b>		
<b>Net program cost</b>	<b>(\$1,191)</b>		
<b>Benefits minus cost</b>	<b>\$4,248</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$4	\$9	\$2	\$15
Labor market earnings associated with illicit drug abuse or dependence	\$1,379	\$626	\$0	\$2,800	\$4,805
Health care associated with illicit drug abuse or dependence	\$84	\$486	\$436	\$242	\$1,249
Labor market earnings associated with major depression	(\$17)	(\$8)	\$0	\$0	(\$25)
Health care associated with major depression	(\$1)	(\$3)	(\$3)	(\$1)	(\$8)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$597)	(\$597)
<b>Totals</b>	<b>\$1,445</b>	<b>\$1,105</b>	<b>\$443</b>	<b>\$2,445</b>	<b>\$5,439</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

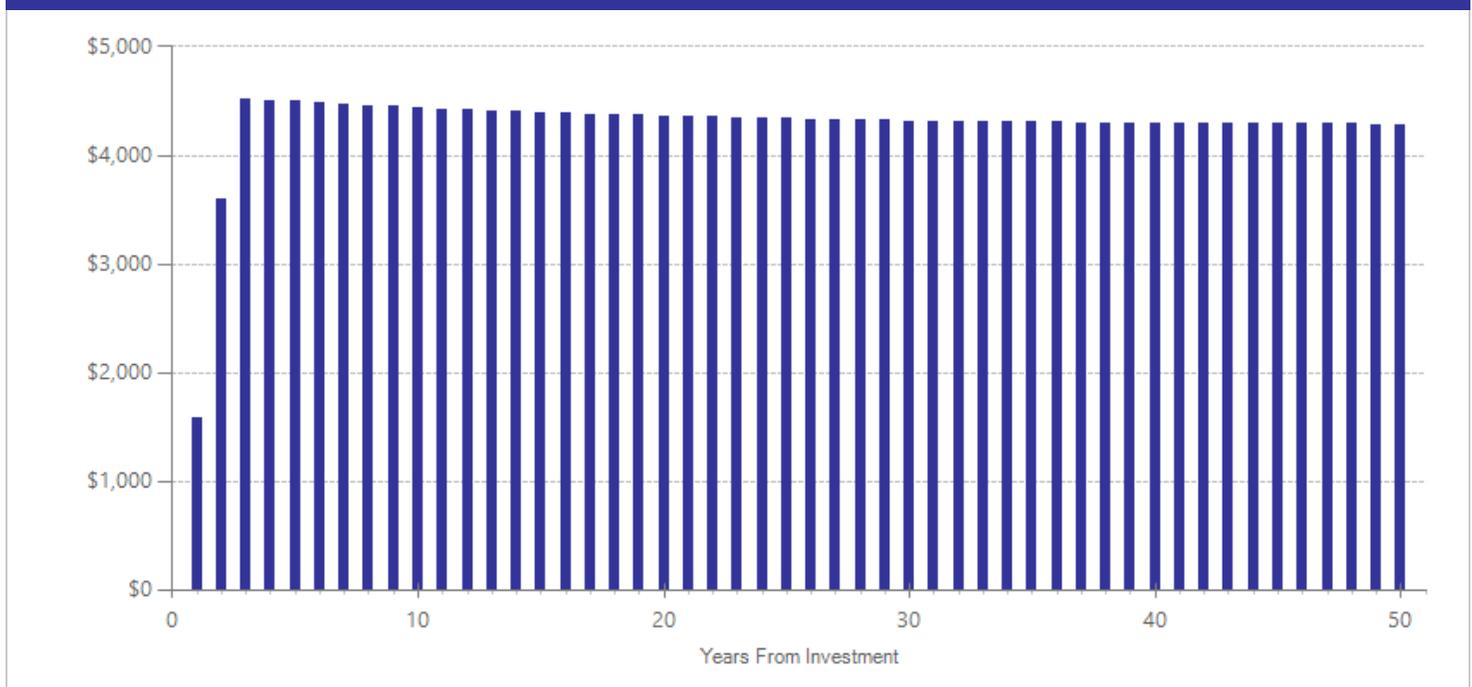
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,602	2013	Present value of net program costs (in 2015 dollars)	(\$1,191)
Comparison costs	\$1,432	2013	Cost range (+ or -)	20 %

The cost of treatment is the weighted average cost for studies included in the analysis. We calculate this average cost using Washington's Medicaid hourly reimbursement rates for individual or group outpatient therapy times the weighted average of total hours of outpatient individual or group therapy across the studies. Treatment group costs also include the cost of the vouchers. These costs are estimated from the studies included in the analysis. We used the average voucher received when available and the maximum possible voucher when an average was not reported. Comparison group costs are computed in a similar manner based on treatment received in the studies (individual or group treatment as usual or no treatment).

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Major depressive disorder	1	19	0.002	0.472	30	0.000	0.000	33	0.002	0.996
Illicit drug abuse or dependence	8	248	-0.580	0.129	30	0.000	0.187	33	-0.580	0.001
Anxiety disorder	1	19	-0.641	0.470	30	0.000	0.000	33	-0.641	0.173

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Relapse Prevention Therapy

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

**Program Description:** This intervention, developed by Marlatt & Gordon, uses a cognitive-behavioral approach to help patients anticipate problems and identify strategies to avoid using alcohol and drugs. Typically patients are receiving outpatient treatment; sometimes Relapse Prevention is part of aftercare following inpatient treatment and sometimes as a stand-alone intervention. In the studies used in this meta-analysis, the intervention was delivered in various modalities. In some of the studies all sessions were individual treatment, others studies examined a mix of group and individual treatment. Duration varied from eight sessions in four weeks to weekly sessions for several months.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,156	Benefit to cost ratio	n/a
Participants	\$2,366	Benefits minus costs	\$3,982
Others	\$90	Chance the program will produce	
Indirect	\$370	benefits greater than the costs	58 %
<u>Total benefits</u>	<u>\$3,982</u>		
<u>Net program cost</u>	<u>\$0</u>		
Benefits minus cost	\$3,982		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$0	\$1	\$0	\$2
Labor market earnings associated with alcohol abuse or dependence	\$2,346	\$1,065	\$0	\$326	\$3,737
Property loss associated with alcohol abuse or dependence	\$4	\$0	\$7	\$0	\$10
Health care associated with illicit drug abuse or dependence	\$16	\$90	\$82	\$44	\$232
<b>Totals</b>	<b>\$2,366</b>	<b>\$1,156</b>	<b>\$90</b>	<b>\$370</b>	<b>\$3,982</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

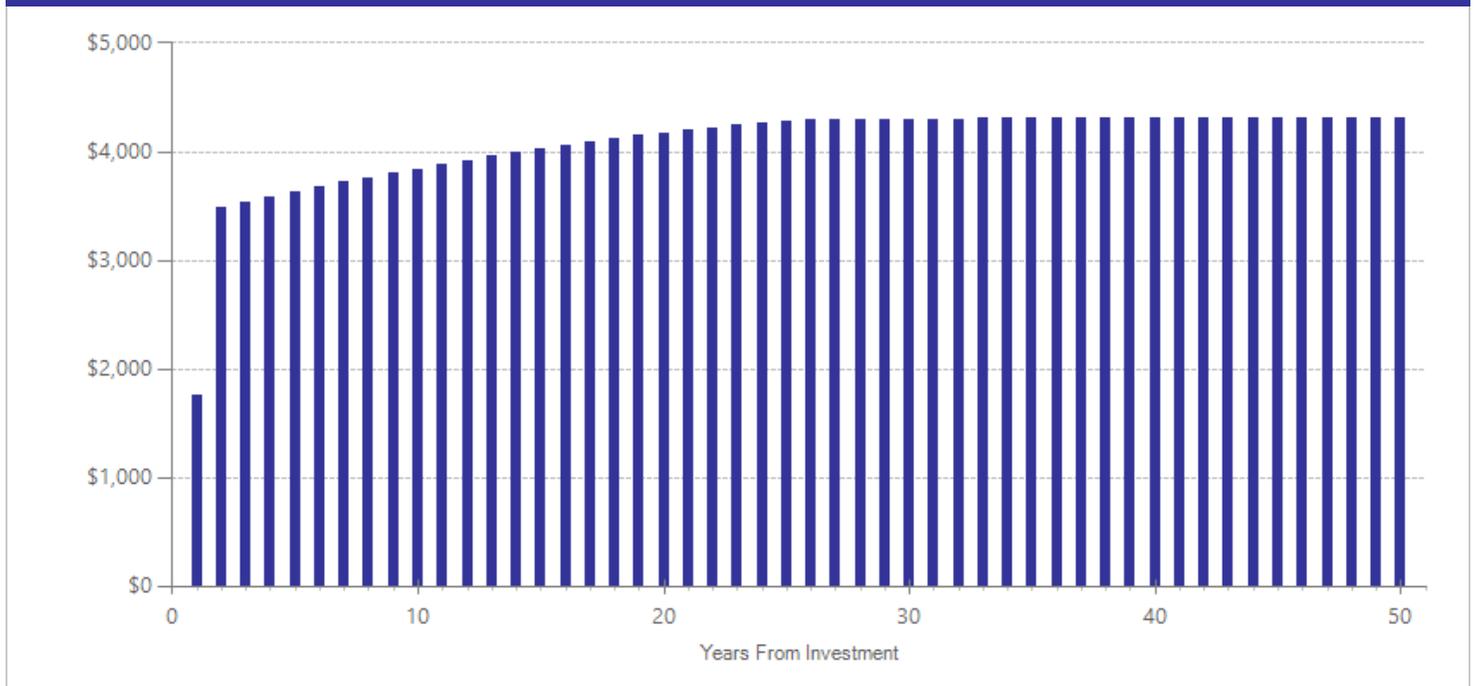
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,050	2014	Present value of net program costs (in 2015 dollars)	\$0
Comparison costs	\$1,050	2014	Cost range (+ or -)	15 %

This treatment varies in length, from four weeks to several months. We calculated a weighted average per-participant cost based on hours of individual and group counseling reported in the studies, assuming reimbursement at Washington's 2014 Medicaid rates.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	4	156	-0.234	0.153	41	-0.003	0.178	42	-0.234	0.126
Illicit drug abuse or dependence	3	118	-0.217	0.288	41	-0.003	0.178	42	-0.217	0.577
Opioid drug abuse or dependence	1	13	-1.340	0.575	41	-0.003	0.178	42	-1.340	0.020
Cannabis abuse or dependence	1	80	-0.130	0.248	41	-0.003	0.178	42	-0.103	0.677

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

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## Holistic Harm Reduction Program (HHRP+)

