

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.

Boot camps Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated October 2016.

Program Description: Correctional boot camps, also known as shock incarceration or intensive incarceration programs, are an alternative to incarceration that emphasizes military-style discipline, including a rigid daily schedule, uniforms, physical labor, and punishment for misbehavior. Boot camps for juvenile offenders also frequently incorporate therapeutic components. Graduates of boot camps typically participate in a graduation ceremony and return to supervised aftercare in the community.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	\$2,875	Benefit to cost ratio	n/a
Participants	\$380	Benefits minus costs	\$77,515
Others	\$8,666	Chance the program will produce	
Indirect	\$22,736	benefits greater than the costs	100 %
Total benefits	\$34,658		
Net program cost	\$42,857		
Benefits minus cost	\$77,515		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,658	\$8,532	\$1,330	\$12,520
Labor market earnings associated with high school graduation	\$426	\$193	\$195	\$0	\$813
Health care associated with educational attainment	(\$13)	\$46	(\$50)	\$23	\$6
Costs of higher education	(\$33)	(\$22)	(\$10)	(\$11)	(\$75)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$21,394	\$21,394
Totals	\$380	\$2,875	\$8,666	\$22,736	\$34,658

¹In 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.

²"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.

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

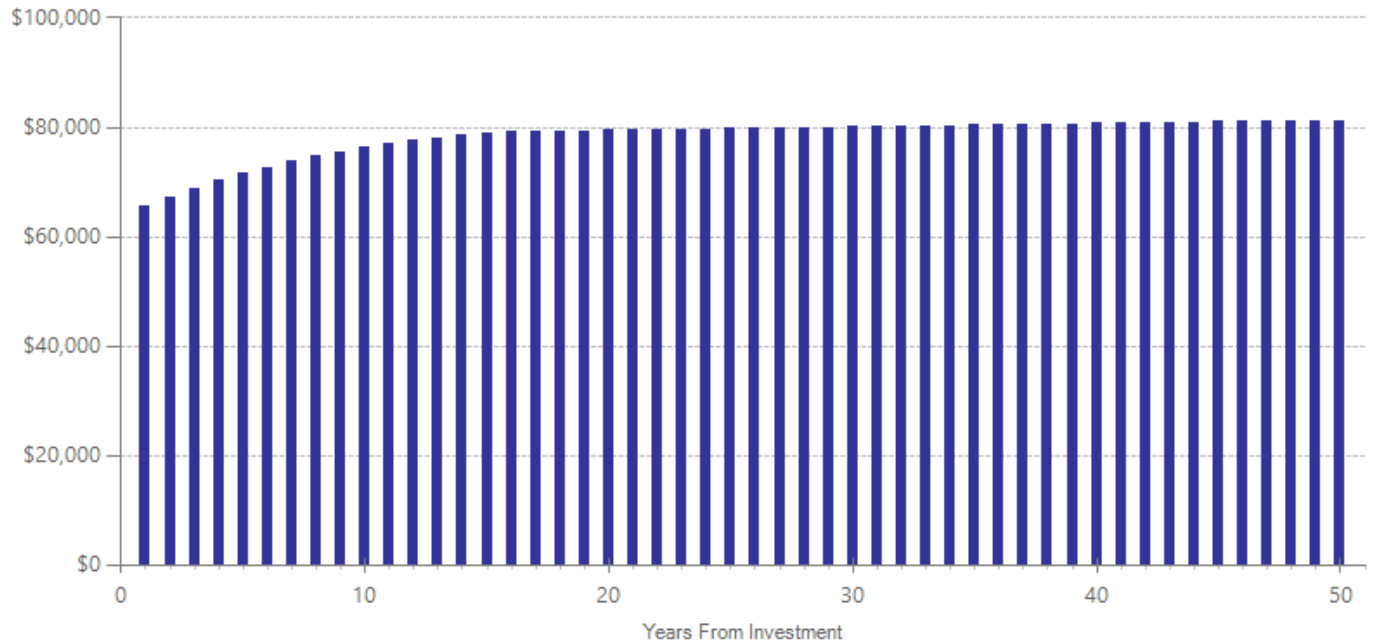
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$14,406	2016	Present value of net program costs (in 2016 dollars)	\$42,857
Comparison costs	\$57,263	2016	Cost range (+ or -)	10 %

Costs are estimated from information provided by the Juvenile Rehabilitation Administration of the Washington State Department of Social and Health Services. Treatment costs are based on per-participant annual operating and capital costs for Washington's Juvenile Basic Training Camp (no longer in operation). Comparison costs are estimated per-participant costs of confinement in a Juvenile Rehabilitation Administration facility. Because individuals in boot camp programs are diverted from traditional juvenile confinement for 16 weeks (the average length of boot camp programs in these studies), costs for this program include the avoided costs of traditional confinement.

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	703	-0.092	0.085	20	-0.092	0.085	30	-0.092	0.284

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

Barnoski, R. (2004). *Washington's juvenile basic training camp: outcome evaluation*. Olympia: Washington State Institute for Public Policy.

Bottcher, J., & Ezell, M.E. (2005). Examining the effectiveness of boot camps: A randomized experiment with a long-term follow up. *Journal of Research in Crime and Delinquency*, 42(3), 309-332.

Dialectical Behavior Therapy (DBT) for youth in the juvenile justice system

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated June 2017.

Program Description: Dialectical Behavior Therapy (DBT) is a cognitive behavioral treatment for individuals with complex mental disorders. DBT was originally developed by Marsha Linehan at the University of Washington to treat chronically suicidal individuals, but has been adapted for clients who have difficulty regulating their emotions.

DBT focuses on the following four objectives: 1) enhancing youth behavioral skills in dealing with difficult situations, 2) motivating youth to change dysfunctional behaviors, 3) ensuring the new skills are used in daily institutional life, and 4) training and consultation to improve the counselor's skills. DBT was delivered to youth convicted of crimes and serving sentences at a state juvenile institution. Participants received DBT over a period of 1 to 12 months.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$12,442	Benefit to cost ratio	\$27.84
Participants	\$2,085	Benefits minus costs	\$57,688
Others	\$40,688	Chance the program will produce	
Indirect	\$4,622	benefits greater than the costs	93 %
Total benefits	\$59,838		
Net program cost	(\$2,149)		
Benefits minus cost	\$57,688		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$11,248	\$39,946	\$5,628	\$56,822
Labor market earnings associated with high school graduation	\$2,326	\$1,056	\$1,069	\$0	\$4,452
Health care associated with educational attainment	(\$69)	\$252	(\$275)	\$126	\$34
Costs of higher education	(\$172)	(\$115)	(\$52)	(\$57)	(\$396)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,075)	(\$1,075)
Totals	\$2,085	\$12,442	\$40,688	\$4,622	\$59,838

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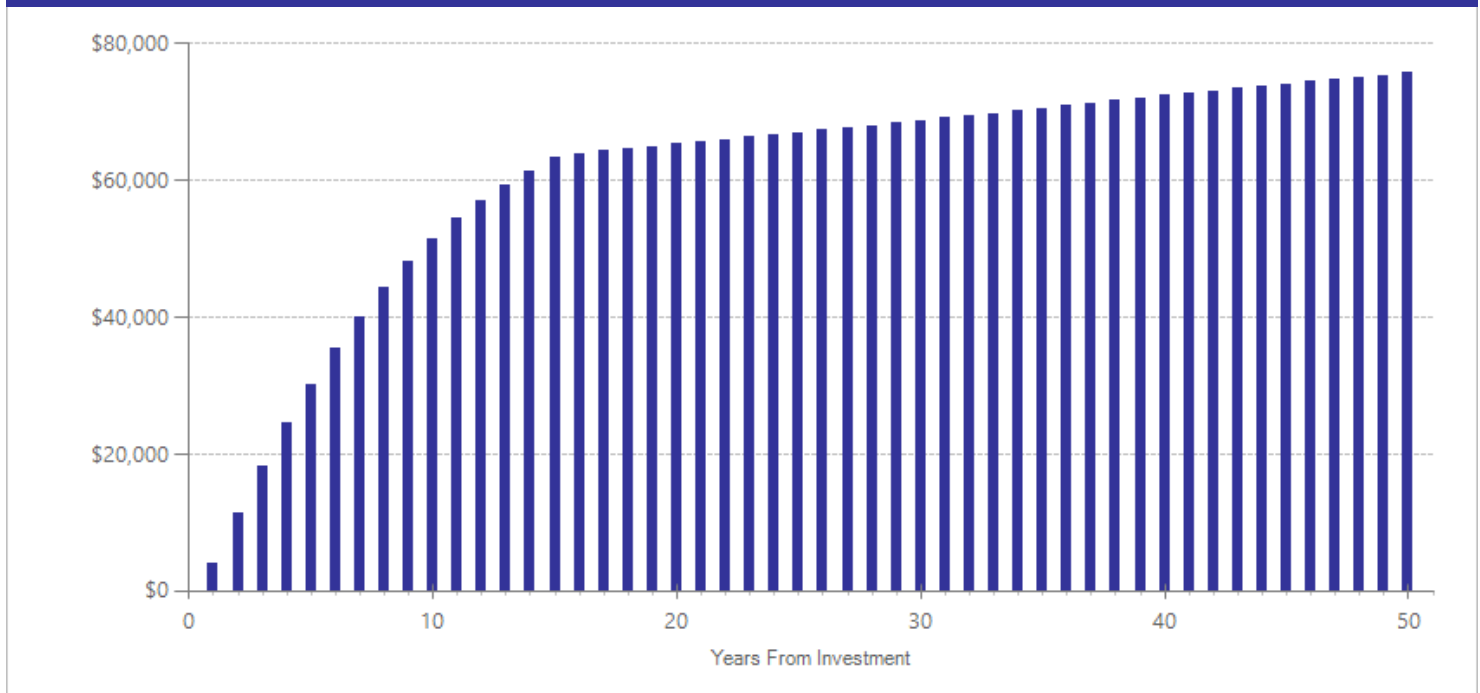
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,148	2016	Present value of net program costs (in 2016 dollars)	(\$2,149)
Comparison costs	\$0	2016	Cost range (+ or -)	20 %

We estimated program costs using public salary information from the Office of Financial Management. We assume one Corrections Mental Health Counselor is needed per 16 youth in the program for 26 weeks, and 1-2 weeks pass between the 8-week program modules. We also account for a small cost of supplies for each participant.

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](#).

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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	1	62	-0.347	0.225	17	-0.347	0.225	27	-0.347	0.122

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Citations Used in the Meta-Analysis

Drake, E., & Barnoski, R. (2006). *Recidivism findings for the Juvenile Rehabilitation Administration's dialectical behavior therapy program: Final report*. Olympia, WA. Washington State Institute for Public Policy.

Functional Family Therapy (FFT) for youth in state institutions

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated July 2017.

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. The five major components of FFT include 1) engagement, 2) motivation, 3) identifying patterns of interaction within the family, 4) behavior change, and 5) generalizing positive interactions to new situations. FFT can be provided in a variety of settings, including institutions, clinics, homes, and schools. The intervention involves 12 to 14 visits over a three to five month period. In included studies, participants included youth who were arrested, referred by courts, or known to have committed status offenses such as running away from home. Studies in this meta-analysis compared FFT to treatment as usual, which included various services such as group therapy or probation.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$8,539	Benefit to cost ratio	\$11.59
Participants	\$1,428	Benefits minus costs	\$36,737
Others	\$28,066	Chance the program will produce	
Indirect	\$2,172	benefits greater than the costs	96 %
Total benefits	\$40,206		
Net program cost	(\$3,469)		
Benefits minus cost	\$36,737		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$7,721	\$27,556	\$3,855	\$39,132
Labor market earnings associated with high school graduation	\$1,596	\$725	\$736	\$0	\$3,056
Health care associated with educational attainment	(\$47)	\$173	(\$189)	\$87	\$23
Costs of higher education	(\$120)	(\$80)	(\$36)	(\$40)	(\$275)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,730)	(\$1,730)
Totals	\$1,428	\$8,539	\$28,066	\$2,172	\$40,206

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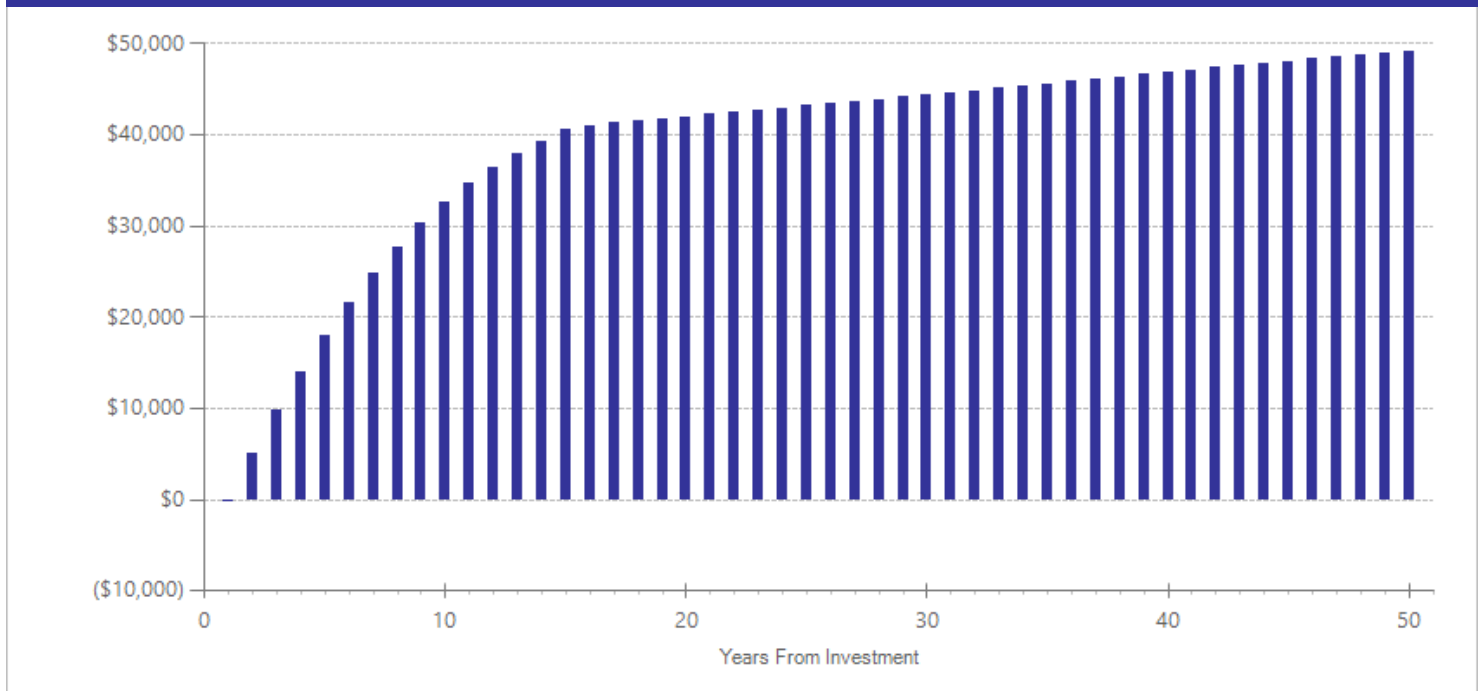
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,134	2008	Present value of net program costs (in 2016 dollars)	(\$3,469)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

WSIPP per-participant cost estimates are based on 12 weeks of FFT, as described in Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. 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](#).

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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 disorder ^{^^}	1	30	-0.160	0.259	15	n/a	n/a	n/a	-0.160	0.538
Cannabis use [^]	1	30	0.325	0.338	15	n/a	n/a	n/a	0.325	0.336
Crime	10	1114	-0.247	0.120	17	-0.247	0.120	27	-0.415	0.005
Externalizing behavior symptoms ^{^^}	1	40	0.040	0.221	15	n/a	n/a	n/a	0.040	0.855
Illicit drug use disorder ^{^^}	1	30	-0.793	0.268	15	n/a	n/a	n/a	-0.793	0.003
Internalizing symptoms ^{^^}	1	40	0.058	0.221	15	n/a	n/a	n/a	0.058	0.795
Major depressive disorder ^{^^}	1	40	-0.251	0.222	15	n/a	n/a	n/a	-0.251	0.258

[^]WSIPP's benefit-cost model does not monetize this outcome.

^{^^}WSIPP does not include this outcome when conducting benefit-cost analysis for this program.

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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

- Alexander, J.F., & Parsons, B.V. (1973). Short-term behavioral intervention with delinquent families: Impact on family process and recidivism. *Journal of Abnormal Psychology, 81*(3), 219-225.
- Barnoski, R. (2004). *Outcome evaluation of Washington State's research-based programs for juvenile offenders* (Document No. 04-01-1201). Olympia: Washington State Institute for Public Policy.
- Barton, C., Alexander, J.F., Waldron, H., Turner, C.W., & Warburton, J. (1985). Generalizing treatment effects of functional family therapy: Three replications. *American Journal of Family Therapy, 13*(3), 16-26.
- Erickson, C.J. (2008). The effectiveness of functional family therapy in the treatment of juvenile sexual offenders. *Dissertation Abstracts International, 69-10*(B), 6409.
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- 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.

Waldron, H.B., Slesnick, N., Brody, J.L., Turner, C.W., & Peterson, T.R. (2001). Treatment outcomes for adolescent substance abuse at 4- and 7-month assessments. *Journal of Consulting and Clinical Psychology, 69*(5), 802-813.

Education and Employment Training (EET, King County)

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated December 2015.

Program Description: Education and Employment Training (EET) is a program for juveniles with a moderate- to high-risk of re-offending. The program focuses on three domains: 1) employment, 2) school engagement, and 3) appropriate use of free time. Participants receive minimum wage for up to 20 hours of work per week, for up to 150 total hours. For youth in school, the program provides job readiness training and job placement. Youth not in school must either re-engage or earn a General Equivalence Diploma (GED). EET also provides assistance to prepare for the GED. On average, participants receive EET services for 6.3 months. The comparison group participants in this study received treatment-as-usual services, which included evidence-based programs such as Functional Family Therapy and Aggression Replacement Training.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$9,023	Benefit to cost ratio	\$41.84
Participants	\$1,687	Benefits minus costs	\$35,316
Others	\$21,817	Chance the program will produce	
Indirect	\$3,654	benefits greater than the costs	100 %
Total benefits	\$36,180		
Net program cost	(\$865)		
Benefits minus cost	\$35,316		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$8,058	\$21,215	\$4,032	\$33,305
Labor market earnings associated with high school graduation	\$1,888	\$857	\$869	\$0	\$3,614
Health care associated with educational attainment	(\$56)	\$204	(\$223)	\$102	\$27
Costs of higher education	(\$145)	(\$96)	(\$43)	(\$48)	(\$332)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$433)	(\$433)
Totals	\$1,687	\$9,023	\$21,817	\$3,654	\$36,180

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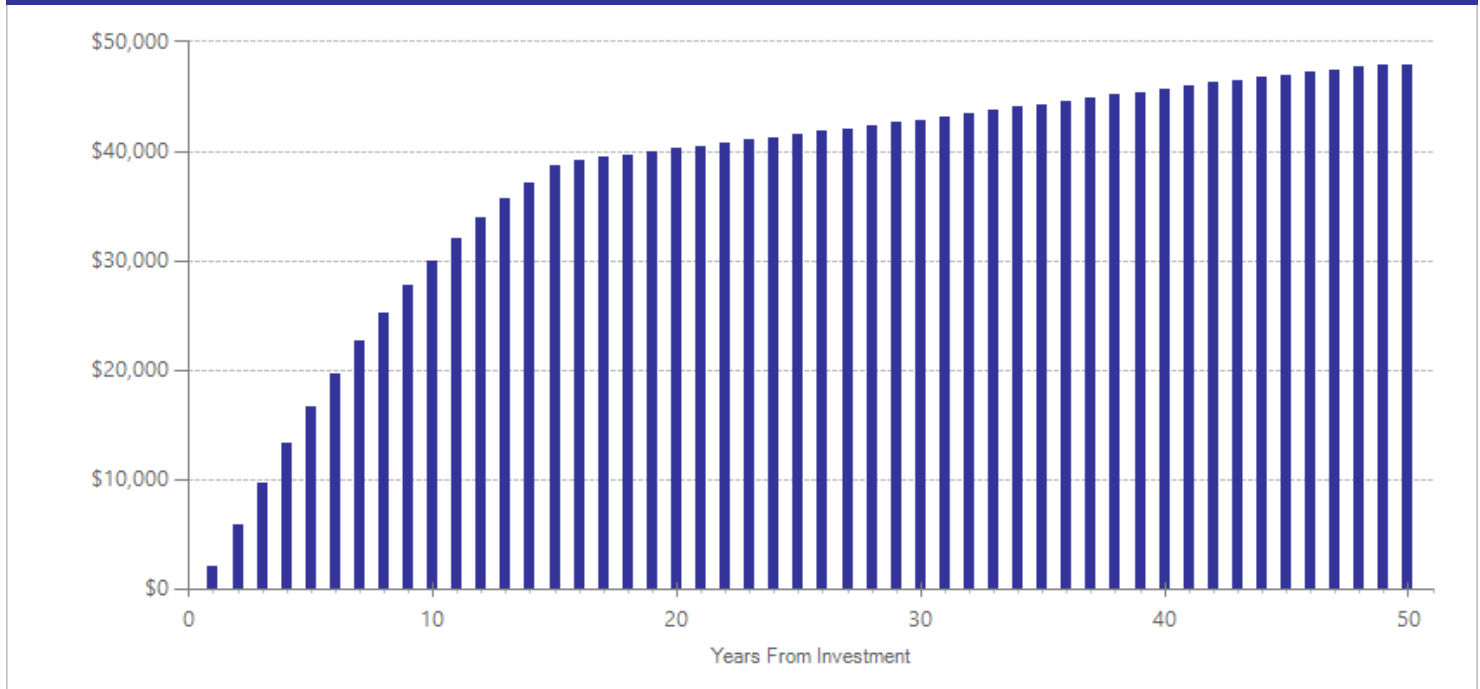
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,776	2012	Present value of net program costs (in 2016 dollars)	(\$865)
Comparison costs	\$1,836	2008	Cost range (+ or -)	10 %

Per-participant treatment group cost is based on the total program expenditures divided by the number of youth served, as reported in Miller, M., Fumia, D., & He, L. (2015). *The King County Education and Employment Training (EET) Program: Outcome evaluation and benefit-cost analysis*. Doc. No. 15-12-3901). Olympia: Washington State Institute for Public Policy. The comparison group cost is based on the weighted average cost of programs provided to youth in the comparison group, as reported in Miller et al. (2015).

