

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.

### Functional Family Therapy (FFT) for youth post-release Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated March 2019.

**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 engagement, motivation, relational assessment, behavior change, and generalization.

In the included studies, FFT typically involved 12 to 14 therapist visits over a three- to seven-month period. Studies in this meta-analysis compare FFT to treatment as usual, which is often post-confinement supervision with referrals to community-based services. In the studies in our analysis that reported demographic information, 35% of participants were youth of color.

This analysis includes studies where FFT is provided to youth in the community following their release from confinement. Evaluations of FFT where youth receive the program following arrest or adjudication (and are not confined) and FFT for youth convicted of a sex offense are excluded from this analysis and analyzed separately.

#### Benefit-Cost Summary Statistics Per Participant

##### Benefits to:

Taxpayers	\$33,597	Benefit to cost ratio	\$18.75
Participants	\$3,793	Benefits minus costs	\$138,422
Others	\$96,879	Chance the program will produce	
Indirect	\$11,953	benefits greater than the costs	100 %
<b>Total benefits</b>	<b>\$146,222</b>		
<b>Net program cost</b>	<b>(\$7,800)</b>		
<b>Benefits minus cost</b>	<b>\$138,422</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$32,133	\$94,614	\$16,067	\$142,814
Labor market earnings associated with high school graduation	\$4,439	\$1,890	\$2,458	\$0	\$8,786
Costs of higher education	(\$645)	(\$426)	(\$193)	(\$213)	(\$1,478)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,900)	(\$3,900)
<b>Totals</b>	<b>\$3,793</b>	<b>\$33,597</b>	<b>\$96,879</b>	<b>\$11,953</b>	<b>\$146,222</b>

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

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

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

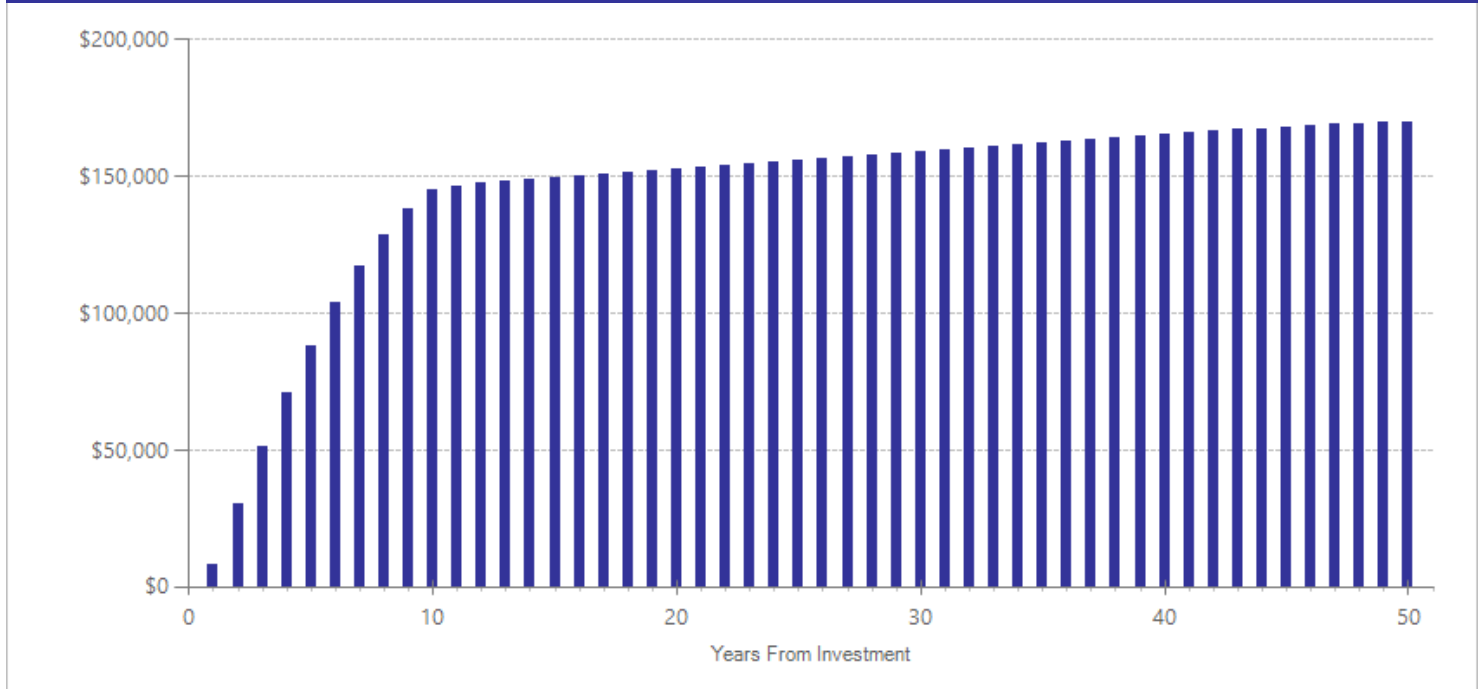
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$7,508	2016	Present value of net program costs (in 2018 dollars)	(\$7,800)
Comparison costs	\$0	2016	Cost range (+ or -)	20 %

The per-participant cost estimate is the weighted average cost of providing Functional Family Therapy (FFT), as implemented in the studies included in this analysis. We use the cost and average length of the program in Washington (3 months), provided by C. Redman (personal communication, Washington State Juvenile Rehabilitation, April 16, 2019), to estimate a monthly cost. This cost reflects estimates 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. We multiply the monthly cost estimate and the average length of FFT in the included studies, approximately 6.5 months. The comparison group cost represents treatment-as-usual, which includes probation with referrals to community-based services and programming.

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	Treatment age	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	17	2	57	-0.976	0.245	18	-0.976	0.245	26	-0.976	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

- 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.
- Gordon, D.A. (1995). Functional Family Therapy for delinquents. In R. R. Ross, D. H. Antonowicz, & G. K. Dhaliwal (Eds.), *Going straight: Effective delinquency prevention & offender rehabilitation* (pp. 163-178). Ottawa, Ontario, Canada: AIR Training Publications.

# Dialectical Behavior Therapy (DBT) for youth in state institutions

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated June 2019.

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	\$10,241	Benefit to cost ratio	\$32.59
Participants	\$1,378	Benefits minus costs	\$47,159
Others	\$33,001	Chance the program will produce	
Indirect	\$4,032	benefits greater than the costs	93 %
<u>Total benefits</u>	<u>\$48,652</u>		
<u>Net program cost</u>	<u>(\$1,493)</u>		
Benefits minus cost	\$47,159		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$9,708	\$32,180	\$4,854	\$46,743
Labor market earnings associated with high school graduation	\$1,606	\$684	\$889	\$0	\$3,179
Costs of higher education	(\$229)	(\$151)	(\$69)	(\$76)	(\$524)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$746)	(\$746)
<u>Totals</u>	<u>\$1,378</u>	<u>\$10,241</u>	<u>\$33,001</u>	<u>\$4,032</u>	<u>\$48,652</u>

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

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

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

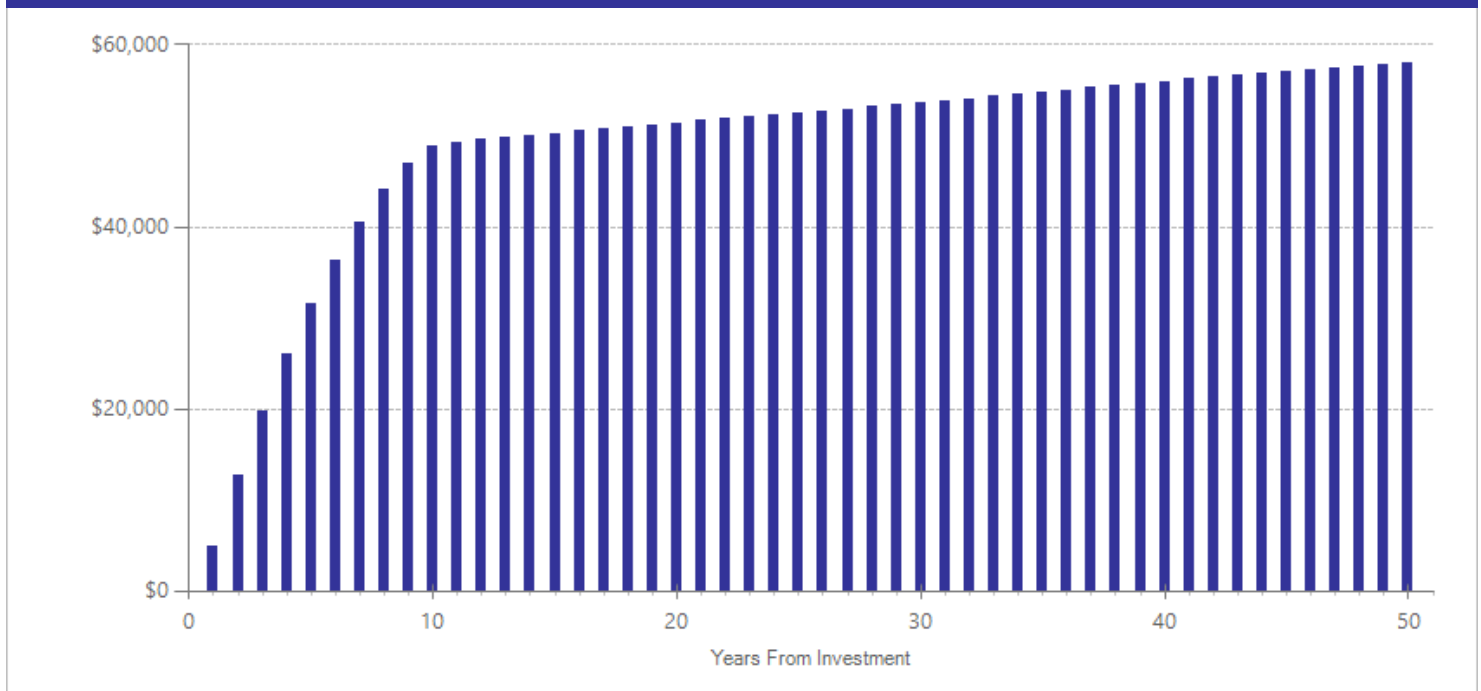
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,493	2018	Present value of net program costs (in 2018 dollars)	(\$1,493)
Comparison costs	\$0	2018	Cost range (+ or -)	50 %

The per-participant cost includes the wages of service providers (Corrections Mental Health Counselors) and supplies. We assume that each participant receives two and a half hours of group therapy and one hour of individual therapy per week over six months. We assume that there are eight participants in the average therapy group. We use hourly wages for Corrections Mental Health Counselors from the Office of Financial Management (<https://ofm.wa.gov/state-human-resources/compensation-job-classes/ClassifiedJobListing/SalaryRange/1208>) and multiply this by 1.44 to account for benefits.

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	Treatment age	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	15	1	62	-0.347	0.225	16	-0.347	0.225	24	-0.347	0.122

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

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.

# Intensive supervision for court-involved youth (vs. confinement in state institutions)

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

**Program Description:** Intensive supervision is a model of supervision that emphasizes a higher degree of surveillance than traditional supervision in the community. Intensive supervision often involves case management with caseloads of fewer than 25 youth. The conditions of supervision vary but may include urinalysis testing, increased face-to-face or collateral contacts, and required participation in programming. Programming may include mentoring, tutoring, counseling, job training, or other community-based services. On average, youth have 17 monthly contacts with their juvenile probation counselor.

This analysis compares youth placed directly on supervision without a period of confinement to youth confined and then released to probation-as-usual. In the included studies, youth were at moderate or high risk for recidivism per a validated risk assessment tool; the evaluations in the analysis exclude youth adjudicated with highly violent felonies. The length of supervision and aftercare ranged from six to eight months. In the studies in our analysis that reported demographic information, 64% of participants were youth of color and 2% were female.

Evaluations of intensive supervision for youth placed directly on supervision compared to traditional probation or intensive supervision for youth released from confinement compared to youth released from confinement and placed on traditional supervision are excluded from this analysis and analyzed separately.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$853	Benefit to cost ratio	n/a
Participants	\$116	Benefits minus costs	\$42,582
Others	\$2,772	Chance the program will produce	
Indirect	\$13,212	benefits greater than the costs	100 %
<b>Total benefits</b>	<b>\$16,953</b>		
<b>Net program cost</b>	<b>\$25,629</b>		
<b>Benefits minus cost</b>	<b>\$42,582</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).



## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$808	\$2,703	\$404	\$3,915
Labor market earnings associated with high school graduation	\$135	\$57	\$75	\$0	\$267
Costs of higher education	(\$19)	(\$13)	(\$6)	(\$6)	(\$44)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$12,815	\$12,815
<b>Totals</b>	<b>\$116</b>	<b>\$853</b>	<b>\$2,772</b>	<b>\$13,212</b>	<b>\$16,953</b>

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

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

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

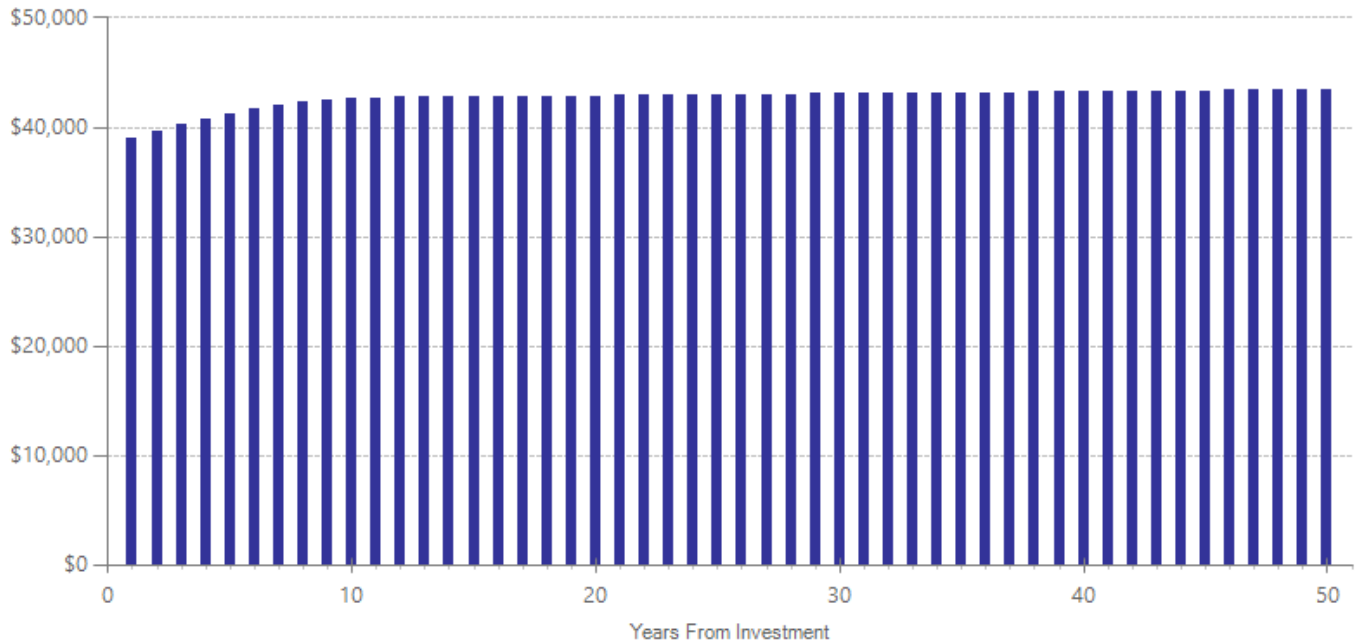
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$5,284	2015	Present value of net program costs (in 2018 dollars)	\$25,629
Comparison costs	\$29,705	2015	Cost range (+ or -)	50 %

We estimate the per-participant program cost using WSIPP's annual marginal cost estimate for juvenile local supervision (as reported in Washington State Institute for Public Policy. (December 2018). Benefit-cost technical documentation. Olympia, WA: Author) to compute a monthly cost estimate. We use the weighted average intensive supervision caseloads, as reported in the included studies, 12 youth per juvenile probation counselor versus traditional probation caseloads that average 43 youth per juvenile probation officer (as reported in Burley, M. & Barnoski, R. (1997). Washington State Juvenile Courts: Workloads and Costs. Olympia: Washington State Institute for Public Policy). We take the ratio of the intensive supervision caseload to the traditional probation caseload and multiply it by the monthly marginal average cost estimate for juvenile supervision. We then multiply the cost by the weighted average time on supervision, 7.5 months, as reported by the studies included in the meta-analysis. The comparison group cost is the annual marginal cost estimate for juvenile state institutions, multiplied by the estimated time confined in state institutions (8 months as reported in Lerman, P. (1975). Community treatment and social control. Chicago: University of Chicago Press.).

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	Treatment age	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	15	3	648	-0.031	0.064	16	-0.031	0.064	24	-0.031	0.624
Status offense <sup>^</sup>	15	1	81	0.069	0.213	16	n/a	n/a	n/a	0.069	0.746
Technical violations <sup>^^</sup>	15	2	407	0.721	0.132	16	n/a	n/a	n/a	0.721	0.001

<sup>^</sup>WSIPP’s benefit-cost model does not monetize this outcome.

<sup>^^</sup>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

Barton, W.H., & Butts, J.A. (1990). Viable options: Intensive supervision programs for juvenile delinquents. *Crime and Delinquency*, 36 (2), 238-256.

Lerman, P. (1975). *Community treatment and social control*. Chicago: University of Chicago Press.

Weibush, R.G. (1993). Juvenile intensive supervision: The impact on felony offenders diverted from institutional placement. *Crime and Delinquency*, 39 (1), 68-89.

## Other (non-name brand) family-based therapies for court-involved youth Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

Program Description: Family-based therapies target court-involved youth and their families and aim to prevent further justice system involvement. This broad category includes programs with a wide range of theoretical foundations and therapeutic techniques, using similar techniques found in programs like Functional Family Therapy and Multisystemic Therapy. The goals are typically to restore family hierarchy, encourage parents to take greater responsibility in family functioning, enhance parenting skills, improve communication and problem-solving, and connect families to other community-based services. Most interventions consisted of therapy within the family unit but some also include separate therapy for the youth and their parents.

On average, family-based therapy programs included in this analysis lasted 2.5 months. Studies in the analysis compared family-based programs to either no programming or probation-as-usual. In the studies in our analysis that reported demographic information, 45% of participants were youth of color and 44% were female.

We exclude evaluations of Multisystemic Therapy, Functional Family Therapy, diversion programs, or programs administered to juvenile populations with either substance use disorder or problem sexual behavior and analyze those programs separately.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$10,520	Benefit to cost ratio	\$13.64
Participants	\$2,443	Benefits minus costs	\$37,358
Others	\$24,174	Chance the program will produce	
Indirect	\$3,176	benefits greater than the costs	92 %
<b>Total benefits</b>	<b>\$40,313</b>		
<b>Net program cost</b>	<b>(\$2,955)</b>		
<b>Benefits minus cost</b>	<b>\$37,358</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$9,575	\$22,719	\$4,788	\$37,082
Labor market earnings associated with high school graduation	\$2,849	\$1,213	\$1,577	\$0	\$5,638
Costs of higher education	(\$406)	(\$268)	(\$122)	(\$134)	(\$930)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,477)	(\$1,477)
<b>Totals</b>	<b>\$2,443</b>	<b>\$10,520</b>	<b>\$24,174</b>	<b>\$3,176</b>	<b>\$40,313</b>

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

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

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

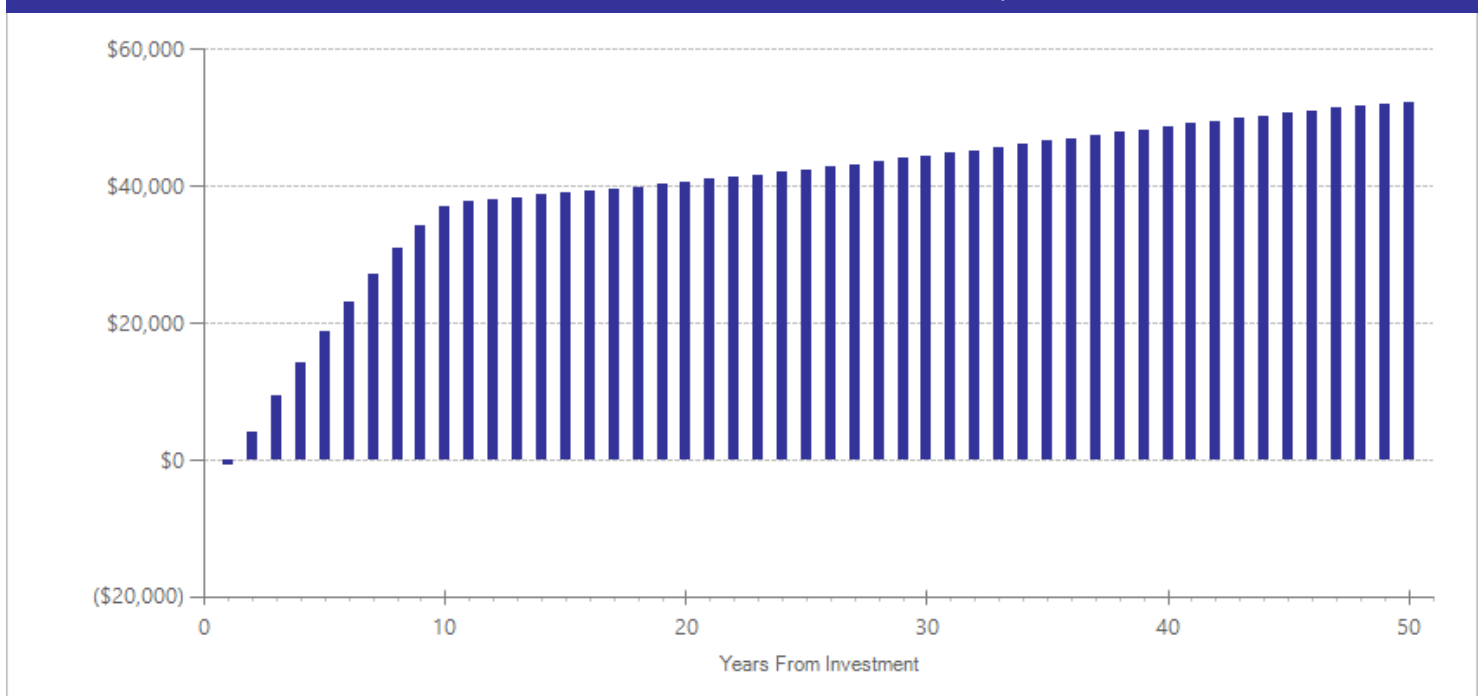
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,844	2016	Present value of net program costs (in 2018 dollars)	(\$2,955)
Comparison costs	\$0	2016	Cost range (+ or -)	20 %

We estimate the per-participant cost by applying an average monthly cost to the average length of treatment in the included studies. We estimate a monthly cost for family-based therapies using the cost of a similar program, Functional Family Therapy (FFT). We use the cost and average length of FFT in Washington, provided by C. Redman (personal communication, Washington State Juvenile Rehabilitation, April 16, 2019). This cost reflects estimates 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. We multiply this monthly cost estimate and the average length of the family-based therapies in the included studies, approximately 2.5 months.

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	Treatment age	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	15	3	186	-0.576	0.364	16	-0.576	0.364	24	-0.576	0.114
Disruptive behavior disorder symptoms <sup>^^</sup>	15	1	15	0.084	0.365	15	0.046	0.220	18	0.084	0.819

<sup>^^</sup>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

- Dembo, R., Ramirez-Garnica, G., Rollie, M., Schmeidler, J., Livingston, S., & Hartsfield, A. (2000). Youth recidivism twelve months after a family empowerment intervention: Final report. *Journal of Offender Rehabilitation, 31*, 29-65.
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# Parenting with Love and Limits (PLL) for court-involved/post-release youth Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

Program Description: Parenting with Love and Limits (PLL) is a therapeutic community intervention for families of children with serious emotional or behavioral problems including aggression, conduct disorders, chronic truancy, drug or alcohol abuse, trauma, or anxiety and depression. PLL is designed for youth ages 10 to 18 in the juvenile justice, child welfare, or mental health systems who are at risk of being placed outside the home (e.g., detention, foster care). PLL includes individual therapy for the youth, parent training sessions, and family therapy. Unlike other family therapies, PLL relies on a multiple family group approach with four to six families in a group setting and two co-facilitators for six to eight weeks of parenting training. In addition to group therapy, the youth and parent participate in 4 to 12 family therapy sessions approximately two hours each.