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: The Holistic Harm Reduction Program (HHRP+), also called Holistic Health Recovery Program, is a manualized treatment for those with drug abuse or dependence who are HIV positive. The primary goals of HHRP+ are harm reduction, health promotion, and improving quality of life. These goals are achieved by providing the knowledge, motivation, and skills necessary to make choices that reduce harm to oneself and others. HHRP+ also addresses medical, emotional, social, and spiritual problems that can impede harm reduction. The treatment is generally provided in 12 group sessions over three to six months. In the reviewed studies, HHRP+ was provided in addition to methadone treatment and standard counseling.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$448	Benefit to cost ratio	\$4.68
Participants	\$681	Benefits minus costs	\$2,951
Others	\$135	Chance the program will produce	
Indirect	\$2,491	benefits greater than the costs	56 %
<b>Total benefits</b>	<b>\$3,754</b>		
<b>Net program cost</b>	<b>(\$803)</b>		
<b>Benefits minus cost</b>	<b>\$2,951</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$0	\$1	\$0	\$1
Labor market earnings associated with illicit drug abuse or dependence	\$655	\$297	\$0	\$2,816	\$3,768
Health care associated with illicit drug abuse or dependence	\$26	\$150	\$135	\$75	\$386
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$401)	(\$401)
<b>Totals</b>	<b>\$681</b>	<b>\$448</b>	<b>\$135</b>	<b>\$2,491</b>	<b>\$3,754</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

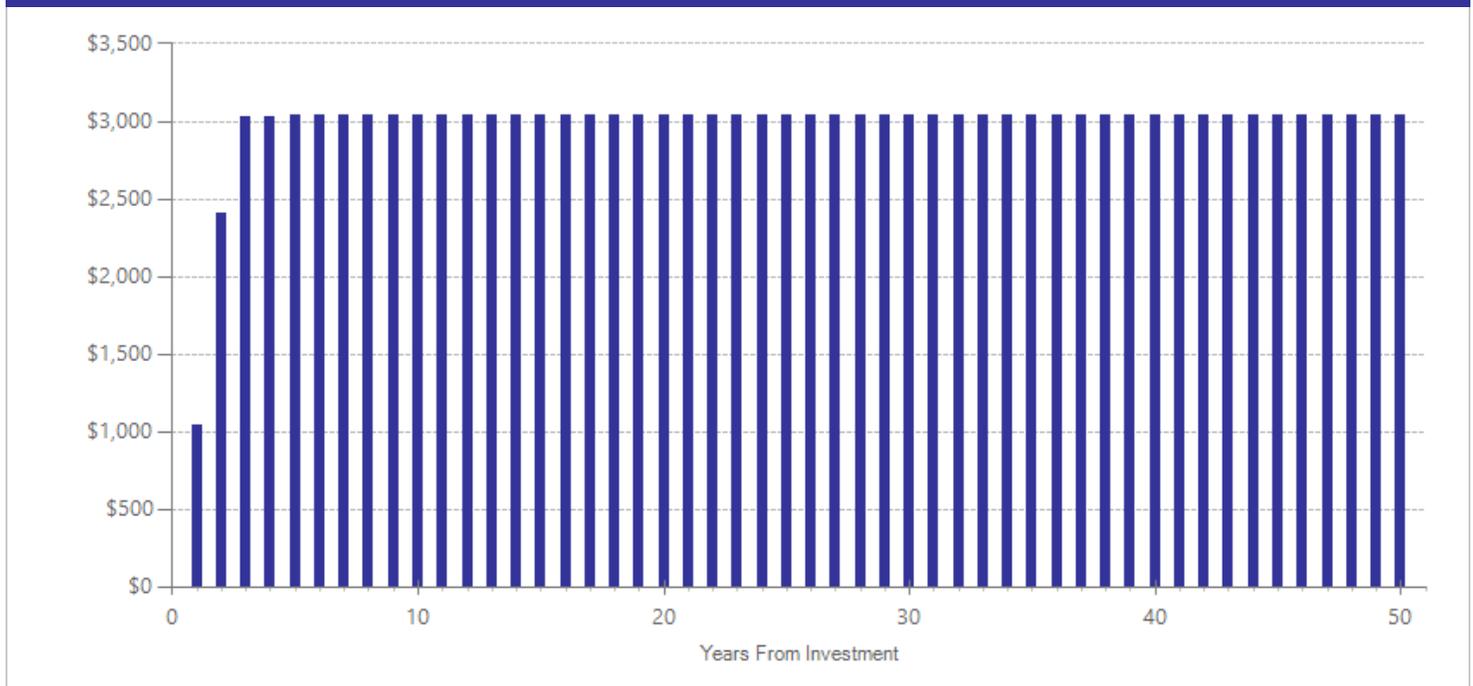
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$789	2013	Present value of net program costs (in 2015 dollars)	(\$803)
Comparison costs	\$0	2013	Cost range (+ or -)	25 %

This program is typically administered over a three- to six-month period. The per-participant cost of treatment is the weighted average estimate of the additional group therapy sessions provided in the studies included in the analysis. We calculated this average estimate using Washington's Medicaid hourly reimbursement rate for outpatient group therapy multiplied by the weighted average of total hours of outpatient group therapy across the studies (averaging 40 total hours). The costs of the intervention are in addition to the costs of methadone treatment and standard counseling provided to both the treated and comparison groups in the reviewed studies.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Illicit drug abuse or dependence	2	153	-0.311	0.144	39	0.000	0.187	42	-0.311	0.031
STD risky behavior	2	153	-0.260	0.134	39	0.000	0.000	40	-0.260	0.053

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Contingency management (lower-cost) for substance abuse

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Contingency management is a supplement to counseling treatment that rewards participants for attending treatment and/or abstaining from substance use. The intervention reviewed here focused on those with drug and/or alcohol abuse or dependence (excluding those with a primary diagnosis of marijuana dependence) where contingencies were provided for remaining abstinent. Two methods of contingency management were reviewed: (1) A voucher system where abstinence earned vouchers that were exchangeable for goods provided by the clinic or counseling center, and (2) a prize or raffle system where clients who remained abstinent could earn the opportunity to draw from a prize bowl. Higher-cost contingency management was determined by maximum voucher or maximum expected value of prizes possible. Based on a statistical analysis of contingency management studies, we determined that programs with a maximum value of vouchers or prizes less than or equal to \$500 (in 2012 dollars) represent lower-cost contingency management. Treatment in the included studies lasted between 1 and 12 months with a weighted average of 3.5 months of contingency management and reward opportunities occurring two to three times per week, on average.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$272	Benefit to cost ratio	\$9.53
Participants	\$404	Benefits minus costs	\$2,112
Others	\$87	Chance the program will produce	
Indirect	\$1,596	benefits greater than the costs	59 %
<b>Total benefits</b>	<b>\$2,359</b>		
<b>Net program cost</b>	<b>(\$248)</b>		
<b>Benefits minus cost</b>	<b>\$2,112</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

#### Benefits from changes to:<sup>1</sup>

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$0	\$0	\$0	\$1
Property loss associated with alcohol abuse or dependence	\$0	\$0	\$1	\$0	\$1
Labor market earnings associated with illicit drug abuse or dependence	\$387	\$176	\$0	\$1,673	\$2,237
Health care associated with illicit drug abuse or dependence	\$17	\$96	\$86	\$47	\$245
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$124)	(\$124)
<b>Totals</b>	<b>\$404</b>	<b>\$272</b>	<b>\$87</b>	<b>\$1,596</b>	<b>\$2,359</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

## Detailed Annual Cost Estimates Per Participant

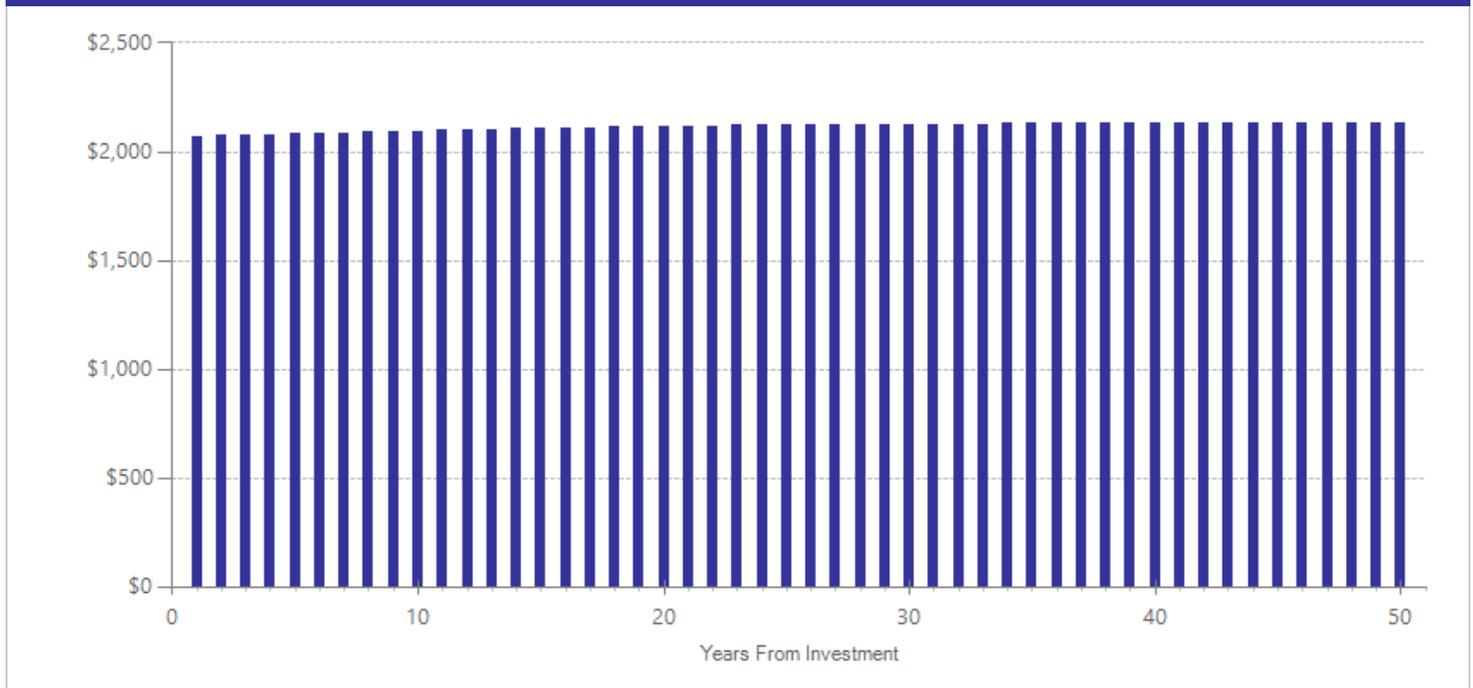
	Annual cost	Year dollars	Summary	
Program costs	\$240	2012	Present value of net program costs (in 2015 dollars)	(\$248)
Comparison costs	\$0	2012	Cost range (+ or -)	40 %

Contingency management is typically provided for a year or less. We calculated the weighted average of the per-participant treatment and comparison group variable costs across studies estimating the cost-effectiveness of an incentive program with an average cost of less than \$500 in 2012 (Sindelar, Olmstead, & Peirce, 2007; Sindelar, Elbel, & Petry, 2006; Hartz et al., 1999). Costs of administering the incentive program include staff costs to inventory, shop for, and restock prizes; material cost of items; counseling session costs; and toxicology screens. All staff costs include salary, benefits, and overhead. All costs are calculated from the clinic perspective. Note that because treatment group participants have higher retention rates than the control group, costs also reflect the increased number of counseling sessions attended and urinalysis tests performed for the treated group.