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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	1	266	-0.292	0.106	19	-0.292	0.106	29	-0.292	0.006

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Citations Used in the Meta-Analysis

Miller, M., Fumia, D., & He, L. (2015). *The King County Education and Employment Training (EET) Program: Outcome evaluation and benefit-cost analysis*. (Doc. No. 15-12-3901). Olympia: Washington State Institute for Public Policy.

Functional Family Therapy (FFT) for youth on probation

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated July 2017.

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. The five major components of FFT include 1) engagement, 2) motivation, 3) identifying patterns of interaction within the family, 4) behavior change, and 5) generalizing positive interactions to new situations. FFT can be provided in a variety of settings, including institutions, clinics, homes, and schools. The intervention involves 12 to 14 visits over a three to five month period. In included studies, participants included youth who were arrested, referred by courts, or known to have committed status offenses such as running away from home. Studies in this meta-analysis compared FFT to treatment as usual, which included various services such as group therapy or probation.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$7,240	Benefit to cost ratio	\$8.35
Participants	\$1,711	Benefits minus costs	\$25,484
Others	\$18,570	Chance the program will produce	
Indirect	\$1,431	benefits greater than the costs	96 %
Total benefits	\$28,951		
Net program cost	(\$3,467)		
Benefits minus cost	\$25,484		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$6,259	\$17,961	\$3,090	\$27,310
Labor market earnings associated with high school graduation	\$1,910	\$867	\$877	\$0	\$3,654
Health care associated with educational attainment	(\$57)	\$207	(\$226)	\$102	\$27
Costs of higher education	(\$142)	(\$94)	(\$42)	(\$47)	(\$325)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,715)	(\$1,715)
Totals	\$1,711	\$7,240	\$18,570	\$1,431	\$28,951

¹In 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.

²"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.

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

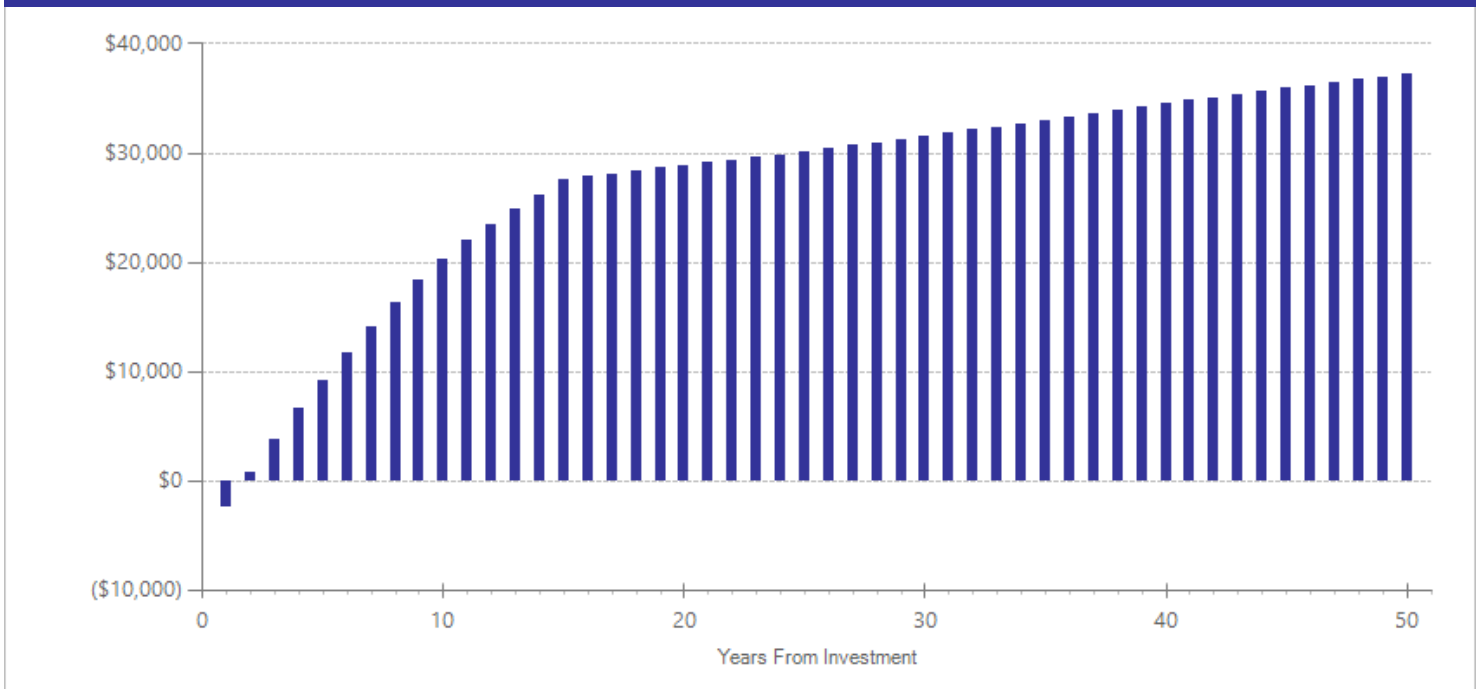
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,134	2008	Present value of net program costs (in 2016 dollars)	(\$3,467)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant costs, based on three months, are from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. 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 use disorder ^{^^}	1	30	-0.160	0.259	15	n/a	n/a	n/a	-0.160	0.538
Cannabis use [^]	1	30	0.325	0.338	15	n/a	n/a	n/a	0.325	0.336
Crime	10	1114	-0.247	0.120	17	-0.247	0.120	27	-0.415	0.005
Externalizing behavior symptoms ^{^^}	1	40	0.040	0.221	15	n/a	n/a	n/a	0.040	0.855
Illicit drug use disorder ^{^^}	1	30	-0.793	0.268	15	n/a	n/a	n/a	-0.793	0.003
Internalizing symptoms ^{^^}	1	40	0.058	0.221	15	n/a	n/a	n/a	0.058	0.795
Major depressive disorder ^{^^}	1	40	-0.251	0.222	15	n/a	n/a	n/a	-0.251	0.258

[^]WSIPP's benefit-cost model does not monetize this outcome.

^{^^}WSIPP does not include this outcome when conducting benefit-cost analysis for this program.

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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Waldron, H.B., Slesnick, N., Brody, J.L., Turner, C.W., & Peterson, T.R. (2001). Treatment outcomes for adolescent substance abuse at 4- and 7-month assessments. *Journal of Consulting and Clinical Psychology, 69*(5), 802-813.

Parenting with Love and Limits

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated June 2017.

Program Description: Parenting with Love and Limits (PLL) is a therapeutic model for families of children with behavioral diagnoses, substance use disorders, and delinquency. The PLL model has been used as a juvenile justice program to divert youth from traditional juvenile justice services to family-oriented rehabilitation and to provide aftercare treatment in the community. The diversion component consists of group parent training classes that use various parenting and family therapy modules. In the included studies, participants attended 6 to 40 hours of sessions over 1.5 to 5 months, on average. The aftercare component consists of individual therapy before a juvenile offender is released, parent training sessions, and family therapy once the juvenile offender is released. In the included studies, aftercare participants attended sessions two to four times per week over three months, on average.

The studies in this meta-analysis compared PLL to usual probation and mental health services.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$6,385	Benefit to cost ratio	\$8.93
Participants	\$1,397	Benefits minus costs	\$22,154
Others	\$15,724	Chance the program will produce	
Indirect	\$1,443	benefits greater than the costs	94 %
Total benefits	\$24,950		
Net program cost	(\$2,795)		
Benefits minus cost	\$22,154		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$5,586	\$15,228	\$2,791	\$23,604
Labor market earnings associated with high school graduation	\$1,561	\$709	\$716	\$0	\$2,985
Health care associated with educational attainment	(\$46)	\$168	(\$184)	\$84	\$22
Costs of higher education	(\$117)	(\$78)	(\$35)	(\$39)	(\$269)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,392)	(\$1,392)
Totals	\$1,397	\$6,385	\$15,724	\$1,443	\$24,950

¹In 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.

²"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.

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

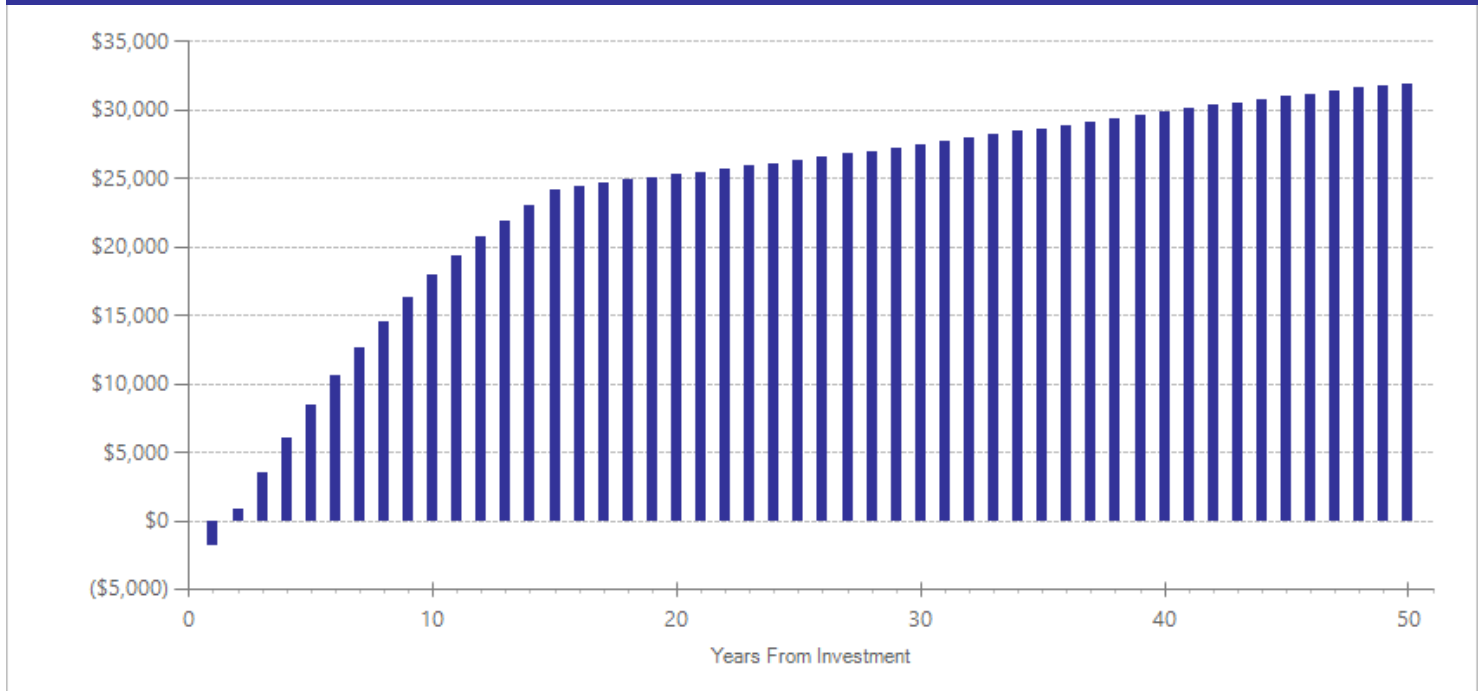
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,526	2009	Present value of net program costs (in 2016 dollars)	(\$2,795)
Comparison costs	\$0	2009	Cost range (+ or -)	10 %

The per-participant program cost estimate is based on the per-participant cost to the state for Parenting with Love and Limits in Idaho. The comparison group cost is an average of clinic-based therapy and intensive community-based therapy. Both cost estimates are described in Sterrett-Hong, E.M., Karam, E., & Kiaer, L. (2017). *Statewide implementation of Parenting with Love and Limits among youth with co-existing internalizing and externalizing functional impairments reduces return to service rates and treatment costs. Administration and Policy in Mental Health.*

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	327	-0.211	0.116	18	-0.211	0.116	28	-0.344	0.018
Externalizing behavior symptoms ^{^^}	1	19	-0.268	0.326	18	-0.128	0.177	21	-0.724	0.031

^{^^}WSIPP does not include this outcome when conducting benefit-cost analysis for this program.

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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Karam, E.A., Sterrett, E.M., & Kiaer, L. (2015). *The integration of family and group therapy as an alternative to juvenile incarceration: A quasi-experimental evaluation using Parenting with Love and Limits*. Family Process.

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Functional Family Parole Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated June 2017.

Program Description: Functional Family Parole (FFP) is a case management program modeled after Functional Family Therapy (FFT). FFP was designed specifically for youth who are supervised in the community after a period of confinement. Much like FFT, FFP is a structured family-based intervention that uses a multi-step approach to enhance protective factors (e.g., attends school) and reduce risk factors (e.g., antisocial attitudes) in the family. The five major components of this program include 1) engagement, 2) motivation, 3) identifying patterns of interaction within the family, 4) behavior change, and 5) generalizing positive interactions to new situations. Among studies, participants received FFP services for six months, on average.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$5,041	Benefit to cost ratio	\$6.37
Participants	\$805	Benefits minus costs	\$18,626
Others	\$15,666	Chance the program will produce	
Indirect	\$583	benefits greater than the costs	76 %
Total benefits	\$22,095		
Net program cost	(\$3,470)		
Benefits minus cost	\$18,626		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$4,581	\$15,377	\$2,289	\$22,246
Labor market earnings associated with high school graduation	\$900	\$409	\$416	\$0	\$1,724
Health care associated with educational attainment	(\$27)	\$97	(\$106)	\$48	\$13
Costs of higher education	(\$68)	(\$45)	(\$20)	(\$23)	(\$155)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,732)	(\$1,732)
Totals	\$805	\$5,041	\$15,666	\$583	\$22,095

¹In 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.

²"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.

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

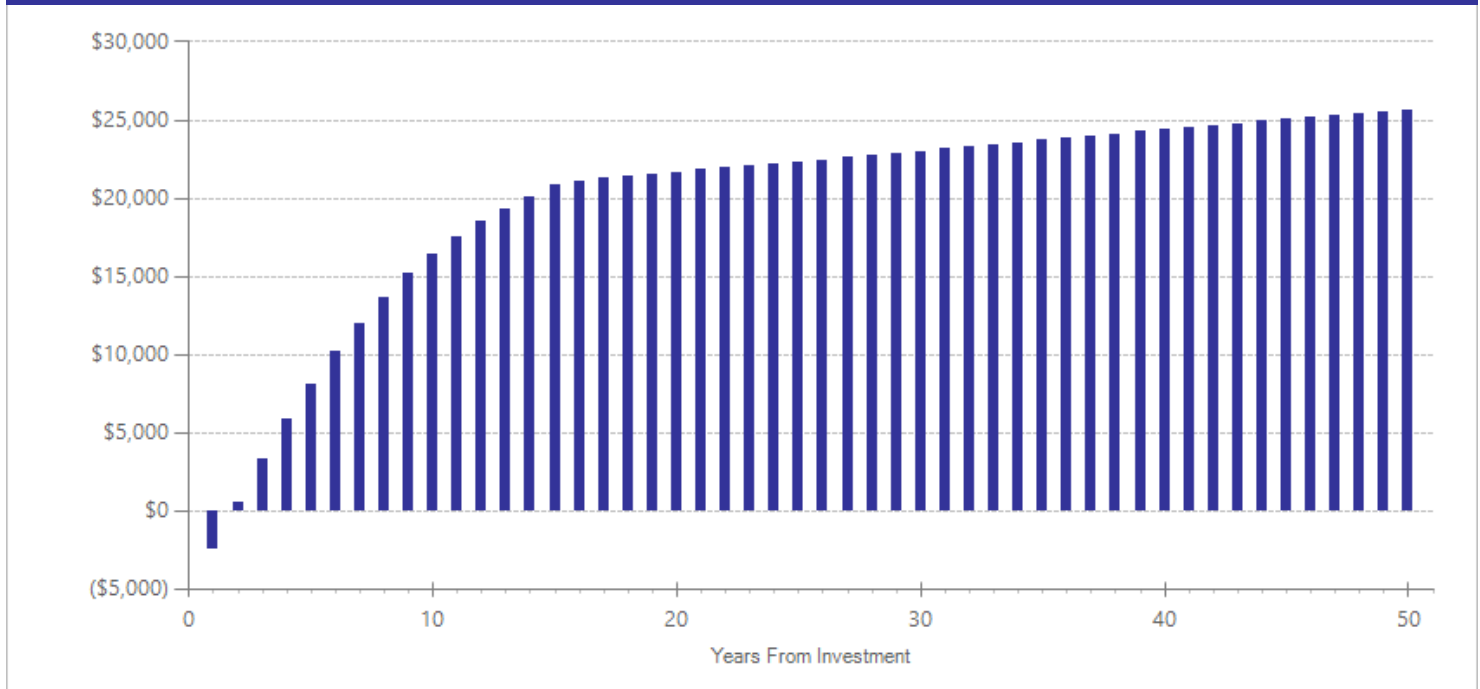
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$5,718	2016	Present value of net program costs (in 2016 dollars)	(\$3,470)
Comparison costs	\$2,250	2016	Cost range (+ or -)	10 %

Treatment group costs are based on 12 weeks of Functional Family Therapy (FFT) (a similar program) in addition to the usual cost of supervision. The cost of FFT is reported in Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. No. 09-12-1201). Olympia: Washington State Institute for Public Policy. Comparison group costs reflect the cost of usual supervision. WSIPP's estimate for the cost of 12 weeks of juvenile state parole was developed using the procedure described in our technical documentation, available at wsipp.wa.gov.

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	577	-0.141	0.159	18	-0.141	0.159	28	-0.144	0.355
Employment^^	1	139	0.482	0.180	18	n/a	n/a	n/a	0.482	0.008
Out-of-home placement^^	1	161	0.037	0.100	18	n/a	n/a	n/a	0.072	0.465

^^WSIPP does not include this outcome when conducting benefit-cost analysis for this program.

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

- Darnell, A.J., & Schuler, M.S. (2015). Quasi-experimental study of Functional Family Therapy effectiveness for juvenile justice aftercare in a racially and ethnically diverse community sample. *Children and Youth Services Review, 50*(3), 75-82.
- Lucenko, L. He, Mancuso, D., & Felver, B. (2011). *Effects of Functional Family Parole on re-arrest and employment for youth in Washington State*. Research Data Analysis Division: Olympia, Washington.
- Sexton, T., Rowland, M., & McEnery, A., (2009). *Interim outcome evaluation of the Washington State Functional Family Parole Project*. Center for Adolescent and Family Studies. Bloomington, Indiana.

Cognitive behavioral therapy (CBT)

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated December 2014.

Program Description: Cognitive-Behavior Therapy (CBT) emphasizes individual accountability and teaches offenders that cognitive deficits, distortions, and flawed thinking processes can cause criminal behavior. All CBT programs focus on cognitive restructuring, but not all programs include skill building. In this meta-analysis, CBT is delivered to juveniles in a group setting in both the institutional and community settings ranging from 3 to 12 months. Name-brand programs, including Reasoning and Rehabilitation, Moral Reconciliation Therapy, and Situational-Decision Making, as well as "homegrown programs," were included in this meta-analysis.

We further examined the effectiveness of CBT using multivariate regression analysis and found little variation based upon program brand, gender of participants, treatment length, treatment setting or follow-up period ($p > 0.5$).

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$3,707	Benefit to cost ratio	\$38.30
Participants	\$821	Benefits minus costs	\$14,722
Others	\$9,145	Chance the program will produce	
Indirect	\$1,443	benefits greater than the costs	95 %
Total benefits	\$15,116		
Net program cost	(\$395)		
Benefits minus cost	\$14,722		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$3,237	\$8,851	\$1,614	\$13,702
Labor market earnings associated with high school graduation	\$918	\$417	\$423	\$0	\$1,758
Health care associated with educational attainment	(\$27)	\$99	(\$108)	\$49	\$13
Costs of higher education	(\$69)	(\$46)	(\$21)	(\$23)	(\$159)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$197)	(\$197)
Totals	\$821	\$3,707	\$9,145	\$1,443	\$15,116

¹In 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.

²"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.

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

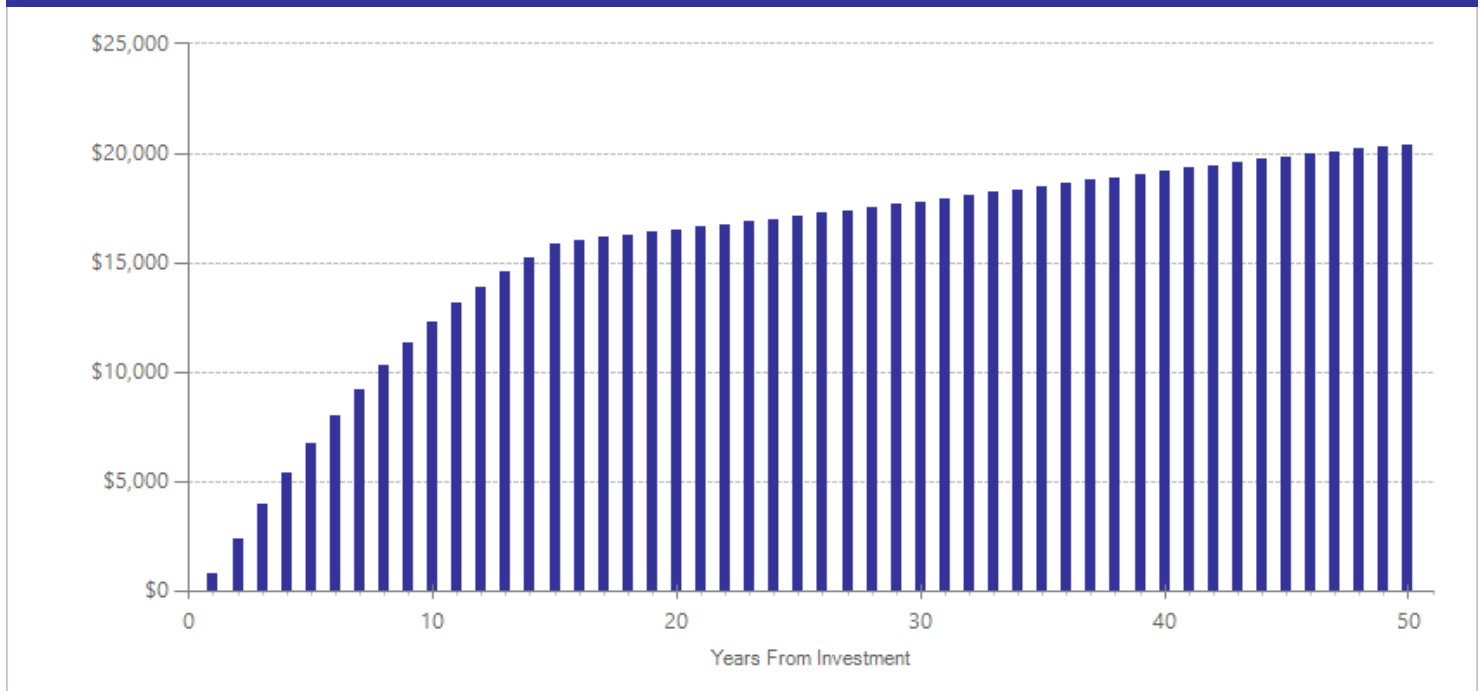
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$285	1998	Present value of net program costs (in 2016 dollars)	(\$395)
Comparison costs	\$0	1998	Cost range (+ or -)	10 %

This program is typically delivered over a period of 3 to 12 months. Per-participant costs from Aos, S., Phipps, P. Barnoski, R. & Lieb, R. (1999). *The comparative costs and benefits of programs to reduce crime: A review of national research findings with implications for Washington State* (Doc. No. 99-05-1202). 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		
Crime	8	2114	-0.122	0.077	18	-0.122	0.077	28	-0.122	0.110

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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Multisystemic Therapy (MST) for juveniles convicted of sex offenses

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated August 2017.