In this review of PLL delivered within the juvenile justice setting, most studies examined court-involved youth who received PLL as an alternative placement from confinement, and one study examined PLL as reentry into the community. Youth were assessed as moderate to high risk for recidivism. Youth received services over 6.5 months on average. Court-involved youth received four treatment sessions per month over 2.5 months of service on average, while post-release youth received services over an average of 12 months on supervision. Among included studies that report demographics, 65% of participants were youth of color and 21% were female. PLL youth were compared to youth who received probation as usual and mental health services as usual.

## Benefit-Cost Summary Statistics Per Participant

### Benefits to:

Taxpayers	\$7,519	Benefit to cost ratio	n/a
Participants	\$1,442	Benefits minus costs	\$33,748
Others	\$17,288	Chance the program will produce	
Indirect	\$4,767	benefits greater than the costs	100 %
<b>Total benefits</b>	<b>\$31,016</b>		
<b>Net program cost</b>	<b>\$2,732</b>		
<b>Benefits minus cost</b>	<b>\$33,748</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$6,962	\$16,429	\$3,481	\$26,872
Labor market earnings associated with high school graduation	\$1,684	\$717	\$932	\$0	\$3,333
Costs of higher education	(\$242)	(\$160)	(\$73)	(\$80)	(\$555)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$1,366	\$1,366
<b>Totals</b>	<b>\$1,442</b>	<b>\$7,519</b>	<b>\$17,288</b>	<b>\$4,767</b>	<b>\$31,016</b>

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

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

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

## Detailed Annual Cost Estimates Per Participant

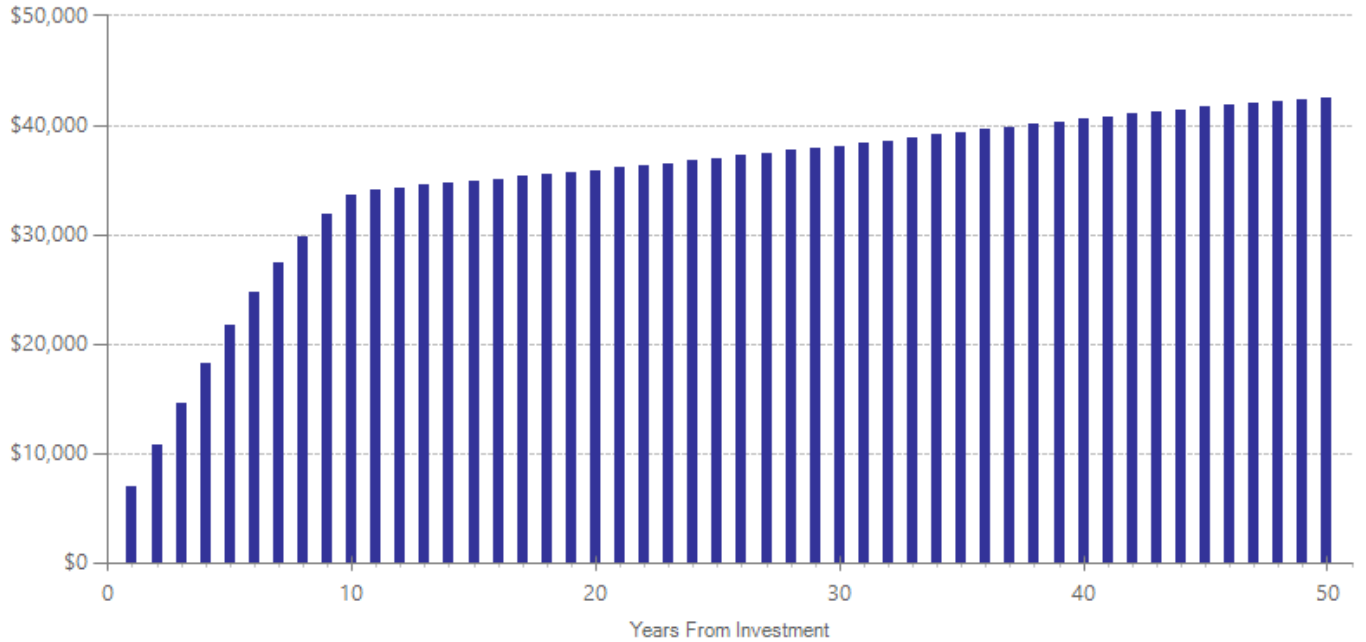
	Annual cost	Year dollars	Summary	
Program costs	\$2,769	2015	Present value of net program costs (in 2018 dollars)	\$2,732
Comparison costs	\$5,372	2015	Cost range (+ or -)	20 %

To estimate treatment group costs, the per-participant cost for Parenting with Love and Limits (PLL) is based on the cost of PLL in Idaho, as 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 and Mental Health Services Research*, 44(5), 792-809. To estimate comparison group cost, the per-participant cost of treatment as usual is based on the average cost of clinic-based therapy and intensive community-based therapy reported in Sterrett-Hong et al. (2017). The comparison group also incurs a cost of confinement since youth are placed outside the home in detention (in lieu of PLL). The cost of confinement was estimated by applying the average length of stay in detention (9.8 days) for Washington's detention population to the marginal operating cost for detention using WSIPP estimates from Washington State Institute for Public Policy. (December 2018). Benefit-cost technical documentation. Olympia, WA: Author. The cost of confinement was proportionately applied to reflect the meta-analysis wherein approximately half the total sample was confined.

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	Treatment age	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
				First time ES is estimated			Second time ES is estimated				
				ES	SE	Age	ES	SE	Age	ES	p-value
Crime	16	3	327	-0.326	0.123	17	-0.326	0.123	25	-0.326	0.008
Externalizing behavior symptoms <sup>^^</sup>	16	1	19	-0.721	0.360	16	n/a	n/a	n/a	-0.721	0.045
Internalizing symptoms <sup>^^</sup>	16	1	19	-0.772	0.361	16	n/a	n/a	n/a	-0.772	0.032

<sup>^^</sup>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

- Early, K.W., Chapman, S.F., & Hand, G.A. (2013). Family-focused juvenile reentry services: A quasi-experimental design evaluation of recidivism outcomes. *OJJDP Journal of Juvenile Justice, 2*(2), 1-22.
- 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, 56*(2), 331-347.
- Sells, S.P., Early, K.W., & Smith, T.E. (2011). Reducing adolescent oppositional and conduct disorders: An experimental design using the Parenting with Love and Limits model. *Professional Issues in Criminal Justice, 6*(3-4), 9-30.

# Multidimensional Treatment Foster Care (MTFC) (vs. group homes) for court-involved youth

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated June 2019.

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.

This analysis is on MTFC for adjudicated youth who are sentenced to out-of-home placement. The studies in this meta-analysis compared MTFC to treatment as usual, which typically involved placement in a group home. Treatment group youth were in MTFC for 197 days, on average, and comparison youth were typically in group homes for 189 days. In included studies that reported demographics, 23% of participants were youth of color and 58% were female.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$11,278	Benefit to cost ratio	\$4.29
Participants	\$268	Benefits minus costs	\$30,661
Others	\$27,481	Chance the program will produce	
Indirect	\$946	benefits greater than the costs	91 %
<b>Total benefits</b>	<b>\$39,973</b>		
<b>Net program cost</b>	<b>(\$9,311)</b>		
<b>Benefits minus cost</b>	<b>\$30,661</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$11,067	\$27,372	\$5,533	\$43,973
K-12 grade repetition	\$0	\$5	\$0	\$3	\$8
Labor market earnings associated with major depression	\$236	\$100	\$0	\$0	\$336
Health care associated with major depression	\$30	\$105	\$108	\$52	\$295
Mortality associated with depression	\$2	\$1	\$0	\$13	\$16
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$4,656)	(\$4,656)
<b>Totals</b>	<b>\$268</b>	<b>\$11,278</b>	<b>\$27,481</b>	<b>\$946</b>	<b>\$39,973</b>

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

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

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

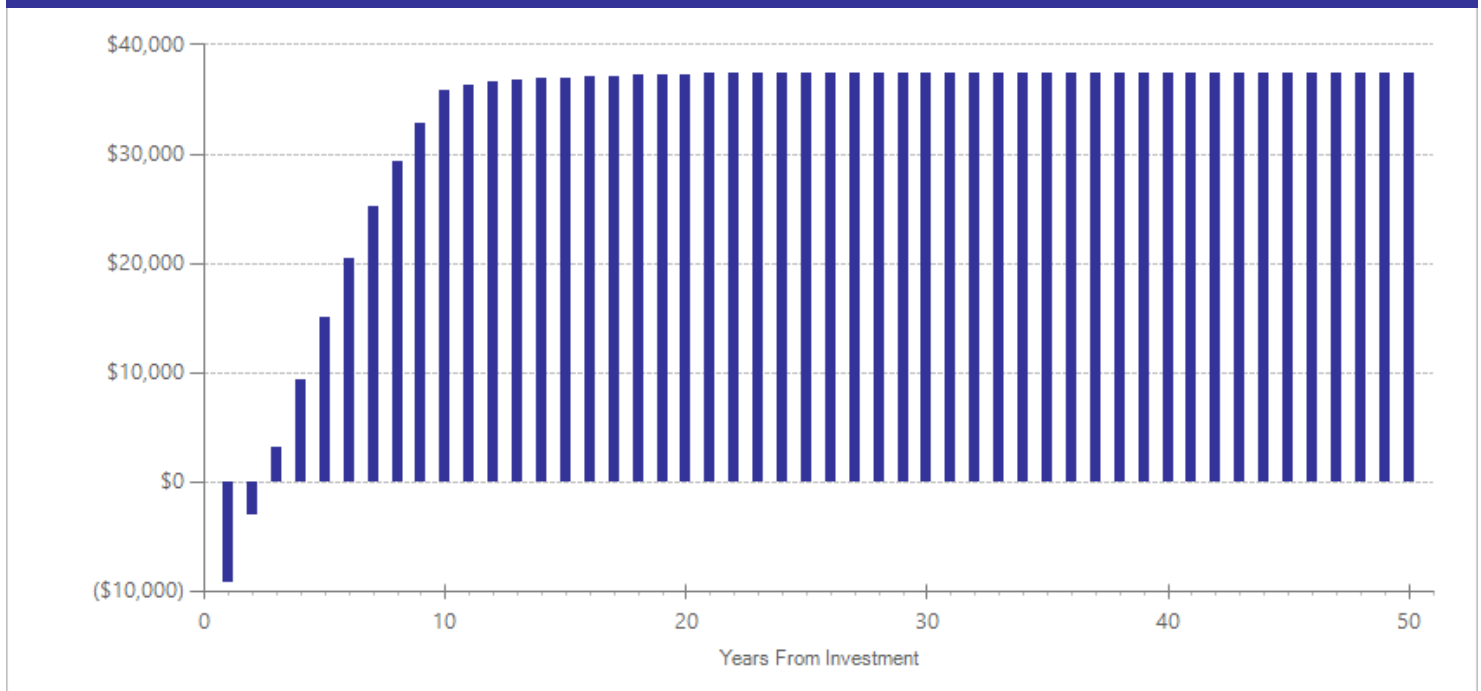
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$27,863	2017	Present value of net program costs (in 2018 dollars)	(\$9,311)
Comparison costs	\$18,232	2015	Cost range (+ or -)	20 %

We estimate the per-participant cost of Multidimensional Treatment Foster Care (MTFC) using the per-client cost of community placement (modeled after MTFC) reported by Washington State Department of Social and Health Services, Client Services (2019, <http://clientdata.rda.dshs.wa.gov/Home/ShowReport?reportMode=0>). We estimate the per-participant cost for youth in the comparison group using the average daily costs for group home care reported in McKay, P., Hollist, D., & Mayrer, J. (2016). Foster or group home care for youth on probation. Missoula, MT: University of Montana, Missoula. We apply this daily cost (\$96.48) to the average time spent in group care by participants in the studies (189 days).

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	Treatment age	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 before end of high school <sup>^^</sup>	15	1	32	-0.126	0.240	16	n/a	n/a	n/a	-0.126	0.601
Cannabis use before end of high school <sup>^^</sup>	15	1	32	-0.230	0.241	16	n/a	n/a	n/a	-0.230	0.340
Crime	15	4	157	-0.548	0.166	16	-0.548	0.166	24	-0.548	0.001
Major depressive disorder	15	1	81	-0.378	0.157	23	0.000	0.310	25	-0.378	0.016
Psychosis symptoms (positive) <sup>^</sup>	15	1	75	-0.364	0.216	16	n/a	n/a	n/a	-0.364	0.091
Regular smoking <sup>^</sup>	15	1	32	-0.190	0.240	16	n/a	n/a	n/a	-0.190	0.429
Substance use <sup>^</sup>	15	1	32	-0.261	0.241	16	n/a	n/a	n/a	-0.261	0.279
Suicidal ideation <sup>^</sup>	15	1	81	-0.458	0.157	23	n/a	n/a	n/a	-0.458	0.004
Suicide attempts <sup>^</sup>	15	1	81	0.095	0.233	23	n/a	n/a	n/a	0.095	0.685
Teen pregnancy (under age 18) <sup>^</sup>	15	1	78	-0.538	0.187	16	n/a	n/a	n/a	-0.538	0.004

<sup>^</sup>WSIPP's benefit-cost model does not monetize this outcome.

<sup>^^</sup>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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## Citations Used in the Meta-Analysis

- Biehal, N., Ellison, S., & Sinclair, I. (2012). Intensive fostering: an independent evaluation of MTFC in an English setting. *Adoption & Fostering*, 36(1), 13-26.
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# Therapeutic communities for youth in state institutions with substance use disorder

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated August 2017.

Program Description: Therapeutic communities (TCs) are a form of intensive substance use disorder treatment. This analysis is on TCs that operate within a juvenile rehabilitation facility. 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. Youth earn responsibility as they progress through the stages of long-term treatment.

Participants in the included study were youth in state institutions with substance use disorders. The average length of treatment was 12 months. In the included study, 50% of participants were youth of color and all participants were male.

We exclude evaluations of other (non-TC) substance use disorder treatments and TCs for court-involved youth from this analysis and analyze them separately.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$8,435	Benefit to cost ratio	\$7.26
Participants	\$1,012	Benefits minus costs	\$30,609
Others	\$24,531	Chance the program will produce	
Indirect	\$1,520	benefits greater than the costs	99 %
<b>Total benefits</b>	<b>\$35,499</b>		
<b>Net program cost</b>	<b>(\$4,890)</b>		
<b>Benefits minus cost</b>	<b>\$30,609</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$8,045	\$23,926	\$4,022	\$35,994
Labor market earnings associated with high school graduation	\$1,184	\$504	\$656	\$0	\$2,345
Costs of higher education	(\$172)	(\$114)	(\$52)	(\$57)	(\$394)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,445)	(\$2,445)
<b>Totals</b>	<b>\$1,012</b>	<b>\$8,435</b>	<b>\$24,531</b>	<b>\$1,520</b>	<b>\$35,499</b>

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

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

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

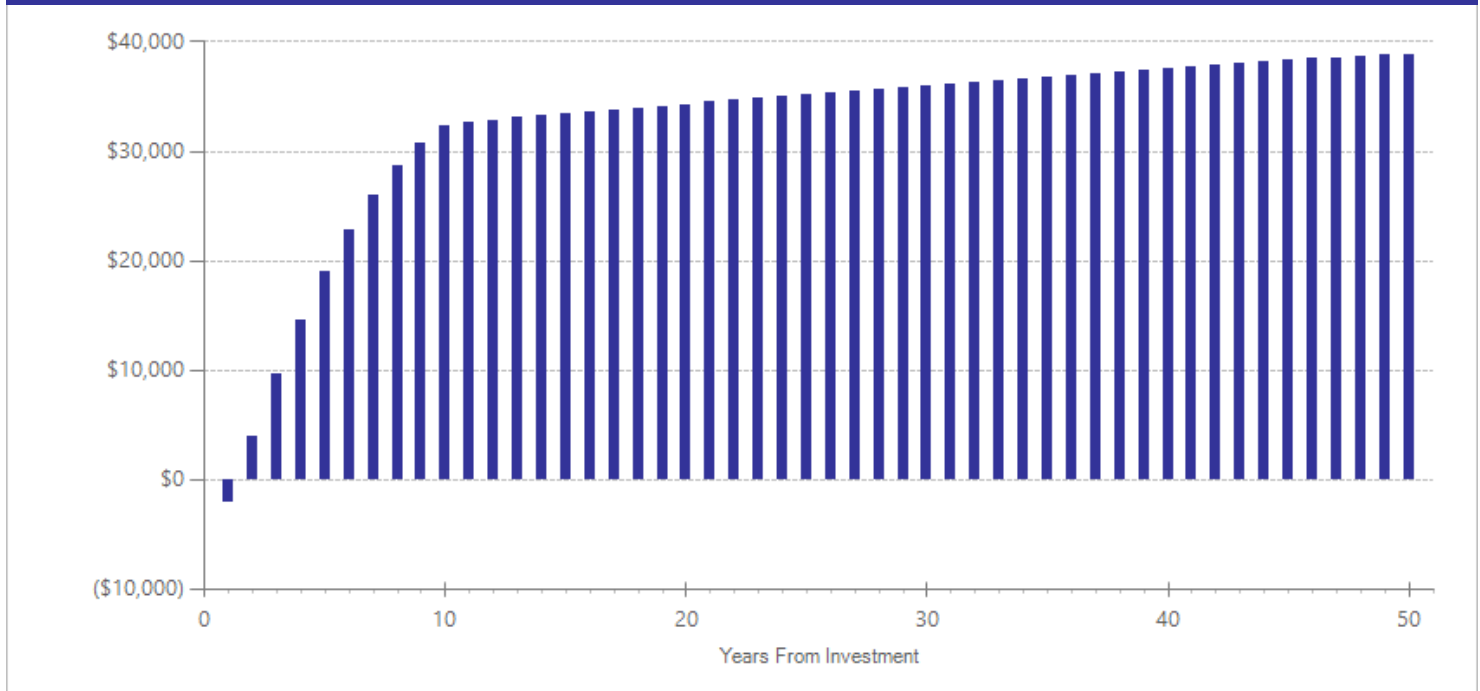
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$4,522	2012	Present value of net program costs (in 2018 dollars)	(\$4,890)
Comparison costs	\$0	2012	Cost range (+ or -)	20 %

We estimate the per-participant cost by applying an average monthly cost to the average length of treatment in the included studies. We use an estimated cost of treatment in therapeutic communities provided by the Washington State Juvenile Rehabilitation Administration and assume 12 months of treatment to calculate the per-month cost of treatment. We multiply the per-month cost by the weighted average length of treatment for the included studies (12 months).

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	Treatment age	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	17	1	412	-0.260	0.085	18	-0.260	0.085	26	-0.260	0.002
Drug-related offense <sup>^</sup>	17	1	412	0.108	0.103	17	n/a	n/a	n/a	0.108	0.294
Substance use disorder <sup>^</sup>	17	1	412	0.427	0.126	17	n/a	n/a	n/a	0.427	0.001

<sup>^</sup>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.

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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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# Mentoring for youth post-release (including volunteer costs)

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated June 2019.

Program Description: Mentoring programs pair youth in the juvenile justice system with an adult volunteer to build a relationship with the ultimate goal of encouraging youth to desist from delinquent behavior. Mentor/mentee relationships aim to grow social capital by engaging youth in pro-social relationships. Youth are assigned to a mentor, typically a non-professional volunteer, who meets with the youth approximately once a week. 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.

This analysis is on youth released from confinement and assigned a mentor. In the included studies, youth were in the mentoring programs for an average of 10.4 months. In the studies in our analysis that reported demographic information, 80% of participants were youth of color and 46% were female.

We exclude studies examining the effectiveness of mentoring for youth who were not in the juvenile justice system from this review. Evaluations of mentoring on a population of youth on probation (i.e., never confined) are excluded from this analysis and analyzed separately.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$7,459	Benefit to cost ratio	\$9.38
Participants	\$970	Benefits minus costs	\$29,335
Others	\$22,666	Chance the program will produce	
Indirect	\$1,739	benefits greater than the costs	93 %
<u>Total benefits</u>	<u>\$32,834</u>		
<u>Net program cost</u>	<u>(\$3,499)</u>		
Benefits minus cost	\$29,335		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$7,085	\$22,088	\$3,542	\$32,715
Labor market earnings associated with high school graduation	\$1,133	\$482	\$627	\$0	\$2,242
Costs of higher education	(\$163)	(\$108)	(\$49)	(\$54)	(\$373)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,750)	(\$1,750)
<b>Totals</b>	<b>\$970</b>	<b>\$7,459</b>	<b>\$22,666</b>	<b>\$1,739</b>	<b>\$32,834</b>

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

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

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

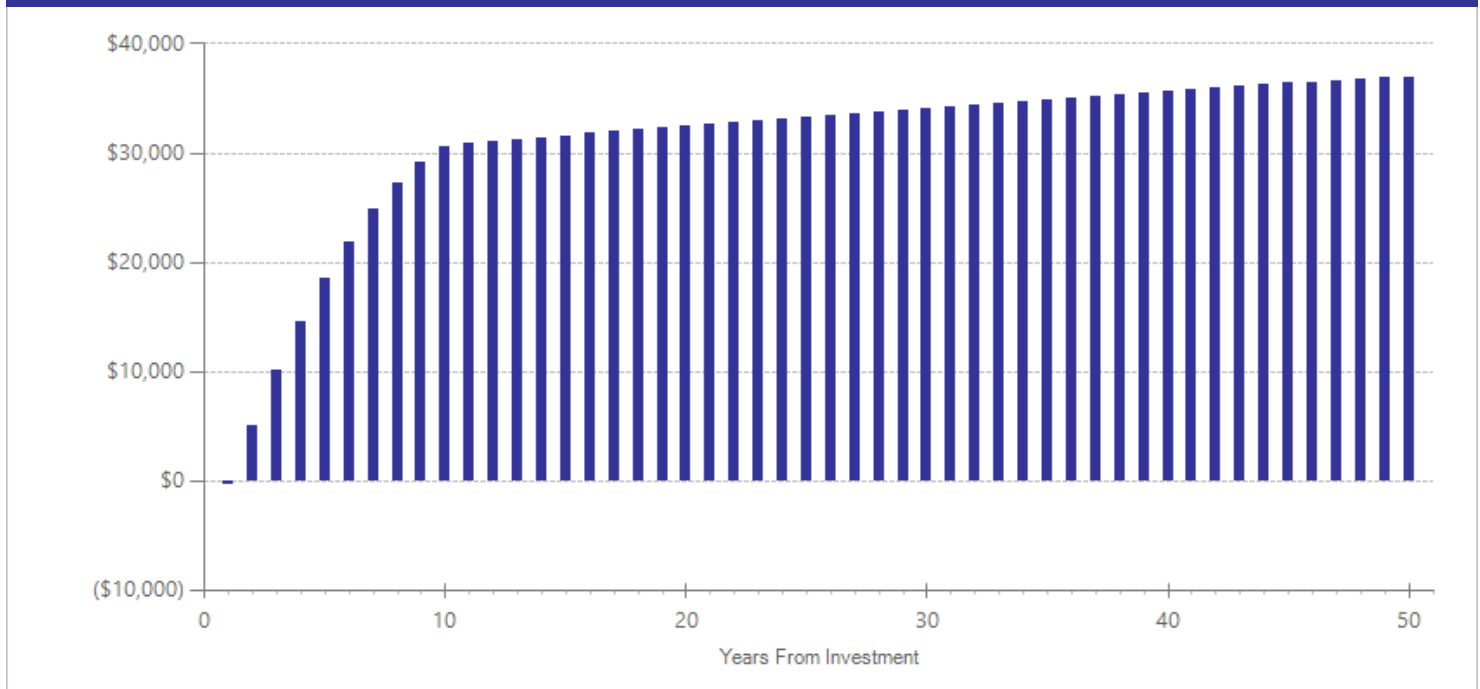
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,368	2016	Present value of net program costs (in 2018 dollars)	(\$3,499)
Comparison costs	\$0	2016	Cost range (+ or -)	20 %

We estimate the per-participant cost using the cost of volunteer time on the Office of Financial Management State Data Book average adult salary for 2016, multiplied by 1.44 to account for benefits. Cost estimates exclude donated space. In the evaluated programs, mentors met with mentees for 81 hours over 10.4 months, on average.

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	Treatment age	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	3	186	-0.241	0.137	17	-0.241	0.137	25	-0.241	0.078

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

Bouffard, J., & Bergseth, K. (2008). The impact of reentry services on juvenile offenders' recidivism. *Youth Violence and Juvenile Justice*, 6 (3), 295-318.