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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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	7	800	-0.196	0.116	37	0.000	0.075	38	-0.290	0.092
Illicit drug abuse or dependence	29	1595	-0.278	0.049	37	0.000	0.075	38	-0.278	0.001
Cannabis use	3	319	-0.049	0.118	37	0.000	0.075	38	-0.049	0.676

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

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# Individual drug counseling approach for the treatment of cocaine addiction

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Individual drug counseling for the treatment of cocaine addiction is a manualized treatment that can be provided as a component of comprehensive outpatient therapy or as a standalone treatment. The manualized version was developed for use in the Collaborative Cocaine Treatment Study, where the individual counseling was provided in addition to group counseling. The individual drug counseling approach follows a 12-step philosophy and addresses the physical, emotional, spiritual, and interpersonal needs of the client. The model is generally applied in 36 individual sessions over six months with booster sessions as needed.

## Benefit-Cost Summary Statistics Per Participant

### Benefits to:

Taxpayers	\$252	Benefit to cost ratio	\$1.79
Participants	\$386	Benefits minus costs	\$1,865
Others	\$72	Chance the program will produce	
Indirect	\$3,506	benefits greater than the costs	54 %
<b>Total benefits</b>	<b>\$4,217</b>		
<b>Net program cost</b>	<b>(\$2,352)</b>		
<b>Benefits minus cost</b>	<b>\$1,865</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

### Benefits from changes to:<sup>1</sup>

### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$0	\$0	\$0	\$0
Labor market earnings associated with illicit drug abuse or dependence	\$597	\$271	\$0	\$4,641	\$5,508
Health care associated with illicit drug abuse or dependence	\$15	\$87	\$78	\$43	\$224
Labor market earnings associated with anxiety disorder	(\$224)	(\$102)	\$0	\$0	(\$325)
Health care associated with anxiety disorder	(\$2)	(\$5)	(\$6)	(\$2)	(\$15)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,175)	(\$1,175)
<b>Totals</b>	<b>\$386</b>	<b>\$252</b>	<b>\$72</b>	<b>\$3,506</b>	<b>\$4,217</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

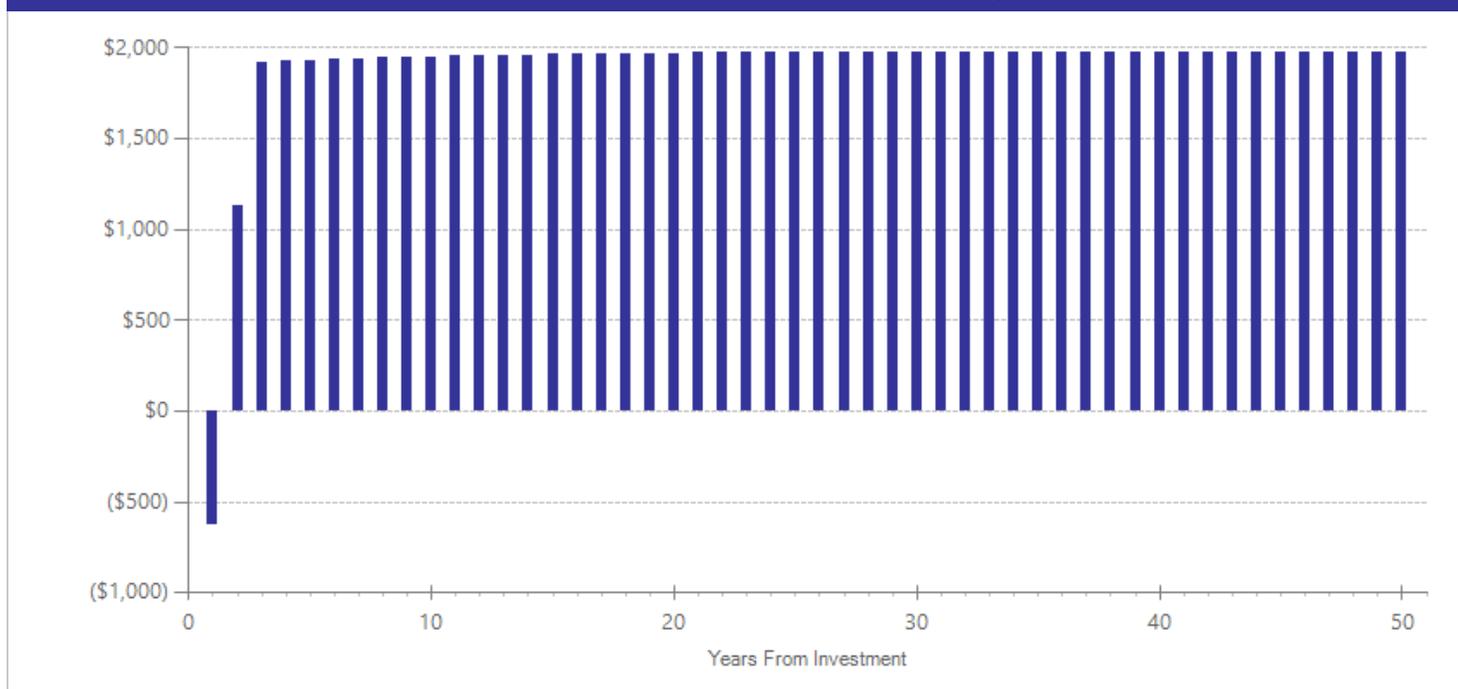
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,311	2013	Present value of net program costs (in 2015 dollars)	(\$2,352)
Comparison costs	\$0	2013	Cost range (+ or -)	10 %

This program is typically delivered over a six-month period. The per-participant cost of treatment is based on the single study in the analysis and includes 36 individual 50-minute sessions estimated using Washington's Medicaid hourly reimbursement rate for individual treatment. The costs of this intervention are in addition to group therapy provided to both the treated and comparison groups.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Major depressive disorder	1	92	-0.093	0.169	45	0.000	0.000	48	-0.093	0.579
Illicit drug abuse or dependence	1	121	-0.307	0.167	45	0.000	0.187	48	-0.307	0.066
Anxiety disorder	1	92	0.044	0.168	45	0.000	0.000	48	0.044	0.793
Alcohol use	1	92	0.208	0.169	45	0.000	0.000	46	0.208	0.218
Psychiatric symptoms	1	92	-0.274	0.169	45	0.000	0.000	46	-0.274	0.105

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

Crits-Christoph, P., Siqueland, L., McCalmont, E., Frank, A., Blaine, J., Weiss, R.D., . . . , Thase, M.E. (2001). Impact of psychosocial treatments on associated problems of cocaine-dependent patients. *Journal of Consulting and Clinical Psychology, 69*(5), 825-830.

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# Matrix Model Intensive Outpatient Treatment Program (IOP) for stimulant abuse

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: The Matrix Intensive Outpatient Model (Matrix Model) is a manualized, standalone outpatient program for treating individuals with stimulant use disorders. The program includes individual, group, and family sessions and covers topics including skills training, relapse prevention, drug education, social support, and self-help groups. Treatment generally lasts four to six months and includes multiple individual and group sessions per week.

## Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$376	Benefit to cost ratio	\$1.92
Participants	\$472	Benefits minus costs	\$1,160
Others	\$156	Chance the program will produce	
Indirect	\$1,420	benefits greater than the costs	52 %
<u>Total benefits</u>	<u>\$2,425</u>		
<u>Net program cost</u>	<u>(\$1,265)</u>		
Benefits minus cost	\$1,160		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1	\$2	\$0	\$2
Labor market earnings associated with alcohol abuse or dependence	(\$199)	(\$90)	\$0	(\$2)	(\$291)
Health care associated with alcohol abuse or dependence	(\$1)	(\$7)	(\$7)	(\$4)	(\$19)
Property loss associated with alcohol abuse or dependence	\$0	\$0	(\$1)	\$0	(\$1)
Labor market earnings associated with illicit drug abuse or dependence	\$641	\$291	\$0	\$1,964	\$2,896
Health care associated with illicit drug abuse or dependence	\$31	\$181	\$162	\$91	\$466
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$629)	(\$629)
<b>Totals</b>	<b>\$472</b>	<b>\$376</b>	<b>\$156</b>	<b>\$1,420</b>	<b>\$2,425</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