Program Description: Multisystemic Therapy for Youth with Problem Sexual Behaviors (MST-PSB) is an adaptation of MST for juveniles who have committed sexual offenses. Juveniles are referred from juvenile court following diversion or adjudication.

MST-PSB emphasizes intensive family therapy, as well as identifying and solving potential triggers and environmental factors that lead to problem sexual behaviors. MST-PSB therapists visit three or more times a week over the course of the average length of treatment, approximately seven months. MST-PSB therapists' work with the youth, their families, and others identified in the youth's community to establish and promote healthy relationships.

This meta-analysis includes adolescents with a problem sexual behavior (i.e., officially identified as a juvenile with a sex offense). We present analyses for other types of MST separately from this analysis.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$5,408	Benefit to cost ratio	\$2.43
Participants	\$1,181	Benefits minus costs	\$12,742
Others	\$17,073	Chance the program will produce	
Indirect	(\$2,018)	benefits greater than the costs	72 %
Total benefits	\$21,644		
Net program cost	(\$8,902)		
Benefits minus cost	\$12,742		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$4,879	\$16,508	\$2,434	\$23,821
Labor market earnings associated with high school graduation	\$1,274	\$578	\$587	\$0	\$2,439
K-12 grade repetition	\$0	\$3	\$0	\$1	\$4
K-12 special education	\$0	\$7	\$0	\$3	\$10
Property loss associated with alcohol abuse or dependence	\$1	\$0	\$1	\$0	\$2
Health care associated with disruptive behavior disorder	\$1	\$5	\$6	\$2	\$14
Costs of higher education	(\$95)	(\$63)	(\$28)	(\$31)	(\$217)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$4,428)	(\$4,428)
Totals	\$1,181	\$5,408	\$17,073	(\$2,018)	\$21,644

¹In 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.

²"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.

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

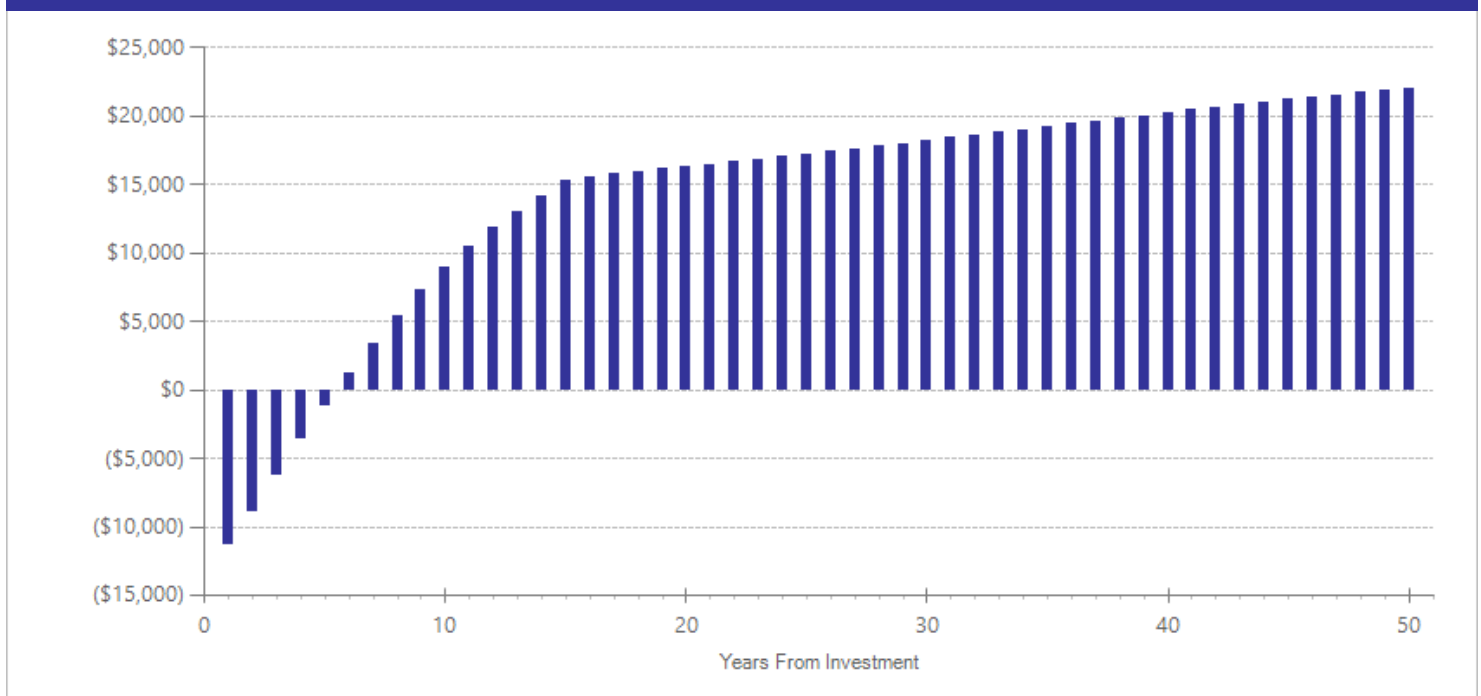
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$8,905	2016	Present value of net program costs (in 2016 dollars)	(\$8,902)
Comparison costs	\$0	2016	Cost range (+ or -)	10 %

The per-participant costs, based on MST-PSB for four months, are sourced from Blueprints for Healthy Youth Development. (2016). *Multisystemic Therapy-Problem Sexual Behavior (MST-PSB) Program Costs*. Retrieved from <http://www.blueprintsprograms.com/program-costs/multisystemic-therapy-problem-sexual-behavior-mst-psb>. These costs reflect Bureau of Labor Statistics reported salaries for eight master-level therapists who each utilize a caseload of four families per four months of service. This represents a total of 96 families served per year. Also reflected are supervisor salary which requires a 0.5 FTE supervisor per four therapists. Additionally, licensing costs, program support fees, Test Analysis Modules using R (TAM-R) collection, and general overhead costs are included in the estimate.

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 in high school	1	66	-0.025	0.239	17	-0.025	0.239	17	-0.066	0.783
Cannabis use in high school	1	66	0.000	0.246	17	0.000	0.246	17	0.000	1.000
Crime	4	164	-0.163	0.138	17	-0.163	0.138	27	-0.553	0.028
Externalizing behavior symptoms	1	67	-0.024	0.178	17	-0.011	0.092	20	-0.065	0.715
Grade point average [^]	1	24	0.521	0.294	17	n/a	n/a	n/a	1.409	0.001
Internalizing symptoms	1	67	-0.040	0.178	17	-0.029	0.139	19	-0.107	0.546
Sex offense [^]	2	32	-0.509	0.327	21	-0.509	0.327	31	-1.391	0.001

[^]WSIPP's benefit-cost model does not monetize this outcome.

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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Wilderness experience programs

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated September 2015.

Program Description: Wilderness programs are typically non-profit education organizations that expose troubled youth to the outdoors in varying ways. These programs, for example, Outward Bound, use challenge and adventure as a means to help delinquent youth through self-discovery and typically take place over a 7 to 30 day period.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$5,975	Benefit to cost ratio	\$2.89
Participants	\$1,861	Benefits minus costs	\$12,181
Others	\$11,510	Chance the program will produce	
Indirect	(\$708)	benefits greater than the costs	96 %
<u>Total benefits</u>	<u>\$18,637</u>		
<u>Net program cost</u>	<u>(\$6,457)</u>		
Benefits minus cost	\$12,181		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$4,911	\$10,848	\$2,449	\$18,209
Labor market earnings associated with high school graduation	\$2,077	\$943	\$953	\$0	\$3,973
Health care associated with educational attainment	(\$61)	\$224	(\$245)	\$112	\$29
Costs of higher education	(\$155)	(\$103)	(\$46)	(\$51)	(\$355)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,218)	(\$3,218)
Totals	\$1,861	\$5,975	\$11,510	(\$708)	\$18,637

¹In 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.

²"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.

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

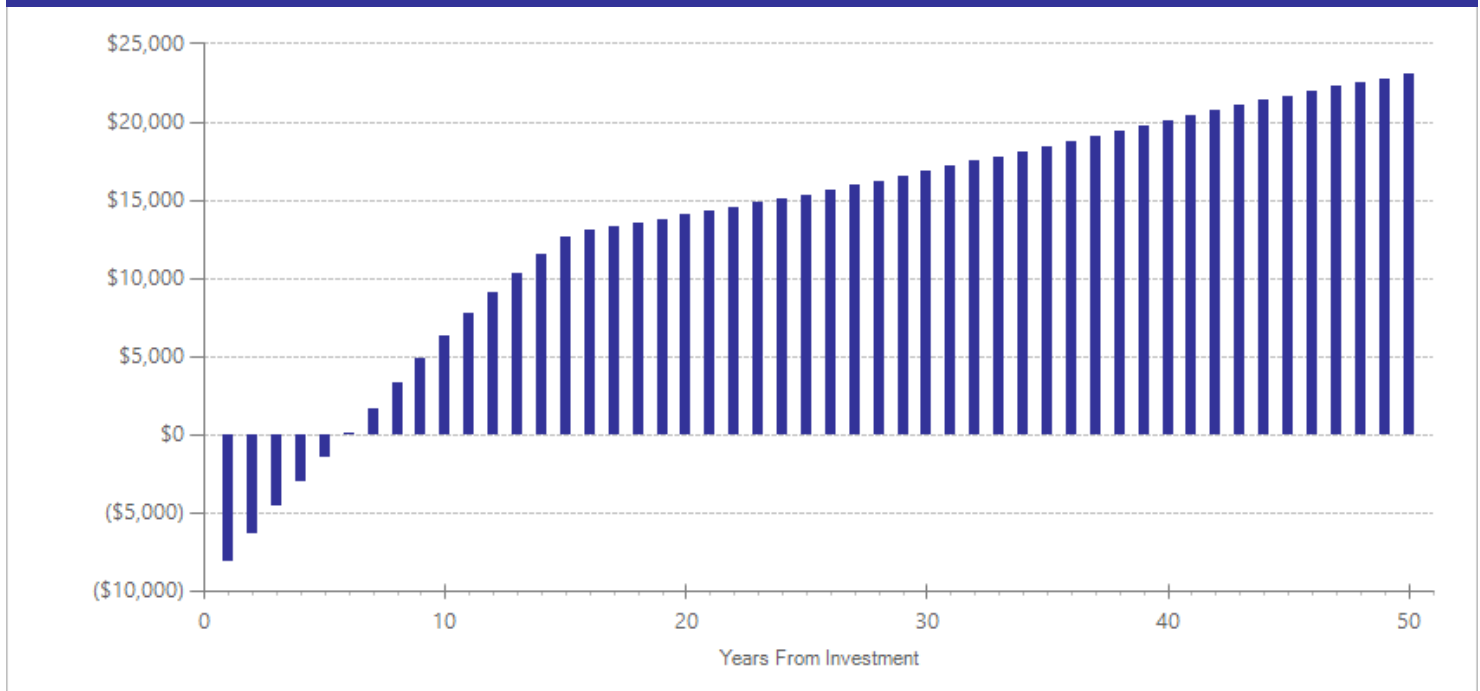
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$6,389	2015	Present value of net program costs (in 2016 dollars)	(\$6,457)
Comparison costs	\$0	2015	Cost range (+ or -)	10 %

We calculated the cost per participant based on the costs of the programs delivered by Outward Bound, a non-profit organization which provides wilderness experience programs for troubled youth (<http://www.outwardbound.org/>). Based on the average length of days in the programs for the studies in our review that reported length of participation (31 days), we estimated a cost per youth participant for one month of programming (\$6,389).

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	8	441	-0.313	0.096	17	-0.313	0.096	27	-0.515	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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Other family-based therapies (non-name brand)

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated September 2015.

Program Description: Other family therapies are non-name brand therapies for youth in the juvenile justice system (name brand therapies include, for example, Functional Family Therapy or Multi-Systemic Therapy). The therapies included in this analysis have a wide range of theoretical foundations and therapeutic techniques. Most of the interventions consisted of therapy with a single family unit, but they also included group therapy with multiple families at once or separated therapy for the juvenile and their parents. All programs took place in a community setting.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$3,315	Benefit to cost ratio	\$7.47
Participants	\$832	Benefits minus costs	\$11,730
Others	\$8,858	Chance the program will produce	
Indirect	\$540	benefits greater than the costs	93 %
Total benefits	\$13,545		
Net program cost	(\$1,814)		
Benefits minus cost	\$11,730		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,838	\$8,563	\$1,421	\$12,822
Labor market earnings associated with high school graduation	\$927	\$421	\$425	\$0	\$1,773
Health care associated with educational attainment	(\$28)	\$101	(\$110)	\$50	\$14
Costs of higher education	(\$68)	(\$45)	(\$20)	(\$22)	(\$156)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$909)	(\$909)
Totals	\$832	\$3,315	\$8,858	\$540	\$13,545

¹In 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.

²"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.

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

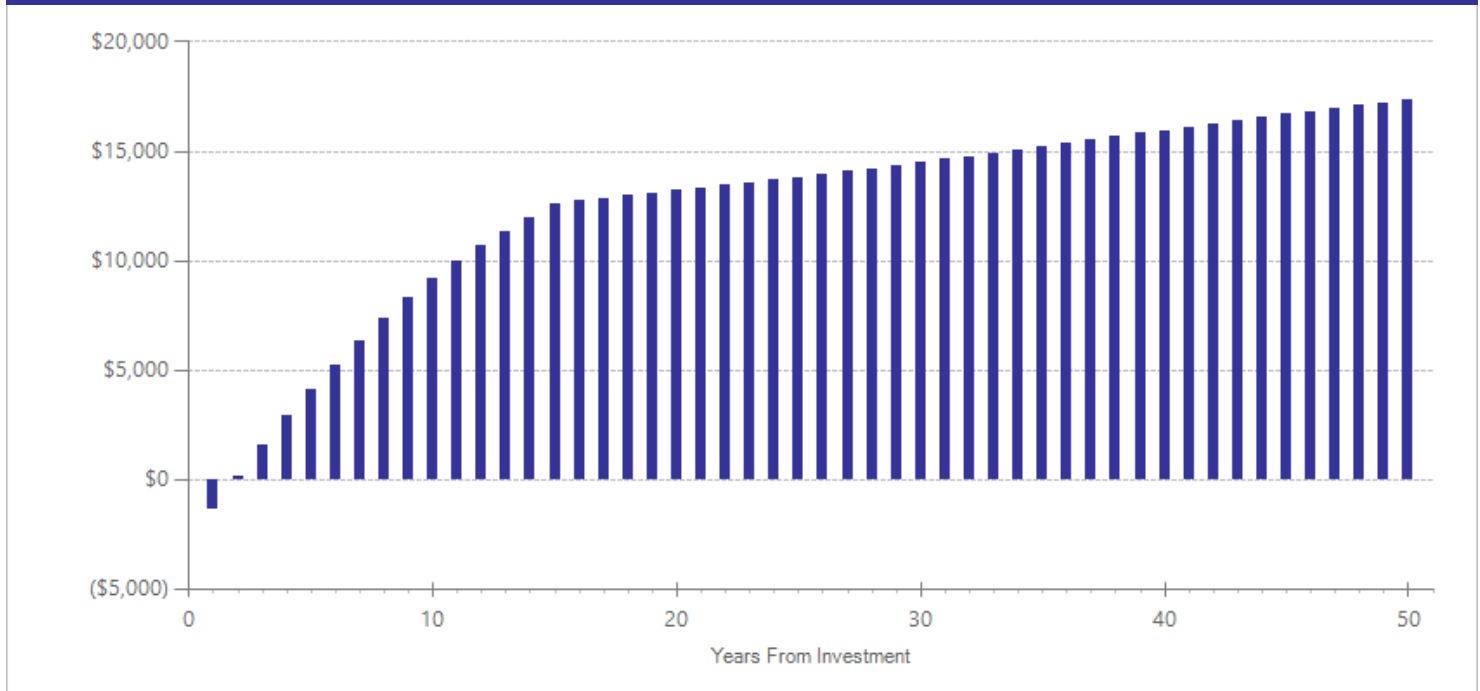
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,788	2014	Present value of net program costs (in 2016 dollars)	(\$1,814)
Comparison costs	\$0	2014	Cost range (+ or -)	10 %

We calculated the cost per participant based on the cost of Functional Family Therapy in Washington, a similar family therapy program that lasts four months on average, weighted by the average length of the programs from the literature in the meta-analysis (2.1 months). See: Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. 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		
Crime	11	1623	-0.121	0.067	16	-0.121	0.067	26	-0.349	0.020

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 Diversion Project

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated July 2015.

Program Description: Diversion is an alternative to formal sanctions or processing in the juvenile justice system. The Adolescent Diversion Project is a "name brand" program developed by researchers at Michigan State University. A primary goal of diversion is to alleviate the negative consequences associated with the juvenile justice system such as stigmatizing youth as deviant or providing youth opportunities to learn deviant behavior through further exposure to more serious offenders. By diverting youth out of the juvenile justice system, youth can maintain ties to pro-social behaviors in the community. Youth are provided with community-based services.

Diversion programs included in this meta-analysis vary in structure and processing as well as the type of youth who are diverted. While some programs divert youth at the initial stages of the juvenile justice system (e.g., law enforcement), others divert youth once they reach the juvenile courts. We used multiple regression to explore whether some program characteristics—such as diversion at the police level (as opposed to the juvenile court level) or diversion coupled with treatment—were more effective at reducing recidivism. We found no statistically significant effects associated with these two program characteristics.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$2,284	Benefit to cost ratio	n/a
Participants	\$851	Benefits minus costs	\$10,129
Others	\$4,625	Chance the program will produce	
Indirect	\$1,405	benefits greater than the costs	97 %
<u>Total benefits</u>	<u>\$9,164</u>		
<u>Net program cost</u>	<u>\$964</u>		
Benefits minus cost	\$10,129		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,797	\$4,322	\$895	\$7,014
Labor market earnings associated with high school graduation	\$949	\$431	\$434	\$0	\$1,815
Health care associated with educational attainment	(\$28)	\$102	(\$111)	\$51	\$13
Costs of higher education	(\$70)	(\$46)	(\$21)	(\$23)	(\$160)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$482	\$482
<u>Totals</u>	<u>\$851</u>	<u>\$2,284</u>	<u>\$4,625</u>	<u>\$1,405</u>	<u>\$9,164</u>

¹In 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.

²"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.

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

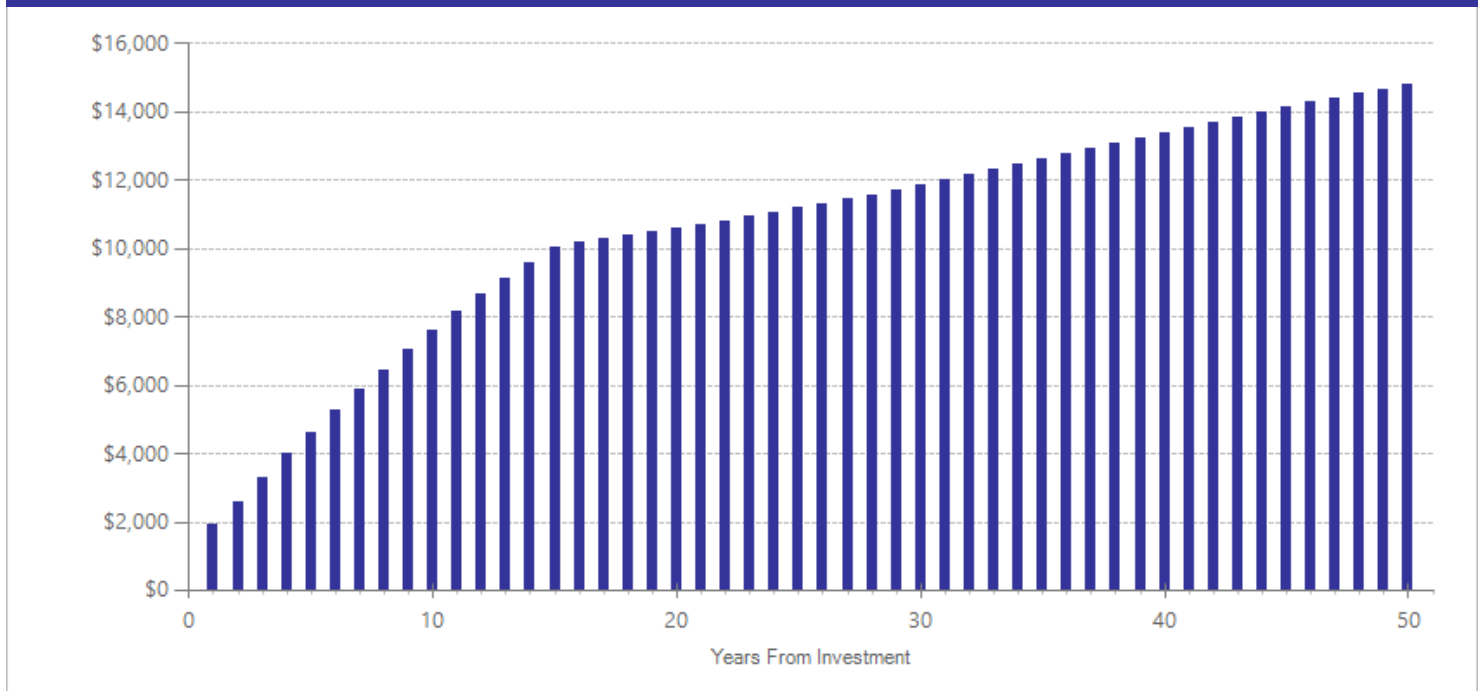
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,021	2006	Present value of net program costs (in 2016 dollars)	\$964
Comparison costs	\$1,950	2008	Cost range (+ or -)	10 %

The per-participant cost for the Adolescent Diversion Project was estimated from www.crimesolutions.org based on an 18-week program delivery. The cost of the comparison group was estimated for 18 weeks of probation using probation cost data from WSIPP's benefit-cost model.