Drake, E., & Barnoski, R. (2006). *Recidivism findings for the Juvenile Rehabilitation Administration's mentoring program: Final report (Document No: 06-07-1202)*. Olympia, WA: Washington State Institute for Public Policy.

Jarjoura, G.P. (2009). Mentoring as a critical tool for effective juvenile reentry: Written testimony submitted to the Congressional briefing on supporting youth reentry from out-of-home placement to the community.

# Other (non-therapeutic communities) substance use disorder treatment for youth in state institutions

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated August 2017.

Program Description: This analysis is on youth receiving substance use disorder treatment while serving a sentence in a state institution. Other substance use disorder treatment is a broadly defined category that 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 interventions can be delivered in individual, group, or family modalities.

In the included studies, youth participated in group- or family-based interventions. The interventions occurred both in detention and the community post-release and ranged in length from three to five months. In the included studies that report demographics, 85% of participants were youth of color and 7% were female.

We exclude evaluations of therapeutic communities and substance use disorder treatments for court-involved youth from this meta-analysis and analyze them separately.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$6,324	Benefit to cost ratio	\$8.53
Participants	\$156	Benefits minus costs	\$25,357
Others	\$20,083	Chance the program will produce	
Indirect	\$2,161	benefits greater than the costs	73 %
<b>Total benefits</b>	<b>\$28,724</b>		
<b>Net program cost</b>	<b>(\$3,368)</b>		
<b>Benefits minus cost</b>	<b>\$25,357</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$5,903	\$19,693	\$2,952	\$28,548
Labor market earnings associated with alcohol abuse or dependence	\$0	\$0	\$0	\$0	\$1
Property loss associated with alcohol abuse or dependence	\$0	\$0	\$0	\$0	\$0
Health care associated with illicit drug abuse or dependence	\$59	\$379	\$390	\$190	\$1,018
Mortality associated with illicit drugs	\$96	\$41	\$0	\$704	\$841
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,684)	(\$1,684)
<b>Totals</b>	<b>\$156</b>	<b>\$6,324</b>	<b>\$20,083</b>	<b>\$2,161</b>	<b>\$28,724</b>

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

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

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

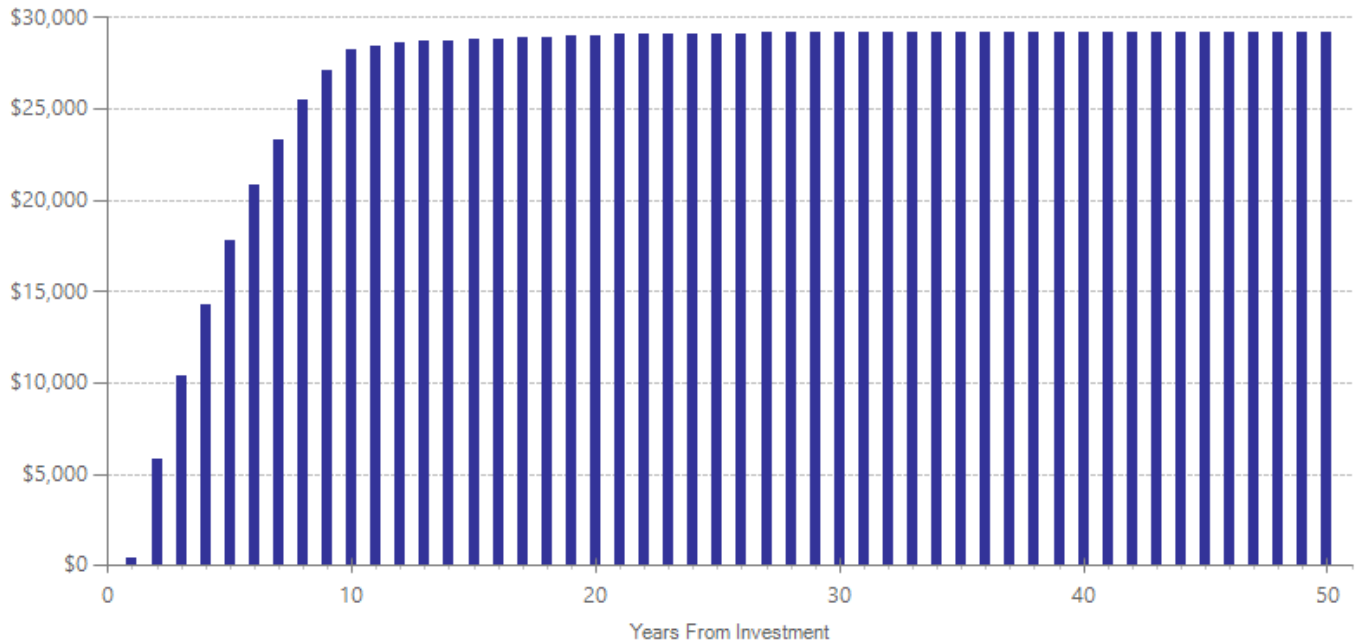
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,114	2012	Present value of net program costs (in 2018 dollars)	(\$3,368)
Comparison costs	\$0	2012	Cost range (+ or -)	20 %

The per-participant cost estimate is based on the average monthly cost of treatment in Washington applied to the average length of treatment in the included studies. We estimate the monthly cost of substance use treatment using a per-youth cost of treatment provided by Washington State Juvenile Rehabilitation, divided by the average length of treatment in Washington. We multiply this monthly cost by the weighted average length of treatment for the included studies (3.8 months).

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	Treatment age	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	15	1	110	-0.175	0.142	15	0.000	0.187	18	-0.175	0.218
Crime	15	1	110	-0.216	0.142	16	-0.216	0.142	24	-0.216	0.129
Illicit drug use disorder	15	1	110	-0.364	0.143	15	0.000	0.187	18	-0.364	0.011
Substance use disorder <sup>^</sup>	15	1	76	-0.143	0.163	15	n/a	n/a	n/a	-0.143	0.381

<sup>^</sup>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

- Friedman, A.S., Terras, A., & Glassman, K. (2002). Multimodal substance use intervention program for male delinquents. *Journal of Child and Adolescent Substance Abuse, 11*(4), 43-65.
- Henderson, C.E., Dakof, G.A., Liddle, H.A., & Greenbaum, P.E. (2010). Effectiveness of multidimensional family therapy with higher severity substance-abusing adolescents: Report from two randomized controlled trials. *Journal of Consulting and Clinical Psychology, 78*(6), 885-897.

# Step Up for court-involved youth

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated February 2019.

Program Description: Step Up is a domestic violence counseling program for youth who are violent and abusive with parents, guardians, or other family members. The program begins with an assessment of the level of violence and the risk of harm in the family. Then, families collaborate and develop a safety plan to ensure the protection of the family and the youth. Step Up uses a cognitive therapy model and tools from the Duluth model to teach youth to recognize and diffuse aggressive behavior. Parents are taught the cognitive therapy model as a method to reflect on their responses to their youth's violent behavior and to learn strategies to cope with aggressive or violent outbursts. The program typically includes 21 weeks of group counseling for youth and a concurrent support and education group for parents.

In the studies in this analysis, participants were youth with a court-identified domestic violence issue. Both of the included studies evaluated programs in Washington State. Of the studies that report demographic information, 30% of participants were people of color and 33% were female. All participants in the treatment and comparison groups received treatment-as-usual, which included case management and referrals to other community-based programs.

### Benefit-Cost Summary Statistics Per Participant

Benefit-Cost Summary Statistics Per Participant			
<b>Benefits to:</b>			
Taxpayers	\$6,250	Benefit to cost ratio	\$17.78
Participants	\$1,166	Benefits minus costs	\$22,986
Others	\$14,789	Chance the program will produce	
Indirect	\$2,150	benefits greater than the costs	82 %
<b>Total benefits</b>	<b>\$24,356</b>		
<b>Net program cost</b>	<b>(\$1,370)</b>		
<b>Benefits minus cost</b>	<b>\$22,986</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$5,800	\$14,094	\$2,900	\$22,794
Labor market earnings associated with high school graduation	\$1,362	\$580	\$754	\$0	\$2,695
Costs of higher education	(\$196)	(\$129)	(\$59)	(\$65)	(\$449)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$685)	(\$685)
<b>Totals</b>	<b>\$1,166</b>	<b>\$6,250</b>	<b>\$14,789</b>	<b>\$2,150</b>	<b>\$24,356</b>

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

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

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



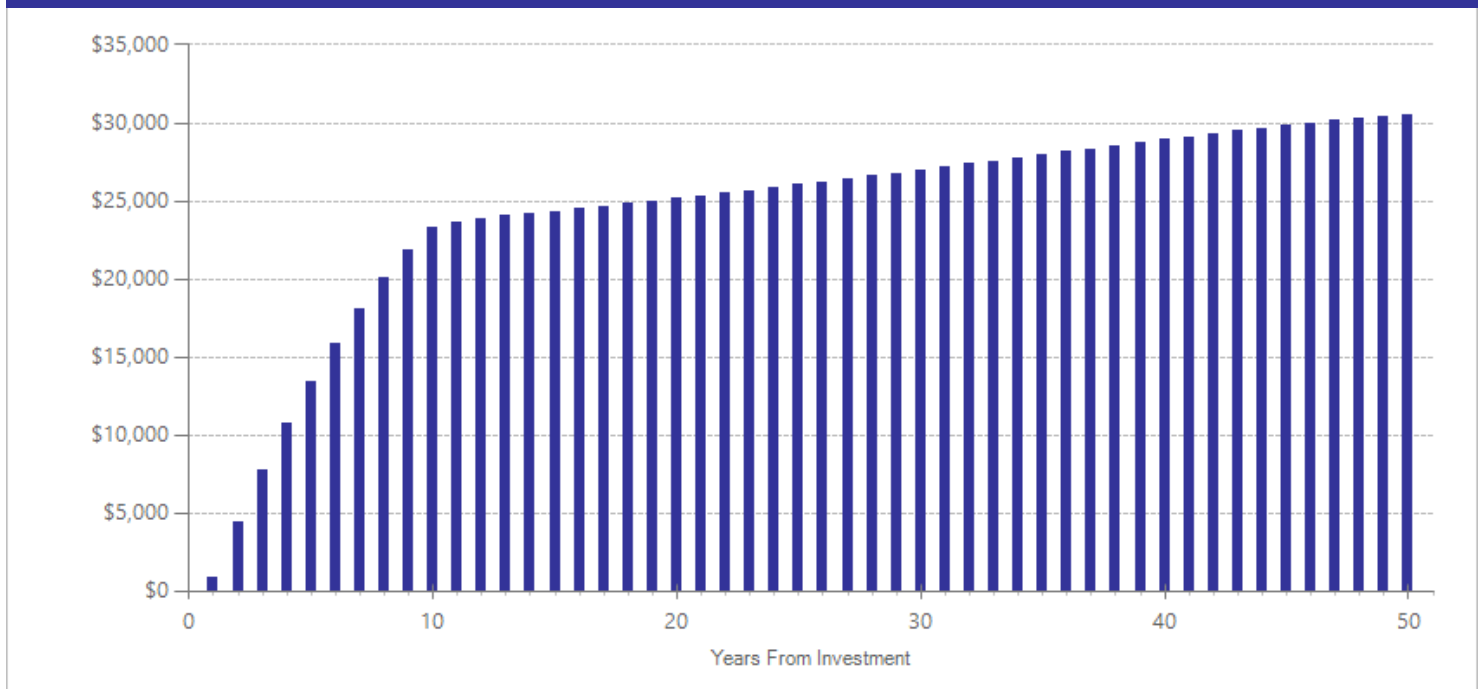
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,370	2018	Present value of net program costs (in 2018 dollars)	(\$1,370)
Comparison costs	\$0	2018	Cost range (+ or -)	10 %

The per-participant cost for Step Up reflects the costs beyond treatment as usual (e.g., costs above typical case management and program referrals). The annual per-participant cost estimate is the average total cost per family in Washington State, provided by L. Anderson (personal communication, March 22, 2019). This cost reflects King County's Step Up program enrollment and assumes two ongoing groups of 10 families, with 40 families served annually. The cost includes 20 sessions of Step Up, training for facilitators, annual observation and evaluations of facilitators by Step Up consultants, and costs associated with quality assurance.

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	Treatment age	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	2	146	-0.270	0.271	17	-0.270	0.271	25	-0.270	0.318
Domestic violence <sup>^</sup>	16	2	146	-0.257	0.346	17	n/a	n/a	n/a	-0.257	0.458

<sup>^</sup>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

- Gilman, A., & Walker, S. (2019). Evaluating the effects of an adolescent family violence intervention program on recidivism among court-involved youth. (Unpublished manuscript)
- Organizational Research Services. (2005). *King County Step-up Program Evaluation*. Seattle, Washington.

# Adolescent Diversion Project (ADP) (vs. traditional juvenile court processing)

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated June 2019.

Program Description: The Adolescent Diversion Project (ADP) is a diversion program developed by researchers at Michigan State University. Diversion programs provide an alternative to formal sanctions in the juvenile justice system, aim to mitigate potential negative consequences associated with the juvenile justice system (e.g., stigmatizing youth as deviant), and maintain a youth's pro-social ties in the community. In ADP, diverted youth are matched with a volunteer caseworker who provides tailored community-based services that focus on skill building (e.g., strengthening family relationships, improving school involvement, garnering employment, or enrolling in extracurricular activities). Caseworkers spend an average of seven hours a week with their youth over 18 weeks.

This analysis includes youth diverted following arrest. This analysis compares the outcomes of ADP diverted youth to youth who are traditionally processed in juvenile court. In the studies included that report demographic information, 49% of participants were youth of color and 18% were female.

Studies that compare ADP youth to youth released upon arrest (i.e., youth not formally processed by the juvenile court system) are excluded from this analysis and analyzed separately.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$5,774	Benefit to cost ratio	n/a
Participants	\$1,864	Benefits minus costs	\$22,831
Others	\$12,248	Chance the program will produce	
Indirect	\$2,598	benefits greater than the costs	100 %
<b>Total benefits</b>	<b>\$22,484</b>		
<b>Net program cost</b>	<b>\$347</b>		
<b>Benefits minus cost</b>	<b>\$22,831</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

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

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$5,052	\$11,139	\$2,526	\$18,717
Labor market earnings associated with high school graduation	\$2,171	\$924	\$1,201	\$0	\$4,296
Costs of higher education	(\$306)	(\$202)	(\$92)	(\$101)	(\$702)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$173	\$173
<b>Totals</b>	<b>\$1,864</b>	<b>\$5,774</b>	<b>\$12,248</b>	<b>\$2,598</b>	<b>\$22,484</b>

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

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

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

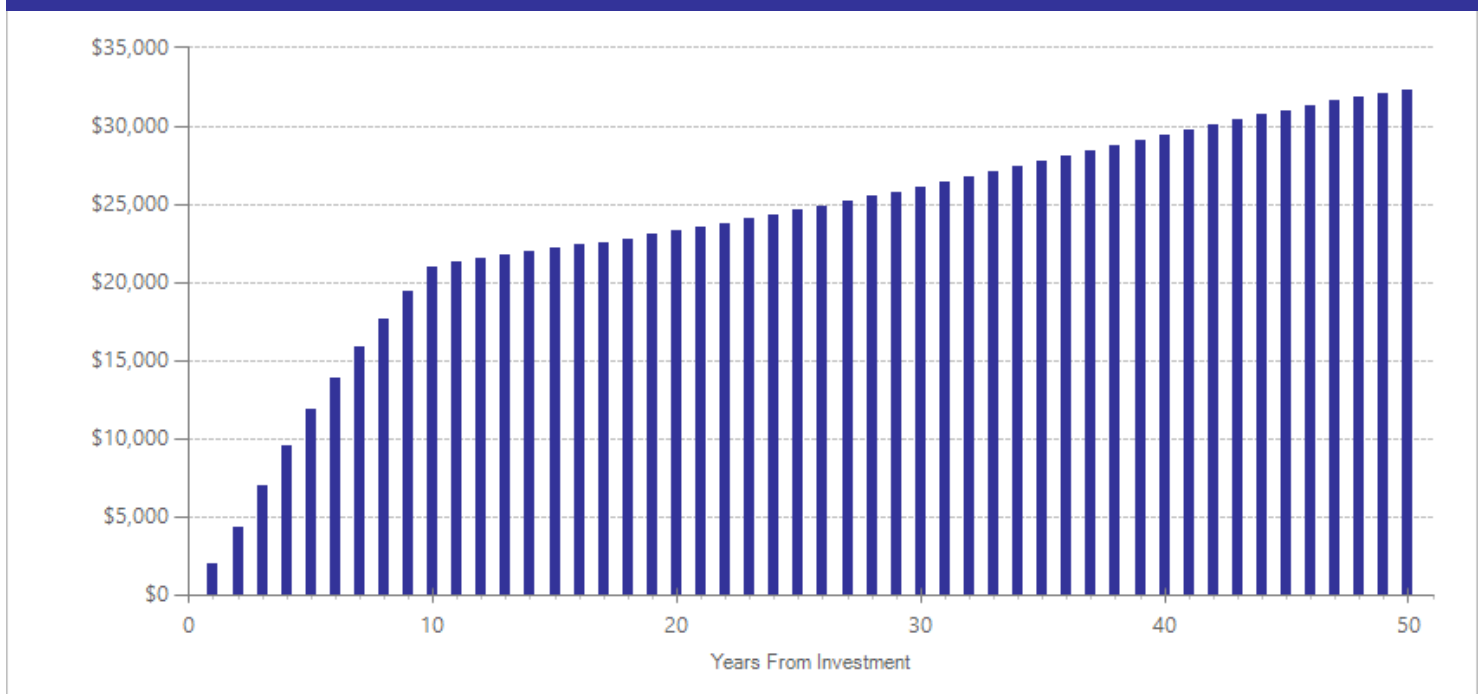
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,021	2006	Present value of net program costs (in 2018 dollars)	\$347
Comparison costs	\$1,510	2015	Cost range (+ or -)	20 %

The estimated per-participant cost for the Adolescent Diversion Project reflects 18 weeks of program delivery and includes overhead and administrative costs (Sturza, M.L., & Davison II, W.S. (2006). Issues facing the dissemination: Three decades of research on the Adolescent Diversion Project. *Journal of Prevention & Intervention in the Community*, 32(1), 5-24). We calculate the comparison group cost, traditional juvenile court processing, using the cost of court processing for misdemeanor offenses and the average length of stay for youth on juvenile local supervision, multiplied by the annual marginal cost of juvenile local supervision from Section 4.2 of Washington State Institute for Public Policy. (December 2018). Benefit-cost technical documentation. Olympia, WA: Author.

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	Treatment age	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	14	9	405	-0.441	0.108	15	-0.441	0.108	23	-0.441	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

- Blakely, C.H. (1981). *The diversion of juvenile delinquents: a first step toward the dissemination of a successful innovation*. Doctoral dissertation, Michigan State University.
- Davidson, W.S., & Basta, J. (1989). Diversion from the juvenile justice system: research evidence and a discussion of issues. *Advances in clinical child psychology*, 12, 85-111.
- Davidson, W.S., II, Redner, R., Blakely, C.H., Mitchell, C.M., & Emshoff, J.G. (1987). Diversion of juvenile offenders: an experimental comparison. *Journal of Consulting and Clinical Psychology*, 55(1), 68-75.
- Emshoff, J. G., & Blakely, C. H. (1983). The diversion of delinquent youth: Family-focused intervention. *Children and Youth Services Review*, 5(4), 343-356.

# Education and Employment Training (EET, King County) for court-involved youth Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated February 2019.

Program Description: Education and Employment Training (EET) is a workforce development program aimed towards youth improvement in employment, school engagement, and appropriate use of free time. In EET King County, 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 Equivalency Diploma (GED). EET also provides assistance to prepare for the GED.

In the included study, participants were court-involved youth at moderate or high risk of recidivism. On average, participants received EET services for 6.3 months. In the included study, 74% of participants were youth of color and 20% were female. Both the program and comparison group youth had access to usual services, which included evidence-based programs (e.g., Functional Family Therapy and Washington State Aggression Replacement Training).

## Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$6,939	Benefit to cost ratio	\$8.41
Participants	\$1,187	Benefits minus costs	\$22,252
Others	\$15,454	Chance the program will produce	
Indirect	\$1,673	benefits greater than the costs	99 %
<b>Total benefits</b>	<b>\$25,254</b>		
<b>Net program cost</b>	<b>(\$3,002)</b>		
<b>Benefits minus cost</b>	<b>\$22,252</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$6,481	\$14,746	\$3,241	\$24,467
Labor market earnings associated with high school graduation	\$1,389	\$591	\$769	\$0	\$2,750
Costs of higher education	(\$202)	(\$133)	(\$61)	(\$67)	(\$463)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,501)	(\$1,501)
<b>Totals</b>	<b>\$1,187</b>	<b>\$6,939</b>	<b>\$15,454</b>	<b>\$1,673</b>	<b>\$25,254</b>

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

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

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

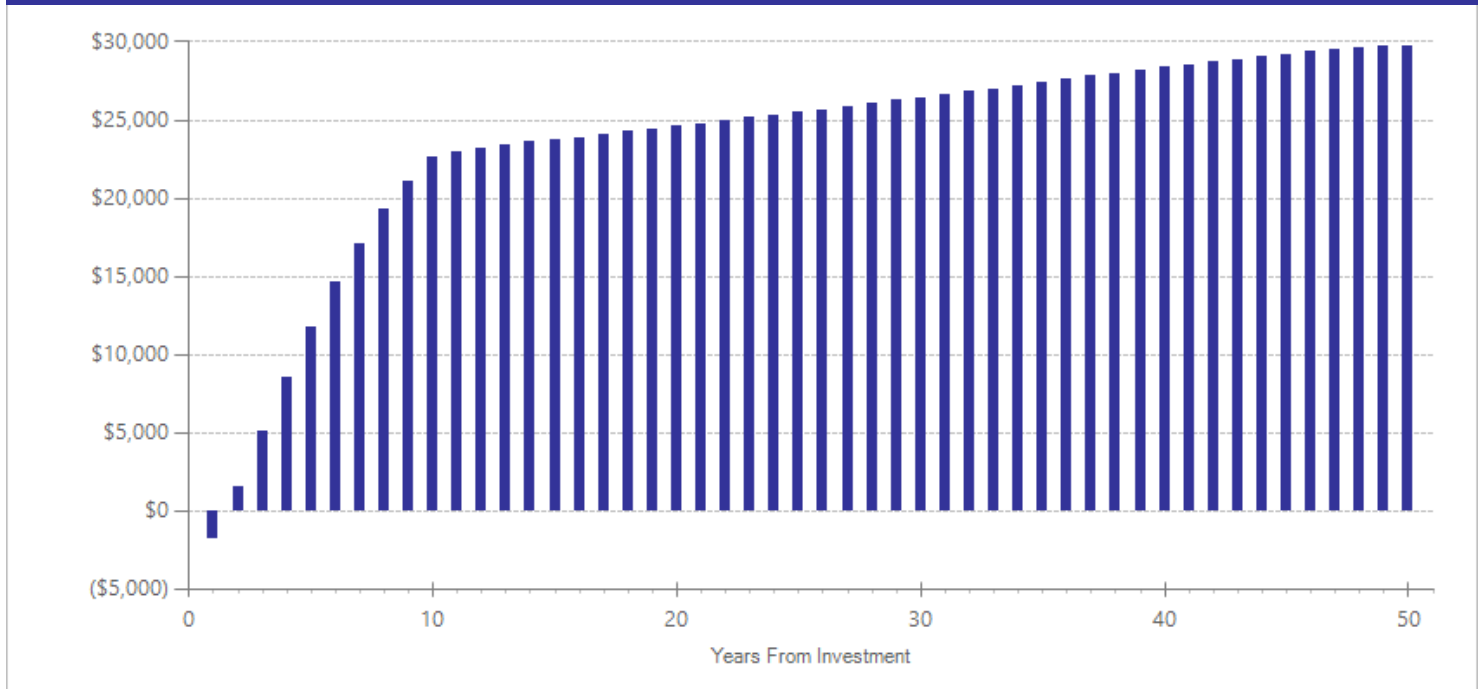
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,776	2012	Present value of net program costs (in 2018 dollars)	(\$3,002)
Comparison costs	\$0	2012	Cost range (+ or -)	20 %

The per-participant cost of the program excludes the cost of usual services, as both the treatment and comparison group had access to usual services. The per-participant treatment group cost was estimated using the total program expenditures for Education and Employment Training EET in King County, divided by the number of youth served as reported in King County's Children, Youth, and Young Adult Services Inventory (2012) found at [https://www.kingcounty.gov/~media/operations/DCHS/2012\\_KC\\_Children\\_Youth\\_YA\\_Services\\_Rev8\\_31\\_12.ashx](https://www.kingcounty.gov/~media/operations/DCHS/2012_KC_Children_Youth_YA_Services_Rev8_31_12.ashx).