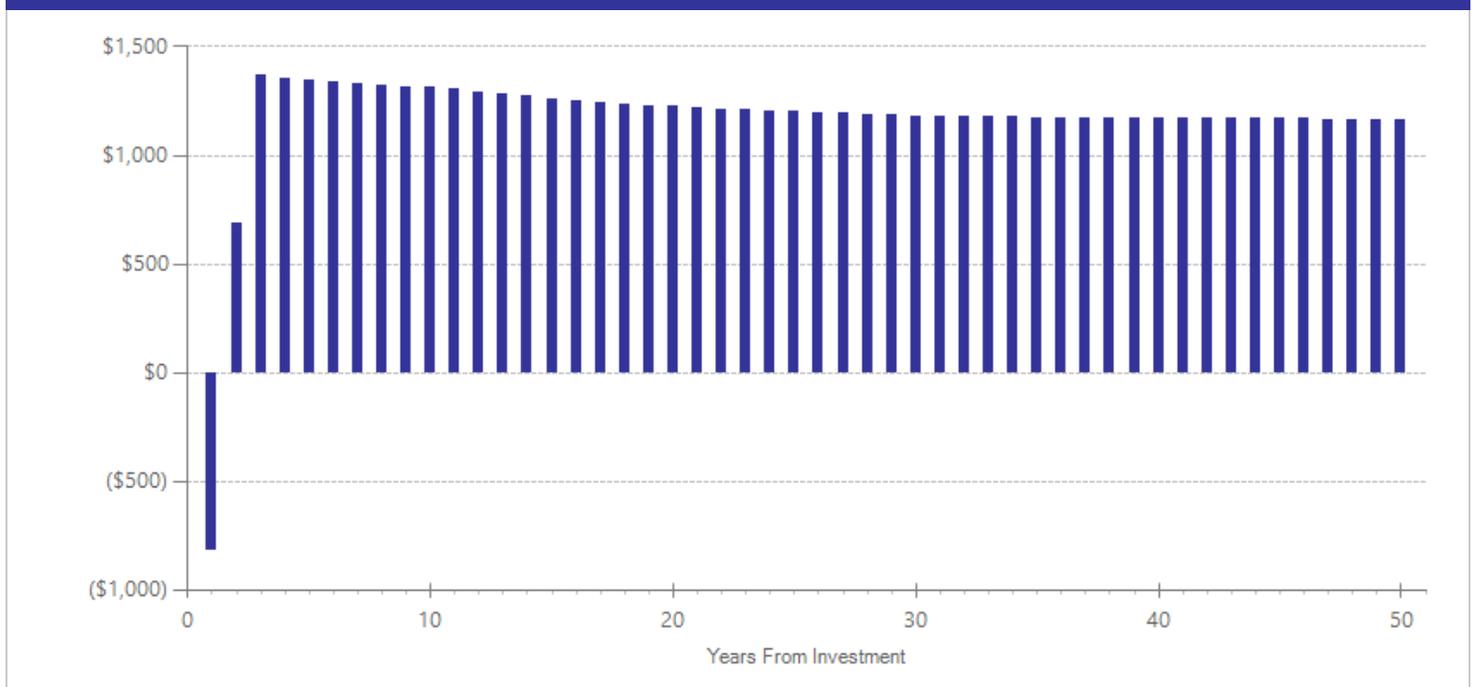
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,602	2013	Present value of net program costs (in 2015 dollars)	(\$1,265)
Comparison costs	\$1,358	2013	Cost range (+ or -)	20 %

Matrix Model treatment is typically provided for four to six months. The per-participant cost estimate of treatment is the weighted average of the individual and group therapy sessions provided in the studies included in the analysis. We calculated this average cost using Washington's Medicaid hourly reimbursement rate for outpatient individual and group therapy multiplied by the weighted average of the total hours of these therapies across the studies (averaging 80 total hours). Comparison group costs are computed in a similar manner based on treatment received in the studies (standard intensive outpatient treatment, standard group therapy, or no treatment).

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	1	137	0.060	0.241	34	0.000	0.000	37	0.060	0.803
Employment	1	59	-0.146	0.382	34	0.000	0.000	37	-0.146	0.703
Illicit drug abuse or dependence	4	342	-0.235	0.156	34	0.000	0.187	37	-0.235	0.132
Homelessness	1	59	-0.071	0.457	34	0.000	0.000	37	-0.071	0.877

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

- Rawson, R.A., Obert, J.L., McCann, M.J., & Mann, A.J. (1985). Cocaine Treatment Outcome: Cocaine Use Following Inpatient, Outpatient, and No Treatment. *NIDA Research Monograph*, 67, 271-277.
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## Peer support for substance abuse

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: This analysis examined interventions provided by a peer specialist to individuals with substance abuse disorders. One study was included in this analysis. This study examined the impact of a brief motivational intervention provided by a peer specialist for individuals using heroin and cocaine. The study participants were screened and identified at walk-in general health clinics.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$559	Benefit to cost ratio	\$1.25
Participants	\$833	Benefits minus costs	\$709
Others	\$175	Chance the program will produce	
Indirect	\$1,926	benefits greater than the costs	51 %
<b>Total benefits</b>	<b>\$3,493</b>		
<b>Net program cost</b>	<b>(\$2,783)</b>		
<b>Benefits minus cost</b>	<b>\$709</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$0	\$1	\$0	\$1
Labor market earnings associated with illicit drug abuse or dependence	\$799	\$363	\$0	\$3,219	\$4,381
Health care associated with illicit drug abuse or dependence	\$34	\$195	\$175	\$98	\$501
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,391)	(\$1,391)
<b>Totals</b>	<b>\$833</b>	<b>\$559</b>	<b>\$175</b>	<b>\$1,926</b>	<b>\$3,493</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

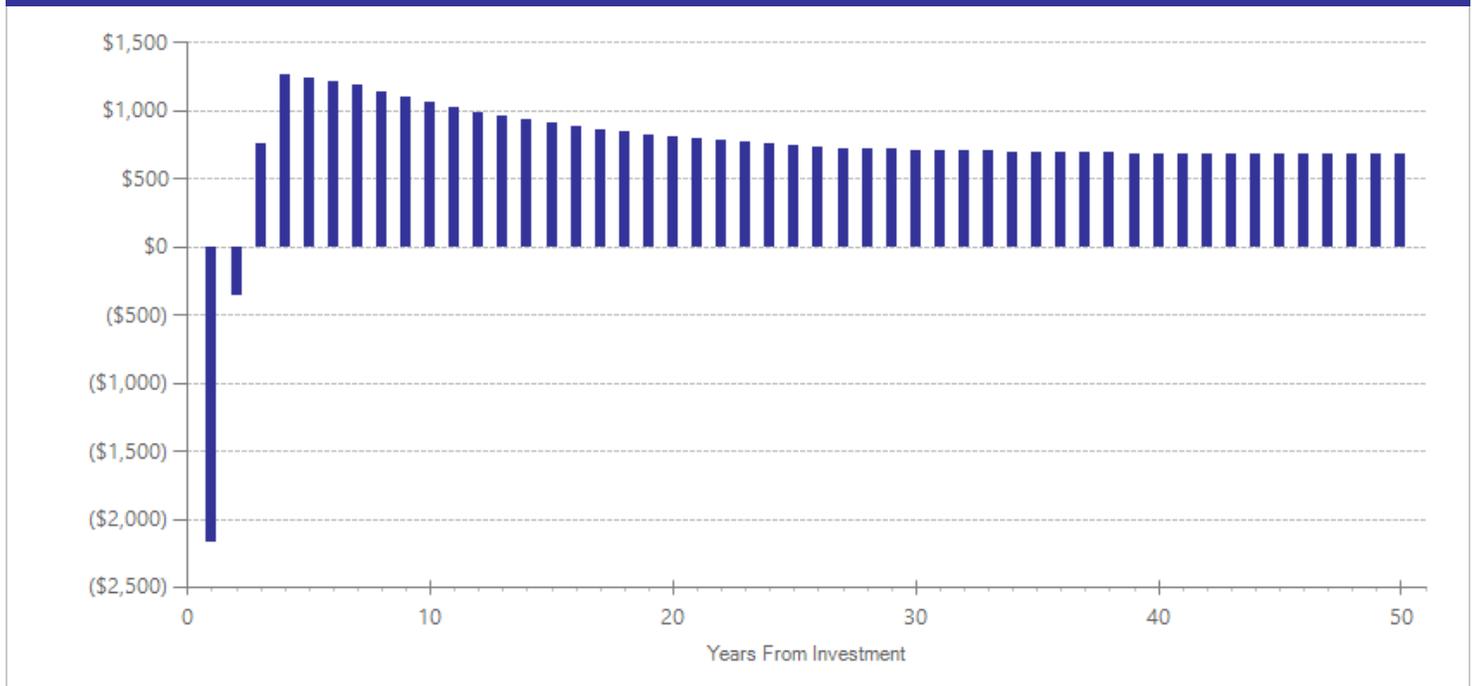
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,650	2011	Present value of net program costs (in 2015 dollars)	(\$2,783)
Comparison costs	\$0	2011	Cost range (+ or -)	20 %

The per-participant cost of this brief intervention was estimated using the peer specialist reimbursement rate reported in Mercer (2013) Behavioral Health Data Book for the State of Washington For Rates Effective January 1, 2014 and included both the cost to provide the intervention to participants in the treatment arm and the cost to screen patients at the walk-in clinics.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Illicit drug abuse or dependence	1	403	-0.245	0.122	39	0.000	0.187	42	-0.245	0.041

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

Bernstein, J., Bernstein, E., Tassiopoulos, K., Heeren, T., Levenson, S., & Hingson, R. (2005). Brief motivational intervention at a clinic visit reduces cocaine and heroin use. *Drug and Alcohol Dependence*, 77(1), 49-59.

## Contingency management (lower-cost) for marijuana use

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Contingency management is a supplement to counseling treatment that rewards participants for attending treatment and/or abstaining from substance use. The intervention reviewed here focused on those with marijuana abuse or dependence where contingencies were provided for remaining abstinent. Two methods of contingency management were reviewed: (1) A voucher system where abstinence earned vouchers that were exchangeable for goods provided by the clinic or counseling center, and (2) a prize or raffle system where clients who remained abstinent could earn the opportunity to draw from a prize bowl. Higher-cost contingency management was determined by maximum voucher or maximum expected value of prizes possible. Based on a statistical analysis of contingency management studies, we determined that programs with a maximum value of vouchers or prizes less than or equal to \$500 (in 2012 dollars) represent lower-cost contingency management. Treatment lasted two to three months and reward opportunities occurred two to three times per week.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$136	Benefit to cost ratio	\$1.25
Participants	\$286	Benefits minus costs	\$62
Others	\$8	Chance the program will produce	
Indirect	(\$120)	benefits greater than the costs	51 %
<b>Total benefits</b>	<b>\$310</b>		
<b>Net program cost</b>	<b>(\$248)</b>		
<b>Benefits minus cost</b>	<b>\$62</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Labor market earnings associated with cannabis abuse or dependence	\$284	\$129	\$0	\$0	\$413
Health care associated with cannabis abuse or dependence	\$2	\$7	\$8	\$3	\$20
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$124)	(\$124)
<b>Totals</b>	<b>\$286</b>	<b>\$136</b>	<b>\$8</b>	<b>(\$120)</b>	<b>\$310</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