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	8	628	-0.133	0.083	16	-0.133	0.083	26	-0.365	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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Mentoring Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated June 2014.

Program Description: Youth in the juvenile justice system are assigned to a mentor, typically a non-professional volunteer, who meets with the youth approximately once a week. Mentors help youth build social capital by engaging in pro-social relationships. Mentors assist youth in gaining access to community resources necessary for reentry (e.g., Alcoholics Anonymous), attend social functions together (e.g., movies or sporting events), and help youth engage in positive decision-making and problem-solving. Mentors typically maintain a minimum one-year commitment to the youth/program.

Studies examining the effectiveness of mentoring for youth who were not in the juvenile justice system were excluded from this review.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$4,045	Benefit to cost ratio	\$3.91
Participants	\$1,150	Benefits minus costs	\$9,601
Others	\$7,614	Chance the program will produce	
Indirect	\$88	benefits greater than the costs	82 %
Total benefits	\$12,897		
Net program cost	(\$3,296)		
Benefits minus cost	\$9,601		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$3,387	\$7,206	\$1,698	\$12,291
Labor market earnings associated with high school graduation	\$1,284	\$583	\$588	\$0	\$2,455
Health care associated with educational attainment	(\$38)	\$139	(\$152)	\$70	\$19
Costs of higher education	(\$96)	(\$64)	(\$29)	(\$32)	(\$221)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,647)	(\$1,647)
Totals	\$1,150	\$4,045	\$7,614	\$88	\$12,897

¹In 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.

²"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.

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

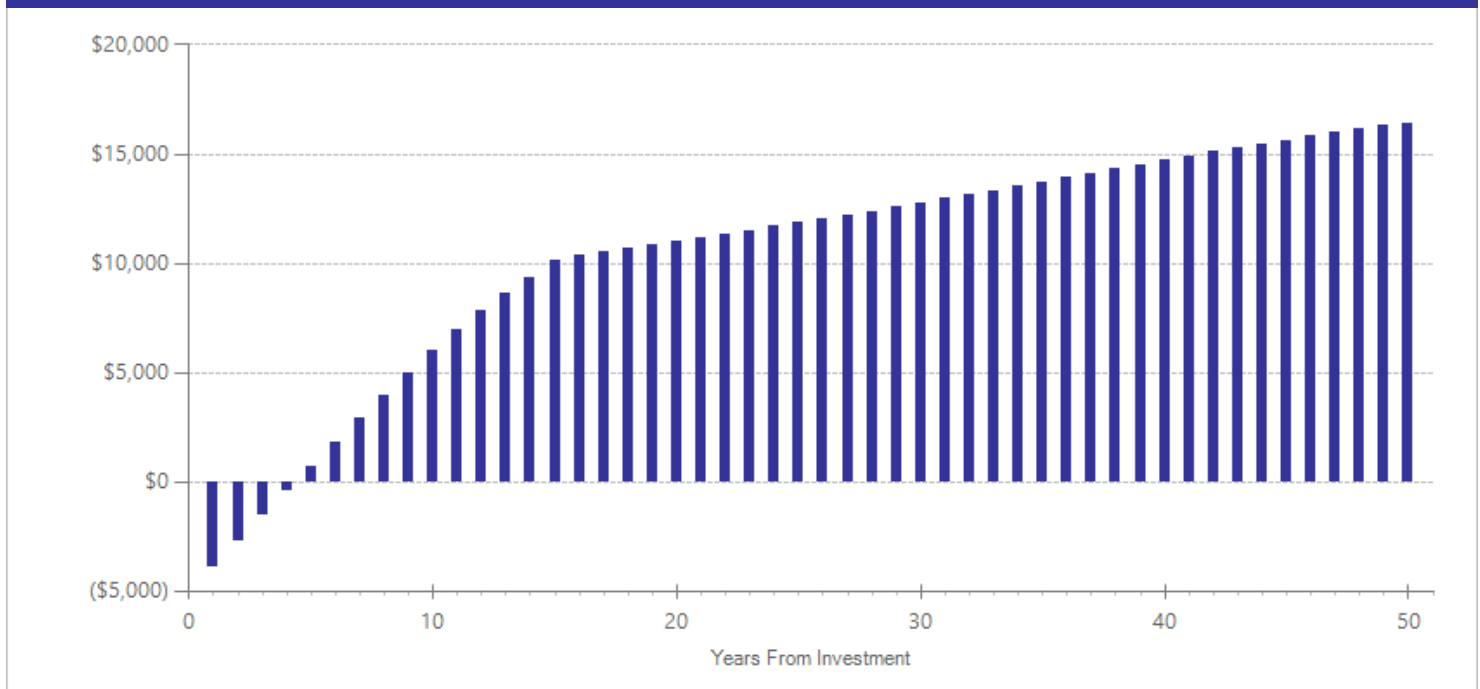
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,748	2005	Present value of net program costs (in 2016 dollars)	(\$3,296)
Comparison costs	\$0	2005	Cost range (+ or -)	10 %

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

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	7	539	-0.203	0.146	18	-0.203	0.146	28	-0.327	0.044

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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Coordination of Services Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated September 2015.

Program Description: Coordination of Services (COS) is an early intervention education program for low-risk juvenile offenders. The program is typically delivered through a 12-hour seminar over two or three days to youth and their parents in a group setting in the community. The goals of COS are to prevent further criminal justice system involvement by describing the consequences of continued delinquent behavior, stimulate goal setting, review the strengths of the youth and family, and connect youth and parents to resources that are available in the community to achieve a positive pro-social future for the youth.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$2,780	Benefit to cost ratio	\$23.76
Participants	\$874	Benefits minus costs	\$9,543
Others	\$5,341	Chance the program will produce	
Indirect	\$968	benefits greater than the costs	96 %
<u>Total benefits</u>	<u>\$9,962</u>		
<u>Net program cost</u>	<u>(\$419)</u>		
Benefits minus cost	\$9,543		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,280	\$5,029	\$1,150	\$8,459
Labor market earnings associated with high school graduation	\$974	\$442	\$448	\$0	\$1,865
Health care associated with educational attainment	(\$29)	\$105	(\$115)	\$53	\$14
Costs of higher education	(\$72)	(\$48)	(\$22)	(\$24)	(\$165)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$211)	(\$211)
Totals	\$874	\$2,780	\$5,341	\$968	\$9,962

¹In 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.

²"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.

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

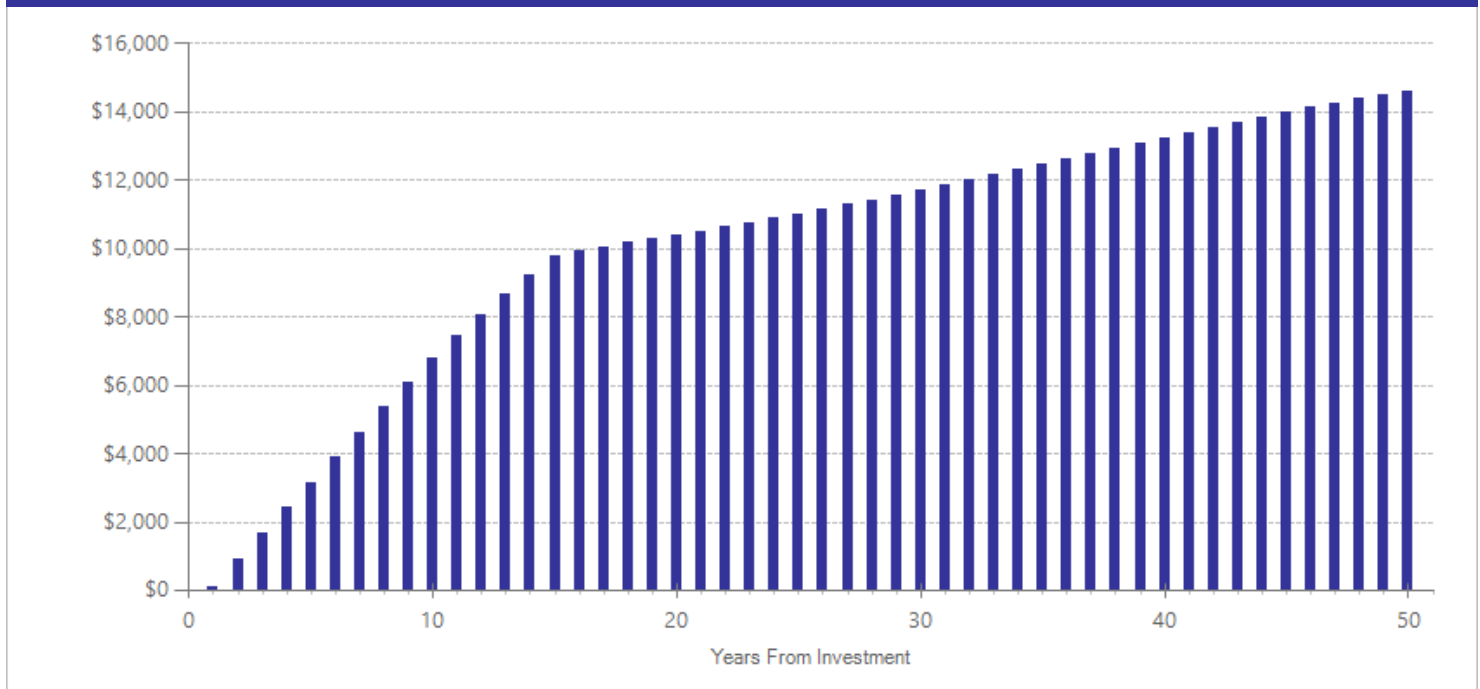
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$379	2008	Present value of net program costs (in 2016 dollars)	(\$419)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant costs, based on a 12-hour seminar, are from Barnoski, R. (2009,). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. 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		
Crime	2	870	-0.143	0.076	18	-0.143	0.076	28	-0.143	0.058

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

- Barnoski, R. (2004). *Outcome evaluation of Washington State's research-based programs for juvenile offenders* (Document No. 04-01-1201). Olympia: Washington State Institute for Public Policy.
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Multidimensional Treatment Foster Care

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated July 2017.

Program Description: Multidimensional Treatment Foster Care (MTFC) is an intensive therapeutic foster care alternative to institutional placement for adolescents who have problems with chronic antisocial behavior, emotional disturbance, and delinquency. MTFC activities include skills training and therapy for youth, as well as behavioral parent training and support for foster parents and biological parents. Participating youth are closely monitored by the foster parents. The length of the program varies, and ranged from 5 to 15 months. The studies in this meta-analysis compared MTFC to treatment as usual, which typically involved placement in a group home care institution.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$4,999	Benefit to cost ratio	\$1.85
Participants	(\$72)	Benefits minus costs	\$9,185
Others	\$17,923	Chance the program will produce	
Indirect	(\$2,899)	benefits greater than the costs	70 %
Total benefits	\$19,951		
Net program cost	(\$10,766)		
Benefits minus cost	\$9,185		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$5,042	\$17,940	\$2,538	\$25,520
K-12 grade repetition	\$0	\$2	\$0	\$1	\$3
Labor market earnings associated with major depression	\$4	\$2	\$0	\$1	\$7
Health care associated with major depression	\$2	\$5	\$6	\$2	\$15
Costs of higher education	(\$77)	(\$51)	(\$23)	(\$26)	(\$178)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$5,416)	(\$5,416)
Totals	(\$72)	\$4,999	\$17,923	(\$2,899)	\$19,951

¹In 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.

²"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.

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

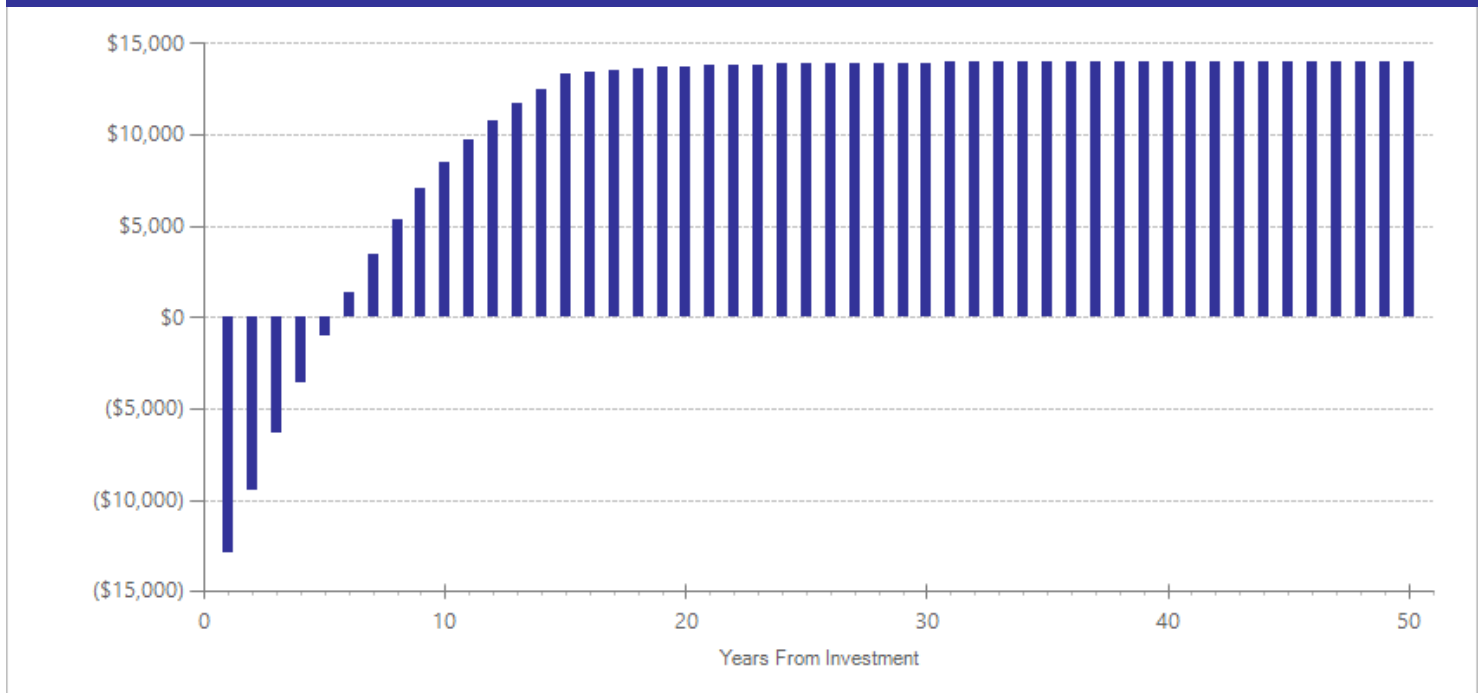
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$31,883	2007	Present value of net program costs (in 2016 dollars)	(\$10,766)
Comparison costs	\$25,226	2014	Cost range (+ or -)	10 %

The per-participant cost estimate provided by the Juvenile Rehabilitation Administration is based on the average length in the program during 2010 and includes oversight, coordination, and administration costs. Average daily costs for ten months of Group Home Care were retrieved from McKay, P., Hollist, D., & Mayrer, J. (2016). *Foster or group home care for youth on probation*.

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 [^]	1	32	-0.019	0.240	17	n/a	n/a	n/a	-0.051	0.833
Cannabis use [^]	1	32	-0.233	0.241	17	n/a	n/a	n/a	-0.629	0.011
Crime	6	189	-0.166	0.105	17	-0.166	0.105	27	-0.388	0.001
Externalizing behavior symptoms ^{^^}	1	20	-0.232	0.343	17	-0.111	0.183	20	-0.627	0.073
Internalizing symptoms ^{^^}	1	20	-0.158	0.342	17	-0.115	0.271	19	-0.428	0.216
Major depressive disorder	1	81	-0.140	0.155	17	0.000	0.017	18	-0.378	0.016
Psychosis symptoms (positive) [^]	1	75	-0.135	0.162	17	-0.100	0.346	18	-0.365	0.091
Regular smoking ^{^^}	1	32	-0.233	0.241	17	n/a	n/a	n/a	-0.629	0.011
Substance use [^]	2	51	-0.252	0.207	17	n/a	n/a	n/a	-0.473	0.023
Suicidal ideation [^]	1	81	-0.169	0.156	17	n/a	n/a	n/a	-0.458	0.004
Suicide attempts [^]	1	81	0.035	0.237	17	n/a	n/a	n/a	0.095	0.685
Teen pregnancy (under age 18) [^]	1	78	-0.199	0.212	17	n/a	n/a	n/a	-0.538	0.004

[^]WSIPP's benefit-cost model does not monetize this outcome.

^{^^}WSIPP does not include this outcome when conducting benefit-cost analysis for this program.

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.

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Diversion, no services (vs. traditional juvenile court processing)

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated July 2015.

Program Description: Diversion is an alternative to formal sanctions or processing in the juvenile justice system. A primary goal of diversion is to alleviate the negative consequences associated with the juvenile justice system such as stigmatizing youth as deviant or providing youth opportunities to learn deviant behavior through further exposure to more serious offenders. By diverting youth out of the juvenile justice system, youth can maintain attachment to pro-social norms in their communities. Diversion programs included in this meta-analysis vary in structure and processing as well as the type of youth who are diverted.

While some programs divert youth at the initial stages of the juvenile justice system (e.g., law enforcement), others divert youth once they reach the juvenile courts. This meta-analysis includes diversion-only programs (no treatment or community services) compared to youth who were processed traditionally through the juvenile courts. We used multiple regression to explore whether some program characteristics—such as diversion at the police level (as opposed to the juvenile court level) or diversion coupled with treatment—were more effective at reducing recidivism. We found no statistically significant effects associated with these two program characteristics.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	\$1,796	Benefit to cost ratio	n/a
Participants	\$629	Benefits minus costs	\$8,344
Others	\$3,553	Chance the program will produce	
Indirect	\$1,285	benefits greater than the costs	98 %
<u>Total benefits</u>	<u>\$7,263</u>		
<u>Net program cost</u>	<u>\$1,081</u>		
Benefits minus cost	\$8,344		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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:¹

Benefits to:

	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,436	\$3,330	\$722	\$5,488
Labor market earnings associated with high school graduation	\$701	\$319	\$322	\$0	\$1,342
Health care associated with educational attainment	(\$21)	\$76	(\$83)	\$38	\$10
Costs of higher education	(\$52)	(\$35)	(\$16)	(\$17)	(\$120)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$543	\$543
Totals	\$629	\$1,796	\$3,553	\$1,285	\$7,263

¹In 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.

²"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.

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

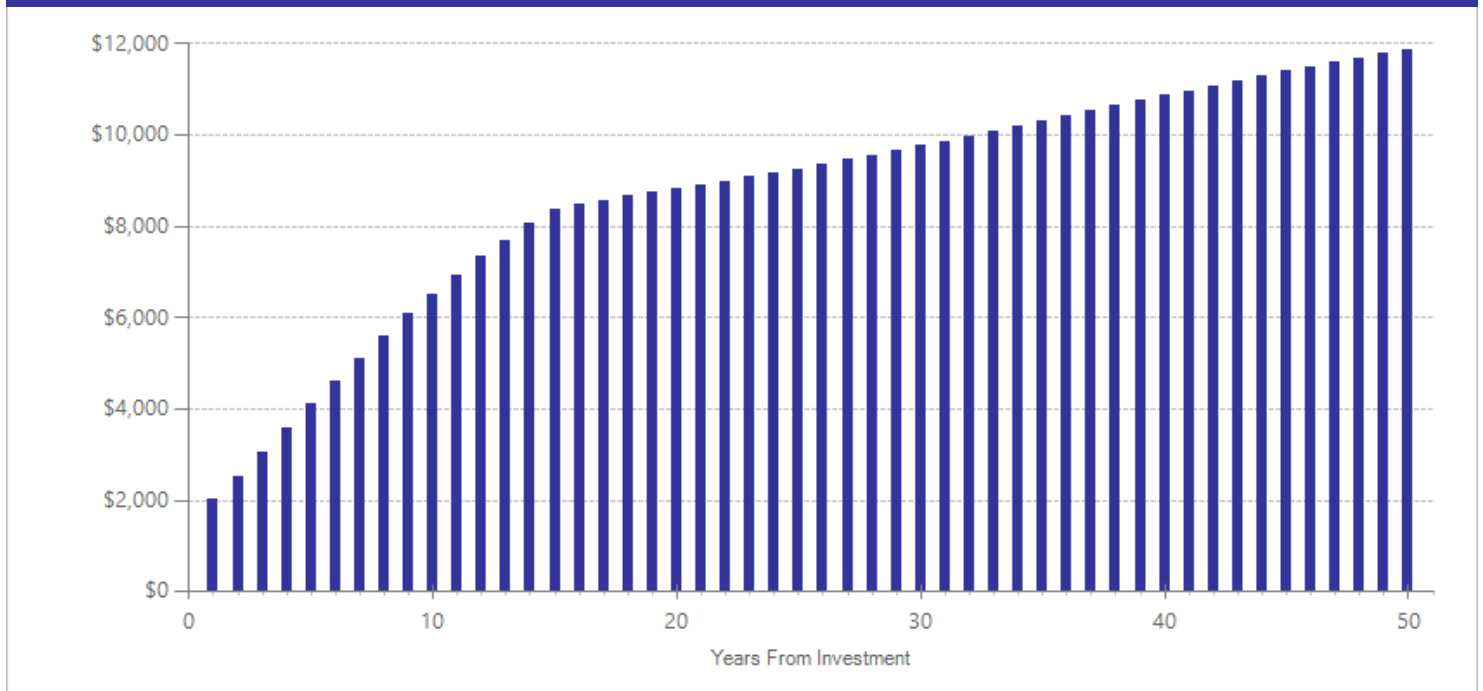
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$353	2014	Present value of net program costs (in 2016 dollars)	\$1,081
Comparison costs	\$1,300	2008	Cost range (+ or -)	10 %

Depending on the population, diversion can last from three to six months. The per-participant cost estimate for diverted youth was provided by the Thurston County Juvenile Court. The comparison group cost estimate assumes youth would have been on probation for three months and was derived using probation cost data from WSIPP's benefit-cost model.