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	Treatment age	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	17	1	266	-0.292	0.106	18	-0.292	0.106	26	-0.292	0.006

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

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.



# Teaching-Family Model group homes (vs. other group homes) for court-involved youth

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated March 2019.

Program Description: Teaching-Family Model is a mentoring model that is delivered in many types of environments. This analysis focuses on the Teaching-Family Model operating within a group home setting. Group homes are community-based, residential facilities for youth post-adjudication. Teaching-Family is typically administered by a team, often a married couple, who demonstrate pro-social behaviors in a family-style environment. The team creates daily opportunities for youth to engage in emotional-, relational-, and social-skill learning, all of which aim to curb future delinquent behavior.

In this analysis, the administration of the components of Teaching-Family occurs daily, and placement in group homes lasts an average of 9.8 months. We compare youth placed in group homes using the Teaching-Family Model to youth placed in non-Teaching-Family Model homes. Of the studies in our analysis that reported demographic information, approximately 23% of participants were youth of color and 26% were female.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$6,799	Benefit to cost ratio	\$5.29
Participants	\$1,406	Benefits minus costs	\$21,059
Others	\$17,166	Chance the program will produce	
Indirect	\$596	benefits greater than the costs	88 %
<b>Total benefits</b>	<b>\$25,968</b>		
<b>Net program cost</b>	<b>(\$4,909)</b>		
<b>Benefits minus cost</b>	<b>\$21,059</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$6,254	\$16,330	\$3,127	\$25,711
Labor market earnings associated with high school graduation	\$1,638	\$697	\$906	\$0	\$3,241
Costs of higher education	(\$231)	(\$153)	(\$69)	(\$76)	(\$529)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,454)	(\$2,454)
<b>Totals</b>	<b>\$1,406</b>	<b>\$6,799</b>	<b>\$17,166</b>	<b>\$596</b>	<b>\$25,968</b>

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

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

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

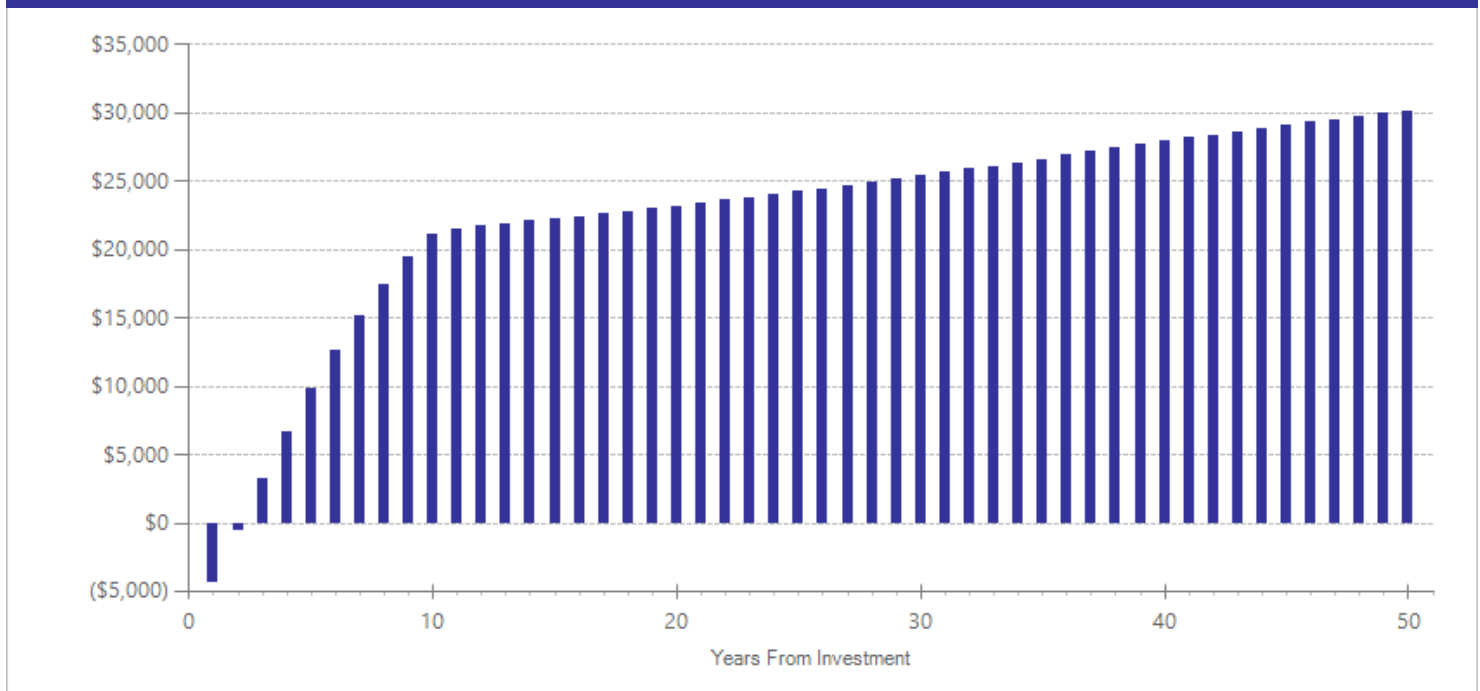
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$27,863	2017	Present value of net program costs (in 2018 dollars)	(\$4,909)
Comparison costs	\$22,427	2015	Cost range (+ or -)	50 %

We estimate the per-participant cost for youth in the Teaching-Family Model using the per-client expenditures for community placement by Juvenile Rehabilitation (JR) as reported by Washington State Department of Social and Health Services, Client Services for State Fiscal Year 2017(2019, <http://clientdata.rda.dshs.wa.gov/Home/ShowReport?reportMode=0>). We estimate the per-participant cost for youth in the comparison group using the average daily costs for group home care reported in McKay, P., Hollist, D., & Mayrer, J. (2016). Foster or group home care for youth on probation. Missoula, MT: University of Montana, Missoula. We apply this daily cost (\$96.48) to the average time spent in group care by participants in the studies (231 days).

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	Treatment age	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	14	3	148	-0.324	0.201	15	-0.324	0.201	23	-0.324	0.108

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.

Wolf, M.M., Phillips, E.L., & Fixsen, D.L. (1974). *Achievement Place: Phase II*. Rockville, MD: National Institute of Mental Health, Center for Studies of Crime and Delinquency.

## Mentoring for court-involved youth (including volunteer costs)

### Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated June 2019.

Program Description: Mentoring programs pair youth in the juvenile justice system with an adult volunteer to build a relationship with the ultimate goal of encouraging youth to desist from delinquent behavior. Mentor/mentee relationships aim to grow social capital by engaging youth in pro-social relationships. Youth are assigned to a mentor, typically a non-professional volunteer, who meets with the youth approximately once a week. Mentors assist youth in gaining access to community resources (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.

This analysis is on youth on probation who are assigned a mentor. In the included studies, youth were in the mentoring program for an average of 8.1 months. In the studies in our analysis that reported demographic information, 87% of participants were youth of color and 15% were female.

We exclude studies examining the effectiveness of mentoring for youth who were not in the juvenile justice system. Evaluations of mentoring on a population of youth released from confinement are excluded from this analysis and analyzed separately.

#### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$6,393	Benefit to cost ratio	\$8.14
Participants	\$0	Benefits minus costs	\$19,258
Others	\$13,716	Chance the program will produce	
Indirect	\$1,847	benefits greater than the costs	85 %
<b>Total benefits</b>	<b>\$21,956</b>		
<b>Net program cost</b>	<b>(\$2,698)</b>		
<b>Benefits minus cost</b>	<b>\$19,258</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$6,393	\$13,716	\$3,196	\$23,306
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,349)	(\$1,349)
<b>Totals</b>	<b>\$0</b>	<b>\$6,393</b>	<b>\$13,716</b>	<b>\$1,847</b>	<b>\$21,956</b>

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

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

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

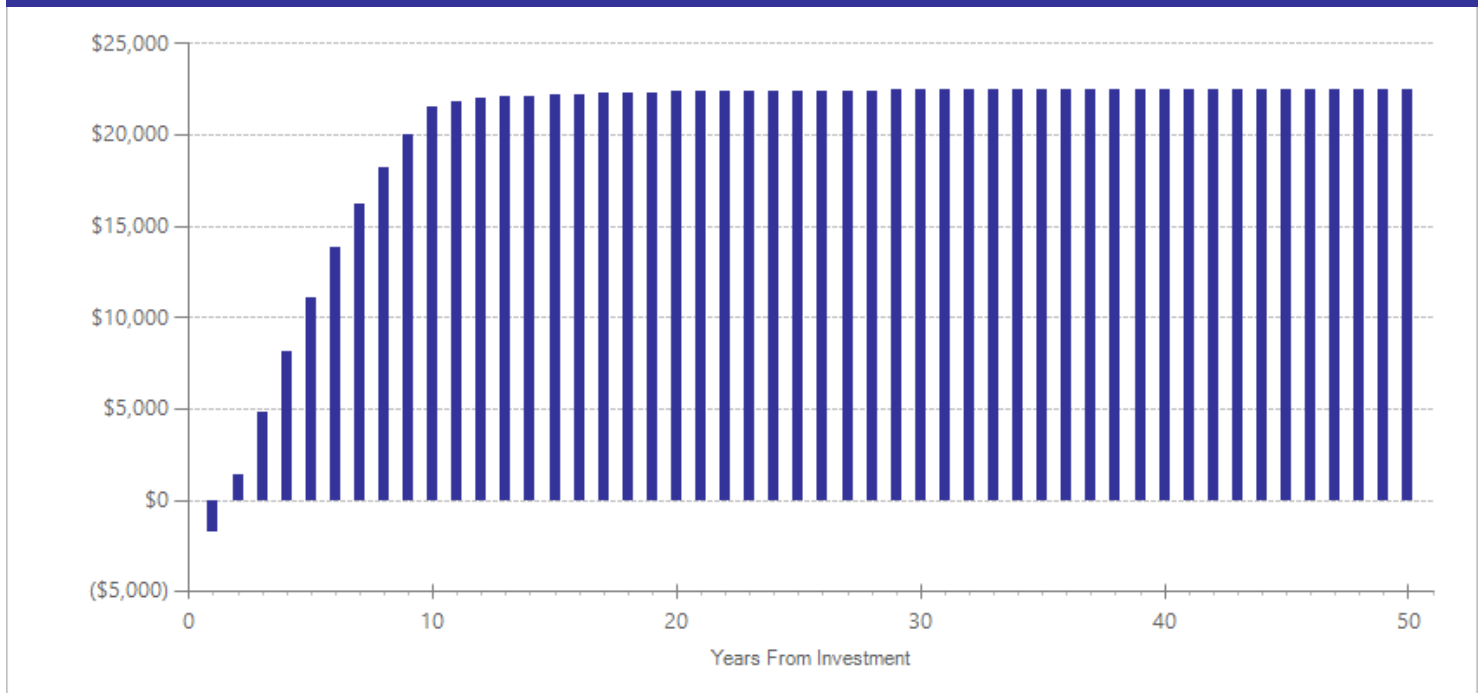
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,597	2016	Present value of net program costs (in 2018 dollars)	(\$2,698)
Comparison costs	\$0	2016	Cost range (+ or -)	20 %

We estimate the per-participant cost using the cost of volunteer time on the Office of Financial Management State Data Book average adult salary for 2016, multiplied by 1.44 to account for benefits. Cost estimates exclude donated space. In the evaluated programs, mentors met with mentees for 63 hours over 8.1 months, on average.

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	Treatment age	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	19	3	474	-0.334	0.268	20	-0.334	0.268	28	-0.334	0.212

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

- Lane, J., Turner, S., Fain, T., & Sehgal, A. (2007). The effects of an experimental intensive juvenile probation program on self-reported delinquency and drug use. *Journal of Experimental Criminology*, 3 (3), 201-219.
- Lynch, M., Esthappan, S., Astone, N.M., Collazos, J., & Lipman, M. (2018). *Archest Transformative Mentoring Program: An Implementation and Impact Evaluation in New York City*. Washington D.C. Urban Institute.
- Moore, R.H. (1987). Effectiveness of citizen volunteers functioning as counselors for high-risk young male offenders. *Psychological Reports*, 61, 823-830.

# Multisystemic Therapy (MST) for court-involved/post-release youth Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated May 2019.

Program Description: Multisystemic Therapy (MST) is an intensive family- and community-based therapy for youth with antisocial behaviors that combines aspects of cognitive, behavioral, and family therapies. 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 those problems fit within the context of the youth's life. The program targets and delivers its curriculum in the environments a youth navigates (i.e., home, school, the community). MST therapists meet weekly with the youth and their family members for three to six months. MST relies on the compliance of the family to design and implement the treatment plan to adjust to the individual strengths and needs of each family.

In the included studies, participants received an average of 4.1 months of treatment. Youth were classified as moderate- or high-risk per scores on a validated risk instrument and were either on probation following adjudication or following their release from confinement. In the studies in the analysis that reported demographic information, 80% of participants were youth of color and 23% were female.

We exclude evaluations of Multisystemic Therapy-Substance Abuse, Multisystemic Therapy-Family Integrated Transitions, and Multisystemic Therapy-Problem Sexual Behavior from this analysis and analyze them separately.

## Benefit-Cost Summary Statistics Per Participant

### Benefits to:

Taxpayers	\$7,118	Benefit to cost ratio	\$3.02
Participants	\$1,400	Benefits minus costs	\$16,847
Others	\$17,649	Chance the program will produce	
Indirect	(\$966)	benefits greater than the costs	99 %
<b>Total benefits</b>	<b>\$25,201</b>		
<b>Net program cost</b>	<b>(\$8,354)</b>		
<b>Benefits minus cost</b>	<b>\$16,847</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$6,576	\$16,815	\$3,288	\$26,679
Labor market earnings associated with high school graduation	\$1,633	\$695	\$904	\$0	\$3,232
Costs of higher education	(\$233)	(\$154)	(\$70)	(\$77)	(\$533)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$4,177)	(\$4,177)
<b>Totals</b>	<b>\$1,400</b>	<b>\$7,118</b>	<b>\$17,649</b>	<b>(\$966)</b>	<b>\$25,201</b>

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

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

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

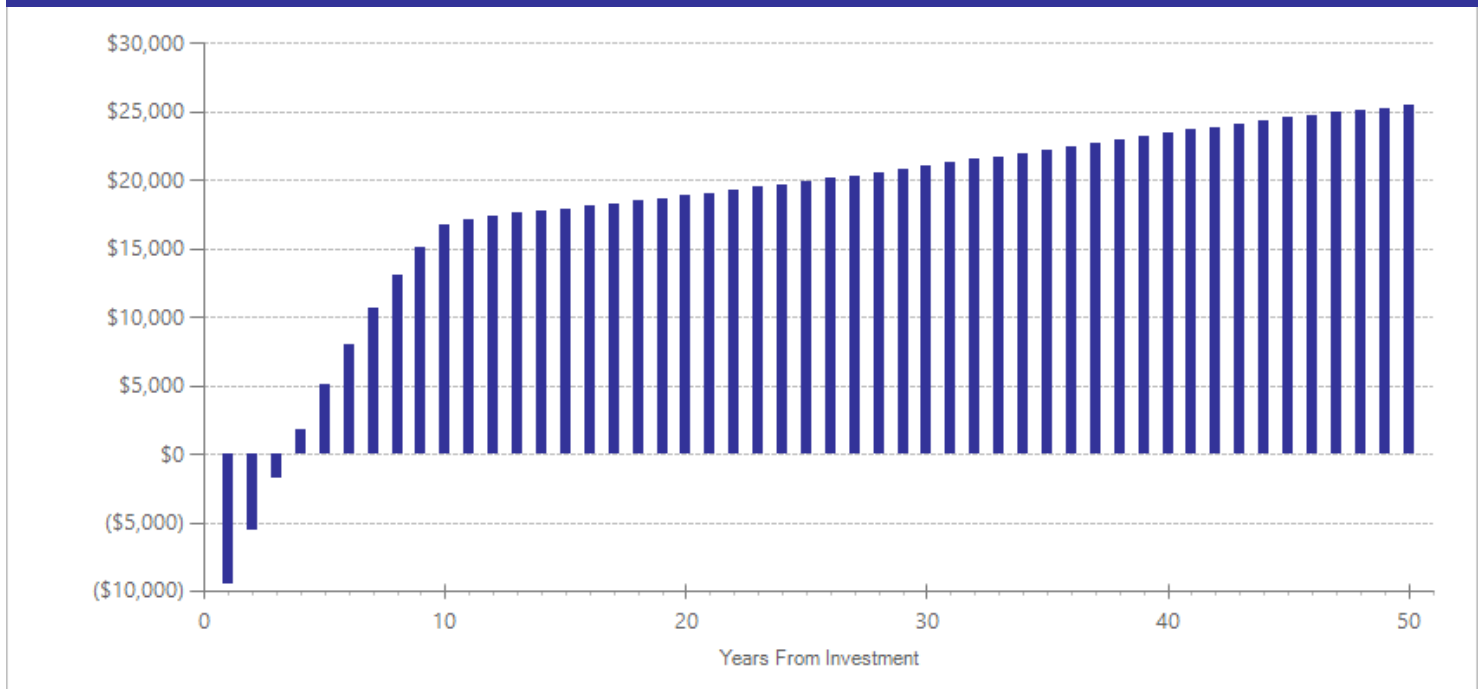
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$8,041	2016	Present value of net program costs (in 2018 dollars)	(\$8,354)
Comparison costs	\$0	2016	Cost range (+ or -)	20 %

The per-participant cost estimate is the average cost of providing Multisystemic Therapy (MST), as implemented in the studies included in this analysis. We estimate a monthly cost for MST using the average length of the program in Washington (four months) and the cost of MST in Washington, provided by C. Redman (personal communication, Washington State Juvenile Rehabilitation, April 16, 2019). This cost reflects estimates 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. We multiply this monthly cost estimate and the average length of MST in the included studies, approximately 4.1 months.

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	Treatment age	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	15	6	1072	-0.314	0.069	16	-0.314	0.069	24	-0.314	0.001
Externalizing behavior symptoms <sup>^^</sup>	15	1	53	0.034	0.197	15	n/a	n/a	n/a	0.034	0.864
Internalizing symptoms <sup>^^</sup>	15	1	53	0.254	0.197	15	n/a	n/a	n/a	0.254	0.198
Technical violations <sup>^</sup>	15	1	43	0.832	0.691	16	n/a	n/a	n/a	0.832	0.228

<sup>^</sup>WSIPP’s benefit-cost model does not monetize this outcome.

<sup>^^</sup>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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# Cognitive behavioral therapy (CBT) for youth in state institutions

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

Program Description: Cognitive behavioral therapy (CBT) uses cognitive restructuring, self-talk, skill-building, and other strategies to treat mental illness or address problem behaviors. In a juvenile justice setting, CBT emphasizes individual accountability and teaches participants that cognitive deficits, distortions, and flawed thinking processes can cause criminal behavior. The studies included in this meta-analysis evaluated name brand programs including Coping Course, Corrective Thinking, and Situational-Decision Making.

In this meta-analysis, CBT is delivered to youth serving sentences in state institutions. We include evaluations of CBT programs that target criminal behavior, rather than specific mental health problems. In the included studies, participants were in treatment for two or three months, for a total of 16 to 122 hours of group-based therapy. In the included studies that report demographic information, 50% of participants were youth of color and 29% were female.

Evaluations on CBT for court-involved youth are excluded from this analysis and analyzed separately.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$3,547	Benefit to cost ratio	\$52.59
Participants	\$464	Benefits minus costs	\$15,993
Others	\$10,789	Chance the program will produce	
Indirect	\$1,503	benefits greater than the costs	68 %
<b>Total benefits</b>	<b>\$16,303</b>		
<b>Net program cost</b>	<b>(\$310)</b>		
<b>Benefits minus cost</b>	<b>\$15,993</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

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

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$3,368	\$10,512	\$1,684	\$15,564
Labor market earnings associated with high school graduation	\$542	\$231	\$300	\$0	\$1,073
Costs of higher education	(\$78)	(\$52)	(\$23)	(\$26)	(\$179)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$155)	(\$155)
<b>Totals</b>	<b>\$464</b>	<b>\$3,547</b>	<b>\$10,789</b>	<b>\$1,503</b>	<b>\$16,303</b>

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

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

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

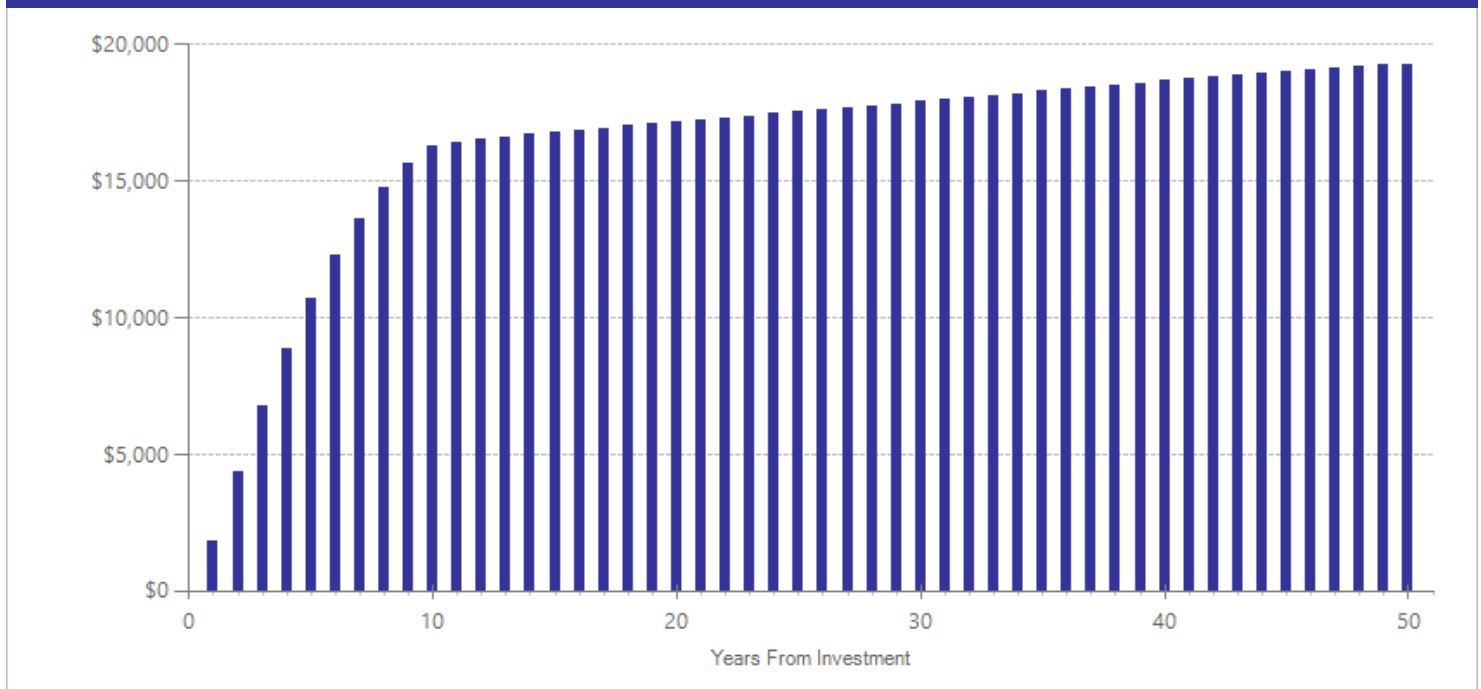
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$310	2018	Present value of net program costs (in 2018 dollars)	(\$310)
Comparison costs	\$0	2018	Cost range (+ or -)	50 %

The per-participant cost estimate is based on provider wages for the average implementation of cognitive behavioral therapy (CBT) in the included studies. We estimate that participants receive an average of 57 hours of group therapy, as reported in the included studies. We use hourly wage information for Corrections Mental Health Counselors from the Office of Financial Management (<https://ofm.wa.gov/state-human-resources/compensation-job-classes/ClassifiedJobListing/SalaryRange/1208>) and multiply this by 1.44 to account for benefits. We assume that there are eight participants in the average CBT group.