## Detailed Annual Cost Estimates Per Participant

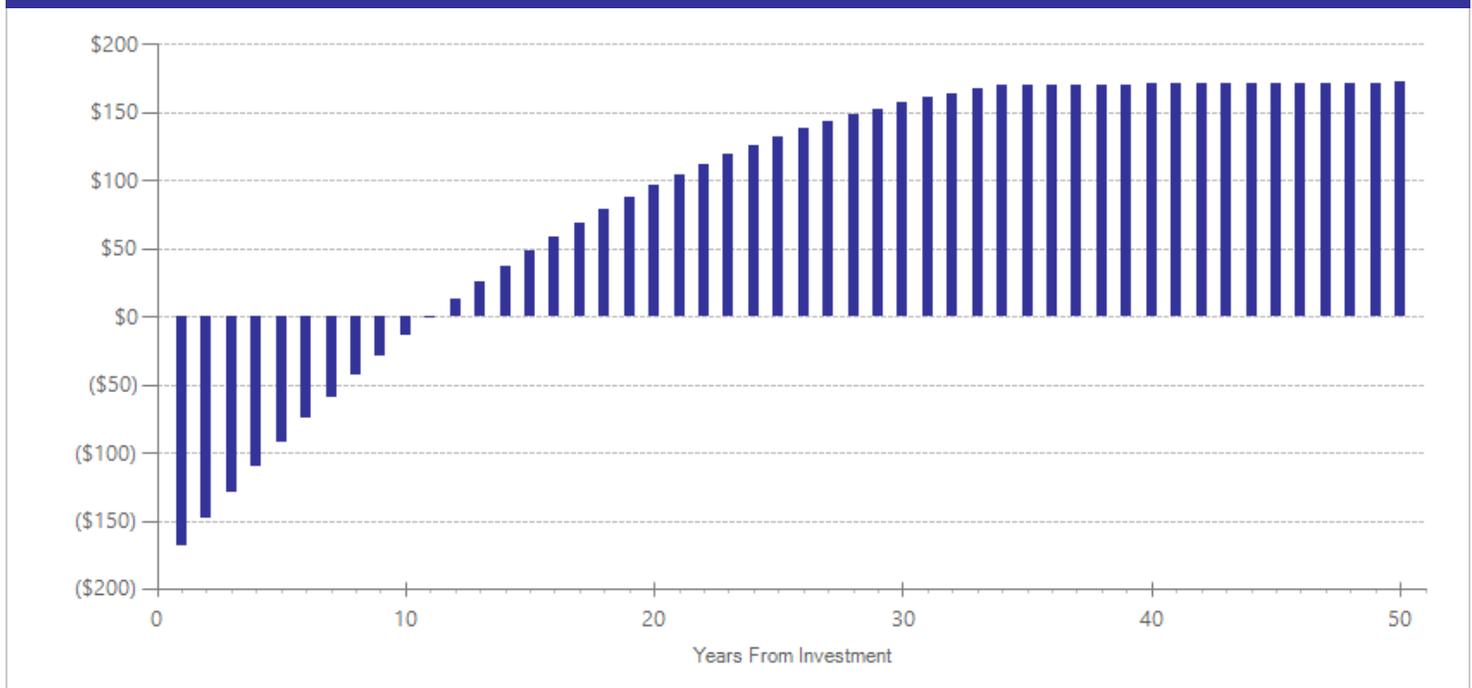
	Annual cost	Year dollars	Summary	
Program costs	\$240	2012	Present value of net program costs (in 2015 dollars)	(\$248)
Comparison costs	\$0	2012	Cost range (+ or -)	40 %

Contingency management is typically provided for less than a year. We calculated the weighted average of the variable per-participant treatment and comparison group costs across studies estimating the cost-effectiveness of an incentive program with an average cost of less than \$500 in 2012 (Sindelar, Olmstead, & Peirce, 2007; Sindelar, Elbel, & Petry, 2006; Hartz et al., 1999). Costs of administering the incentive program include staff costs to inventory, shop for, and restock prizes; material cost of items; counseling session costs; and toxicology screens. All staff costs include salary, benefits, and overhead. All costs are calculated from the clinic perspective. Note that because treatment group participants have higher retention rates than the control group, costs also reflect the increased number of counseling sessions attended and urinalysis tests performed for the treated group.

Hartz, D.T., Meek, P., Piotrowski, N.A., Tusel, D. J., Henke, C.J., Delucchi, K., Sees, K., Hall, S.M. (1999). A cost-effectiveness and cost-benefit analysis of contingency contracting-enhanced methadone detoxification treatment. *The American Journal of Drug and Alcohol Abuse*, 25(2), 207-218. Sindelar, J., Elbel, B., & Petry, N.M. (2007). What do we get for our money? Cost-effectiveness of adding contingency management. *Addiction*, 102(2), 309-316. Sindelar, J.L., Olmstead, T.A., & Peirce, J.M. (2007). Cost-effectiveness of prize-based contingency management in methadone maintenance treatment programs. *Addiction*, 102(9), 1463-1471.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Cannabis abuse or dependence	3	149	-0.086	0.191	32	-0.007	0.259	33	-0.086	0.673

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

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## Supportive-expressive psychotherapy for substance abuse

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Supportive-expressive psychotherapy (SEP) is a manualized, time-limited psychotherapy originally developed for treating psychiatric disorders that has been adapted for use with individuals with heroin and cocaine addictions. In the studies reviewed for this analysis, clients also had co-morbid psychiatric disorders. SEP generally lasts about six months and is provided in an individual format with two components: (1) supportive techniques to allow patients to feel comfortable discussing experiences, and (2) an expressive component to help patients to understand problematic relationship patterns.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$631	Benefit to cost ratio	(\$0.79)
Participants	\$1,711	Benefits minus costs	(\$3,602)
Others	(\$145)	Chance the program will produce	
Indirect	(\$3,783)	benefits greater than the costs	45 %
<b>Total benefits</b>	<b>(\$1,587)</b>		
<b>Net program cost</b>	<b>(\$2,015)</b>		
<b>Benefits minus cost</b>	<b>(\$3,602)</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

#### Benefits from changes to:<sup>1</sup>

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$5)	(\$13)	(\$3)	(\$21)
Labor market earnings associated with employment	\$2,367	\$1,075	\$0	\$0	\$3,442
Property loss associated with alcohol abuse or dependence	\$0	\$0	\$1	\$0	\$1
Labor market earnings associated with illicit drug abuse or dependence	(\$632)	(\$287)	\$0	(\$2,691)	(\$3,610)
Health care associated with illicit drug abuse or dependence	(\$27)	(\$160)	(\$142)	(\$88)	(\$417)
Health care associated with major depression	\$3	\$8	\$10	\$4	\$24
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,005)	(\$1,005)
<b>Totals</b>	<b>\$1,711</b>	<b>\$631</b>	<b>(\$145)</b>	<b>(\$3,783)</b>	<b>(\$1,587)</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

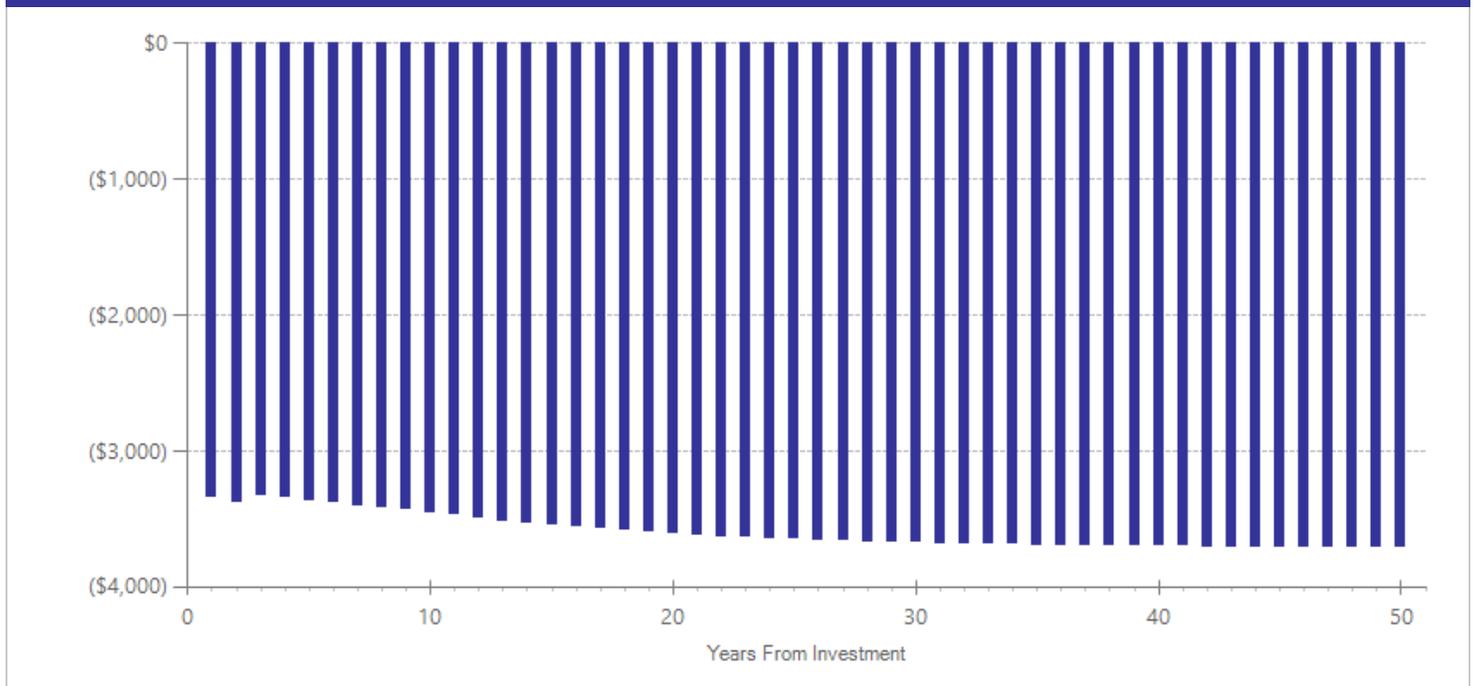
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,979	2013	Present value of net program costs (in 2015 dollars)	(\$2,015)
Comparison costs	\$0	2013	Cost range (+ or -)	20 %

Supportive-expressive psychotherapy lasts about six months. The per-participant cost of treatment is the weighted average estimate of the individual sessions provided in the studies included in the analysis. We calculated this average estimate using Washington's Medicaid hourly reimbursement rate for outpatient individual therapy multiplied by the weighted average of the total hours of therapy across the studies (averaging 25 total hours). The costs of this intervention are in addition to the individual drug counseling and methadone treatment provided to both the treated and comparison groups in the reviewed studies.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	2	89	0.157	0.309	36	0.000	0.000	39	0.157	0.611
Alcohol abuse or dependence	3	176	-0.057	0.126	36	0.000	0.000	39	-0.057	0.652
Employment	2	89	0.364	0.245	36	0.000	0.000	39	0.364	0.138
Major depressive disorder	3	180	-0.056	0.242	36	0.000	0.000	39	-0.056	0.953
Illicit drug abuse or dependence	3	213	0.161	0.150	36	0.000	0.187	39	0.161	0.211
Anxiety disorder	2	123	0.120	0.143	36	0.000	0.000	39	0.120	0.401
Psychiatric symptoms	3	180	-0.146	0.215	36	0.000	0.000	37	-0.146	0.497