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	8	1623	-0.101	0.062	17	-0.101	0.062	27	-0.105	0.088

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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Therapeutic communities for juveniles with substance use disorder

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated August 2017.

Program Description: Therapeutic communities (TCs) are a common form of intensive substance use disorder treatment. TCs usually exist within the community at large and involve juveniles that are ordered to chemical dependency diversion and/or following adjudication. These residential living units are highly structured and utilize a hierarchical model among peers to promote both personal and group accountability in regards to achieving and maintaining substance abstinence. Youths earn responsibility as they progress through the stages of long-term treatment. Depending on the level of chemical dependency by those involved in the TC and the program itself, therapeutic communities can range in treatment length from 5 to 15 months.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$3,135	Benefit to cost ratio	\$2.69
Participants	\$539	Benefits minus costs	\$7,969
Others	\$9,950	Chance the program will produce	
Indirect	(\$935)	benefits greater than the costs	74 %
<u>Total benefits</u>	<u>\$12,690</u>		
<u>Net program cost</u>	<u>(\$4,720)</u>		
Benefits minus cost	\$7,969		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,877	\$9,669	\$1,423	\$13,969
Labor market earnings associated with high school graduation	\$574	\$260	\$262	\$0	\$1,096
Health care associated with smoking	\$8	\$26	\$32	\$12	\$78
Costs of higher education	(\$43)	(\$28)	(\$13)	(\$14)	(\$98)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,356)	(\$2,356)
Totals	\$539	\$3,135	\$9,950	(\$935)	\$12,690

¹In 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.

²"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.

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

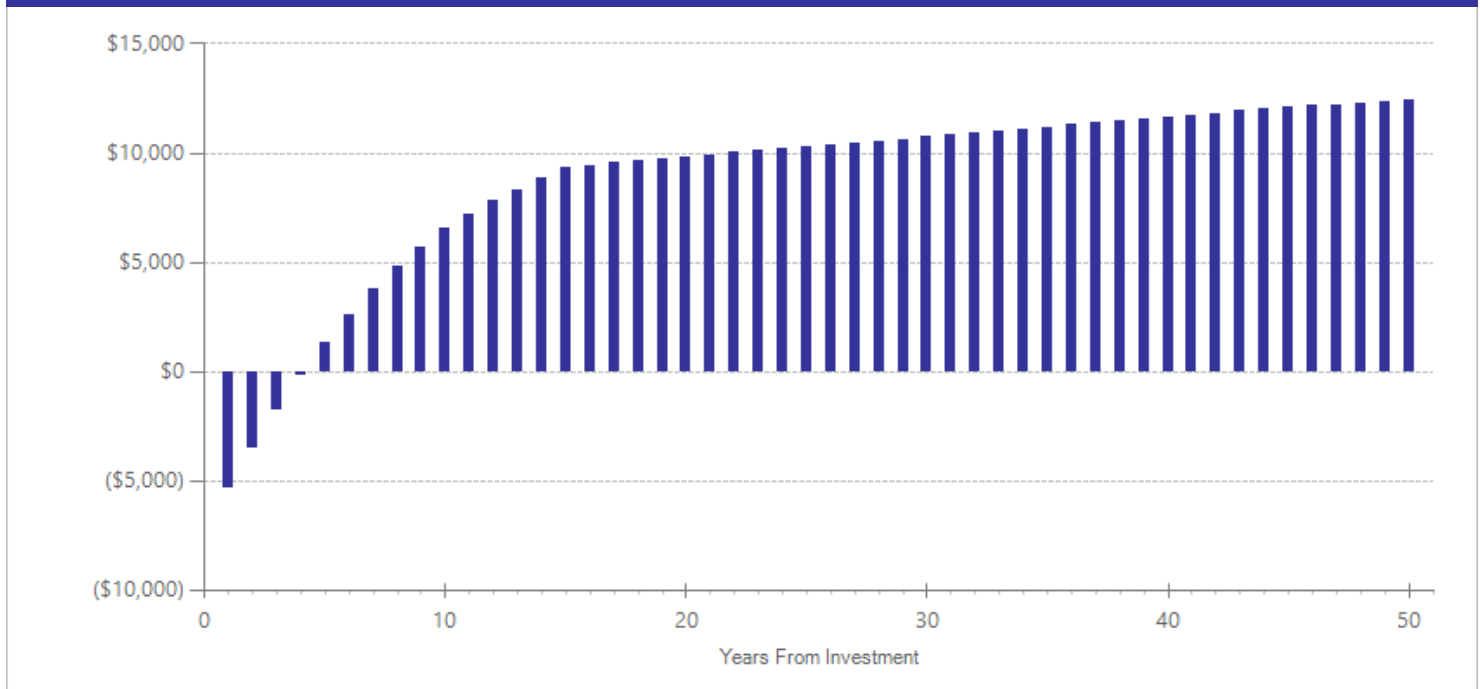
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$4,522	2012	Present value of net program costs (in 2016 dollars)	(\$4,720)
Comparison costs	\$0	2012	Cost range (+ or -)	10 %

The per-participant cost estimate, based on the average length of treatment, approximately 12 months, was provided by the Washington State Juvenile Rehabilitation Administration.

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	4	1306	-0.091	0.071	18	-0.091	0.071	28	-0.106	0.106
Regular smoking	1	160	0.102	0.101	18	0.102	0.101	28	0.200	0.049
Substance use [^]	2	572	0.224	0.365	18	n/a	n/a	n/a	0.158	0.713

[^]WSIPP’s benefit-cost model does not monetize this outcome.

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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Teaching-Family Model

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated June 2015.

Program Description: Teaching-Family is a name brand mentoring model delivered within a group home setting. Group homes are community-based, residential facilities for juvenile offenders. For Teaching-Family, the team is typically a married couple who demonstrate pro-social behaviors in a family-style environment.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$8,122	Benefit to cost ratio	\$1.35
Participants	\$1,404	Benefits minus costs	\$7,776
Others	\$28,116	Chance the program will produce	
Indirect	(\$7,504)	benefits greater than the costs	59 %
<u>Total benefits</u>	<u>\$30,139</u>		
<u>Net program cost</u>	<u>(\$22,363)</u>		
Benefits minus cost	\$7,776		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$7,319	\$27,614	\$3,664	\$38,598
Labor market earnings associated with high school graduation	\$1,565	\$710	\$720	\$0	\$2,995
Health care associated with educational attainment	(\$46)	\$168	(\$184)	\$85	\$23
Costs of higher education	(\$114)	(\$76)	(\$34)	(\$38)	(\$262)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$11,215)	(\$11,215)
Totals	\$1,404	\$8,122	\$28,116	(\$7,504)	\$30,139

¹In 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.

²"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.

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

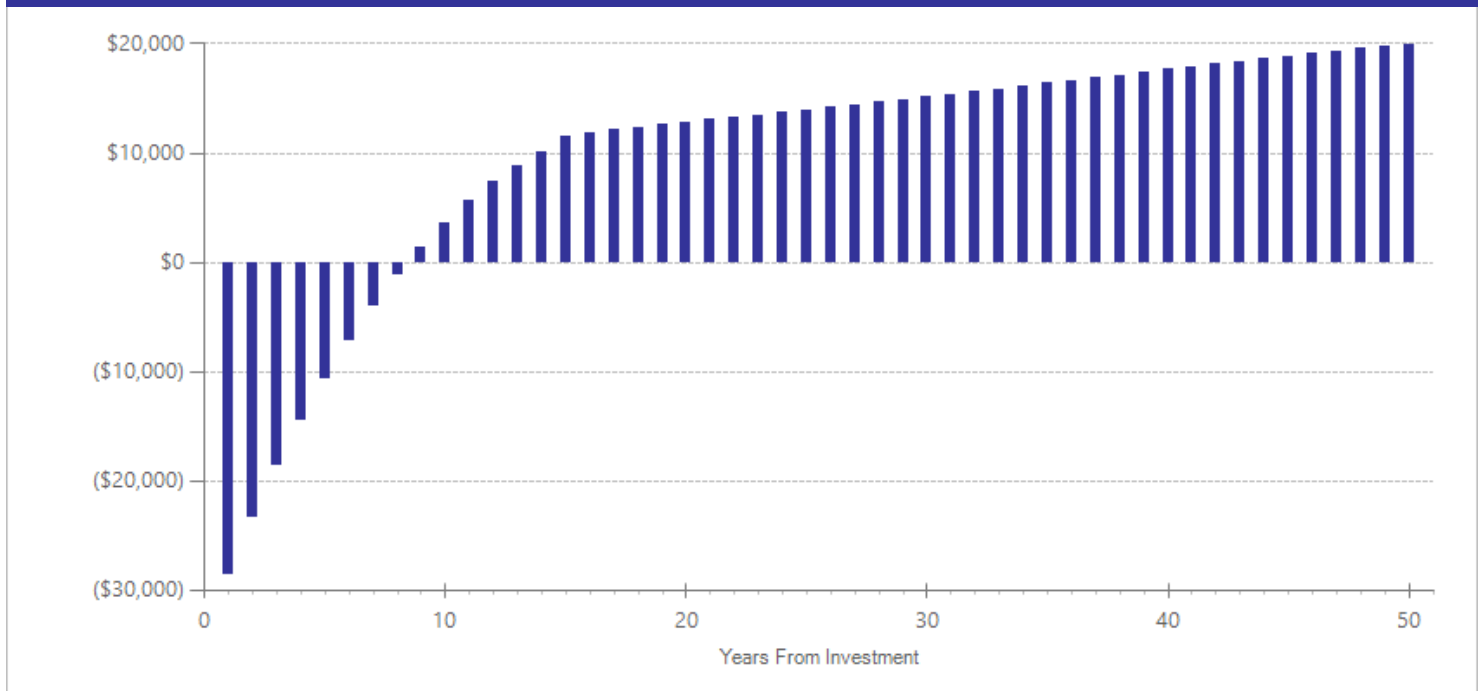
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$20,210	2008	Present value of net program costs (in 2016 dollars)	(\$22,363)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

Per-participant costs from Robertson, D., Sandberg, M., & Anderson, B. (2008). *A look at client participation using DSHS' client service database*. Department of Social and Health Services, Research and Data Analysis Division: Olympia, WA.

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	140	-0.248	0.200	16	-0.248	0.200	26	-0.248	0.216

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

Kirigin, K.A., Braukmann, C.J., Atwater, J.D., & Wolf, M.M. (1982). An evaluation of teaching-family (Achievement Place) group homes for juvenile offenders. *Journal of Applied Behavior Analysis, 15*(1), 1-16.

Intensive supervision (parole)

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated September 2015.

Program Description: In this broad grouping of programs, intensive supervision emphasizes a higher degree of surveillance than traditional supervision in the community. This meta-analysis includes only studies of offenders who were on parole (not probation). The average number of monthly contacts of any kind for studies included in our meta-analysis was 37. Conditions of supervision vary across the studies, but some characteristics include urinalysis testing, increased face-to-face or collateral contacts, or required participation in treatment.

We used multiple regression to test for the possibility of an “interaction,” (a simultaneous effect of two variables) between monthly contacts and treatment. The interaction indicates that more contacts, coupled with treatment, result in a bigger reduction in crime. We only found this effect for parole populations. For probation populations, we found a statistically significant increase in recidivism when there was a combination of more contacts and more treatment.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$2,133	Benefit to cost ratio	\$4.18
Participants	\$342	Benefits minus costs	\$6,867
Others	\$6,645	Chance the program will produce	
Indirect	(\$97)	benefits greater than the costs	76 %
Total benefits	\$9,023		
Net program cost	(\$2,156)		
Benefits minus cost	\$6,867		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,938	\$6,523	\$973	\$9,434
Labor market earnings associated with high school graduation	\$382	\$173	\$175	\$0	\$730
Health care associated with educational attainment	(\$11)	\$41	(\$45)	\$21	\$6
Costs of higher education	(\$28)	(\$19)	(\$9)	(\$10)	(\$65)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,081)	(\$1,081)
Totals	\$342	\$2,133	\$6,645	(\$97)	\$9,023

¹In 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.

²“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.

³“Indirect benefits” includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

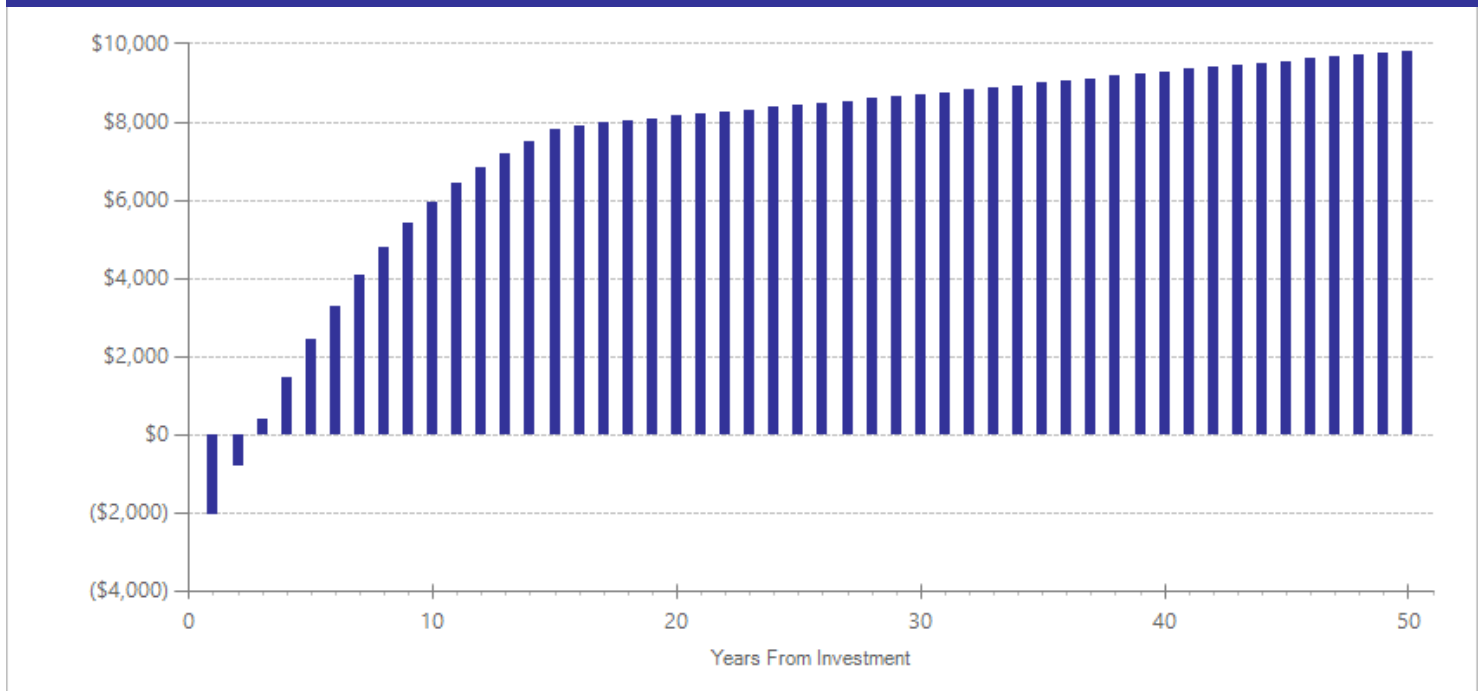
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,947	2009	Present value of net program costs (in 2016 dollars)	(\$2,156)
Comparison costs	\$0	2009	Cost range (+ or -)	10 %

We used WSIPP's annual marginal cost estimate for juvenile supervision (as reported in Washington State Institute for Public Policy (July 2015). *Benefit-cost technical documentation*. Olympia, WA: Author) to compute a daily cost estimate. The daily cost estimate for parole was multiplied by the weighted average months on supervision, 5.95, as reported by the studies included in the meta-analysis.

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	9	1101	-0.062	0.060	18	-0.062	0.060	28	-0.062	0.312

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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Aggression Replacement Training (ART) for youth in state institutions

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated June 2017.

Program Description: Aggression Replacement Training® (ART®) is a cognitive behavioral intervention that targets chronically aggressive youth. ART aims to help adolescents improve social skill competence and moral reasoning, better manage anger, and reduce aggressive behavior. ART can be delivered either in a detention facility or in the community, for those on probation. ART is a ten-week, 30-hour intervention delivered in groups of 8 to 12 participants, three times per week.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,482	Benefit to cost ratio	\$4.03
Participants	\$249	Benefits minus costs	\$4,865
Others	\$4,866	Chance the program will produce	
Indirect	(\$127)	benefits greater than the costs	65 %
Total benefits	\$6,470		
Net program cost	(\$1,604)		
Benefits minus cost	\$4,865		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,341	\$4,777	\$675	\$6,792
Labor market earnings associated with high school graduation	\$278	\$126	\$128	\$0	\$532
Health care associated with educational attainment	(\$8)	\$29	(\$32)	\$15	\$4
Costs of higher education	(\$21)	(\$14)	(\$6)	(\$7)	(\$48)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$810)	(\$810)
Totals	\$249	\$1,482	\$4,866	(\$127)	\$6,470

¹In 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.

²"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.

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

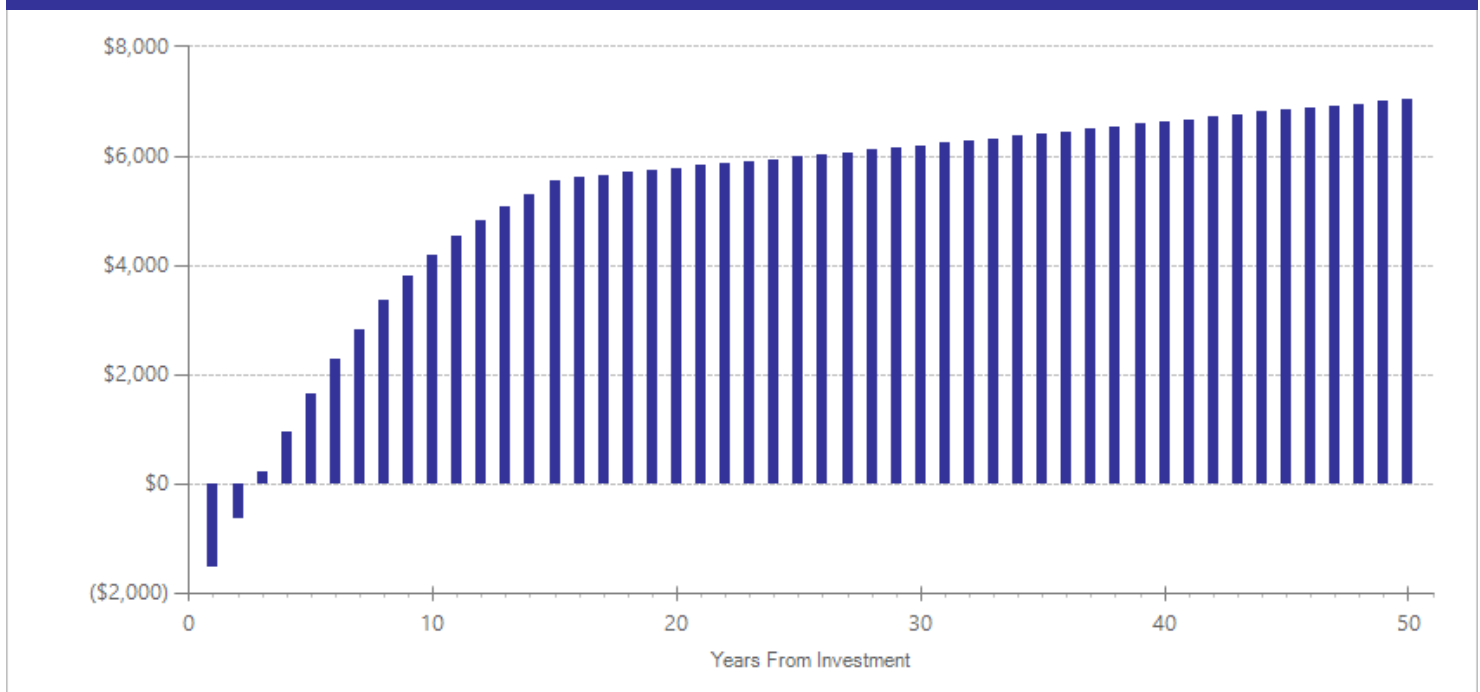
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,449	2008	Present value of net program costs (in 2016 dollars)	(\$1,604)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant cost estimate is based on an average program length of ten weeks, from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. 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		
Crime	5	1530	-0.047	0.079	17	-0.047	0.079	27	-0.236	0.139

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

- Barnoski, R. (2004). *Outcome evaluation of Washington State's research-based programs for juvenile offenders* (Document No. 04-01-1201). Olympia: Washington State Institute for Public Policy.
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Multisystemic Therapy (MST)

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated August 2017.

Program Description: Multisystemic Therapy (MST) is an intensive family- and community-based therapy for youth with antisocial behaviors. In the juvenile justice setting, MST is designed for youth with violent and chronic criminal behavior. The goal of MST is to identify problems and assess how they fit within the context of the youth's life. MST therapists meet with family members and others in the home or directly within the environment of the youth (e.g., school). Multiple family therapist contacts are made weekly resulting in variability in treatment time among participants. The intervention typically lasts between three to six months. In the included studies, participants received an average of 44 total hours of treatment.

We exclude MST for juveniles with substance use disorder and MST for juveniles convicted of sex offenses from this analysis and report on them separately.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$3,434	Benefit to cost ratio	\$1.62
Participants	\$967	Benefits minus costs	\$4,824
Others	\$10,688	Chance the program will produce	
Indirect	(\$2,434)	benefits greater than the costs	73 %
Total benefits	\$12,655		
Net program cost	(\$7,830)		
Benefits minus cost	\$4,824		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,848	\$10,153	\$1,436	\$14,437
Labor market earnings associated with high school graduation	\$1,030	\$468	\$472	\$0	\$1,970
K-12 grade repetition	\$0	\$9	\$0	\$4	\$13
K-12 special education	\$0	\$95	\$0	\$48	\$143
Health care associated with disruptive behavior disorder	\$23	\$72	\$89	\$36	\$220
Costs of higher education	(\$86)	(\$57)	(\$26)	(\$29)	(\$198)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,930)	(\$3,930)
Totals	\$967	\$3,434	\$10,688	(\$2,434)	\$12,655

¹In 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.

²"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.