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	Treatment age	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	2	105	-0.118	0.236	17	-0.118	0.236	25	-0.118	0.617
Externalizing behavior symptoms <sup>^^</sup>	16	1	46	-0.542	0.268	16	n/a	n/a	n/a	-0.542	0.029
Internalizing symptoms <sup>^^</sup>	16	1	46	-0.378	0.246	16	n/a	n/a	n/a	-0.378	0.124
Suicidal ideation <sup>^</sup>	16	1	46	-0.339	0.246	16	n/a	n/a	n/a	-0.339	0.168

<sup>^</sup>WSIPP's benefit-cost model does not monetize this outcome.

<sup>^^</sup>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

- Bottcher, J. (1985). *The Athena Program: An evaluation of a girl's treatment program at the Fresno County Probation Department's Juvenile Hall*. Sacramento: California Youth Authority.
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# Functional Family Probation and Parole (FFP) for court-involved/post-release youth Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated August 2019.

Program Description: Functional Family Probation and Parole (FFP) is a case management program modeled after Functional Family Therapy (FFT). FFP was designed to supervise youth in the community on probation or parole. Like FFT, FFP is a structured, family-based intervention that uses a multi-step approach to enhance protective factors (e.g., school attendance) and reduce risk factors (e.g., antisocial attitudes) in the family. The five phases 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. Each phase helps to support incremental change for the youth and family. FFP typically involves 12 to 14 therapist visits over a three- to five-month period. Therapists are trained by FFT LLC.

In this analysis, FFP was delivered to youth on parole after being released from confinement and one study examined youth on probation. Youth participated in FFP for an average of six months. Comparison youth received either no treatment or treatment and probation as usual. Although risk level was not reported in these studies, youth had some degree of prior involvement with the justice system. Among included studies that reported demographics, 63% of participants were youth of color and 10% were female.

## Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$4,546	Benefit to cost ratio	\$4.51
Participants	\$550	Benefits minus costs	\$14,331
Others	\$13,224	Chance the program will produce	
Indirect	\$94	benefits greater than the costs	74 %
<b>Total benefits</b>	<b>\$18,414</b>		
<b>Net program cost</b>	<b>(\$4,083)</b>		
<b>Benefits minus cost</b>	<b>\$14,331</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$4,333	\$12,896	\$2,167	\$19,396
Labor market earnings associated with high school graduation	\$643	\$274	\$356	\$0	\$1,274
Costs of higher education	(\$94)	(\$62)	(\$28)	(\$31)	(\$214)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,042)	(\$2,042)
<b>Totals</b>	<b>\$550</b>	<b>\$4,546</b>	<b>\$13,224</b>	<b>\$94</b>	<b>\$18,414</b>

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

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

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

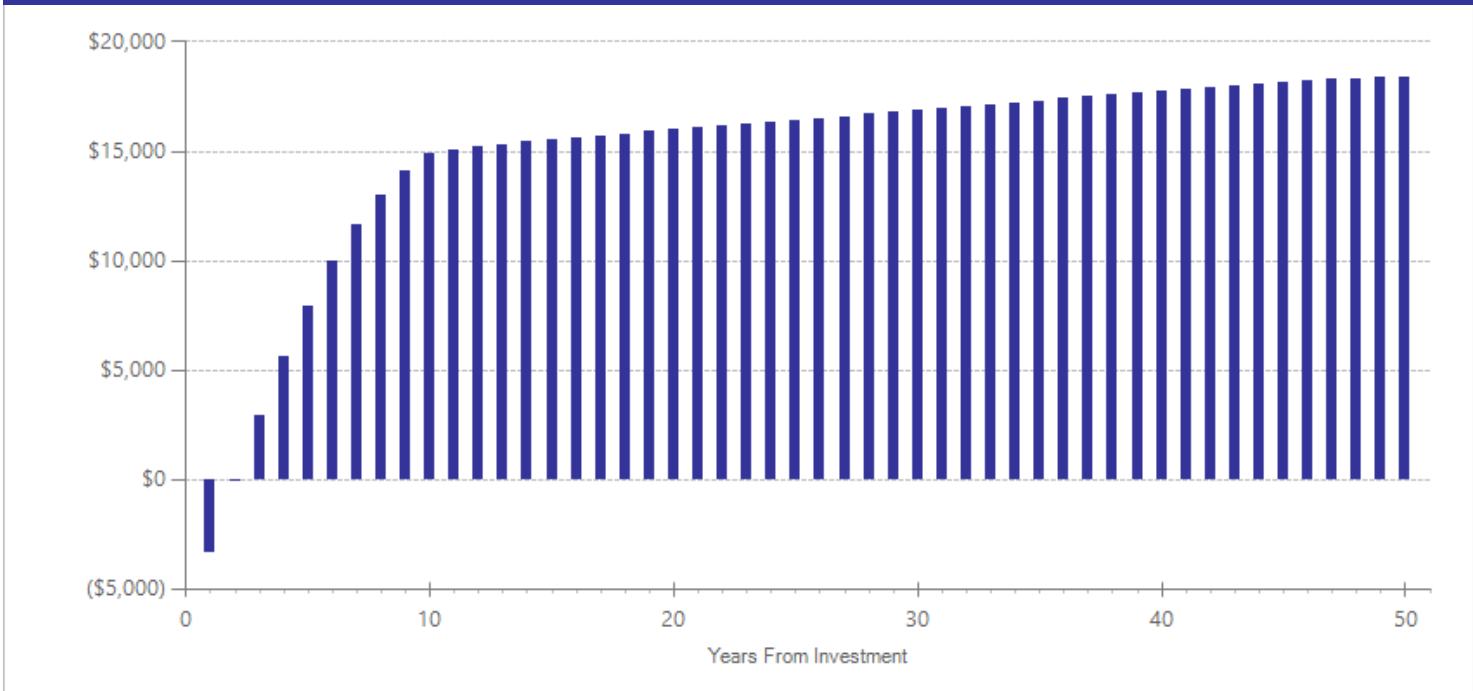
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$5,654	2015	Present value of net program costs (in 2018 dollars)	(\$4,083)
Comparison costs	\$1,763	2015	Cost range (+ or -)	20 %

Treatment group costs are based on Functional Family Therapy (FFT) (a similar program) and the cost of post-release supervision (parole) for 12 weeks. 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 parole supervision. Approximately 80% of the comparison sample from meta-analysis incurred parole supervision costs, while the remainder received no treatment and no parole. Thus, the cost of parole supervision for the comparison group was proportionately applied. We calculated the cost of parole for the comparison group using WSIPP cost estimates and assumed 12 weeks of supervision; the same length of supervision assumed for the FFP cost. WSIPP estimates are from Washington State Institute for Public Policy. (December 2018). Benefit-cost technical documentation. Olympia, WA: Author.

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	Treatment age	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	17	2	577	-0.144	0.156	18	-0.144	0.156	26	-0.144	0.355
Earnings <sup>^^</sup>	17	1	139	0.283	0.121	18	n/a	n/a	n/a	0.283	0.019
Employment <sup>^^</sup>	17	1	139	0.482	0.180	18	n/a	n/a	n/a	0.482	0.008
Out-of-home placement <sup>^^</sup>	17	1	161	0.072	0.099	20	n/a	n/a	n/a	0.072	0.465

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

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

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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- 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.

# Wilderness adventure therapy for court-involved youth

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

Program Description: Programs with wilderness experiences as the therapeutic milieu incorporate challenge and adventure as the youth’s means of self-discovery to improve self-esteem, peer relationships, and teamwork. These programs typically target youth under age 18 who have behavioral or emotional problems, which may include criminal delinquency, substance use, physical or mental disabilities, and learning disorders. In the juvenile justice setting, wilderness experience programs can be delivered within the traditional justice system, as a diversion from the traditional system altogether, or as a less restrictive alternative to confinement. Three broad types of wilderness experience programs include adventure-based therapy (e.g., ropes courses), wilderness adventure therapy (e.g., expeditions), and residential outdoor therapy (e.g., living units) (see Gillis, H.L., Gass, M. A. & Russell, K.C., 2008. The effectiveness of Project Adventure’s behavior management programs for male offenders in residential treatment. *Residential Treatment for Children & Youth*, 25(3), 227-246). All of the studies included in this analysis were wilderness adventure therapy models, which have an expedition format that takes place in the wilderness setting (e.g., canoeing, rock climbing, camping, or backpacking). All included studies were similar to an Outward Bound model. Wilderness adventure therapy programs are typically less than 60 days but can range from 7 to 120 days. Depending on the type of youth involved in the program, program leaders may be trained probation officers.

In this analysis, wilderness adventure therapy participants were convicted but diverted from traditional probation services. Youth participated in expeditions lasting from three weeks to three months with an average of 37 days in the program. Although risk level was not reported in these studies, youth had some degree of prior involvement with the justice system. Among included studies that report demographics, 37% of participants were youth of color and 5% were female. Comparison youth received probation and treatment as usual services.

### Benefit-Cost Summary Statistics Per Participant

Benefit-Cost Summary Statistics Per Participant			
<b>Benefits to:</b>			
Taxpayers	\$6,080	Benefit to cost ratio	\$3.04
Participants	\$1,430	Benefits minus costs	\$13,949
Others	\$14,012	Chance the program will produce	
Indirect	(\$734)	benefits greater than the costs	79 %
<u>Total benefits</u>	<u>\$20,788</u>		
<u>Net program cost</u>	<u>(\$6,838)</u>		
Benefits minus cost	\$13,949		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).



## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$5,527	\$13,161	\$2,763	\$21,451
Labor market earnings associated with high school graduation	\$1,667	\$710	\$923	\$0	\$3,300
Costs of higher education	(\$238)	(\$157)	(\$71)	(\$78)	(\$544)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,419)	(\$3,419)
<b>Totals</b>	<b>\$1,430</b>	<b>\$6,080</b>	<b>\$14,012</b>	<b>(\$734)</b>	<b>\$20,788</b>

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

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

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

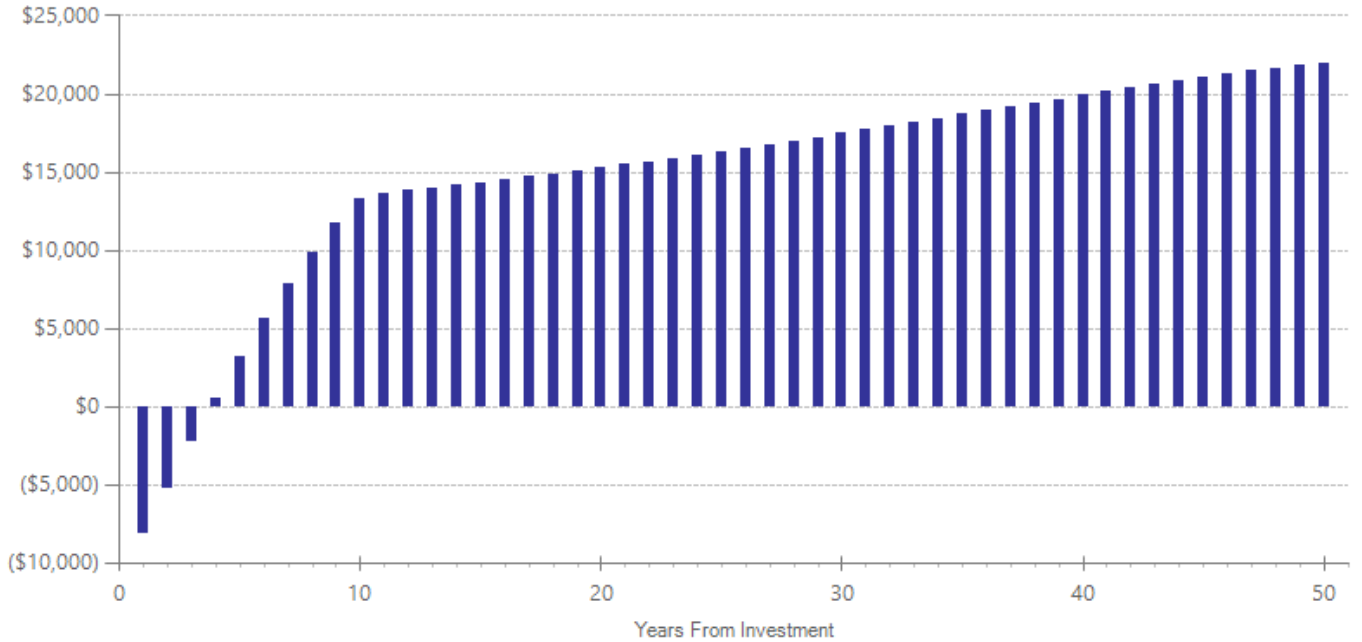
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$7,805	2015	Present value of net program costs (in 2018 dollars)	(\$6,838)
Comparison costs	\$1,289	2015	Cost range (+ or -)	20 %

The per-participant cost estimate was based on information retrieved from Outward Bound (<http://www.outwardbound.org>), Peak 7 Adventures (<http://peak7.org>), and other local non-profit organizations that provide wilderness adventure therapy for youth. The average daily cost estimate from these sources was multiplied by the average days in the program for the studies in our review (37 days). Youth in the comparison group received probation as usual in lieu of wilderness adventure therapy. To estimate the cost of probation for comparison youth, we multiplied the average length of stay of on local supervision (0.57 years) for Washington's probation population multiplied by the marginal operating cost for local supervision using WSIPP estimates from Washington State Institute for Public Policy. (December 2018). Benefit-cost technical documentation. Olympia, WA: Author.

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	Treatment age	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	15	3	112	-0.320	0.224	16	-0.320	0.224	24	-0.320	0.154

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

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

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

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

## Citations Used in the Meta-Analysis

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# Teen courts (vs. traditional juvenile court processing)

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated May 2019.

**Program Description:** Teen courts (sometimes called youth courts) are restorative justice problem-solving courts that divert youth from traditional processing in juvenile courts. Teen courts target delinquent youth with low-level or misdemeanor offenses who agree to a hearing and judgment from a court led by their peers. Student volunteers (or youth previously involved with the court) fill court roles acting as lawyers, bailiffs, clerks, judges, and juries to provide alternative dispositions for youth who committed minor offenses. Typically, student volunteers are overseen by a judge to ensure proper procedure is maintained. Youth and families who participate in teen court agree to honor the sentence set down by the teen court. Most sentences rely on youth making restitution to the person harmed or inconvenienced by their actions (e.g., community service or letters of apology).

For this analysis, we compare youth diverted to teen court to youth traditionally processed in juvenile court. Among studies included in this analysis, the time spent in court for a single case averaged one hour, with supervision lasting three to six months. In the studies in our analysis that reported demographic information, 21% of participants were youth of color and 36% were female.

Evaluations of teen court comparing participants to diverted youth are excluded from this analysis and analyzed separately.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$2,670	Benefit to cost ratio	n/a
Participants	\$833	Benefits minus costs	\$12,036
Others	\$5,490	Chance the program will produce	
Indirect	\$1,766	benefits greater than the costs	84 %
<b>Total benefits</b>	<b>\$10,760</b>		
<b>Net program cost</b>	<b>\$1,276</b>		
<b>Benefits minus cost</b>	<b>\$12,036</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$2,348	\$4,994	\$1,174	\$8,517
Labor market earnings associated with high school graduation	\$971	\$413	\$537	\$0	\$1,922
Costs of higher education	(\$138)	(\$91)	(\$41)	(\$46)	(\$317)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$638	\$638
<b>Totals</b>	<b>\$833</b>	<b>\$2,670</b>	<b>\$5,490</b>	<b>\$1,766</b>	<b>\$10,760</b>

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

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

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

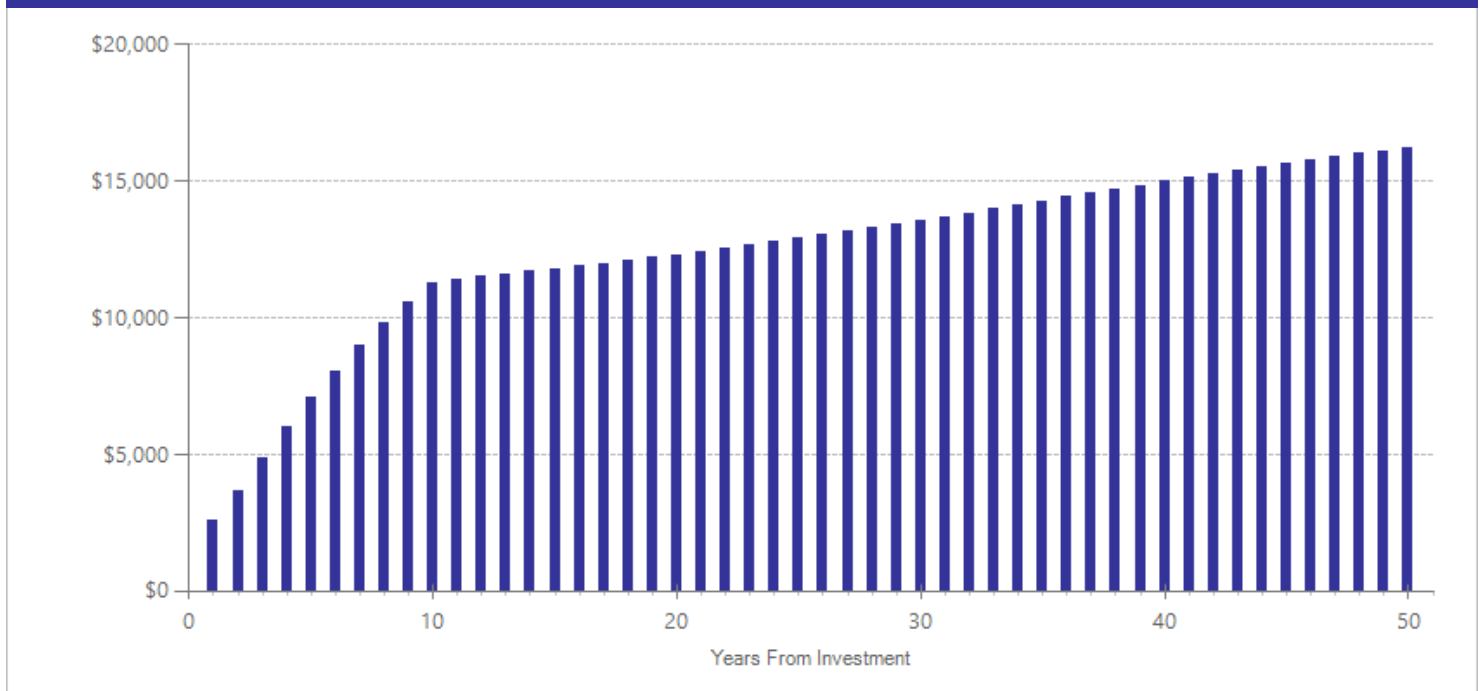
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$205	1995	Present value of net program costs (in 2018 dollars)	\$1,276
Comparison costs	\$1,510	2015	Cost range (+ or -)	20 %

We estimate the per-participant cost using the average cost of processing youth through a typical teen or youth court model, as presented in Zehner, S.J. (1997). Teen court. FBI Law Enforcement Bulletin, 66(3), 1-7. We calculate the comparison group cost, traditional juvenile court processing, using the cost of court processing for misdemeanor offenses and the average length of stay for youth on juvenile local supervision, multiplied by the annual marginal cost of juvenile local supervision from Section 4.2 of Washington State Institute for Public Policy. (December 2018). Benefit-cost technical documentation. Olympia, WA: Author.

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	Treatment age	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	15	6	791	-0.187	0.222	16	-0.187	0.222	24	-0.187	0.400

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

Butts, J., Buck, J., & Coggeshall, M. (2002). *The impact of Teen Court on young offenders*. Washington, DC: The Urban Institute.

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Stickle, W.P., Wilson, D.M., Gottfredson, D., & Connell, N.M. (2008). An experimental evaluation of teen courts. *Journal of Experimental Criminology*, 4 (2), 137-163.

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

### Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated May 2019.

Program Description: Diversion is an alternative to formal sanctions or processing in the juvenile justice system. The goals of diversion are to alleviate the negative consequences associated with the juvenile justice system (e.g., stigmatizing youth as deviant) and to maintain a youth's pro-social ties in the community. Diversion programs included in this meta-analysis vary in their structure. Some programs divert youth at the initial stages of the juvenile justice system (e.g., diverted by law enforcement upon arrest), while others divert youth once they reach the juvenile courts (e.g., pre-charge). In place of formal sanctions or processing, youth agree to be counseled, warned, and released back into the community. Once a youth completes a probationary period without further recidivism, their initial offense is dismissed, sealed, or not processed further into the justice system.

This analysis compares diversion programs where diverted youth do not receive any services and do not have any formal contact following their diversion to youth traditionally processed in the juvenile justice system. These diversion programs target youth with no previous criminal history or with non-violent misdemeanor/felony offenses. In the studies in our analysis that reported demographic information, 60% of the diverted sample were youth of color and 18% were female.

Diversion programs with services compared to youth warned and released (i.e., simple release) and diversion programs with services compared to traditional juvenile court processing are excluded from this analysis and analyzed separately.

#### Benefit-Cost Summary Statistics Per Participant

##### Benefits to:

Taxpayers	\$1,984	Benefit to cost ratio	n/a
Participants	\$620	Benefits minus costs	\$9,902
Others	\$4,082	Chance the program will produce	
Indirect	\$1,630	benefits greater than the costs	99 %
<u>Total benefits</u>	<u>\$8,317</u>		
<u>Net program cost</u>	<u>\$1,585</u>		
Benefits minus cost	\$9,902		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1,744	\$3,712	\$872	\$6,329
Labor market earnings associated with high school graduation	\$724	\$308	\$400	\$0	\$1,432
Costs of higher education	(\$103)	(\$68)	(\$31)	(\$34)	(\$236)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$792	\$792
<b>Totals</b>	<b>\$620</b>	<b>\$1,984</b>	<b>\$4,082</b>	<b>\$1,630</b>	<b>\$8,317</b>

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

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

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

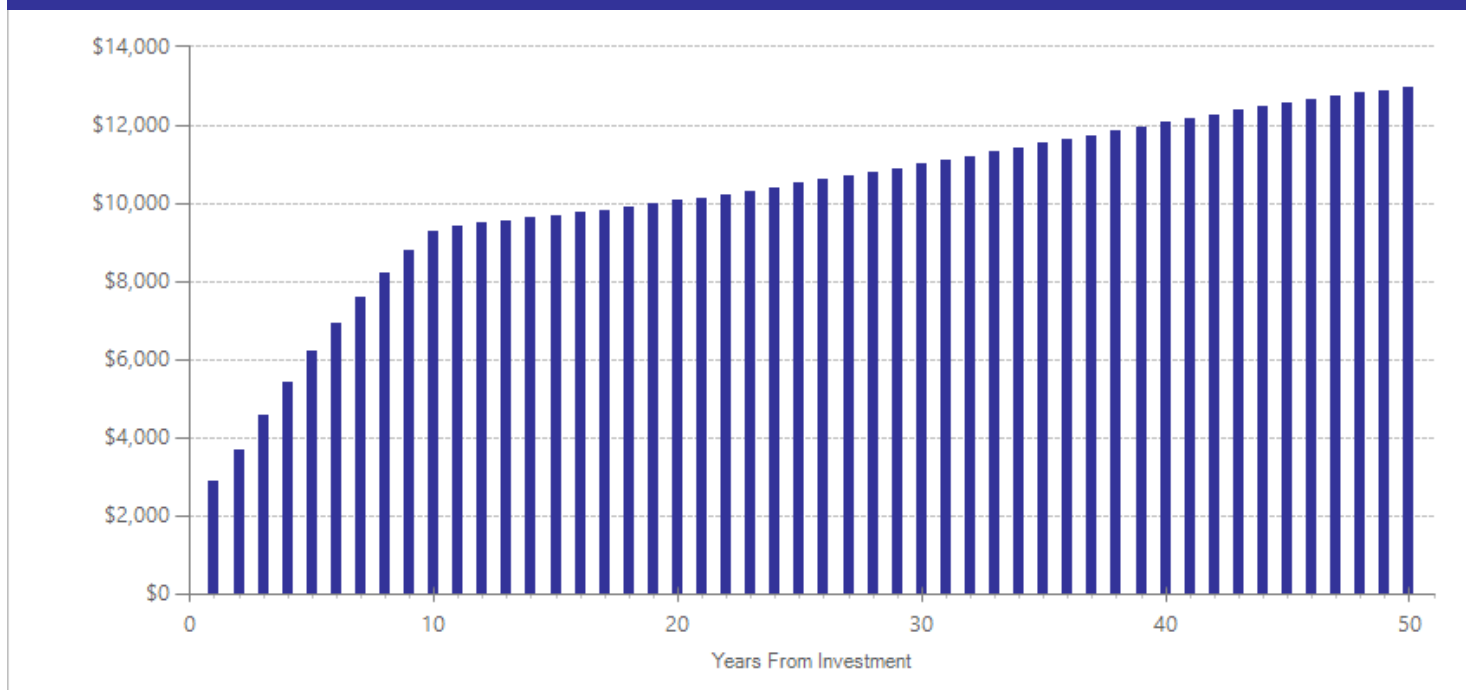
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$0	2016	Present value of net program costs (in 2018 dollars)	\$1,585
Comparison costs	\$1,510	2015	Cost range (+ or -)	20 %

In this program, youth do not receive any formal processing (e.g., formal court processing or formal supervision) nor any referrals to community programming after a warning and release to their parents/guardian's custody. We, therefore, estimate the per-participant cost for this program to be \$0. We calculate the comparison group cost, traditional juvenile court processing, using the cost of court processing for misdemeanor offenses and the average length of stay for youth on juvenile local supervision, multiplied by the annual marginal cost of juvenile local supervision from Section 4.2 of Washington State Institute for Public Policy. (December 2018). Benefit-cost technical documentation. Olympia, WA: Author.