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Behavioral self-control training (BSCT)

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Behavioral self-control training is a standalone treatment approach often used to pursue a goal of moderate or non-problematic drinking rather than complete abstinence, although abstinence goals are also permissible. This approach teaches self-monitoring, managing drinking speed and duration, identifying high-risk situations, goal setting, rewards for goal attainment, and coping skills. When used with a goal of moderate or controlled drinking, behavioral self-control training is contra-indicated for pregnant women, women trying to become pregnant, clients with medical or psychological problems worsened by drinking, clients who are mandated to remain abstinent, or in other situations where there is strong pressure for abstinence. Treatment in the included studies occurred over one to three months.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	(\$3,426)	Benefit to cost ratio	(\$81.03)
Participants	(\$6,941)	Benefits minus costs	(\$12,798)
Others	(\$313)	Chance the program will produce	
Indirect	(\$1,962)	benefits greater than the costs	24 %
<b>Total benefits</b>	<b>(\$12,642)</b>		
<b>Net program cost</b>	<b>(\$156)</b>		
<b>Benefits minus cost</b>	<b>(\$12,798)</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$1)	(\$3)	(\$1)	(\$6)
Labor market earnings associated with alcohol abuse or dependence	(\$6,875)	(\$3,122)	\$0	(\$1,731)	(\$11,729)
Health care associated with alcohol abuse or dependence	(\$54)	(\$302)	(\$288)	(\$152)	(\$796)
Property loss associated with alcohol abuse or dependence	(\$12)	\$0	(\$22)	\$0	(\$34)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$78)	(\$78)
<b>Totals</b>	<b>(\$6,941)</b>	<b>(\$3,426)</b>	<b>(\$313)</b>	<b>(\$1,962)</b>	<b>(\$12,642)</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

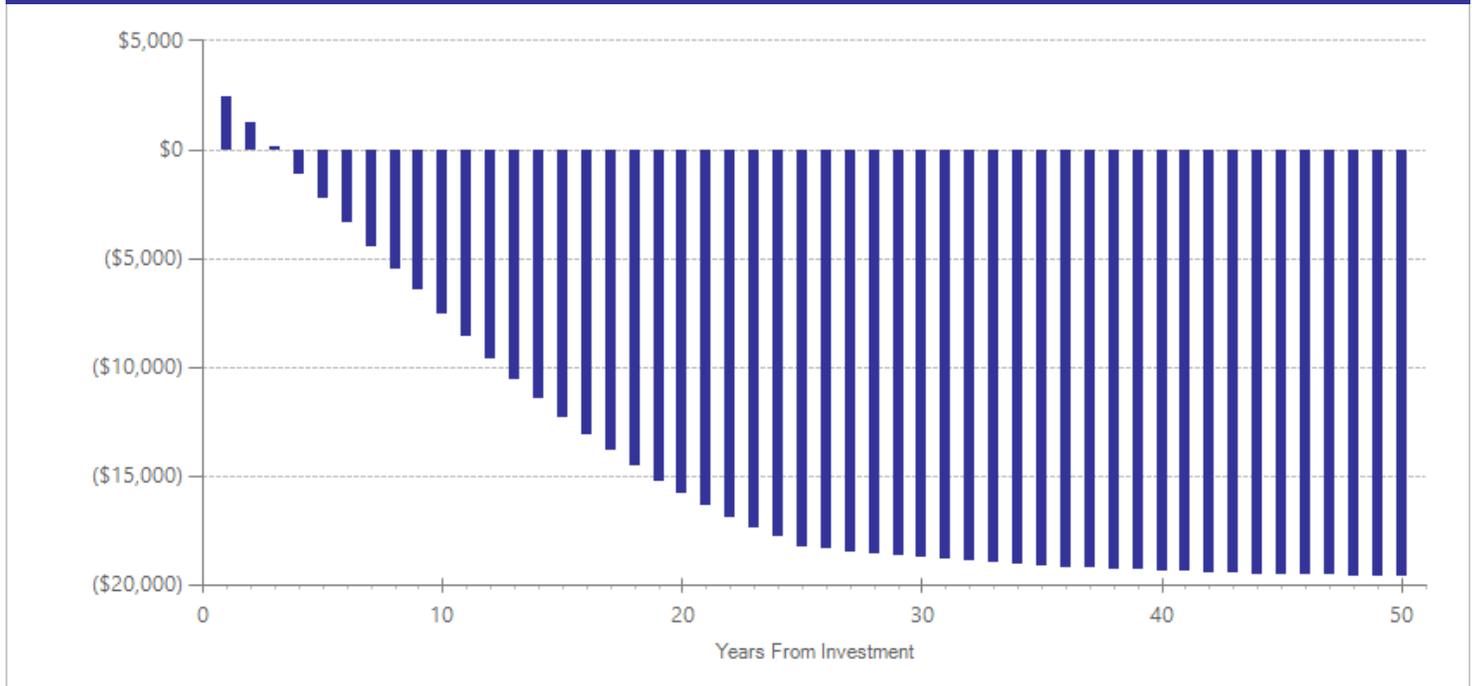
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$957	2013	Present value of net program costs (in 2015 dollars)	(\$156)
Comparison costs	\$804	2013	Cost range (+ or -)	10 %

In the studies included in our meta-analysis, treatment took place over a one- to three-month period. The per-participant cost of treatment is the weighted average estimate for studies included in the analysis. We calculated this average estimate using Washington's Medicaid hourly reimbursement rates for individual or group therapy multiplied by the weighted average of total hours of these therapies across the studies (averaging 12 total hours). Comparison group costs are computed in a similar manner based on treatment received in the studies (individual or group treatment as usual or no treatment).

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	12	333	-0.393	0.161	41	0.165	0.181	42	-0.393	0.001
Drinking and driving	1	20	-1.048	0.337	41	0.000	0.000	42	-1.048	0.001

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

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## Methadone maintenance treatment

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Methadone is an opiate substitution treatment used to treat opioid dependence. It is a synthetic opioid that blocks the effects of opiates, reduces withdrawal symptoms, and relieves cravings. Methadone is a daily medication dispensed in outpatient clinics that specialize in methadone treatment and is often used in conjunction with behavioral counseling approaches.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,187	Benefit to cost ratio	\$2.29
Participants	\$1,653	Benefits minus costs	\$4,809
Others	\$491	Chance the program will produce	
Indirect	\$5,200	benefits greater than the costs	89 %
<u>Total benefits</u>	<u>\$8,531</u>		
<u>Net program cost</u>	<u>(\$3,722)</u>		
Benefits minus cost	\$4,809		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$4	\$11	\$2	\$18
Labor market earnings associated with opioid drug abuse or dependence	\$1,549	\$703	\$0	\$6,809	\$9,062
Health care associated with opioid drug abuse or dependence	\$104	\$479	\$480	\$238	\$1,301
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,850)	(\$1,850)
<b>Totals</b>	<b>\$1,653</b>	<b>\$1,187</b>	<b>\$491</b>	<b>\$5,200</b>	<b>\$8,531</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

## Detailed Annual Cost Estimates Per Participant

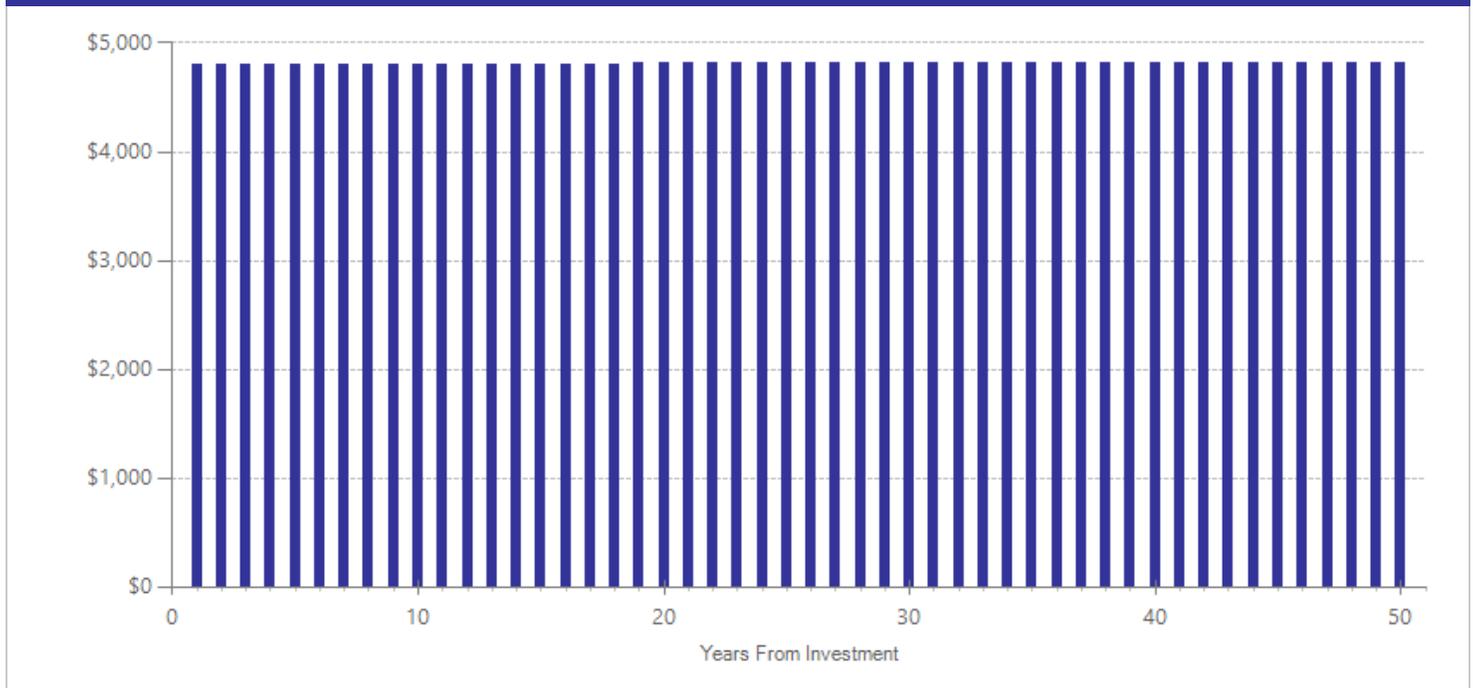
	Annual cost	Year dollars	Summary	
Program costs	\$3,613	2012	Present value of net program costs (in 2015 dollars)	(\$3,722)
Comparison costs	\$0	2013	Cost range (+ or -)	20 %

We estimate the per-participant costs of providing methadone in addition to standard substance abuse treatment for 12 months. Costs reflect the average of costs reported in numerous cost-effectiveness studies (Rosenhack and Kosten, 2001; Jones et al., 2009; Nordlund et al., 2004; Masson et al, 2004). Costs included vary by study but generally include costs of medication, dispensing, toxicology screens, medical care related to methadone treatment, and when available, costs of equipment, administration, and clinic space.