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

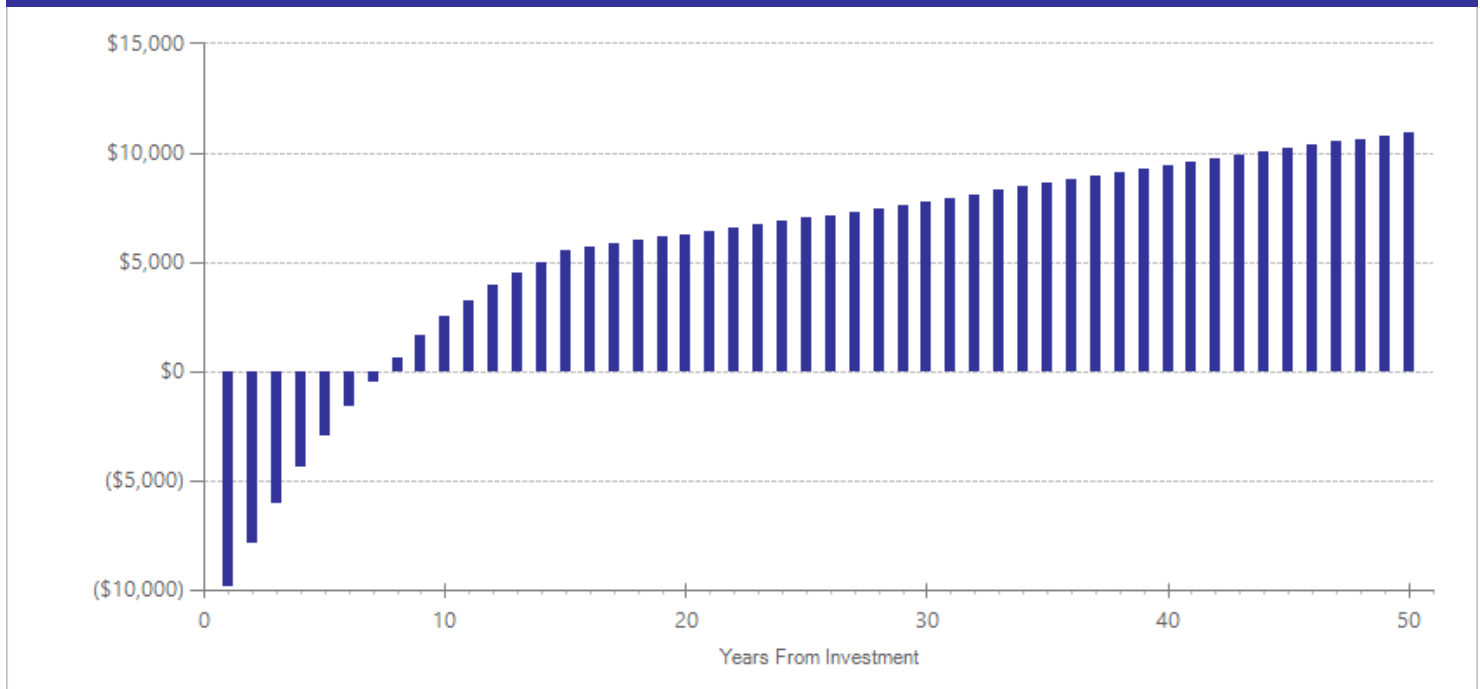
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$7,076	2008	Present value of net program costs (in 2016 dollars)	(\$7,830)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant cost estimate is based on an average program length of four months, from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. 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		
Crime	7	1370	-0.096	0.047	17	-0.096	0.047	27	-0.251	0.027
Disruptive behavior disorder symptoms	1	147	-0.529	0.129	17	-0.252	0.125	20	-0.529	0.001
Externalizing behavior symptoms	1	147	-0.405	0.128	17	-0.193	0.105	20	-0.405	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

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Vocational and employment training

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated June 2017.

Program Description: Vocational and employment training programs for youth involved in the juvenile justice system include a combination of vocational skills training, academic education or tutoring, and job search assistance. Vocational skills training typically includes classroom-based or unpaid job experiences that teach youth employable skills. Job search assistance may include interview preparation, resume building, or job placement services. Included programs provide residential services (during incarceration) or non-residential services in the community. In the included studies, participants typically received services over a period of three to ten months.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$2,989	Benefit to cost ratio	\$2.97
Participants	(\$417)	Benefits minus costs	\$3,872
Others	\$2,989	Chance the program will produce	
Indirect	\$277	benefits greater than the costs	53 %
Total benefits	\$5,838		
Net program cost	(\$1,966)		
Benefits minus cost	\$3,872		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,022	\$2,700	\$510	\$4,232
Labor market earnings associated with high school graduation	\$1,025	\$466	\$447	\$0	\$1,937
Health care associated with educational attainment	(\$32)	\$115	(\$128)	\$55	\$10
Food assistance	(\$1,311)	\$1,451	\$0	\$725	\$865
Costs of higher education	(\$99)	(\$66)	(\$30)	(\$29)	(\$223)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$984)	(\$984)
Totals	(\$417)	\$2,989	\$2,989	\$277	\$5,838

¹In 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.

²"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.

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

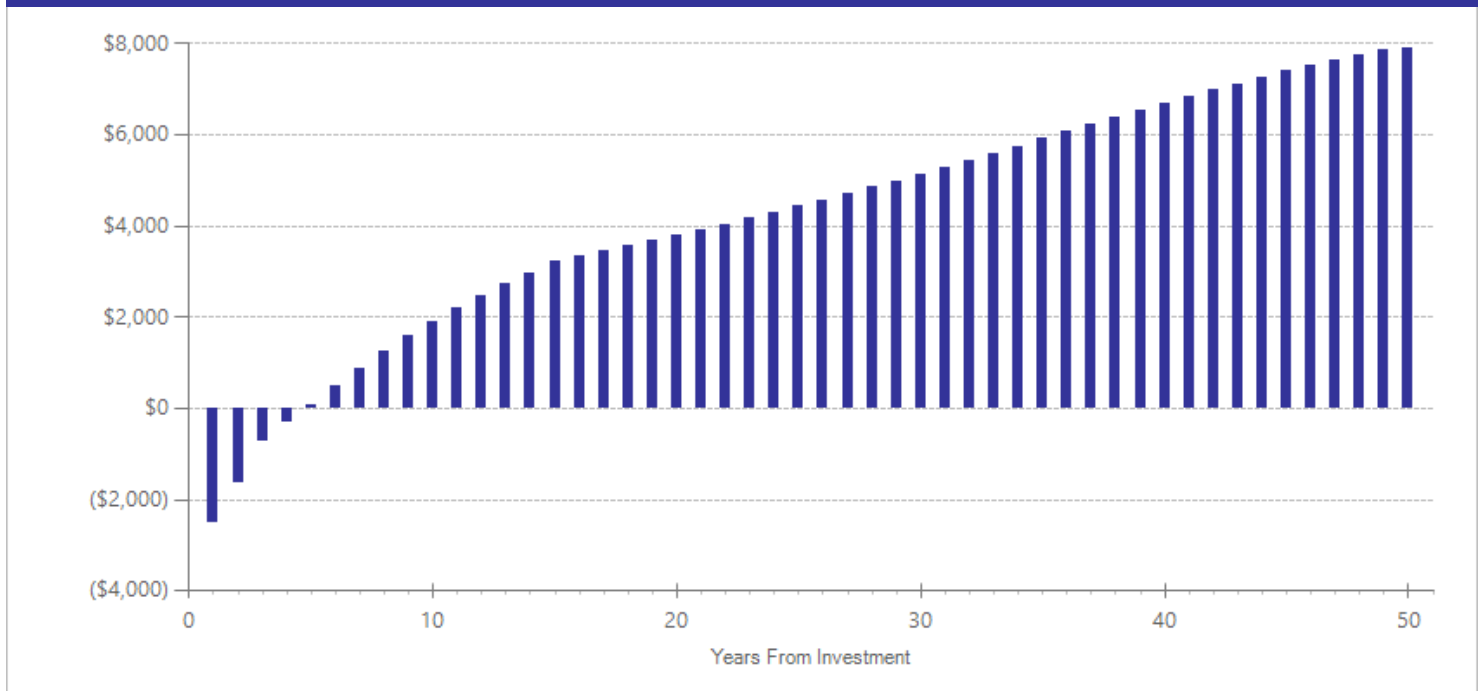
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,937	2014	Present value of net program costs (in 2016 dollars)	(\$1,966)
Comparison costs	\$0	2014	Cost range (+ or -)	10 %

Per-participant cost estimates are based on reported per-participant costs from included studies. The weighted average length of services is 7.9 months.: National Council on Crime and Delinquency. (2009), Cave et al. (1993), Bloom et al. (1996), and Miller et al. (2015).

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 disorder ^{^^}	1	50	-0.023	0.203	19	n/a	n/a	n/a	-0.023	0.910
Cannabis use [^]	2	173	0.003	0.165	19	n/a	n/a	n/a	0.003	0.986
Crime	8	1329	-0.038	0.060	19	-0.038	0.060	29	-0.048	0.418
Earnings ^{^^}	3	800	0.069	0.064	19	0.000	0.018	20	0.069	0.287
Employment ^{^^}	1	50	0.738	0.276	19	0.000	0.000	0	0.738	0.008
Externalizing behavior symptoms ^{^^}	1	50	0.431	0.208	19	0.205	0.138	22	0.431	0.038
Food assistance	1	369	-0.166	0.127	19	0.000	0.000	0	-0.166	0.192
GED attainment [^]	3	604	0.255	0.207	19	n/a	n/a	n/a	0.255	0.220
High school graduation	2	419	0.010	0.258	19	0.010	0.258	19	0.010	0.968
Illicit drug use disorder ^{^^}	1	50	0.034	0.203	19	n/a	n/a	n/a	0.034	0.866
Internalizing symptoms ^{^^}	1	50	0.077	0.207	19	0.056	0.163	21	0.077	0.709
Substance use [^]	1	123	-0.321	0.176	19	n/a	n/a	n/a	-0.321	0.069

[^]WSIPP's benefit-cost model does not monetize this outcome.

^{^^}WSIPP does not include this outcome when conducting benefit-cost analysis for this program.

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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Multisystemic Therapy (MST) for juveniles with substance use disorder

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated August 2017.

Program Description: Multisystemic Therapy—Substance Abuse (MST-SA) is a form of MST that is targeted toward youth who engage in disordered use of drugs and/or alcohol. MST-SA is intended to reduce drug use and abuse, as well as related delinquent or criminal behavior. MST-SA is delivered by therapists in the participants' home, school, and community. MST-SA includes a specific written plan, intensive family-focused therapy, job training, and inclusion in positive activities (e.g., sports or clubs). This program also includes random drug testing and rewards for positive behavior (e.g., rewarding a clean urinalysis with monetary compensation). The average MST-SA treatment lasts four months, with several therapist-family visits occurring per week. Participants are typically referred to MST-SA from juvenile drug court or as a condition to probation.

This meta-analysis includes adolescents who were identified as substance-abusing or dependent. We present analyses for other types of MST separately from this analysis.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	\$3,612	Benefit to cost ratio	\$1.45
Participants	\$545	Benefits minus costs	\$3,555
Others	\$7,634	Chance the program will produce	
Indirect	(\$410)	benefits greater than the costs	51 %
Total benefits	\$11,381		
Net program cost	(\$7,826)		
Benefits minus cost	\$3,555		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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:¹

Benefits to:

	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,599	\$6,817	\$1,296	\$10,712
Labor market earnings associated with illicit drug abuse or dependence	\$425	\$193	\$0	\$1,785	\$2,403
Health care associated with illicit drug abuse or dependence	\$165	\$851	\$831	\$429	\$2,275
Costs of higher education	(\$45)	(\$30)	(\$14)	(\$15)	(\$104)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,905)	(\$3,905)
Totals	\$545	\$3,612	\$7,634	(\$410)	\$11,381

¹In 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.

²"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.

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

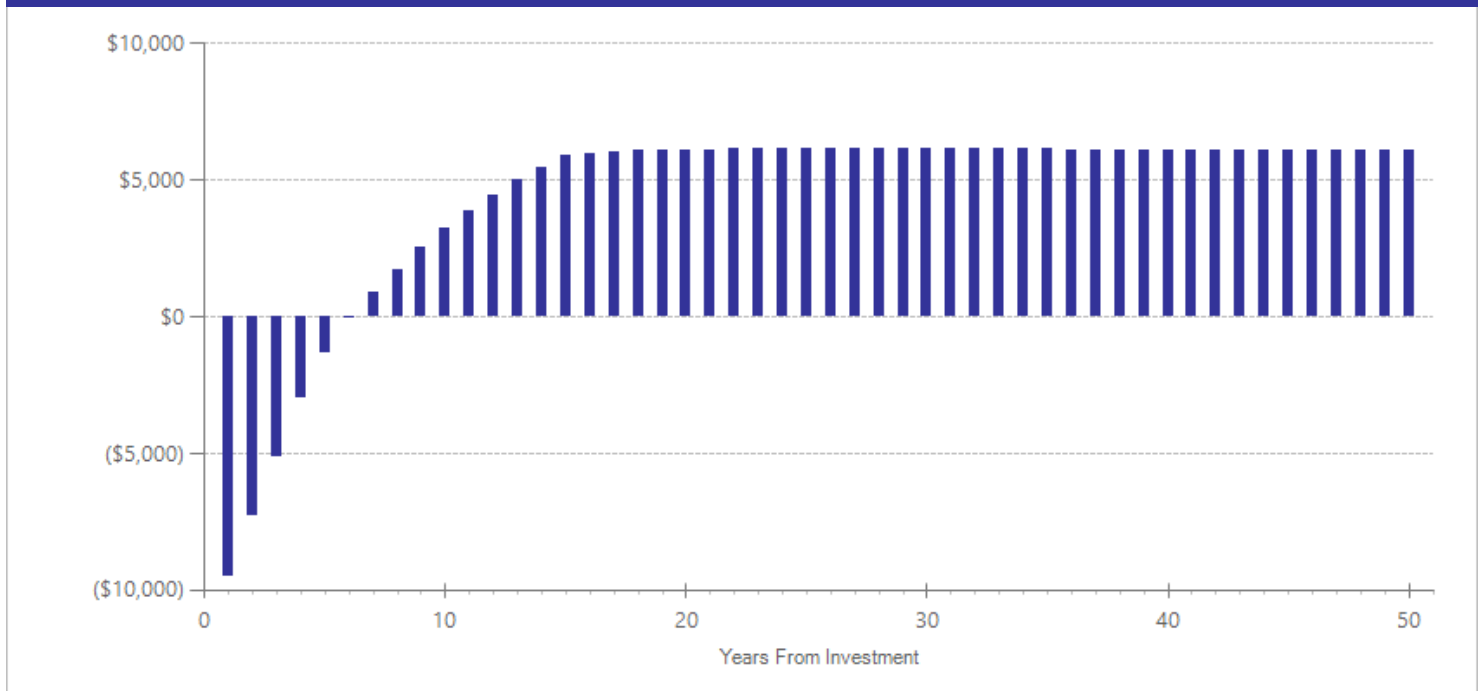
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$7,076	2008	Present value of net program costs (in 2016 dollars)	(\$7,826)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant cost estimate is based on providing traditional MST for four months, as described in Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. 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		
Cannabis use [^]	2	80	-0.137	0.194	20	n/a	n/a	n/a	-0.413	0.097
Crime	2	86	-0.103	0.158	20	-0.103	0.158	30	-0.278	0.083
Externalizing behavior symptoms ^{^^}	1	43	-0.060	0.224	20	-0.029	0.117	23	-0.163	0.469
Illicit drug use disorder	1	43	-0.117	0.280	20	0.000	0.187	23	-0.315	0.251
Internalizing symptoms ^{^^}	1	43	-0.042	0.224	20	-0.031	0.175	22	-0.115	0.609

[^]WSIPP’s benefit-cost model does not monetize this outcome.

^{^^}WSIPP does not include this outcome when conducting benefit-cost analysis for this program.

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

Henggeler, S.W., Clingempeel, W.G., Brondino, M.J., & Pickrel, S.G. (2002). Four-year follow-up of multisystemic therapy with substance-abusing and substance-dependent juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(7), 868-874.

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Aggression Replacement Training (ART) for youth on probation

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated June 2017.

Program Description: Aggression Replacement Training® (ART®) is a cognitive behavioral intervention that targets chronically aggressive youth. ART aims to help adolescents improve social skill competence and moral reasoning, better manage anger, and reduce aggressive behavior. ART can be delivered either in a detention facility or in the community, for those on probation. ART is a ten-week, 30-hour intervention delivered in groups of 8 to 12 participants, three times per week.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,353	Benefit to cost ratio	\$3.09
Participants	\$320	Benefits minus costs	\$3,353
Others	\$3,488	Chance the program will produce	
Indirect	(\$204)	benefits greater than the costs	64 %
<u>Total benefits</u>	<u>\$4,958</u>		
<u>Net program cost</u>	<u>(\$1,604)</u>		
Benefits minus cost	\$3,353		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,170	\$3,374	\$591	\$5,135
Labor market earnings associated with high school graduation	\$357	\$162	\$164	\$0	\$683
Health care associated with educational attainment	(\$11)	\$39	(\$42)	\$19	\$5
Costs of higher education	(\$26)	(\$17)	(\$8)	(\$9)	(\$61)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$806)	(\$806)
Totals	\$320	\$1,353	\$3,488	(\$204)	\$4,958

¹In 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.

²"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.

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

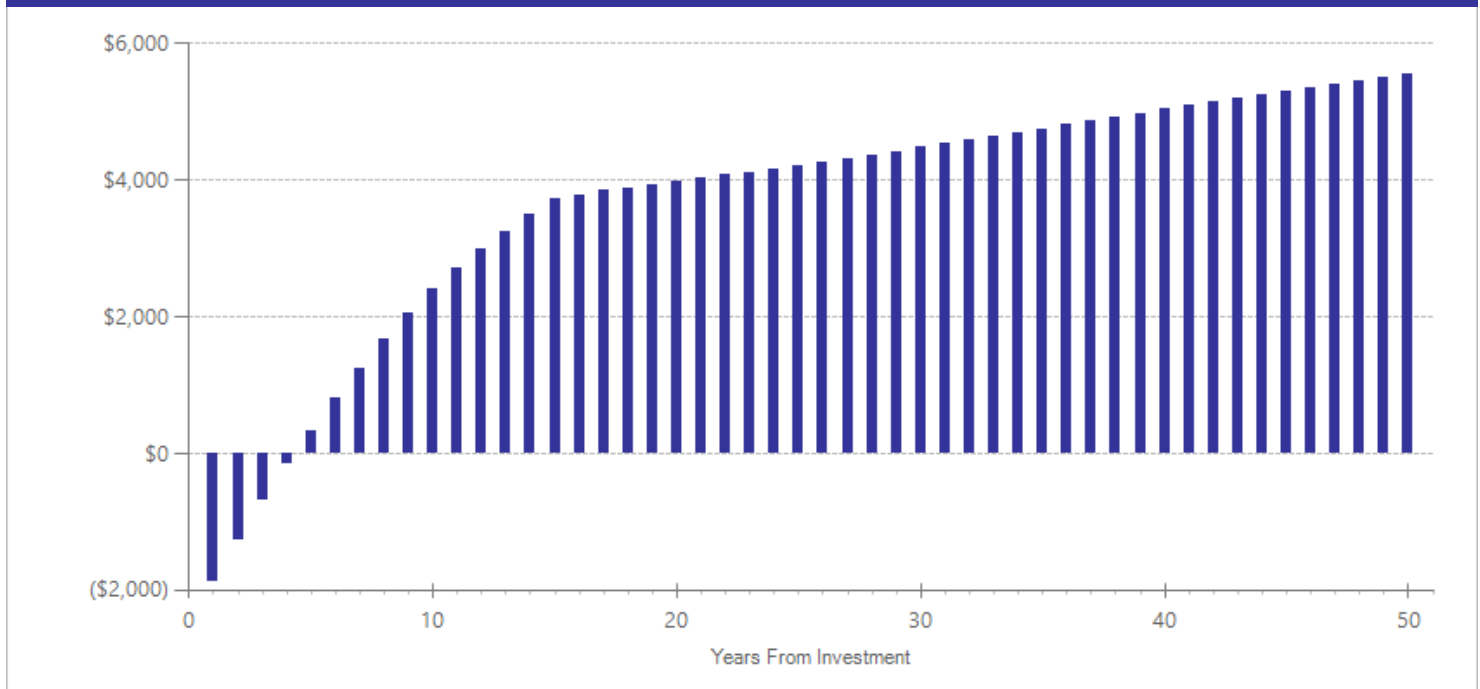
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,449	2008	Present value of net program costs (in 2016 dollars)	(\$1,604)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant cost estimate is based on an average program length of ten weeks, from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. 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		
Crime	5	1530	-0.047	0.079	17	-0.047	0.079	27	-0.236	0.139

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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Victim offender mediation

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated April 2012.

Program Description: In this broad grouping of programs, the underlying characteristic is that the victim and the offender sit down together with a trained mediator in order to determine appropriate restitution for the harm done. The intervention is also sometimes referred to as family group conferencing. The types of offenders, criminal justice setting, and degree of support to the victim and/or offender vary, but typically mediation or conferencing is done in one meeting.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,136	Benefit to cost ratio	\$6.04
Participants	\$280	Benefits minus costs	\$3,102
Others	\$2,113	Chance the program will produce	
Indirect	\$187	benefits greater than the costs	77 %
Total benefits	\$3,717		
Net program cost	(\$615)		
Benefits minus cost	\$3,102		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$976	\$2,013	\$484	\$3,473
Labor market earnings associated with high school graduation	\$313	\$142	\$144	\$0	\$599
Health care associated with educational attainment	(\$9)	\$34	(\$37)	\$17	\$4
Costs of higher education	(\$24)	(\$16)	(\$7)	(\$8)	(\$54)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$306)	(\$306)
Totals	\$280	\$1,136	\$2,113	\$187	\$3,717

¹In 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.

²"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.