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	Treatment age	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	15	8	1520	-0.138	0.075	16	-0.138	0.075	24	-0.138	0.065

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

Dunford, F.W., Osgood, D.W., & Weichselbaum, H.F. (1982). *National evaluation of diversion projects, final report*. U.S. Department of Justice.

Klein, M.W. (1986). Labeling theory and delinquency policy: an experimental test. *Criminal Justice and Behavior*, 13(1) 47-79.

Koch, J.R. (1986). *Community service and outright release as alternatives to juvenile court: An experimental evaluation* (Doctoral dissertation, Michigan State University, 1985). Dissertation Abstracts International, 46(07), 2081A. (University Microfilms No. 85-20537).

Severy, L.J., & Whitaker, J.M. (1982). Juvenile diversion: An experimental analysis of effectiveness. *Evaluation Review*, 6(6), 753-774.

Smith, E.P., Wolf, A.M., Cantillon, D.M., Thomas, O., & Davidson, W.S. (2004). The adolescent diversion project: 25 years of research on an ecological model of intervention. *Journal of Prevention & Intervention in the Community*, 27(2), 29-47.

# Multisystemic Therapy-Problem Sexual Behavior (MST-PSB) for court-involved youth

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated May 2019.

Program Description: Multisystemic Therapy-Problem Sexual Behavior (MST-PSB) is an adaptation of MST that targets youth who have committed sexual offenses. MST-PSB intends to reduce future problem sexual behavior and general criminal behavior. MST-PSB relies on intensive family therapy to identify and solve potential triggers and environmental factors that lead to problem sexual behaviors. The program targets and delivers its curriculum in the environments a youth navigates (i.e., home, school, the community). MST-PSB therapists visit three or more times a week for the average length of treatment, approximately seven months.

In the included studies, youth were classified as moderate or high risk per scores on a validated risk instrument and were either on probation following adjudication or following their release from confinement. In the studies in the analysis that reported demographic information, 48% of participants were youth of color and 3% were female.

We exclude evaluations of Multisystemic Therapy-Substance Abuse, Multisystemic Therapy-Family Integrated Transitions, and Multisystemic Therapy for court-involved youth from this analysis and analyze them separately.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$8,347	Benefit to cost ratio	\$1.55
Participants	\$1,912	Benefits minus costs	\$8,084
Others	\$16,000	Chance the program will produce	
Indirect	(\$3,585)	benefits greater than the costs	59 %
<b>Total benefits</b>	<b>\$22,674</b>		
<b>Net program cost</b>	<b>(\$14,590)</b>		
<b>Benefits minus cost</b>	<b>\$8,084</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$7,593	\$14,844	\$3,796	\$26,233
Labor market earnings associated with high school graduation	\$2,222	\$946	\$1,230	\$0	\$4,398
Health care associated with alcohol abuse or dependence	\$3	\$16	\$18	\$8	\$46
Property loss associated with alcohol abuse or dependence	\$2	\$0	\$3	\$0	\$5
Costs of higher education	(\$317)	(\$209)	(\$95)	(\$105)	(\$725)
Mortality associated with alcohol	\$1	\$1	\$0	\$10	\$12
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$7,295)	(\$7,295)
<b>Totals</b>	<b>\$1,912</b>	<b>\$8,347</b>	<b>\$16,000</b>	<b>(\$3,585)</b>	<b>\$22,674</b>

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

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

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

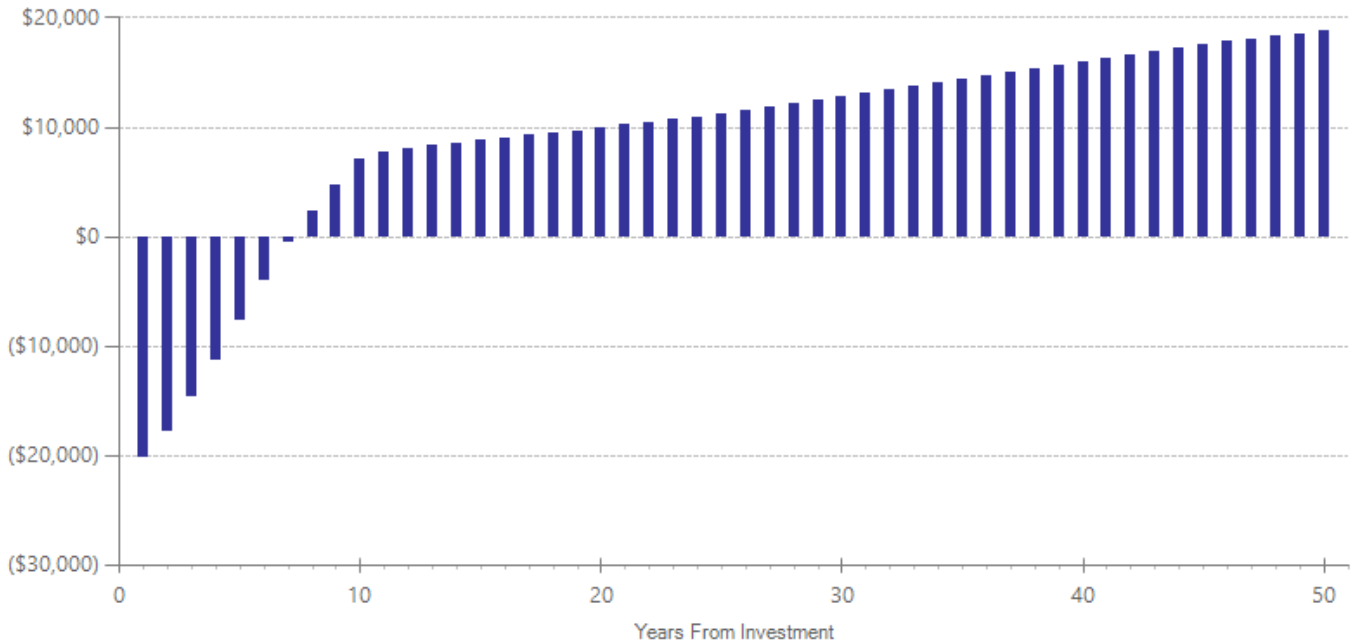
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$14,043	2016	Present value of net program costs (in 2018 dollars)	(\$14,590)
Comparison costs	\$0	2016	Cost range (+ or -)	20 %

We estimate the per-participant cost by applying an average monthly cost of Multisystemic Therapy-Problem Sexual Behavior (MST-PSB) to the average length of treatment in the included studies. We estimate a monthly cost for MST-PSB using the cost of a similar program, Multisystemic Therapy (MST). We use the cost and average length of MST in Washington, provided by C. Redman (personal communication, Washington State Juvenile Rehabilitation, April 16, 2019), to estimate a monthly cost. This cost reflects estimates 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. We multiply the monthly cost estimate and the average length of MST-PSB in the included studies, approximately 7.2 months.

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	Treatment age	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
				First time ES is estimated			Second time ES is estimated				
				ES	SE	Age	ES	SE	Age	ES	p-value
Alcohol use before end of high school	15	1	66	-0.066	0.241	16	-0.066	0.241	26	-0.066	0.783
Cannabis use before end of high school	15	1	66	0.000	0.246	16	0.000	0.246	26	0.000	1.000
Crime	15	2	90	-0.547	0.577	16	-0.547	0.577	24	-0.547	0.343
Externalizing behavior symptoms^^	15	1	67	-0.156	0.178	15	n/a	n/a	n/a	-0.156	0.381
Grade point average^	15	1	24	1.405	0.342	23	n/a	n/a	n/a	1.405	0.001
Internalizing symptoms^^	15	1	67	-0.121	0.178	15	n/a	n/a	n/a	-0.121	0.496
Out-of-home placement^^	15	1	66	-0.512	0.277	16	n/a	n/a	n/a	-0.512	0.065
Sex offense^	15	1	24	-1.332	0.549	16	n/a	n/a	n/a	-1.332	0.015

^ 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

- Borduin, C.M., Schaeffer, C.M., & Heiblum, N. (2009). A randomized clinical trial of multisystemic therapy with juvenile sexual offenders: Effects on youth social ecology and criminal activity. *Journal of Consulting and Clinical Psychology, 77* (1), 26-37.
- Letourneau, E.J., Henggeler, S.W., Borduin, C.M., Schewe, P.A., McCart, M.R., Chapman, J.E., & Saldana, L. (2009). Multisystemic therapy for juvenile sexual offenders: 1-year results from a randomized effectiveness trial. *Journal of Family Psychology, 23* (1), 89-102.
- Letourneau, E.J., Henggeler, S.W., McCart, M.R., Borduin, C.M., Schewe, P.A., & Armstrong, K.S. (2013). Two-year follow-up of a randomized effectiveness trial evaluating MST for juveniles who sexually offend. *Journal of Family Psychology, 27* (6), 978-985.

# Functional Family Therapy (FFT) for court-involved youth

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated March 2019.

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 engagement, motivation, relational assessment, behavior change, and generalization. FFT typically involves 12 to 14 therapist visits over a three- to five-month period.

Studies included in the analysis report that youth have moderate or high risk for recidivism, per a validated risk assessment tool. In the studies in our analysis that reported demographic information, 55% of FFT participants were youth of color and 26% were female. Studies in this analysis compare FFT to treatment as usual, which was typically probation with referrals to community-based services.

This analysis includes studies where FFT is provided to youth in the community following either arrest or adjudication. Evaluations of FFT where youth receive the program upon their release from confinement and FFT for youth convicted of a sex offense are excluded from this analysis and analyzed separately.

### Benefit-Cost Summary Statistics Per Participant

Benefit-Cost Summary Statistics Per Participant			
<b>Benefits to:</b>			
Taxpayers	\$3,328	Benefit to cost ratio	\$2.76
Participants	\$647	Benefits minus costs	\$7,098
Others	\$7,662	Chance the program will produce	
Indirect	(\$511)	benefits greater than the costs	71 %
<b>Total benefits</b>	<b>\$11,126</b>		
<b>Net program cost</b>	<b>(\$4,028)</b>		
<b>Benefits minus cost</b>	<b>\$7,098</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$3,078	\$7,276	\$1,539	\$11,893
Labor market earnings associated with high school graduation	\$756	\$322	\$418	\$0	\$1,496
Costs of higher education	(\$109)	(\$72)	(\$33)	(\$36)	(\$249)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,014)	(\$2,014)
<b>Totals</b>	<b>\$647</b>	<b>\$3,328</b>	<b>\$7,662</b>	<b>(\$511)</b>	<b>\$11,126</b>

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

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

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

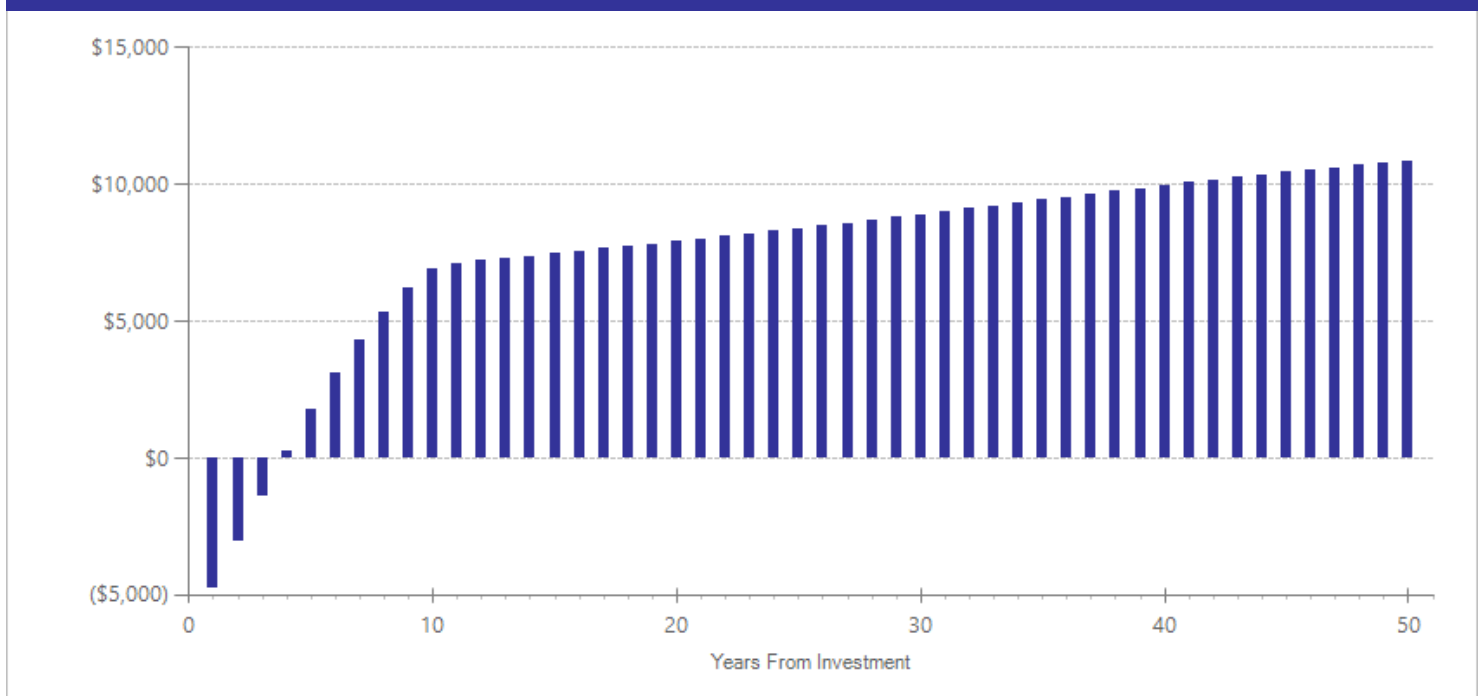
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,877	2016	Present value of net program costs (in 2018 dollars)	(\$4,028)
Comparison costs	\$0	2016	Cost range (+ or -)	20 %

The per-participant cost estimate is the weighted average cost of providing Functional Family Therapy (FFT), as implemented in the studies included in this analysis. We use the cost and average length of the program in Washington (3 months), provided by C. Redman (personal communication, Washington State Juvenile Rehabilitation, April 16, 2019), to estimate a monthly cost. This cost reflects estimates 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. We multiply the monthly cost estimate and the average length of FFT in the included studies, approximately 3.4 months. The comparison group cost represents treatment-as-usual, which includes probation with referrals to community-based services and programming.

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	Treatment age	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	4	925	-0.145	0.137	17	-0.145	0.137	25	-0.145	0.290
Disruptive behavior disorder symptoms <sup>^^</sup>	16	1	52	0.522	0.405	16	n/a	n/a	n/a	0.522	0.198
Out-of-home placement <sup>^^</sup>	16	1	280	-0.075	0.078	18	n/a	n/a	n/a	-0.075	0.339

<sup>^^</sup>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](#).

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# Vocational and employment training for court-involved youth

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

Program Description: Vocational and employment training includes a combination of vocational skills training, academic education or tutoring, and job search assistance or placement programs. These programs aim to support positive outcomes to reduce recidivism, specifically steady, long-term employment and education attainment. Vocational skills training uses classroom-based job training to teach youth employable skills. As part of some training curriculums, youth can receive certification in a variety of specialties. For programs that focus on job search assistance, youth participate in interview preparation, resume building, or job placement services aided by community volunteers. Commonly, job assistance programs provide total or subsidized wages which offer an additional incentive to employers in the community to work with youth.

The current analysis includes programs that provide services to youth while on probation in the community. Youth in the studies are classified as moderate or high risk per a validated risk assessment tool. In the included studies, participants receive services over three to six months. Of the studies in our analysis that reported demographic information, 55% of participants were youth of color and 14% were female.

Evaluations of Education and Employment Training (EET), mentoring programs, and vocational and employment training programs that occur while youth are in state institutions are excluded from this analysis and analyzed separately.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$2,615	Benefit to cost ratio	\$4.17
Participants	\$509	Benefits minus costs	\$7,008
Others	\$6,022	Chance the program will produce	
Indirect	\$74	benefits greater than the costs	82 %
<b>Total benefits</b>	<b>\$9,221</b>		
<b>Net program cost</b>	<b>(\$2,213)</b>		
<b>Benefits minus cost</b>	<b>\$7,008</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$2,418	\$5,718	\$1,209	\$9,346
Labor market earnings associated with high school graduation	\$595	\$253	\$329	\$0	\$1,178
Costs of higher education	(\$86)	(\$57)	(\$26)	(\$28)	(\$196)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,106)	(\$1,106)
<b>Totals</b>	<b>\$509</b>	<b>\$2,615</b>	<b>\$6,022</b>	<b>\$74</b>	<b>\$9,221</b>

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

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

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

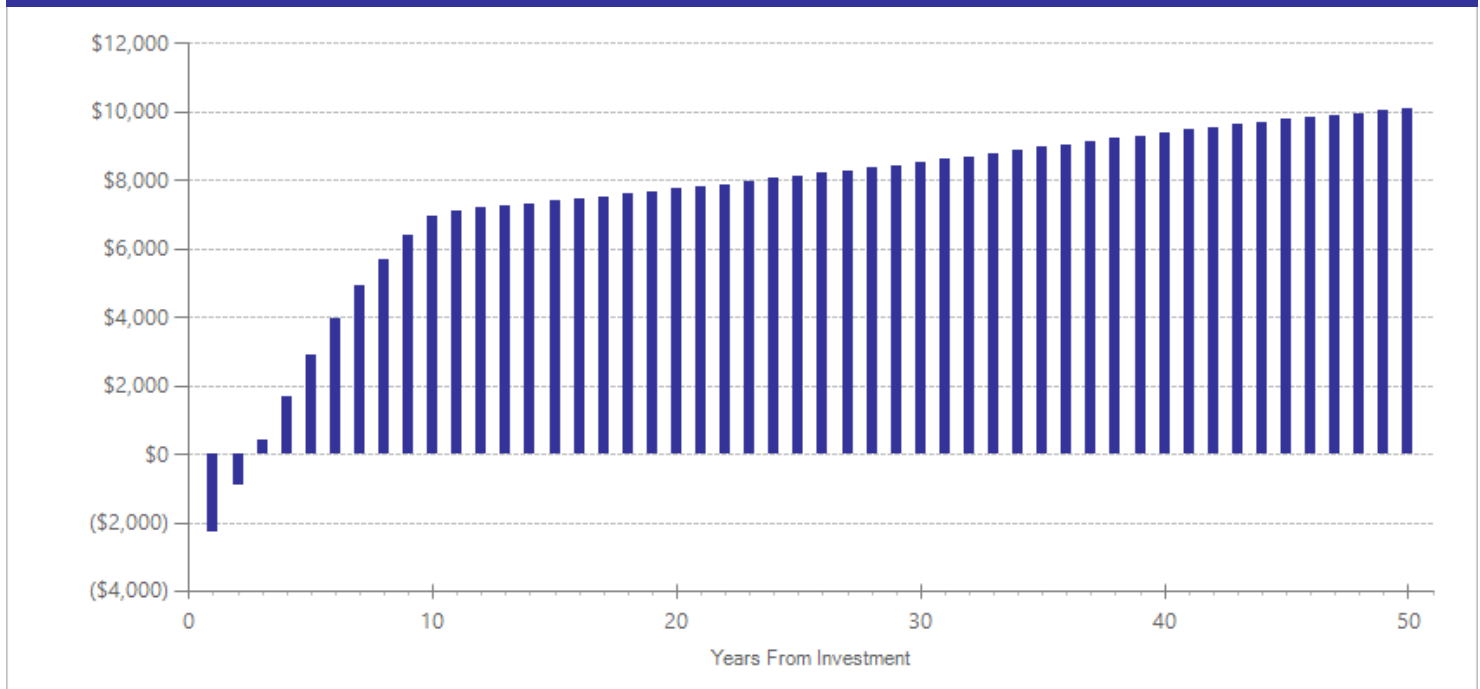
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,130	2016	Present value of net program costs (in 2018 dollars)	(\$2,213)
Comparison costs	\$0	2016	Cost range (+ or -)	20 %

We estimate the per-participant cost of treatment from the cost of Education and Employment Training (EET), a similarly structured vocational and employment training program used in Washington State. We use the weighted average length of treatment of the included studies (4.8 months) and apply the per-month expenditure calculated from the information 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 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	Treatment age	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 <sup>^</sup>	16	1	50	0.010	0.203	17	n/a	n/a	n/a	0.010	0.959
Cannabis use <sup>^</sup>	16	1	50	0.183	0.204	17	n/a	n/a	n/a	0.183	0.369
Crime	16	5	703	-0.114	0.085	17	-0.114	0.085	25	-0.114	0.180
Employment <sup>^^</sup>	16	1	50	0.738	0.276	17	n/a	n/a	n/a	0.738	0.008
Externalizing behavior symptoms <sup>^^</sup>	16	1	50	0.431	0.208	17	n/a	n/a	n/a	0.431	0.038
High school graduation <sup>^^</sup>	16	1	50	-0.382	0.367	18	n/a	n/a	n/a	-0.382	0.299
Illicit drug use <sup>^</sup>	16	1	50	0.034	0.203	17	n/a	n/a	n/a	0.034	0.866
Internalizing symptoms <sup>^^</sup>	16	1	50	0.077	0.207	17	n/a	n/a	n/a	0.077	0.709
Problem alcohol use <sup>^^</sup>	16	1	50	-0.057	0.203	17	n/a	n/a	n/a	-0.057	0.780

<sup>^</sup>WSIPP’s benefit-cost model does not monetize this outcome.

<sup>^^</sup>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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## Diversion with services (vs. traditional juvenile court processing)

### Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated May 2019.

Program Description: Diversion is an alternative to formal sanctions or processing in the juvenile justice system. The goals of diversion are to alleviate the negative consequences associated with the juvenile justice system (e.g., stigmatizing youth as deviant) and to maintain a youth's pro-social ties in the community. Diversion programs included in this meta-analysis vary in their structure. Some programs divert youth at the initial stages of the juvenile justice system (e.g., diverted by law enforcement upon arrest), while others divert youth once they reach the juvenile courts (e.g., pre- or post-adjudication). In place of formal sanctions or processing, youth agree to case management and to participate in community-based services (e.g., mentoring, counseling, job training).

The current analysis compares youth who received diversion programs with services to youth traditionally processed in juvenile court. These diversion programs target youth with no previous criminal history or with non-violent misdemeanor/felony offenses. The length of program enrollment for diverted youth ranges from two to eight months with most youth receiving anywhere from 30-50 hours of face-to-face time with counselors, mentors, or adult/student volunteers. In the studies in our analysis that reported demographic information, 58% of the diverted samples were youth of color and 23% were female.

Diversion programs with services compared to youth warned and released (i.e., simple release) and diversion programs without services compared to traditional juvenile court processing are excluded from this analysis and analyzed separately.