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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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	2	347	-0.505	0.153	35	0.000	0.000	36	-0.505	0.001
Employment	1	71	-0.334	0.174	35	0.000	0.000	36	-0.334	0.054
Cannabis use	1	21	-0.690	0.514	35	0.000	0.000	36	-0.690	0.180
Hospitalization	3	286	0.242	0.464	35	0.000	0.000	36	0.242	0.602
Opioid drug abuse or dependence	10	854	-0.785	0.254	35	0.000	0.000	36	-0.785	0.001
Alcohol use	2	155	-0.281	0.250	35	0.000	0.000	36	-0.281	0.095
Death	4	158	-0.258	0.176	35	0.000	0.000	36	-0.258	0.142
STD risky behavior	3	492	-0.560	0.243	35	0.000	0.000	36	-0.560	0.001

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

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## Buprenorphine/buprenorphine-naloxone (Suboxone and Subutex) treatment

Benefit-cost estimates updated June 2016. Literature review updated May 2014.

Program Description: Buprenorphine/buprenorphine-naloxone is an opiate substitution treatment for opioid dependence. It is a daily medication generally provided in addition to counseling therapies. Buprenorphine/buprenorphine-naloxone is a partial agonist that suppresses withdrawal symptoms and blocks the effects of opioids. Two versions of buprenorphine are used in the treatment of opioid dependence. Subutex consists of buprenorphine only while Suboxone is a version of buprenorphine that combines buprenorphine and naloxone. The addition of naloxone reduces the probability of overdose and reduces misuse by producing severe withdrawal effects if taken any way except sublingually. Suboxone is generally given during the maintenance phase and many clinics will only provide take-home doses of Suboxone. Buprenorphine and buprenorphine/naloxone are alternatives to methadone treatments and, unlike methadone, can be prescribed in office-based settings by physicians that have completed a special training.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$980	Benefit to cost ratio	\$1.36
Participants	\$1,356	Benefits minus costs	\$1,646
Others	\$406	Chance the program will produce	
Indirect	\$3,460	benefits greater than the costs	65 %
<u>Total benefits</u>	<u>\$6,201</u>		
<u>Net program cost</u>	<u>(\$4,556)</u>		
Benefits minus cost	\$1,646		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

#### Benefits from changes to:<sup>1</sup>

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1	\$2	\$0	\$3
Labor market earnings associated with opioid drug abuse or dependence	\$1,268	\$576	\$0	\$5,538	\$7,382
Health care associated with opioid drug abuse or dependence	\$87	\$400	\$401	\$199	\$1,087
Health care associated with emergency department visits	\$1	\$3	\$4	\$2	\$9
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,280)	(\$2,280)
<b>Totals</b>	<b>\$1,356</b>	<b>\$980</b>	<b>\$406</b>	<b>\$3,460</b>	<b>\$6,201</b>

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

## Detailed Annual Cost Estimates Per Participant

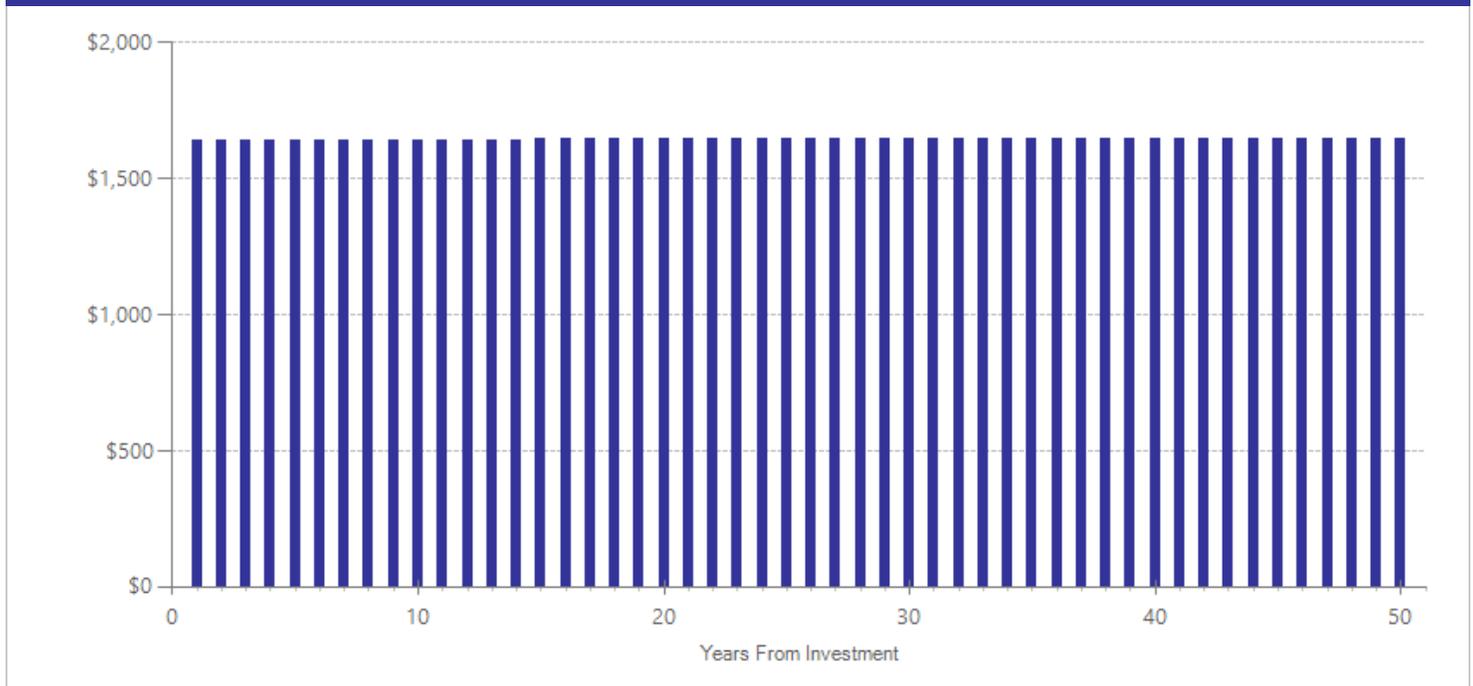
	Annual cost	Year dollars	Summary	
Program costs	\$4,431	2012	Present value of net program costs (in 2015 dollars)	(\$4,556)
Comparison costs	\$0	2013	Cost range (+ or -)	30 %

We estimated the per-participant costs of providing buprenorphine/buprenorphine-naloxone in addition to standard substance abuse treatment for 12 months. Costs reflect the average of costs reported in numerous cost-effectiveness studies (Polsky et al., 2010; Rosenheck and Kosten, 2001; Schackman et al., 2012). Costs included vary by study but generally include costs of medication, dispensing, toxicology screens, and when available, costs of medical care related to methadone treatment, equipment, administration, and clinic space.

Polsky, D., Glick, H.A., Yang, J., Subramaniam, G.A., Poole, S.A., & Woody, G.E. (2010). Cost-effectiveness of extended buprenorphine-naloxone treatment for opioid-dependent youth: data from a randomized trial. *Addiction, 105*(9), 1616-1624. Rosenheck, R., & Kosten, T. (2001). Buprenorphine for opiate addiction: potential economic impact. *Drug and Alcohol Dependence, 63*(3), 253-262. Schackman, B.R., Leff, J.A., Moore, B.A., Moore, B.A., & Fiellin, D.A. (2012). Cost-effectiveness of long-term outpatient buprenorphine-naloxone treatment for opioid dependence in primary care. *Journal of General Internal Medicine, 27*(6), 669-676. Polsky, D., Glick, H.A., Yang, J., Subramaniam, G.A., Poole, S.A., & Woody, G.E. (2010). Cost-effectiveness of extended buprenorphine-naloxone treatment for opioid-dependent youth: data from a randomized trial. *Addiction, 105*(9), 1616-1624. Rosenheck, R., & Kosten, T. (2001). Buprenorphine for opiate addiction: potential economic impact. *Drug and Alcohol Dependence, 63*(3), 253-262. Schackman, B.R., Leff, J.A., Moore, B.A., Moore, B.A., & Fiellin, D.A. (2012). Cost-effectiveness of long-term outpatient buprenorphine-naloxone treatment for opioid dependence in primary care. *Journal of General Internal Medicine, 27*(6), 669-676.

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 cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Opioid drug abuse or dependence	12	981	-0.570	0.193	35	0.000	0.000	36	-0.575	0.003
Emergency department visits	1	46	-0.026	0.264	35	0.000	0.000	36	-0.026	0.921
Psychiatric symptoms	1	51	-0.156	0.201	35	0.000	0.000	36	-0.156	0.437

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

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# MET/CBT-5 for youth marijuana use

Literature review updated February 2015.

Program Description: This is a five-session treatment composed of two individual sessions of Motivational Enhancement Therapy (MET) and three weekly group sessions of Cognitive-Behavioral Therapy (CBT) for youth who abuse substances. The MET sessions focus on increasing their motivation and commitment to change. In the CBT sessions, participants learn skills to cope with problems and meet needs in ways that do not involve turning to marijuana or alcohol.

Meta-Analysis of Program Effects										
Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated				
			ES	SE	Age	ES	SE	Age	ES	p-value
Crime	1	174	-0.295	0.198	17	-0.295	0.198	18	-0.295	0.136
Substance abuse	1	174	-0.171	0.198	17	-0.171	0.198	18	-0.171	0.388

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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# Adolescent Community Reinforcement Approach

Literature review updated June 2013.

Program Description: This outpatient program targets youth 12 to 22 years old with DSM-IV cannabis, alcohol, and/or other substance use disorders. The intervention involves 12 weekly individual sessions and seeks to replace environmental contingencies that have supported alcohol or drug use with prosocial activities and behaviors that support recovery.