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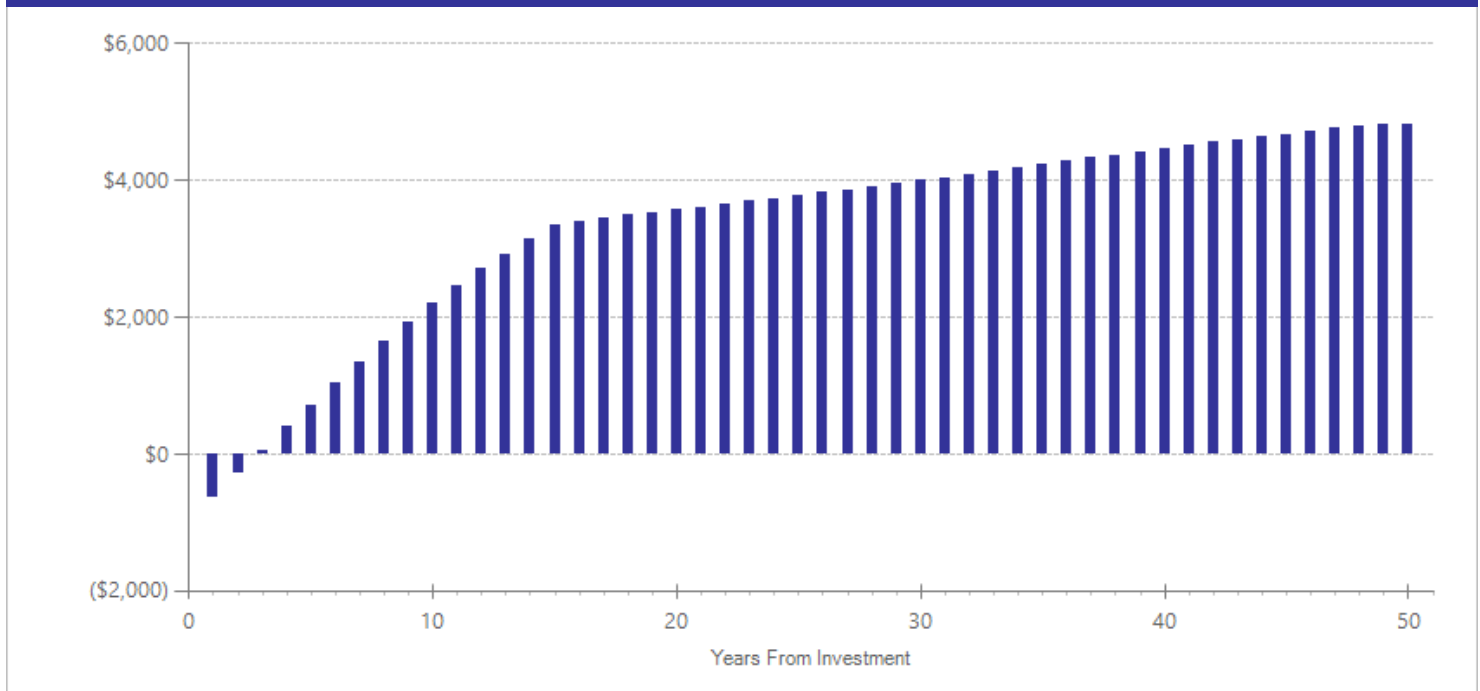
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$565	2010	Present value of net program costs (in 2016 dollars)	(\$615)
Comparison costs	\$0	2010	Cost range (+ or -)	10 %

The per-participant cost estimate for victim offender mediation was based on a weighted average of the costs reported in the literature reviewed for this meta-analysis. We also received a cost estimate from the victim offender mediation program in Clark County Washington. Our final cost estimate is the average of these two costs. The cost includes staff time, benefits, and volunteer time.

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	7	1691	-0.054	0.058	19	-0.054	0.058	29	-0.069	0.224

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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Diversion with services (vs. traditional juvenile court processing)

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated July 2015.

Program Description: Diversion is an alternative to formal sanctions or processing in the juvenile justice system. A primary goal of diversion is to alleviate the negative consequences associated with the juvenile justice system, such as stigmatizing youth as deviant or providing youth opportunities to learn deviant behavior through further exposure to more serious offenders. By diverting youth out of the juvenile justice system, youth can maintain attachment to pro-social norms in their communities. Youth are provided with community-based services.

Diversion programs included in this meta-analysis vary in structure and processing as well as the type of youth who are diverted. While some programs divert youth at the initial stages of the juvenile justice system (e.g., law enforcement), others divert youth once they reach the juvenile courts. This meta-analysis includes diversion programs coupled with treatment compared to youth who were processed traditionally through the juvenile courts. We used multiple regression to explore whether some program characteristics—such as diversion at the police level (as opposed to the juvenile court level) or diversion coupled with treatment—were more effective at reducing recidivism. We found no statistically significant effects associated with these two program characteristics.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$563	Benefit to cost ratio	n/a
Participants	\$200	Benefits minus costs	\$2,966
Others	\$1,110	Chance the program will produce	
Indirect	\$520	benefits greater than the costs	94 %
Total benefits	\$2,393		
Net program cost	\$573		
Benefits minus cost	\$2,966		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$448	\$1,039	\$226	\$1,713
Labor market earnings associated with high school graduation	\$223	\$101	\$102	\$0	\$427
Health care associated with educational attainment	(\$7)	\$24	(\$26)	\$12	\$3
Costs of higher education	(\$16)	(\$11)	(\$5)	(\$5)	(\$38)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$287	\$287
Totals	\$200	\$563	\$1,110	\$520	\$2,393

¹In 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.

²"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.

³"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	\$853	2014	Present value of net program costs (in 2016 dollars)	\$573
Comparison costs	\$1,300	2008	Cost range (+ or -)	10 %

Depending on the population, diversion can last from 1 to 12 months. The per-participant cost estimate for diverted youth was provided by the Thurston County Juvenile Court. The comparison group cost estimate assumes youth would have been on probation for three months and was derived using probation cost data from WSIPP's benefit-cost model.

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	18	5638	-0.031	0.029	17	-0.031	0.029	27	-0.071	0.085

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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Diversion with services (vs. simple release)

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated July 2015.

Program Description: Diversion is an alternative to formal sanctions or processing in the juvenile justice system. A primary goal of diversion is to alleviate the negative consequences associated with the juvenile justice system such as stigmatizing youth as deviant or providing youth opportunities to learn deviant behavior through further exposure to more serious offenders. By diverting youth out of the juvenile justice system, youth can maintain attachment to pro-social norms in their communities. Youth are provided with community-based services.

Diversion programs included in this meta-analysis vary in structure and processing as well as the type of youth who are diverted. While some programs divert youth at the initial stages of the juvenile justice system (e.g., law enforcement), others divert youth once they reach the juvenile courts. This meta-analysis includes diversion programs coupled with treatment compared to youth who were simply warned and released. We used multiple regression to explore whether some program characteristics—such as diversion at the police level (as opposed to the juvenile court level) or diversion coupled with treatment—were more effective at reducing recidivism. We found no statistically significant effects associated with these two program characteristics.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$47	Benefit to cost ratio	(\$0.30)
Participants	\$17	Benefits minus costs	(\$1,126)
Others	\$89	Chance the program will produce	
Indirect	(\$414)	benefits greater than the costs	39 %
Total benefits	(\$260)		
Net program cost	(\$865)		
Benefits minus cost	(\$1,126)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$37	\$84	\$19	\$141
Labor market earnings associated with high school graduation	\$18	\$8	\$9	\$0	\$35
Health care associated with educational attainment	(\$1)	\$2	(\$2)	\$1	\$0
Costs of higher education	(\$1)	(\$1)	\$0	\$0	(\$3)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$434)	(\$434)
Totals	\$17	\$47	\$89	(\$414)	(\$260)

¹In 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.

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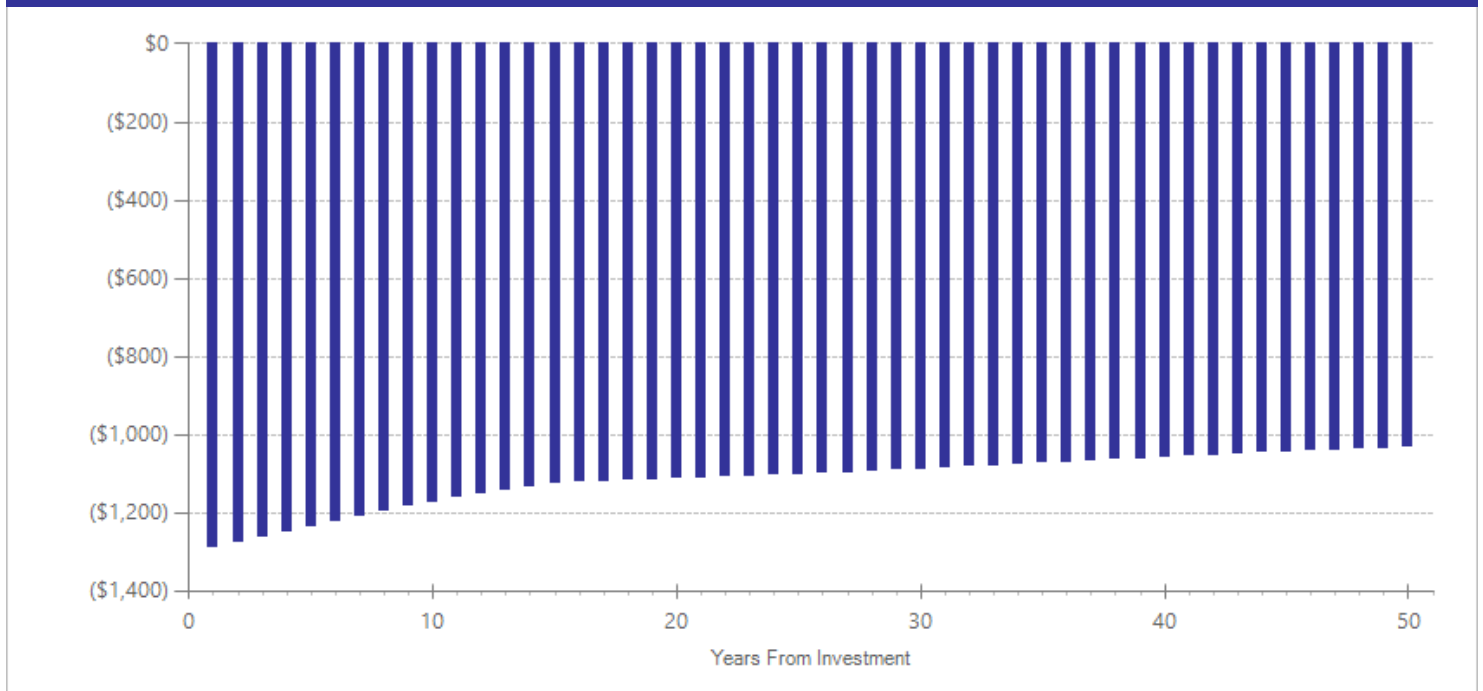
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$853	2014	Present value of net program costs (in 2016 dollars)	(\$865)
Comparison costs	\$0	2014	Cost range (+ or -)	10 %

Depending on the population, diversion can last from 1 to 12 months. The per-participant cost estimate for diverted youth was provided by the Thurston County Juvenile Court. The comparison group cost estimate assumes youth would have been on probation for three months and was derived using probation cost data from WSIPP's benefit-cost model.

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	6	995	-0.002	0.063	17	-0.002	0.063	27	-0.001	0.986

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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Quincy, R.L. (1981). *An evaluation of the effectiveness of the Youth Service Bureau diversion concept: A study of labeling theory as related to Juvenile Justice System penetration*. Dissertation

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Drug court Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated July 2014.

Program Description: In therapeutic drug courts, youth with substance-abuse issues typically enter into a contract with the court and agree to comply with treatment and supervision requirements. While each drug court is unique, these therapeutic courts share similar characteristics. Drug courts typically involve a team of stakeholders (e.g., youth, guardian, judge, treatment provider, case manager, and probation officer). Components of the drug court model include treatment; judicial monitoring; random drug testing; incentives, rewards, and sanctions; and progressive stages (less monitoring with compliance). Drug courts can be pre- or post-adjudication models and the length of the program may vary from 6 to 12 months.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$815	Benefit to cost ratio	\$0.38
Participants	\$334	Benefits minus costs	(\$2,019)
Others	\$1,394	Chance the program will produce	
Indirect	(\$1,296)	benefits greater than the costs	43 %
<u>Total benefits</u>	<u>\$1,247</u>		
<u>Net program cost</u>	<u>(\$3,266)</u>		
Benefits minus cost	(\$2,019)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$648	\$1,378	\$321	\$2,347
Labor market earnings associated with problem alcohol use	\$349	\$158	\$0	\$5	\$512
Property loss associated with problem alcohol use	\$1	\$0	\$1	\$0	\$2
Health care associated with problem alcohol use	\$4	\$22	\$21	\$10	\$57
Costs of higher education	(\$19)	(\$13)	(\$6)	(\$6)	(\$44)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,626)	(\$1,626)
Totals	\$334	\$815	\$1,394	(\$1,296)	\$1,247

¹In 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.

²"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.

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

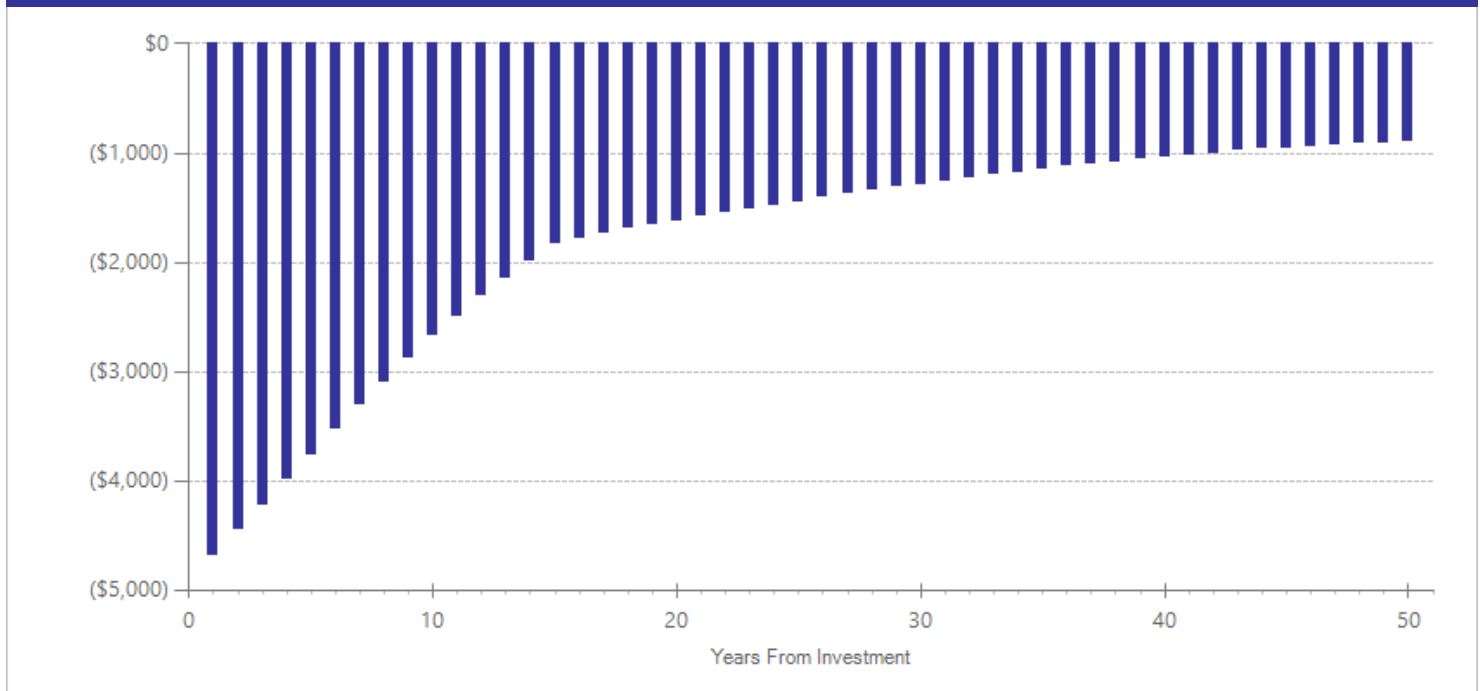
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,645	2004	Present value of net program costs (in 2016 dollars)	(\$3,266)
Comparison costs	\$0	2004	Cost range (+ or -)	10 %

The per-participant costs, based on 12 months of service, are from Anspach, D.F., Ferguson, A.S., & Phillips, L.L. (2003). *Evaluation of Maine's statewide juvenile drug treatment court program*. Augusta, ME: University of Southern Maine.

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 [^]	1	31	-0.079	0.250	18	n/a	n/a	n/a	-0.079	0.751
Cannabis use [^]	1	31	-0.144	0.250	18	n/a	n/a	n/a	-0.144	0.564
Crime	11	2210	-0.037	0.053	18	-0.037	0.053	28	-0.103	0.308
Illicit drug use disorder	2	145	0.274	0.280	18	0.000	0.187	21	0.509	0.341
Problem alcohol use	1	31	-0.015	0.250	18	-0.015	0.250	18	-0.015	0.951

[^]WSIPP's benefit-cost model does not monetize this outcome.

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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.

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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Other substance use disorder treatment for juveniles (non-therapeutic communities)

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated August 2017.

Program Description: Other substance use disorder treatment is a broadly defined category which includes a variety of substance use disorder treatment modalities targeted and delivered to youth who are involved in the juvenile justice system. Substance use disorder treatments seek to reduce substance use issues (e.g., general use and frequency) and its related effects (e.g., recidivism). These modalities include residential treatment, cognitive behavioral therapy, Treatment Alternatives to Street Crime (TASC), social learning interventions, and others.

These interventions refer youth associated with the juvenile justice system as either a condition of probation or as a caveat to treatment received in detention. Treatments occur both in detention and the community. Treatments range in length of stay from three to eight months and require anywhere from 1.5 to 6 hours of weekly sessions with a trained professional per participant.

Therapeutic communities were excluded from this meta-analysis and analyzed separately.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	\$177	Benefit to cost ratio	(\$0.34)
Participants	(\$552)	Benefits minus costs	(\$3,150)
Others	\$2,506	Chance the program will produce	
Indirect	(\$2,929)	benefits greater than the costs	42 %
<u>Total benefits</u>	<u>(\$798)</u>		
<u>Net program cost</u>	<u>(\$2,352)</u>		
Benefits minus cost	(\$3,150)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,242	\$3,384	\$621	\$5,246
Property loss associated with alcohol abuse or dependence	\$0	\$0	(\$1)	\$0	(\$1)
Labor market earnings associated with cannabis abuse or dependence	\$6	\$3	\$0	\$0	\$9
Labor market earnings associated with illicit drug abuse or dependence	(\$358)	(\$162)	\$0	(\$1,920)	(\$2,440)
Health care associated with illicit drug abuse or dependence	(\$174)	(\$889)	(\$872)	(\$445)	(\$2,380)
Health care associated with cannabis abuse or dependence	\$1	\$2	\$3	\$1	\$7
Costs of higher education	(\$27)	(\$18)	(\$8)	(\$9)	(\$61)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,177)	(\$1,177)
Totals	(\$552)	\$177	\$2,506	(\$2,929)	(\$798)

¹In 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.

²"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.

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

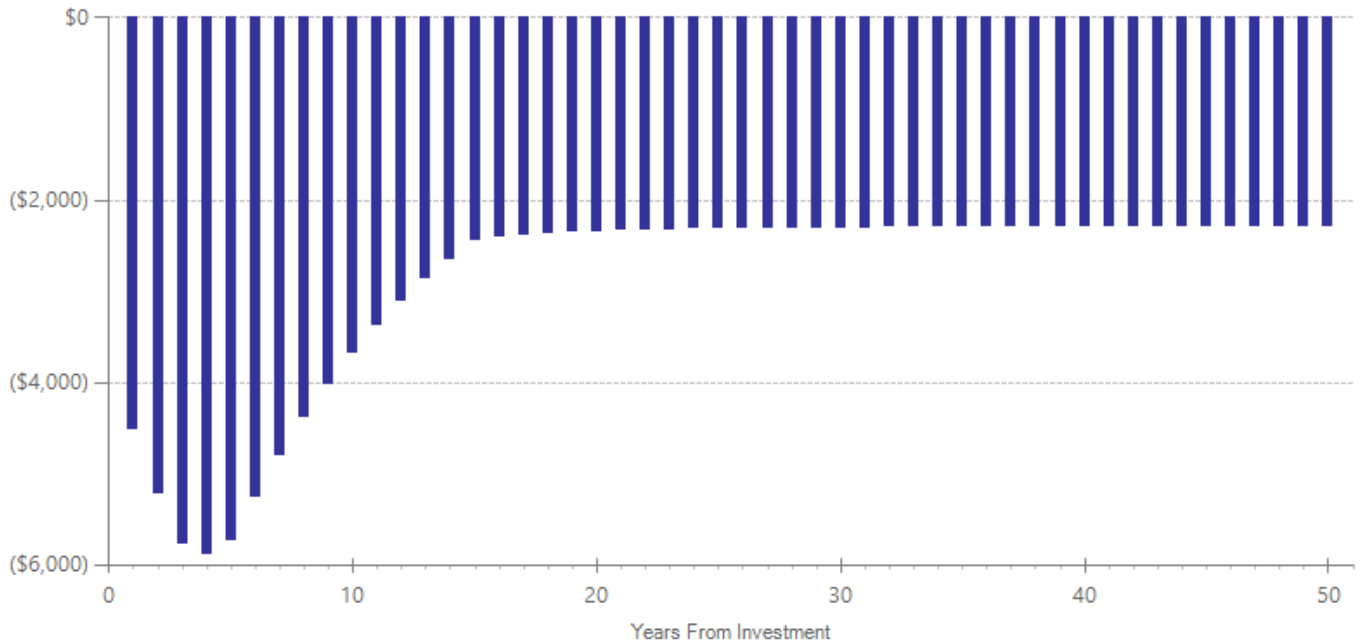
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,253	2012	Present value of net program costs (in 2016 dollars)	(\$2,352)
Comparison costs	\$0	2012	Cost range (+ or -)	10 %

This cost estimate is weighted by the treatment types included in the meta-analysis. The costs represent the average length of the treatment for the included interventions, approximately one to four months. Treatment costs were provided by the Washington State Rehabilitation Administration.

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 disorder	1	25	0.029	0.292	18	0.029	0.292	18	0.079	0.788
Cannabis use disorder	2	61	-0.012	0.209	18	-0.012	0.209	18	0.002	0.991
Crime	5	839	-0.047	0.090	18	-0.047	0.090	28	-0.047	0.598
Illicit drug use disorder	1	225	0.177	0.098	18	0.000	0.187	21	0.177	0.070
Substance misuse [^]	2	101	0.177	0.250	18	n/a	n/a	n/a	0.048	0.892
Technical violations [^]	1	251	0.248	0.175	18	0.248	0.175	28	0.248	0.156

[^]WSIPP’s benefit-cost model does not monetize this outcome.

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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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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 Integrated Transitions for youth in state institutions

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated December 2014.