#### Benefit-Cost Summary Statistics Per Participant

##### Benefits to:

Taxpayers	\$1,304	Benefit to cost ratio	n/a
Participants	\$378	Benefits minus costs	\$6,730
Others	\$2,600	Chance the program will produce	
Indirect	\$1,188	benefits greater than the costs	100 %
<u>Total benefits</u>	<u>\$5,470</u>		
<u>Net program cost</u>	<u>\$1,261</u>		
Benefits minus cost	\$6,730		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1,158	\$2,375	\$579	\$4,112
Labor market earnings associated with high school graduation	\$441	\$188	\$244	\$0	\$873
Costs of higher education	(\$64)	(\$42)	(\$19)	(\$21)	(\$145)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$630	\$630
<b>Totals</b>	<b>\$378</b>	<b>\$1,304</b>	<b>\$2,600</b>	<b>\$1,188</b>	<b>\$5,470</b>

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

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

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

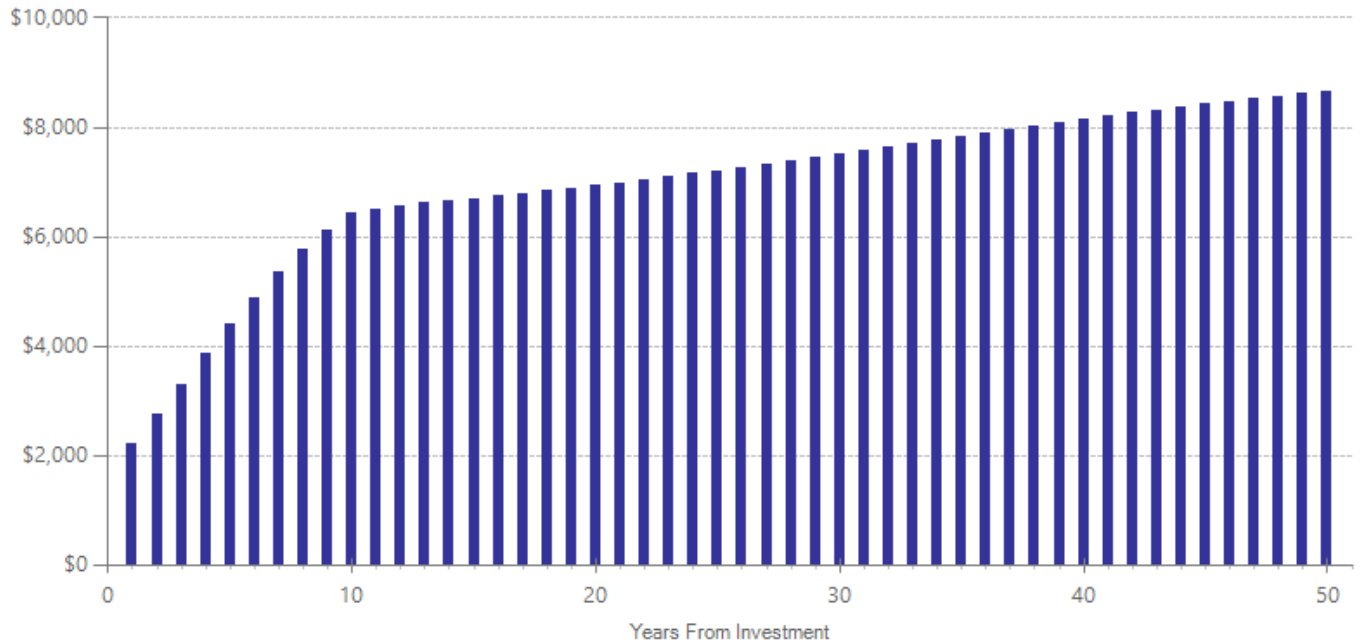
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$312	2016	Present value of net program costs (in 2018 dollars)	\$1,261
Comparison costs	\$1,510	2015	Cost range (+ or -)	20 %

The per-participant cost for diversion programs with services was estimated using the Spokane County Juvenile Court cost-per-day for their diversion program as reported in the 2016 Juvenile Court Services Annual Report (<https://www.spokanecounty.org/ArchiveCenter/ViewFile/Item/8443>), multiplied by the weighted average length of programming in the included studies, two months. We calculate the comparison group cost, traditional juvenile court processing, using the cost of court processing for misdemeanor offenses and the average length of stay for youth on juvenile local supervision, multiplied by the annual marginal cost of juvenile local supervision from Section 4.2 of Washington State Institute for Public Policy. (December 2018). Benefit-cost technical documentation. Olympia, WA: Author.

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	Treatment age	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
				First time ES is estimated			Second time ES is estimated				
				ES	SE	Age	ES	SE	Age	ES	p-value
Crime	16	19	5491	-0.087	0.034	17	-0.087	0.034	25	-0.087	0.010

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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## Boot camps (vs. confinement in state institutions)

### Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated April 2018.

Program Description: Juvenile boot camps are typically implemented as an alternative to detention for adjudicated youth classified as low to moderate risk, with no previous felony or sexual offenses. Boot camps are short-term residential programs that mimic military basic training with a rigid daily schedule that may include education, work programs, physical training, counseling, and military deportment and ceremony. Youth are placed into platoons and are expected to improve personal- and team-accountability throughout the course of their training. Typically, youth receive instruction from specially trained correctional officers and full-time counselors, many with military experience.

In the included studies, the average length of stay in boot camp was five months, with up to six months of intensive supervision in the community where youth receive aftercare services (e.g., substance use treatment). In the studies in our analysis that reported demographic information, 61% of participants were youth of color and 4% were female.

In the included studies, the comparison groups were made up of similar youth who were detained in a juvenile facility for a similar length of time. Comparison group youth did not receive formal aftercare as a component of their probation.

#### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$93	Benefit to cost ratio	n/a
Participants	\$11	Benefits minus costs	\$4,879
Others	\$272	Chance the program will produce	
Indirect	\$1,530	benefits greater than the costs	60 %
<b>Total benefits</b>	<b>\$1,907</b>		
<b>Net program cost</b>	<b>\$2,972</b>		
<b>Benefits minus cost</b>	<b>\$4,879</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$89	\$265	\$45	\$399
Labor market earnings associated with high school graduation	\$13	\$6	\$7	\$0	\$26
Costs of higher education	(\$2)	(\$1)	(\$1)	(\$1)	(\$4)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$1,486	\$1,486
<b>Totals</b>	<b>\$11</b>	<b>\$93</b>	<b>\$272</b>	<b>\$1,530</b>	<b>\$1,907</b>

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

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

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



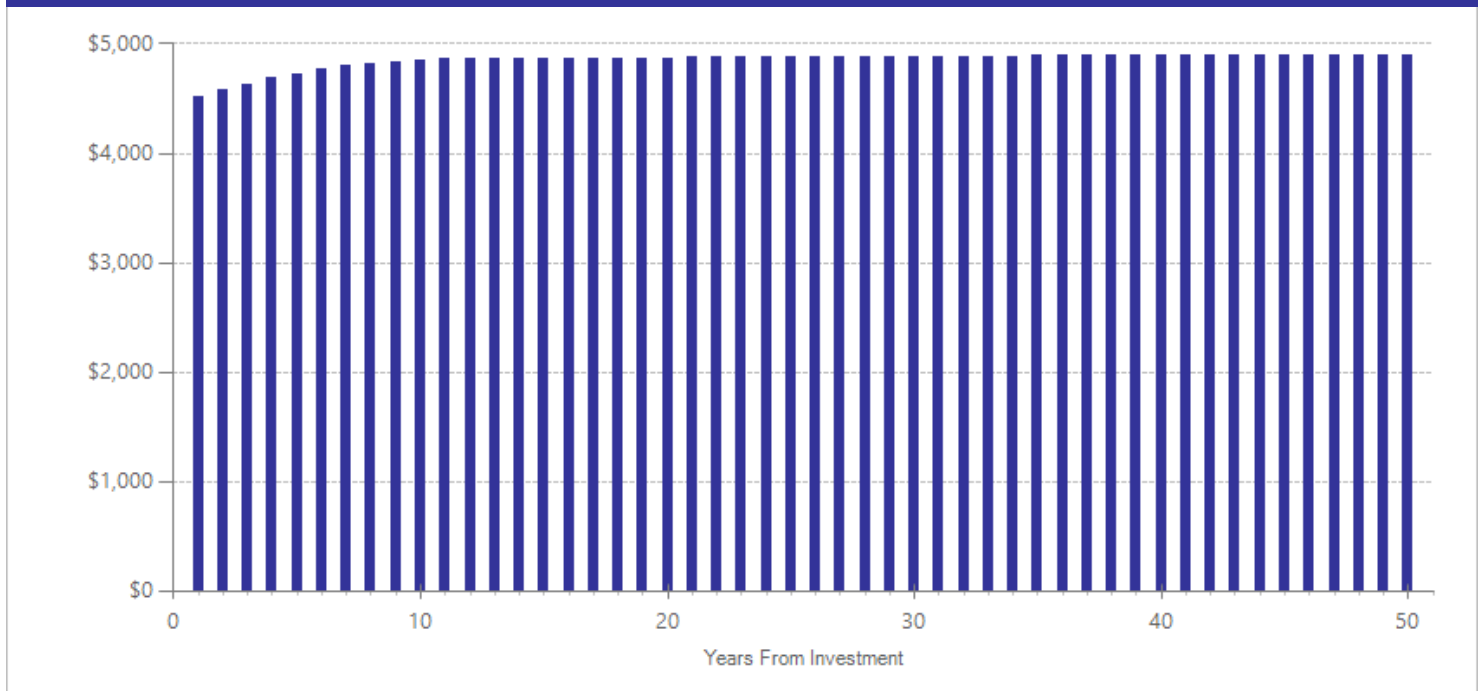
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$14,406	2015	Present value of net program costs (in 2018 dollars)	\$2,972
Comparison costs	\$17,238	2015	Cost range (+ or -)	150 %

We estimate the per-participant cost of boot camps using the cost of Washington's Juvenile Offender Basic Training Camp (JOBTC) (Barnoski, 2004). Treatment cost is based on per-participant annual operating and capital costs for JOBTC in fiscal year 2015, its final year of operation in Washington. Comparison cost is the estimated per-participant cost of confinement in a JRA facility for 16 weeks, the duration of the JOBTC residential phase.

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	Treatment age	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	17	5	1099	-0.003	0.125	18	-0.003	0.125	26	-0.003	0.980

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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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-Substance Abuse (MST-SA) for court-involved youth Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated May 2019.

Program Description: Multisystemic Therapy—Substance Abuse (MST-SA) is an adaptation of Multisystemic Therapy (MST) that targets youth who engage in disordered use of drugs or alcohol. MST-SA is intended to reduce drug use and abuse, as well as related delinquent or criminal behavior. Referrals to MST-SA typically come from juvenile drug court or as a condition to probation. Therapists deliver MST-SA in the participants' home, school, and community. MST-SA includes a 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).

This analysis includes adolescents identified and diagnosed as substance-abusing or dependent. In the included studies, the average MST-SA treatment lasted four months, with several therapist visits with the youth and their family visits per week. In the studies in our analysis that reported demographic information, 65% of participants were youth of color and 21% were female.

We exclude evaluations of Multisystemic Therapy, Multisystemic Therapy-Family Integrated Transitions, and Multisystemic Therapy-Problem Sexual Behavior from this analysis and analyze them separately.

## Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$4,412	Benefit to cost ratio	\$1.58
Participants	\$5	Benefits minus costs	\$4,873
Others	\$10,939	Chance the program will produce	
Indirect	(\$2,023)	benefits greater than the costs	58 %
<b>Total benefits</b>	<b>\$13,332</b>		
<b>Net program cost</b>	<b>(\$8,459)</b>		
<b>Benefits minus cost</b>	<b>\$4,873</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$4,390	\$10,915	\$2,195	\$17,500
Labor market earnings associated with cannabis abuse or dependence	\$0	\$0	\$0	\$0	\$0
Health care associated with cannabis abuse or dependence	\$4	\$22	\$24	\$11	\$61
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$4,229)	(\$4,229)
<b>Totals</b>	<b>\$5</b>	<b>\$4,412</b>	<b>\$10,939</b>	<b>(\$2,023)</b>	<b>\$13,332</b>

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

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

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

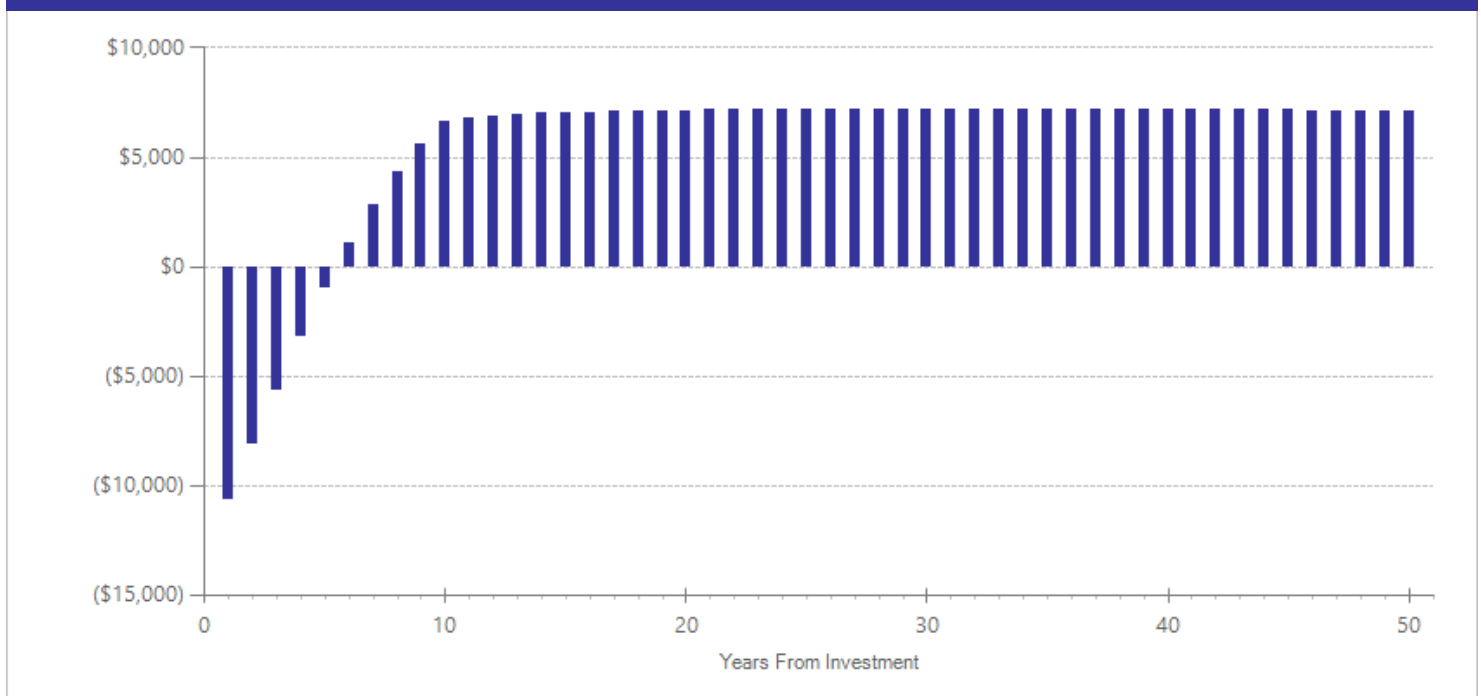
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$8,142	2016	Present value of net program costs (in 2018 dollars)	(\$8,459)
Comparison costs	\$0	2016	Cost range (+ or -)	20 %

We estimate the per-participant cost by applying an average monthly cost of Multisystemic Therapy-Substance Abuse (MST-SA) to the average length of treatment in the included studies. We estimate a monthly cost for MST-SA using the cost of a similar program, Multisystemic Therapy (MST). We use the cost and average length of MST in Washington, provided by C. Redman (personal communication, Washington State Juvenile Rehabilitation, April 16, 2019), to estimate a monthly cost. This cost reflects estimates 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. We multiply the monthly cost estimate and the average length of MST-SA in the included studies, approximately 4.2 months.

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	Treatment age	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 <sup>^^</sup>	15	1	37	-0.352	0.286	15	n/a	n/a	n/a	-0.352	0.219
Cannabis use disorder	15	2	80	-0.345	0.223	15	0.000	0.187	18	-0.345	0.121
Crime	15	2	86	-0.217	0.209	16	-0.217	0.209	24	-0.217	0.300
Externalizing behavior symptoms <sup>^^</sup>	15	1	43	0.162	0.264	16	n/a	n/a	n/a	0.162	0.540
Illicit drug use disorder <sup>^^</sup>	15	1	43	-0.315	0.323	16	n/a	n/a	n/a	-0.315	0.329
Internalizing symptoms <sup>^^</sup>	15	1	43	0.114	0.264	16	n/a	n/a	n/a	0.114	0.665
Problem alcohol use <sup>^^</sup>	15	1	37	-0.363	0.286	15	n/a	n/a	n/a	-0.363	0.204

<sup>^^</sup>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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## Coordination of Services (COS) for court-involved youth Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated February 2019.

Program Description: The Washington State Coordination of Services (COS) program is a 12-hour seminar intended for youth and their parents in a small group setting in the community. The goals of COS are to prevent further criminal justice system involvement and to achieve a positive pro-social future for participating youth. The program, spread across two or three days, offers interactive lessons that educate youth and parents in adolescent development, positive relationship building, decision-making, boundaries, accountability, communication, conflict resolution, and community connections. The program details the consequences of continued delinquent behavior, stimulates goal setting, reviews the strengths of the youth and family, and connects youth and parents to resources that are available in the community.

Youth in this program are court involved and classified as low risk per the risk assessment administered by the juvenile courts. In the studies in our analysis that reported demographic information, 23% of participants were youth of color and 31% were female.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,446	Benefit to cost ratio	\$11.51
Participants	\$554	Benefits minus costs	\$4,574
Others	\$2,642	Chance the program will produce	
Indirect	\$367	benefits greater than the costs	95 %
<u>Total benefits</u>	<u>\$5,009</u>		
<u>Net program cost</u>	<u>(\$435)</u>		
Benefits minus cost	\$4,574		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1,232	\$2,311	\$616	\$4,159
Labor market earnings associated with high school graduation	\$647	\$276	\$358	\$0	\$1,281
Costs of higher education	(\$93)	(\$62)	(\$28)	(\$31)	(\$213)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$218)	(\$218)
<u>Totals</u>	<u>\$554</u>	<u>\$1,446</u>	<u>\$2,642</u>	<u>\$367</u>	<u>\$5,009</u>

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

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

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

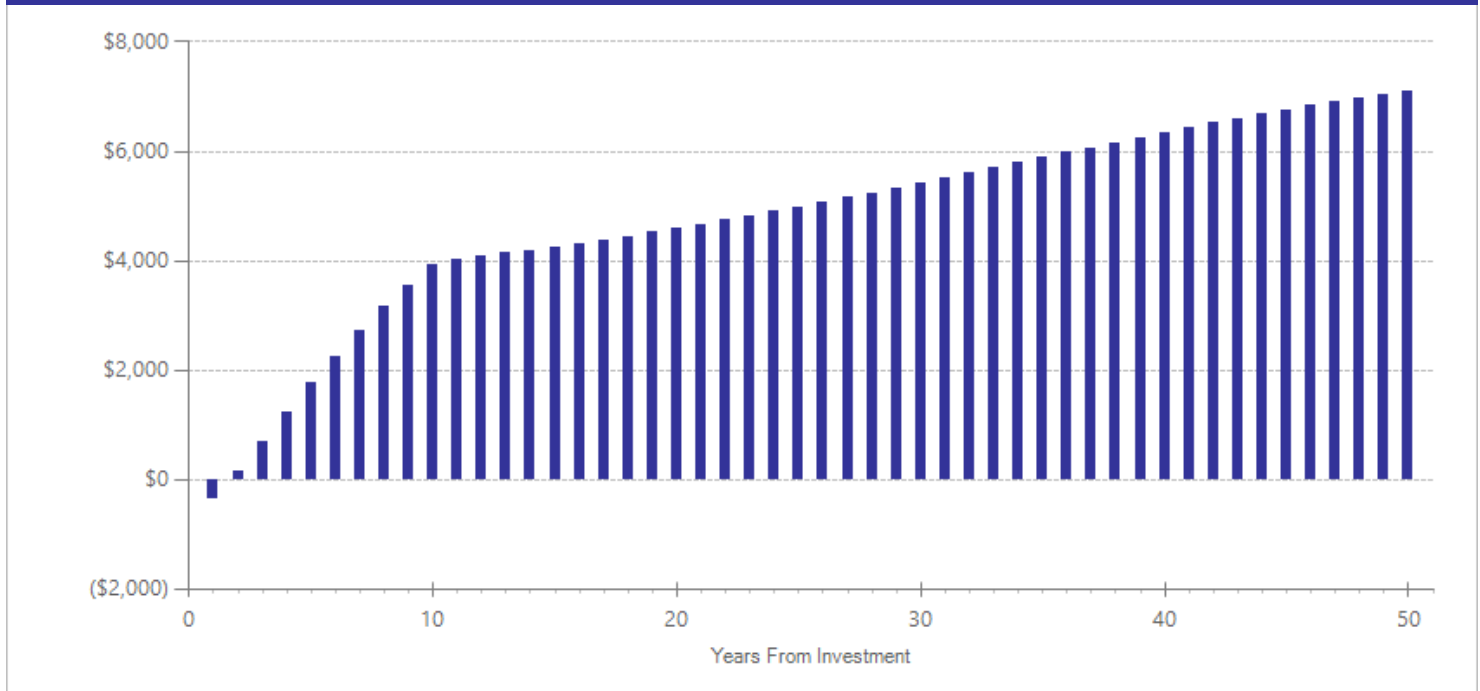
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$419	2016	Present value of net program costs (in 2018 dollars)	(\$435)
Comparison costs	\$0	2016	Cost range (+ or -)	10 %

The per-participant cost estimate is the cost of providing Coordination of Services (COS), as implemented in the studies included in this analysis. We use the cost provided by C. Redman (personal communication, Washington State Juvenile Rehabilitation, April 16, 2019) that assumes youth participate in the average length of the program (a 12-hour seminar). This cost reflects estimates 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	Treatment age	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	2	870	-0.143	0.076	17	-0.143	0.076	25	-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

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## Drug court Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

Program Description: In the criminal justice system, problem-solving courts incorporate a therapeutic ideology to address a specific problem outside the traditional adversarial court. Drug courts are problem-solving courts for youth whose substance-abuse issues underlie criminal behavior. Youth typically enter into a contract with the drug court and agree to comply with treatment and supervision requirements. While each drug court is unique in its operations and eligibility criteria, these courts share similar programmatic 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 may include drug treatment; judicial monitoring; random drug testing; incentives, rewards, and sanctions; and progressive stages (e.g., less monitoring with compliance). Drug courts can be pre- or post-adjudication models and the length of the program may vary from 6 to 18 months.