Meta-Analysis of Program Effects										
Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated				
			ES	SE	Age	ES	SE	Age	ES	p-value
Crime	1	96	-0.274	0.185	20	-0.274	0.185	30	-0.274	0.137
Substance abuse	1	96	-0.393	0.185	20	-0.393	0.185	30	-0.393	0.033
Major depressive disorder	1	96	-0.405	0.185	20	-0.204	0.078	25	-0.405	0.028

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An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

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## Citations Used in the Meta-Analysis

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# Contingency management (lower-cost) for opioid abuse

Literature review updated September 2016.

Program Description: Contingency management is a supplement to counseling treatment that rewards participants for attending treatment and/or abstaining from substance use. The intervention reviewed here focused on those with opiate abuse or dependence who were also receiving medicated-assisted drug treatment (methadone, buprenorphine or naloxone) and counseling. Contingencies were provided for remaining abstinent. Two methods of contingency management were reviewed: (1) A voucher system where abstinence earned vouchers that were exchangeable for goods provided by the clinic or counseling center, (2) a prize or raffle system where clients who remained abstinent could earn the opportunity to draw from a prize bowl. Treatment in the included studies lasted between 1 and 6 months with a weighted average of 3.3 months of contingency management and reward opportunities occurring two to three times per week, on average.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Opioid drug abuse or dependence	9	520	-0.291	0.068	39	0.000	0.075	40	-0.291	0.001
Engagement/Retention	7	433	0.314	0.145	39	0.000	0.075	40	0.314	0.031

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An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

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# Community Reinforcement and Family Training (CRAFT) for engaging clients in treatment

Literature review updated September 2016.

Program Description: Community Reinforcement and Family Training (CRAFT) is a program for significant others and family members of those with substance abuse or dependence. In 12 to 14 individual sessions, family and friends are taught effective strategies for helping their loved one to change, to enroll in treatment, to feel better themselves.

Meta-Analysis of Program Effects											
Outcomes measured	Primary or secondary participant	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
				First time ES is estimated			Second time ES is estimated			ES	p-value
				ES	SE	Age	ES	SE	Age		
Illicit drug abuse or dependence	Primary	1	16	0.000	0.000	40	0.000	0.187	43	0.000	1.000
Major depressive disorder	Secondary	1	45	-0.068	0.254	40	0.000	0.187	43	-0.068	0.788
Engagement/Retention	Primary	5	138	1.223	0.324	40	0.000	0.187	43	1.223	0.001

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

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## Citations Used in the Meta-Analysis

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# Day treatment with abstinence contingencies and vouchers

Literature review updated May 2014.

Program Description: Day treatment with abstinence contingencies or vouchers is a standalone treatment that combines day treatment interventions with contingency management. This intervention was originally developed to treat homeless drug users. Day treatment consists of approximately five hours of primarily group activities including counseling, recreational activities, skills building, etc. as well as lunch. Treatment in the included study occurred five days per week during the first two months and two times per week for four months. Contingencies were provided dependent on negative urinalysis results. These contingencies included housing and minimum wage employment. Other programs might also offer subsidies for utilities or vouchers for items such as personal hygiene products.

Meta-Analysis of Program Effects										
Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Illicit drug abuse or dependence	1	69	-0.231	0.213	36	0.000	0.187	39	-0.231	0.279

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

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WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

Milby, J.B., Schumacher, J.E., Raczynski, J.M., Caldwell, E., Engle, M., Michael, M., Carr, J. (1996). Sufficient Conditions for Effective Treatment of Substance Abusing Homeless Persons. *Drug and Alcohol Dependence*, 43(1), 39-47.

# Dialectical behavior therapy (DBT) for co-morbid substance abuse and serious mental illness

Literature review updated May 2014.

Program Description: Dialectical behavior therapy (DBT) is a cognitive-behavioral treatment originally developed by Marsha Linehan at the University of Washington to treat those with severe mental disorders including chronically suicidal individuals often suffering from borderline personality disorder. DBT for substance abusers was developed by Dr. Linehan and colleagues to treat individuals with co-occurring substance use disorders and borderline personality disorder. DBT for substance abusers focuses on the following five main objectives: (1) motivating patients to change dysfunctional behaviors, (2) enhancing patient skills, (3) ensuring the new skills are used in daily life, (4) structuring the client's environment, and (5) training and consultation to improve the counselor's skills. For substance abusers, the primary target of the intervention is the substance abuse and specific goals include reducing abuse, alleviating withdrawal symptoms, reducing cravings, avoiding opportunities and triggers for substance abuse, and creating a healthy environment and community. Treatment generally includes 90 minute sessions twice per week for 12 months.

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol abuse or dependence	1	27	0.149	0.264	34	0.000	0.000	35	0.149	0.573
Illicit drug abuse or dependence	2	39	-0.024	0.348	34	0.000	0.000	35	-0.024	0.946
Cannabis use	1	27	-0.090	0.263	34	0.000	0.000	35	-0.090	0.732
Psychiatric symptoms	1	27	-0.596	0.270	34	0.000	0.000	35	-0.596	0.027

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## Citations Used in the Meta-Analysis

- Linehan, M.M., Schmidt, H., Dimeoff, L.A., Craft, J.C., Kanter, J. & Comtois, K.A. (1999). Dialectical Behavior Therapy for Patients With Borderline Personality Disorder and Drug-Dependence. *American Journal on Addictions, 8*(4), 279-292.
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# Node-link mapping

Literature review updated May 2014.

Program Description: Node-link mapping is a manualized supplement or tool that can be used during counseling sessions. "Maps" are used as a means of visually representing a client's needs, problems, and solutions and act as a communication tool that provides an alternative way to facilitate discussion between client and counselor. These maps can also directly illustrate cause-and-effect patterns of drug use to facilitate problem solving.

Meta-Analysis of Program Effects										
Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Illicit drug abuse or dependence	1	151	-0.078	0.140	38	0.000	0.187	41	-0.078	0.579

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## Citations Used in the Meta-Analysis

Dansereau, D.F., Joe, G.W., & Simpson, D.D. (1995). Attentional difficulties and the effectiveness of a visual representation strategy for counseling drug-addicted clients. *The International Journal of the Addictions*, 30(4), 371-386.

# Parent-Child Assistance Program

Literature review updated May 2014.

Program Description: The Parent-Child Assistance Program provides home visits to new mothers of drug- or alcohol-exposed infants. Visitors are paraprofessional client advocates with similar adverse life experiences as the mothers. Visits are weekly for the first six weeks after birth, then bi-weekly or more frequently as needed for up to three years.

More information on this program is available at:

[http://depts.washington.edu/pcapuw/inhouse/PCAP\\_Manual\\_3\\_23\\_15.pdf](http://depts.washington.edu/pcapuw/inhouse/PCAP_Manual_3_23_15.pdf).

Meta-Analysis of Program Effects											
Outcomes measured	Primary or secondary participant	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
				First time ES is estimated			Second time ES is estimated			ES	p-value
				ES	SE	Age	ES	SE	Age		
Test scores	Secondary	1	23	-0.033	0.289	3	0.000	0.000	4	-0.091	0.753
Out-of-home placement	Secondary	1	54	0.371	0.310	3	0.000	0.000	4	0.371	0.231
Substance abuse	Primary	1	23	-0.046	0.245	30	0.000	0.000	31	-0.091	0.698
Repeat pregnancy	Primary	1	54	0.035	0.297	30	0.000	0.000	31	0.096	0.747
Repeat birth	Primary	1	54	0.000	0.331	30	0.000	0.000	31	0.000	1.000
Well-child visits	Secondary	1	54	0.067	0.556	3	0.000	0.000	4	0.186	0.746

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## Citations Used in the Meta-Analysis

- Ernst, C.C., Grant, T.M., Streissguth, A.P., & Sampson, P.D. (1999). Intervention with high-risk alcohol and drug-abusing mothers: II. Three-year findings from the Seattle Model of Paraprofessional Advocacy. *Journal of Community Psychology, 27*(1), 19-38.
- Kartin, D., Grant, T.M., Streissguth, A.P., Sampson, P.D., & Ernst, C.C. (2002). Three-year developmental outcomes in children with prenatal alcohol and drug exposure. *Pediatric Physical Therapy: the Official Publication of the Section on Pediatrics of the American Physical Therapy Association, 14*(3), 145-53.

# Wraparound services for pregnant/postpartum women in substance abuse treatment

Literature review updated September 2016.

Program Description: Wraparound was originally developed as an intensive, individualized care planning and management process for children with complex emotional and behavioral needs. The single study in the analysis applied the same approach to pregnant women in substance abuse treatment. During the wraparound process, a team of people who are relevant to the life of the woman collaboratively develop an individualized plan of care, implement this plan, monitor the efficacy of the plan, and work towards success over time. The wraparound plan typically includes formal services and interventions, together with community services and interpersonal support and assistance provided by friends, kin, and other people drawn from the family's social networks. After the initial plan is developed, the team continues to meet to monitor progress and revise interventions and strategies when needed.

Meta-Analysis of Program Effects											
Outcomes measured	Primary or secondary participant	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
				First time ES is estimated			Second time ES is estimated			ES	p-value
				ES	SE	Age	ES	SE	Age		
Substance abuse	Primary	1	43	0.072	0.218	28	0.000	0.187	31	0.072	0.742
Post-traumatic stress	Primary	1	35	0.122	0.251	28	0.122	0.251	29	0.122	0.628
Child abuse and neglect	Secondary	1	35	-0.030	0.310	1	-0.030	0.310	17	-0.030	0.923
Out-of-home placement	Secondary	1	35	0.124	0.335	1	0.124	0.335	17	0.124	0.711

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## Citations Used in the Meta-Analysis

Teel, M.K, Rosenberg, S.A., Taylor, J.A., Rinehart, D.J., Blumhage, R. Weitzenkamp, D. (n.d.) *Improving mental health and family outcomes through high fidelity wraparound with mothers in early recovery*. Unpublished manuscript.

# Cognitive-behavioral coping skills therapy for opioid abuse

Literature review updated September 2016.

Program Description: Cognitive-behavioral coping-skills therapy is a manualized, standalone treatment for alcohol and/or drug abuse or dependence. This intervention emphasizes identifying high-risk situations that could lead to relapse such as social situations, depression, etc. and developing skills to cope with those situations. Clients engage in problem solving, role playing, and homework practice. The intervention is often provided in an individual therapy format but can be conducted in groups as well. Treatment in the included studies occurred over an average of three months. Studies used in this analysis evaluated the program in a population of opiate users receiving medication-assisted treatment (methadone or buprenorphine).

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Opioid drug abuse or dependence	4	169	0.006	0.109	37	0.000	0.187	40	0.006	0.956

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## Citations Used in the Meta-Analysis

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## Washington State Institute for Public Policy

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