Program Description: Family Integrated Transitions (FIT) is designed for juvenile offenders with the co-occurring disorders of mental illness and chemical dependency who are entering the community after being detained. Youth receive intensive family and community-based treatment targeted at the multiple determinants of serious antisocial behavior. The program strives to promote behavioral change in the youth's home environment, emphasizing the systemic strengths of family, peers, school, and neighborhoods to facilitate the change. FIT incorporates many of the therapeutic principles from Multisystemic Therapy, and Dialectical Behavior Therapy, as well as motivational enhancement and parent skills training. The first phase of the program lasts two to three months while youth are in custody. The second phase occurs in the community for four to six months.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$2,548	Benefit to cost ratio	\$0.55
Participants	\$434	Benefits minus costs	(\$5,422)
Others	\$8,348	Chance the program will produce	
Indirect	(\$4,806)	benefits greater than the costs	41 %
Total benefits	\$6,524		
Net program cost	(\$11,946)		
Benefits minus cost	(\$5,422)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,300	\$8,194	\$1,143	\$11,637
Labor market earnings associated with high school graduation	\$483	\$219	\$221	\$0	\$924
Health care associated with educational attainment	(\$14)	\$52	(\$57)	\$26	\$7
Costs of higher education	(\$35)	(\$23)	(\$10)	(\$12)	(\$80)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$5,964)	(\$5,964)
Totals	\$434	\$2,548	\$8,348	(\$4,806)	\$6,524

¹In 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.

²"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.

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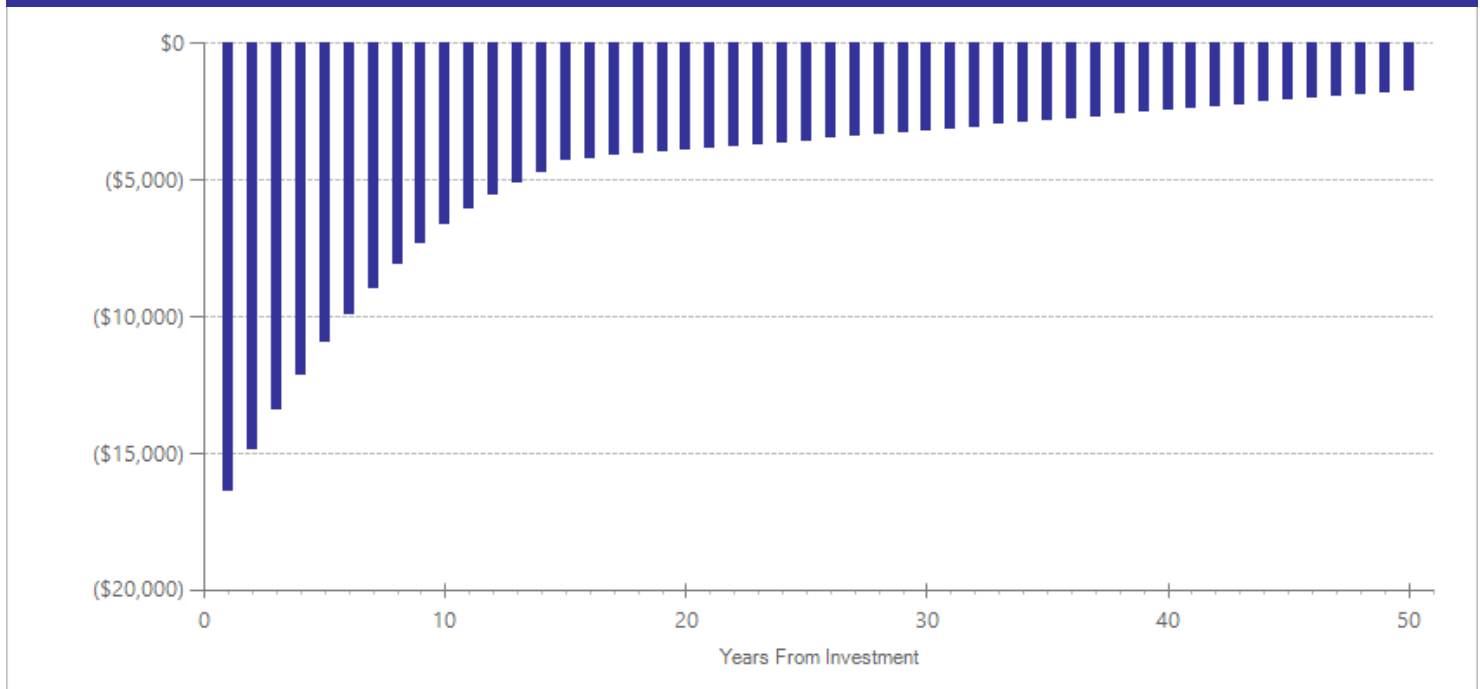
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$10,795	2008	Present value of net program costs (in 2016 dollars)	(\$11,946)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant costs, based on five months in the program, are from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. 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		
Crime	1	105	-0.077	0.153	17	-0.077	0.153	27	-0.207	0.174

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

Trupin, E.J., Kerns, S.E., Walker, S.C., DeRobertis, M.T., & Stewart, D.G. (2011). Family integrated transitions: A promising program for juvenile offenders with co-occurring disorders. *Journal of Child & Adolescent Substance Abuse*, 20(5), 421-436.

Intensive supervision (probation)

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated September 2015.

Program Description: In this broad grouping of programs, intensive supervision emphasizes a higher degree of surveillance than traditional supervision in the community. This meta-analysis includes only studies of offenders on probation (not parole). The average number of monthly contacts of any kind for studies included in our meta-analysis was 37. Conditions of supervision vary across the studies, but some characteristics include urinalysis testing, increased face-to-face or collateral contacts, or required participation in treatment.

We used multiple regression to test for the possibility of an “interaction,” (a simultaneous effect of two variables) between monthly contacts and treatment. The interaction indicates that more contacts, coupled with treatment, result in a bigger reduction in crime. We only found this effect for parole populations. For probation populations, we found a statistically significant increase in recidivism when there was a combination of more contacts and more treatment.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	(\$878)	Benefit to cost ratio	(\$1.32)
Participants	(\$236)	Benefits minus costs	(\$10,208)
Others	(\$2,118)	Chance the program will produce	
Indirect	(\$2,568)	benefits greater than the costs	0 %
Total benefits	(\$5,800)		
Net program cost	(\$4,408)		
Benefits minus cost	(\$10,208)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	(\$743)	(\$2,034)	(\$371)	(\$3,148)
Labor market earnings associated with high school graduation	(\$263)	(\$120)	(\$121)	\$0	(\$504)
Health care associated with educational attainment	\$8	(\$28)	\$31	(\$14)	(\$4)
Costs of higher education	\$20	\$13	\$6	\$7	\$45
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,190)	(\$2,190)
Totals	(\$236)	(\$878)	(\$2,118)	(\$2,568)	(\$5,800)

¹In 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.

²“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.

³“Indirect benefits” includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

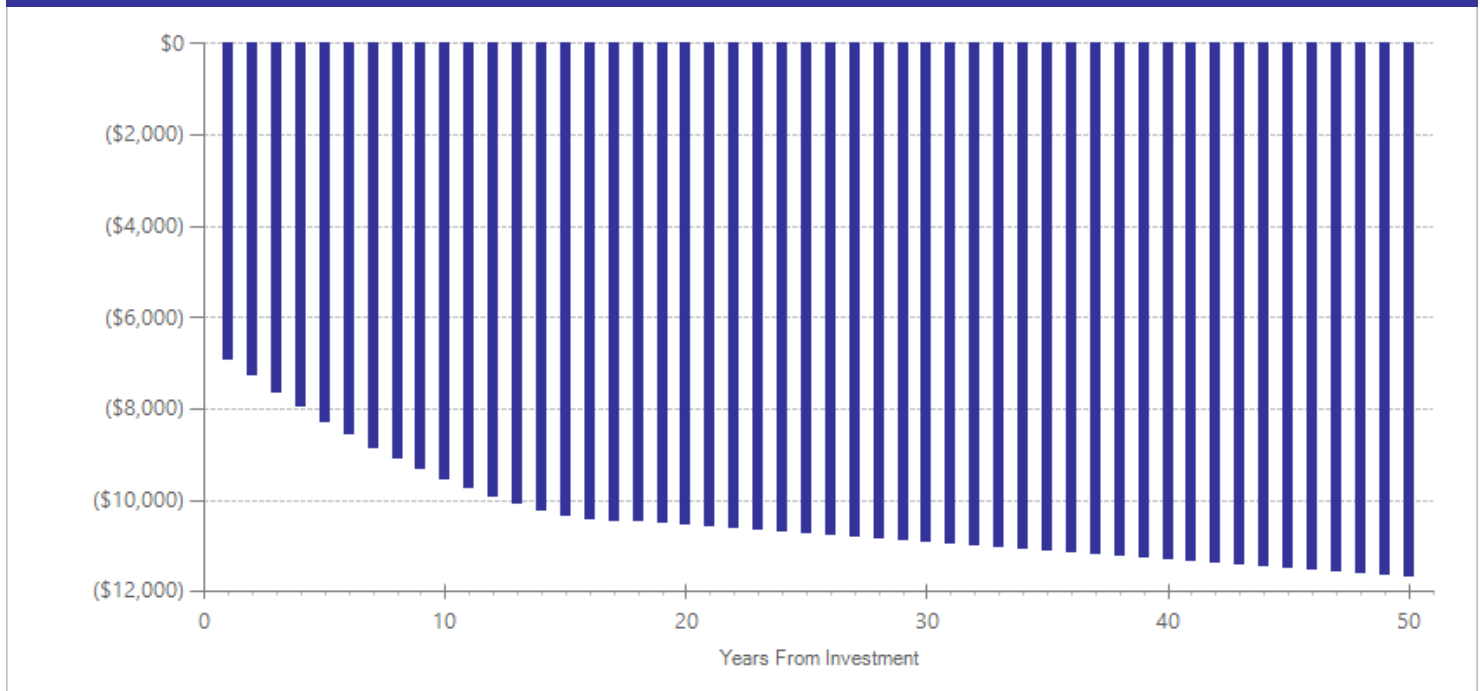
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,985	2008	Present value of net program costs (in 2016 dollars)	(\$4,408)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

We used WSIPP's annual marginal cost estimate for juvenile supervision (as reported in Washington State Institute for Public Policy (July 2015). *Benefit-cost technical documentation*. Olympia, WA: Author) to compute a daily cost estimate. The daily cost estimate for probation was multiplied by 9.2, the weighted average months on supervision as reported by the studies included in the meta-analysis.

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	16	5601	0.029	0.028	18	0.029	0.028	28	0.034	0.230
Technical violations^^	3	732	0.317	0.267	18	0.317	0.267	28	0.435	0.173

^^WSIPP does not include this outcome when conducting benefit-cost analysis for this program.

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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Scared Straight Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated May 2015.

Program Description: Scared Straight is a prison awareness program designed to deter juvenile offenders or children who are at-risk of becoming delinquent. Youth participate in organized visits and guided tours of adult prisons and interact with prisoners who attempt to scare youth into living a life without crime.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	(\$2,929)	Benefit to cost ratio	(\$101.25)
Participants	(\$927)	Benefits minus costs	(\$10,865)
Others	(\$5,618)	Chance the program will produce	
Indirect	(\$1,286)	benefits greater than the costs	2 %
<u>Total benefits</u>	<u>(\$10,759)</u>		
<u>Net program cost</u>	<u>(\$106)</u>		
Benefits minus cost	(\$10,865)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	(\$2,398)	(\$5,285)	(\$1,202)	(\$8,885)
Labor market earnings associated with high school graduation	(\$1,033)	(\$469)	(\$478)	\$0	(\$1,981)
Health care associated with educational attainment	\$31	(\$112)	\$122	(\$56)	(\$15)
Costs of higher education	\$76	\$50	\$23	\$25	\$175
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$53)	(\$53)
<u>Totals</u>	<u>(\$927)</u>	<u>(\$2,929)</u>	<u>(\$5,618)</u>	<u>(\$1,286)</u>	<u>(\$10,759)</u>

¹In 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.

²"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.

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

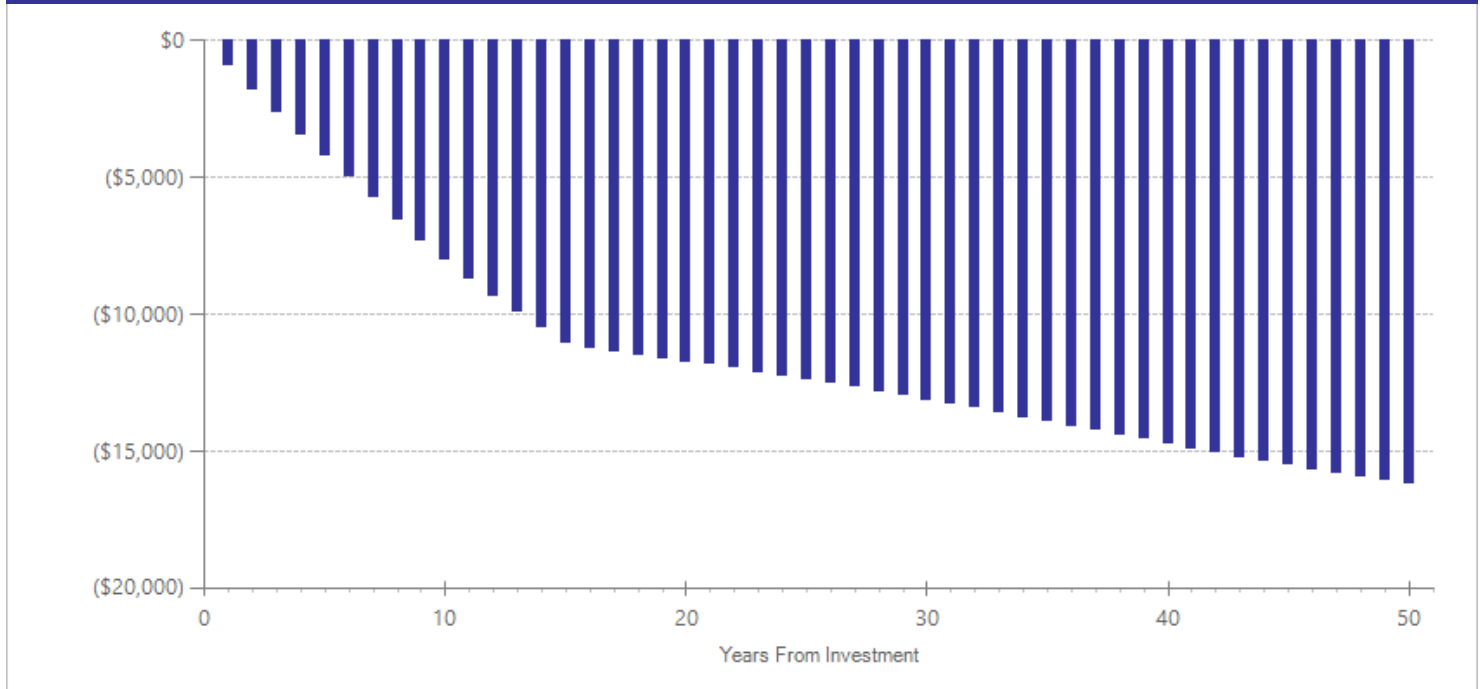
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$100	2011	Present value of net program costs (in 2016 dollars)	(\$106)
Comparison costs	\$0	2011	Cost range (+ or -)	10 %

The per-participant cost is estimated from a report by Reclaiming Futures, accessed from: http://reclaimingfutures.org/category/scared_straight/page/3.

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	10	752	0.145	0.072	18	0.145	0.072	28	0.145	0.044

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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Treatment for juveniles convicted of sex offenses (non-MST)

Juvenile Justice

Benefit-cost estimates updated December 2017. Literature review updated August 2017.

Program Description: Treatment for juveniles convicted of sex offenses includes individual or family therapies that aim to reduce problem sexual behaviors. Treatment components can include cognitive behavioral strategies, relapse prevention, victim empathy, education on human sexuality, healthy attitudes toward sex, and appropriate sexual roles. These programs are targeted toward youth who have been ordered to sex offender outpatient treatment following diversion or adjudication. Treatment was provided by therapists and juvenile probation officers in the studies included in this analysis. Participants received three to four hours of treatment per week, ranging from 3 to 20 months.

Multisystemic Therapy-Problem Sexual Behavior (MST-PSB) was excluded from this meta-analysis and analyzed separately.

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	(\$4,154)	Benefit to cost ratio	(\$2.59)
Participants	(\$867)	Benefits minus costs	(\$33,637)
Others	(\$12,703)	Chance the program will produce	
Indirect	(\$6,547)	benefits greater than the costs	18 %
Total benefits	(\$24,271)		
Net program cost	(\$9,366)		
Benefits minus cost	(\$33,637)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	(\$3,657)	(\$12,397)	(\$1,831)	(\$17,885)
Labor market earnings associated with high school graduation	(\$968)	(\$440)	(\$442)	\$0	(\$1,850)
Health care associated with educational attainment	\$29	(\$105)	\$115	(\$53)	(\$14)
Costs of higher education	\$72	\$48	\$22	\$24	\$166
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$4,688)	(\$4,688)
Totals	(\$867)	(\$4,154)	(\$12,703)	(\$6,547)	(\$24,271)

¹In 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.

²"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.

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

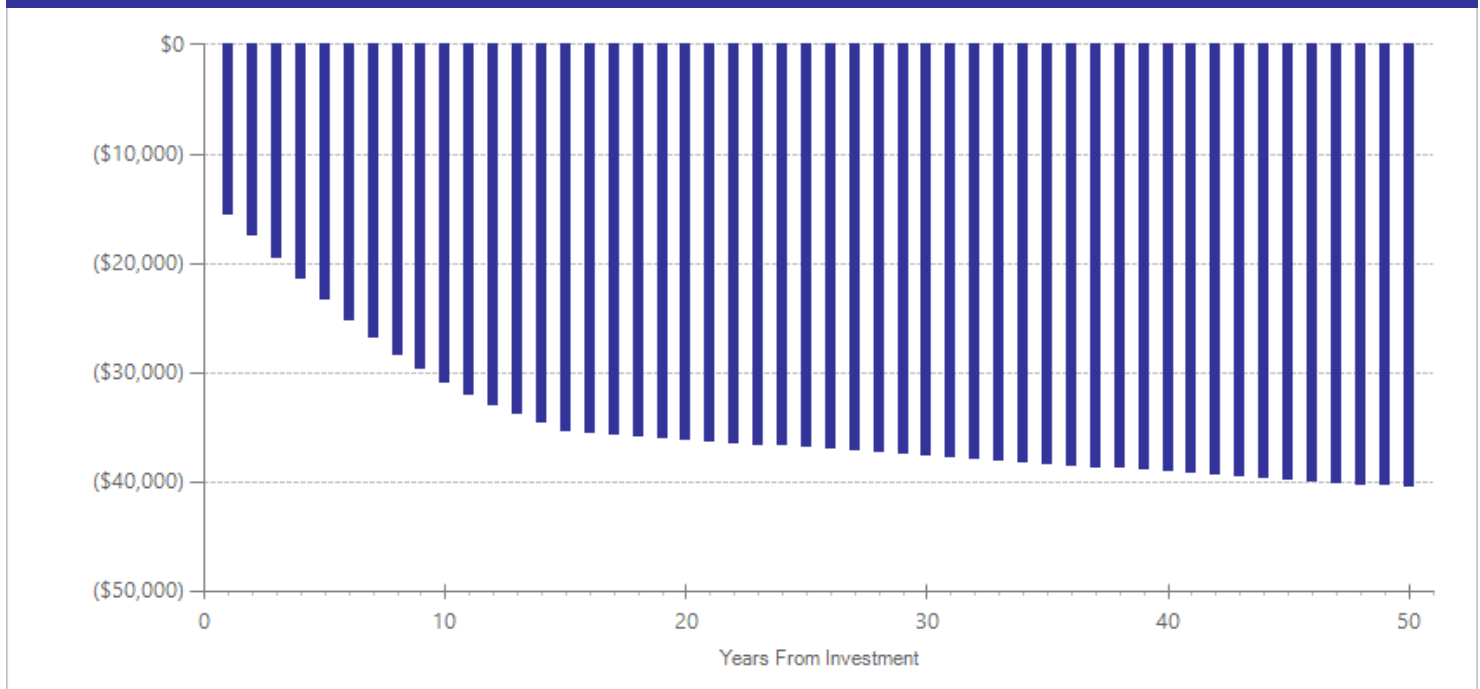
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$8,464	2008	Present value of net program costs (in 2016 dollars)	(\$9,366)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant cost estimate is weighted by intervention type for the average length of treatment, which is approximately 12 months. Treatment costs were sourced from Erickson, C.J. (2008). *The effectiveness of functional family therapy in the treatment of juvenile sexual offenders* (Doctoral dissertation). Retrieved from Dissertation Abstracts International, (69-10(B), 6409). and Aos, S., Phipps, P., Barnoski, R., & Lieb, R. (2001). *The comparative costs and benefits of programs to reduce crime, v 4.0* (Doc. No. 01-05-1201). Olympia: Washington State Institute for Public Policy. Additional program costs were provided by the Washington State Juvenile Rehabilitation Administration.

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	172	0.125	0.243	17	0.125	0.243	27	0.103	0.757
Sex offense [^]	2	131	-0.063	0.293	17	-0.063	0.293	27	-0.117	0.697

[^]WSIPP’s benefit-cost model does not monetize this outcome.

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

- Erickson, C.J. (2008). The effectiveness of functional family therapy in the treatment of juvenile sexual offenders. *Dissertation Abstracts International*, 69-10(B), 6409.
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Other group home programs (non-name brand)

Juvenile Justice

Literature review updated June 2015.

Program Description: Group homes are community-based, staff-secured, residential facilities that typically house 5 to 15 clients. Such facilities provide youth with opportunities to participate in activities such as work or school since they are less restrictive than detention. Although each model may vary significantly in concept and in length, group homes typically emphasize pro-social behaviors within a group interaction context.

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	1	53	0.000	0.207	14	0.000	0.207	34	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.

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Citations Used in the Meta-Analysis

Handler, E. (1975). Residential treatment programs for juvenile delinquents. *Social Work, 20*(3), 217-222.

Team Child Juvenile Justice

Literature review updated March 2017.

Program Description: Team Child is a specialized civil legal aid program operating in several counties in Washington State. It targets high-need juveniles with involvement in the justice system or who are at risk for involvement in the juvenile justice system. Team Child’s target population is youth who are experiencing multiple issues beyond their court involvement, such as homelessness, trauma and mental illness, truancy, poverty, and child welfare involvement. Team Child works to assist youth with transitions from juvenile rehabilitation facilities to the community by helping to secure access to support services.

Studies in this meta-analysis compare recidivism outcomes for juveniles who were offered Team Child services to those who did not receive an offer.

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	315	-0.010	0.095	17	-0.010	0.095	27	-0.010	0.916

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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