In this analysis, drug court youth were diverted from the traditional court and instead were adjudicated in drug court. Youth in the comparison group were adjudicated in traditional juvenile court and received probation and treatment as usual services. Participants spent an average of seven months in drug court with a range of 6 to 16 months. Although risk level was not reported in the majority of studies, nearly all studies report that youth had some degree of prior involvement with the justice system. Among included studies that report demographics, 31% of participants were youth of color and 25% were female.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$721	Benefit to cost ratio	\$53.66
Participants	\$161	Benefits minus costs	\$2,723
Others	\$1,598	Chance the program will produce	
Indirect	\$294	benefits greater than the costs	67 %
<u>Total benefits</u>	<u>\$2,775</u>		
<u>Net program cost</u>	<u>(\$52)</u>		
Benefits minus cost	\$2,723		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$658	\$1,502	\$329	\$2,490
Labor market earnings associated with high school graduation	\$188	\$80	\$104	\$0	\$372
Costs of higher education	(\$27)	(\$18)	(\$8)	(\$9)	(\$62)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$26)	(\$26)
<b>Totals</b>	<b>\$161</b>	<b>\$721</b>	<b>\$1,598</b>	<b>\$294</b>	<b>\$2,775</b>

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

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

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

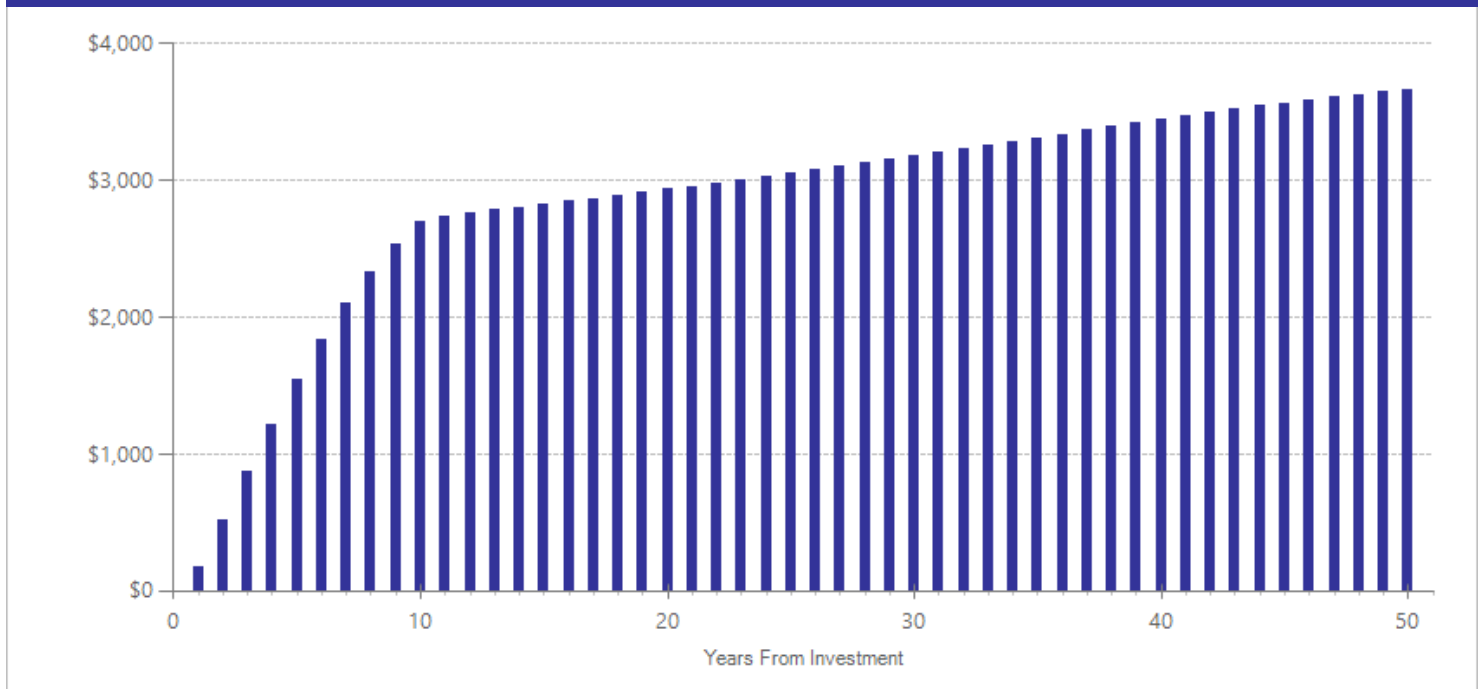
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$6,611	2004	Present value of net program costs (in 2018 dollars)	(\$52)
Comparison costs	\$6,571	2004	Cost range (+ or -)	20 %

The per-participant costs 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. We calculated the cost of drug court compared to traditional adjudication using operating costs, treatment costs, detention costs, and new probationary costs from Table 24 (expected capacity). This annualized per-participant cost estimate was prorated to 7 months of service, the average length of stay in drug court for 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	Treatment age	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 <sup>^^</sup>	16	1	31	-0.079	0.250	16	n/a	n/a	n/a	-0.079	0.751
Cannabis use disorder <sup>^^</sup>	16	1	31	-0.144	0.250	16	n/a	n/a	n/a	-0.144	0.564
Crime	16	14	2784	-0.036	0.082	17	-0.036	0.082	25	-0.036	0.662
Drug-related offense <sup>^</sup>	16	3	759	0.061	0.334	17	n/a	n/a	n/a	0.061	0.856
Problem alcohol use <sup>^^</sup>	16	1	31	-0.015	0.250	16	n/a	n/a	n/a	-0.015	0.951

<sup>^</sup>WSIPP’s benefit-cost model does not monetize this outcome.

<sup>^^</sup>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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# Restorative justice conferencing or victim offender mediation for court-involved youth

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated August 2019.

**Program Description:** Programs that rely on restorative justice principles aim to repair harm caused when a crime is committed and to hold individuals accountable. Restorative justice can occur at any point in the criminal justice system or as diversion from prosecution and the traditional adversarial system. The specific components of restorative justice programs vary, but can include restitution, community service, or victim offender mediation. In this analysis, we include only studies that focused on conferencing or mediation as the main component of restorative justice, often referred to as restorative justice conferencing, victim/offender mediation, or family group conferencing. Trained mediators facilitate a conference between the justice-involved youth, the victim (or a representative), and other community stakeholders to determine the appropriate restitution and reparation plan for the harm done. Mediation occurs in one day for approximately one and a half hours.

In this analysis, restorative justice conferencing participants were diverted from the traditional adversarial justice system. These studies represent mostly individuals assessed as low-risk for recidivism, often individuals who had first-time contact with the justice system for personal or property offenses (e.g., assault). Among included studies that report demographics, 61% were youth of color and 25% were female. Youth in the comparison group were not diverted from formal justice proceedings and received probation and treatment as usual services.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$325	Benefit to cost ratio	n/a
Participants	\$143	Benefits minus costs	\$2,668
Others	\$622	Chance the program will produce	
Indirect	\$611	benefits greater than the costs	78 %
<b>Total benefits</b>	<b>\$1,700</b>		
<b>Net program cost</b>	<b>\$968</b>		
<b>Benefits minus cost</b>	<b>\$2,668</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$270	\$537	\$135	\$942
Labor market earnings associated with high school graduation	\$166	\$71	\$92	\$0	\$329
Costs of higher education	(\$23)	(\$15)	(\$7)	(\$8)	(\$54)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$484	\$484
<b>Totals</b>	<b>\$143</b>	<b>\$325</b>	<b>\$622</b>	<b>\$611</b>	<b>\$1,700</b>

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

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

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

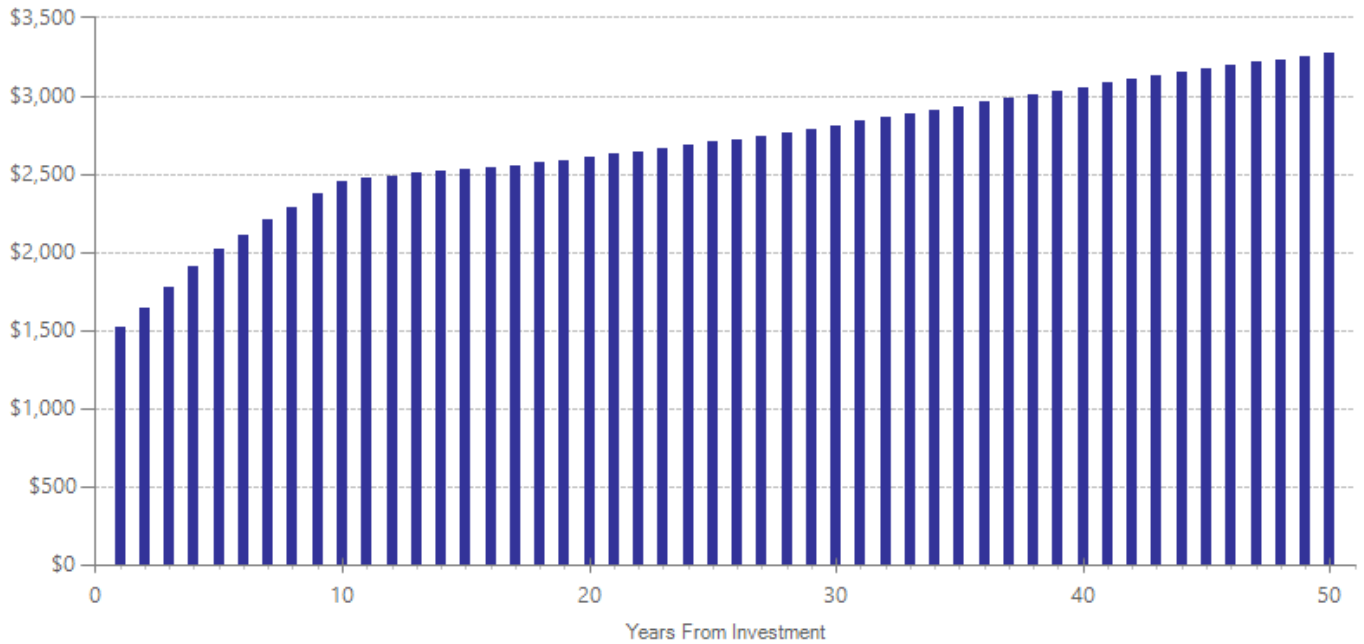
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$367	2015	Present value of net program costs (in 2018 dollars)	\$968
Comparison costs	\$1,289	2015	Cost range (+ or -)	20 %

The per-participant cost estimate for restorative justice conferencing was averaged from two sources: the victim offender mediation program operating in Clark County, Washington in 2009 and 2010 (E. Gillman, Clark County juvenile court, personal communication, October 18, 2010) and the weighted average per-participant cost reported for the Northumbria site in Shapland, J., Atkinson, A., Akinson, H., Dignan, J., Edwards, L. Hibbert, J., . . . Sorsby, A. (2008). Does restorative justice affect reconviction?: The fourth report from the evaluation of three schemes (Ministry of Justice Research Series). Sheffield, United Kingdom: University of Sheffield, Centre for Criminological Research. The comparison group cost, probation as usual, was estimated using the average length of stay for youth on local probation, multiplied by the annual marginal cost of probation from Section 4.2 of Washington State Institute for Public Policy. (December 2018). Benefit-cost technical documentation. Olympia, WA: Author.

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	Treatment age	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	14	6	1145	-0.032	0.093	15	-0.032	0.093	23	-0.032	0.728

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

- McCold, P., & Wachtel, B. (1998). *Restorative policing experiment: The Bethlehem Police Family Group Conferencing Project*. Pipersville, PA: Community Service Foundation.
- McGarrell, E.F., & Hipple, N.K. (2007). Family group conferencing and re-offending among first-time juvenile offenders: The Indianapolis experiment. *Justice Quarterly*, 24(2), 221-246.
- Schneider, A.L. (1986). Restitution and recidivism rates of juvenile offenders: Results from four experimental studies. *Criminology*, 24(3), 533-552.
- Shapland, J., Atkinson, A., Atkinson, H., Dignan, J., Edwards, L., Hibbert, J., . . . Sorsby, A. (2008). *Does restorative justice affect reconviction?: The fourth report from the evaluation of three schemes* (Ministry of Justice Research Series). Sheffield, United Kingdom: University of Sheffield, Centre for Criminological Research.
- Strang, H., Sherman, L., Slothower, M., Woods, D.J., Barnes, G. (2015). *Race and restorative justice: Preliminary report on 15-year followup of 3 RCTs, subject to further correction*. A presentation to the Stockholm Criminology Symposium.



# Multisystemic Therapy-Family Integrated Transitions (MST-FIT) for youth in state institutions

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated February 2019.

**Program Description:** Multisystemic Therapy-Family Integrated Transitions (MST-FIT) is a manualized adaptation of Multisystemic Therapy (MST) designed for youth with co-occurring mental health and substance use disorders who are returning to the community after confinement. MST-FIT aims for behavioral change in the youth’s home environment, emphasizing the strengths of family, peers, school, and neighborhoods to promote change. Youth receive intensive family and community-based treatment targeting serious antisocial behavior. MST-FIT incorporates the therapeutic principles from MST, Dialectical Behavior Therapy, and Motivational Enhancement Therapy for youth and includes parent skills training for a youth’s parent or guardian. The first phase of the program lasts two to three months while youth reside in a juvenile rehabilitation facility. The second phase occurs in the community for four to six months.

The study included in this analysis took place in Washington State. In this study, 29% of youth were people of color and 15% were female. Both the program and comparison group youth had access to usual services.

We exclude evaluations of Multisystemic Therapy-Substance Abuse, Multisystemic Therapy-Problem Sexual Behavior, and Multisystemic Therapy for court-involved youth from this analysis and analyze them separately.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$4,487	Benefit to cost ratio	\$1.17
Participants	\$587	Benefits minus costs	\$2,144
Others	\$13,577	Chance the program will produce	
Indirect	(\$4,104)	benefits greater than the costs	55 %
<b>Total benefits</b>	<b>\$14,547</b>		
<b>Net program cost</b>	<b>(\$12,403)</b>		
<b>Benefits minus cost</b>	<b>\$2,144</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$4,260	\$13,227	\$2,130	\$19,617
Labor market earnings associated with high school graduation	\$685	\$292	\$379	\$0	\$1,357
Costs of higher education	(\$99)	(\$65)	(\$30)	(\$33)	(\$226)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$6,201)	(\$6,201)
<b>Totals</b>	<b>\$587</b>	<b>\$4,487</b>	<b>\$13,577</b>	<b>(\$4,104)</b>	<b>\$14,547</b>

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

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

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

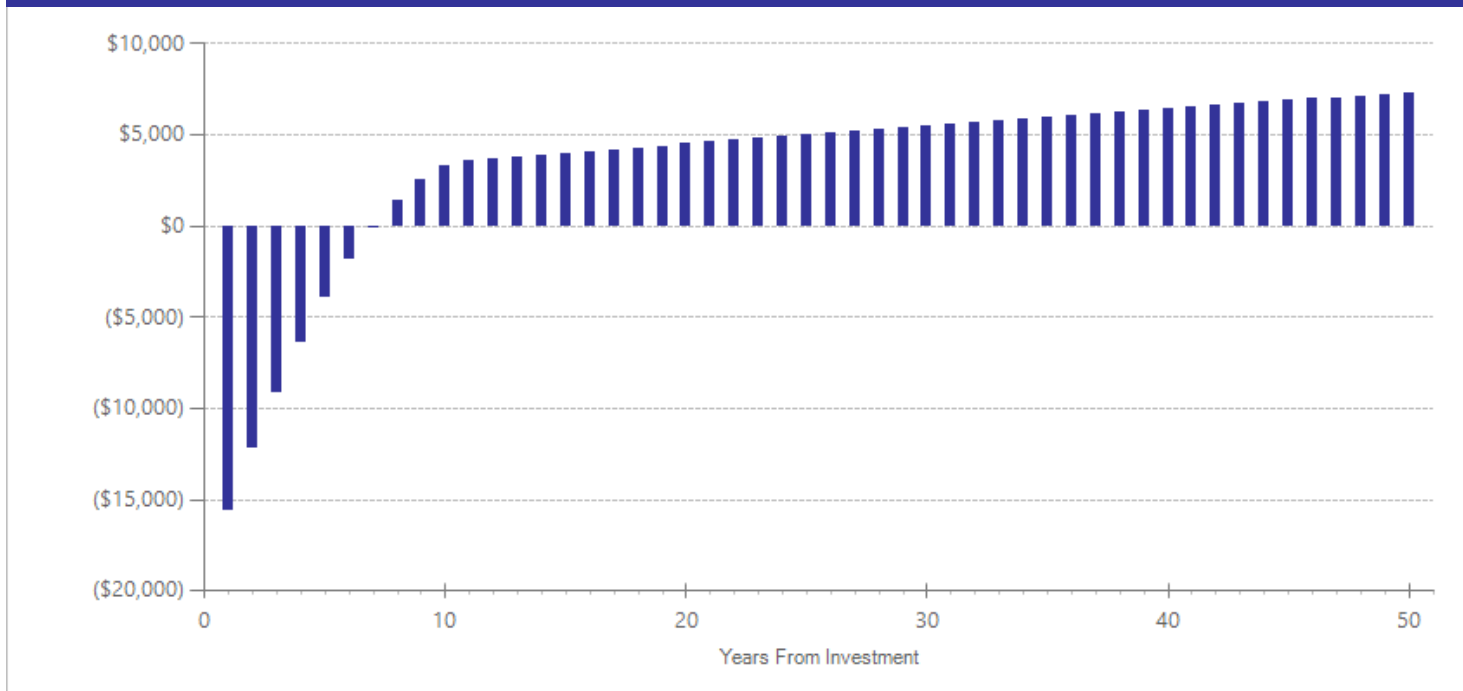
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$11,938	2016	Present value of net program costs (in 2018 dollars)	(\$12,403)
Comparison costs	\$0	2016	Cost range (+ or -)	10 %

The per-participant cost estimate reflects five months in Multisystemic Therapy-Family Integrated Transitions (MST-FIT), provided by C. Redman (personal communication, Washington State Juvenile Rehabilitation, April 16, 2019). This cost reflects estimates 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	Treatment age	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	1	104	-0.150	0.166	17	-0.150	0.166	25	-0.150	0.368

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

Aos, S. (2004). *Washington State's Family Integrated Transitions program for juvenile offenders: Outcome evaluation and benefit-cost analysis* (Document No: 04-12-1201). Olympia WA: Washington State Institute for Public Policy.

## TeamChild for court-involved youth Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated March 2019.

Program Description: TeamChild is a specialized civil legal aid program operating in several counties in Washington State. TeamChild targets high-need juveniles currently involved in the juvenile justice system or who are at risk for involvement and who are experiencing multiple issues beyond their court involvement that could hinder their future success. Specifically, TeamChild aids youth experiencing housing instability, trauma, mental illness, truancy, poverty, and involvement with child protective services. If needed, TeamChild staff work to assist youth with transitions from juvenile rehabilitation facilities to the community by helping to secure access to community-based services, including education, healthcare, housing, and other supports.

Among studies reporting program length, the average length of time youth receive aid from TeamChild was almost eight months. In the studies in our analysis that reported demographic information, 24% of participants were youth of color and 18% were female.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$856	Benefit to cost ratio	\$1.69
Participants	\$209	Benefits minus costs	\$1,105
Others	\$2,067	Chance the program will produce	
Indirect	(\$425)	benefits greater than the costs	56 %
<u>Total benefits</u>	<u>\$2,707</u>		
<u>Net program cost</u>	<u>(\$1,602)</u>		
Benefits minus cost	\$1,105		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$775	\$1,942	\$387	\$3,104
Labor market earnings associated with high school graduation	\$244	\$104	\$135	\$0	\$482
Costs of higher education	(\$34)	(\$23)	(\$10)	(\$11)	(\$79)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$801)	(\$801)
<u>Totals</u>	<u>\$209</u>	<u>\$856</u>	<u>\$2,067</u>	<u>(\$425)</u>	<u>\$2,707</u>

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

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

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

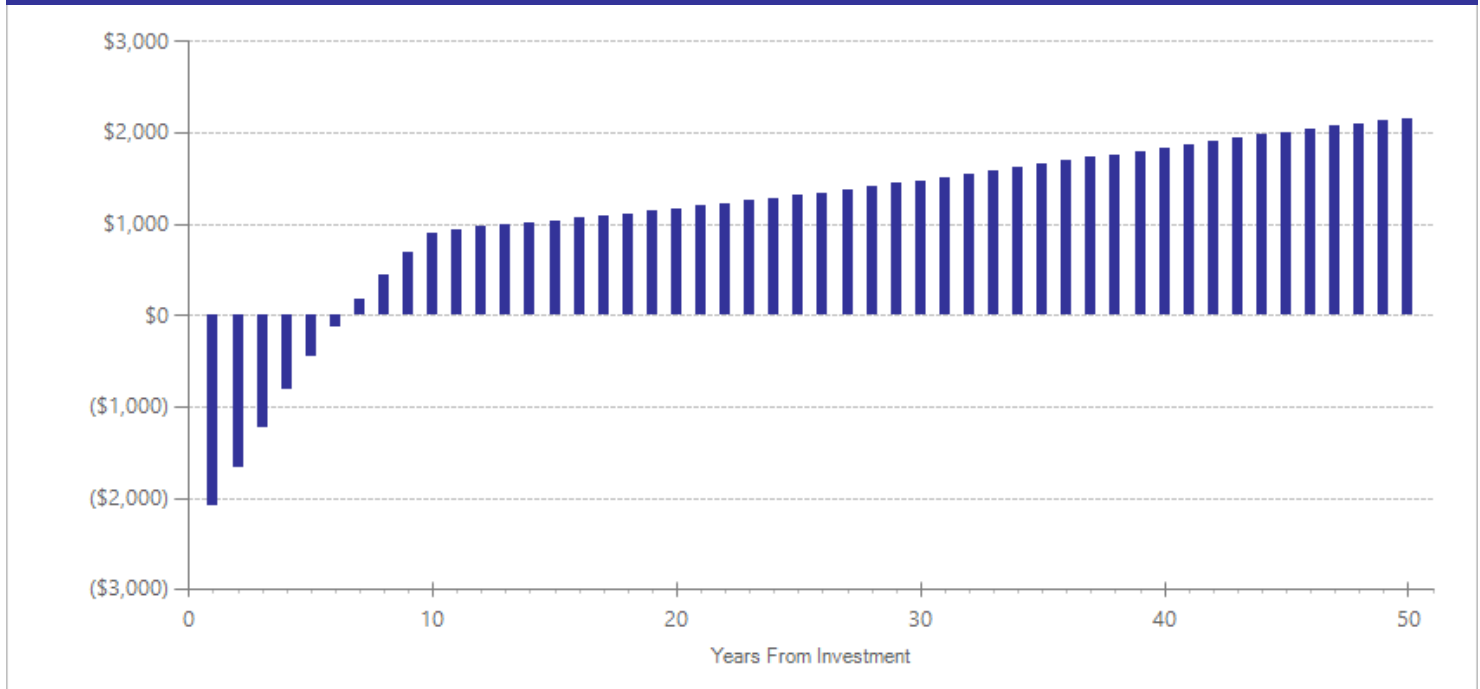
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,481	2012	Present value of net program costs (in 2018 dollars)	(\$1,602)
Comparison costs	\$0	2012	Cost range (+ or -)	20 %

The per-participant cost was calculated by dividing the total program expenditures for TeamChild in King County by the number of youth served, as reported in King County's Children, Youth, and Young Adult Services Inventory (2012) found at [https://www.kingcounty.gov/~media/operations/DCHS/2012\\_KC\\_Children\\_Youth\\_YA\\_Services\\_Rev8\\_31\\_12.ashx](https://www.kingcounty.gov/~media/operations/DCHS/2012_KC_Children_Youth_YA_Services_Rev8_31_12.ashx). The cost for youth in the comparison group reflects that the youth did not receive any programming or services.

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	Treatment age	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	14	2	343	-0.046	0.094	15	-0.046	0.094	23	-0.046	0.621

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

- Feldman, D., & Stromsdorfer, E. (2009). *TeamChild 2008-2009 evaluation*. Olympia: Washington State Department of Social and Health Services, Governor's Juvenile Justice Advisory Committee.
- He, L., Stromsdorfer, E.W., & Wang, B. (2005). *The federal Byrne grant youth violence prevention and intervention program: Cross-site evaluation 2003-2004 program year (Final Report)*. Olympia: Rainier Research Associates.

# Therapeutic communities (vs. group homes) for court-involved youth with substance use disorder

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated August 2017.

Program Description: Therapeutic communities (TCs) are a form of intensive substance use disorder treatment. This analysis is on TCs within the community that serve youth who are ordered to chemical dependency diversion 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. Youth earn responsibility as they progress through the stages of long-term treatment.

Participants in the included study were court-involved youth with substance use disorders. TCs were implemented within a group home-type setting; youth in the comparison group were typically placed in group homes. The average length of treatment was 5.4 months. In the included study, 79% of participants were youth of color and 18% were female.

We exclude evaluations of other (non-TC) substance use disorder treatments and TCs for youth in state institutions from this analysis and analyze them separately.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$495	Benefit to cost ratio	\$0.36
Participants	\$1,051	Benefits minus costs	(\$1,389)
Others	\$651	Chance the program will produce	
Indirect	(\$1,402)	benefits greater than the costs	47 %
<b>Total benefits</b>	<b>\$795</b>		
<b>Net program cost</b>	<b>(\$2,184)</b>		
<b>Benefits minus cost</b>	<b>(\$1,389)</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$551	\$1,256	\$275	\$2,082
K-12 grade repetition	\$0	\$14	\$0	\$7	\$20
Labor market earnings associated with smoking	(\$4,576)	(\$1,948)	\$0	\$0	(\$6,524)
Health care associated with smoking	(\$254)	(\$900)	(\$928)	(\$450)	(\$2,532)
Labor market earnings associated with anxiety disorder	\$5,807	\$2,472	\$0	\$0	\$8,280
Health care associated with anxiety disorder	\$89	\$313	\$323	\$157	\$881
Mortality associated with smoking	(\$15)	(\$7)	\$0	(\$300)	(\$322)
Mortality associated with depression	\$0	\$0	\$0	\$1	\$1
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,092)	(\$1,092)
<b>Totals</b>	<b>\$1,051</b>	<b>\$495</b>	<b>\$651</b>	<b>(\$1,402)</b>	<b>\$795</b>

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

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

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

## Detailed Annual Cost Estimates Per Participant

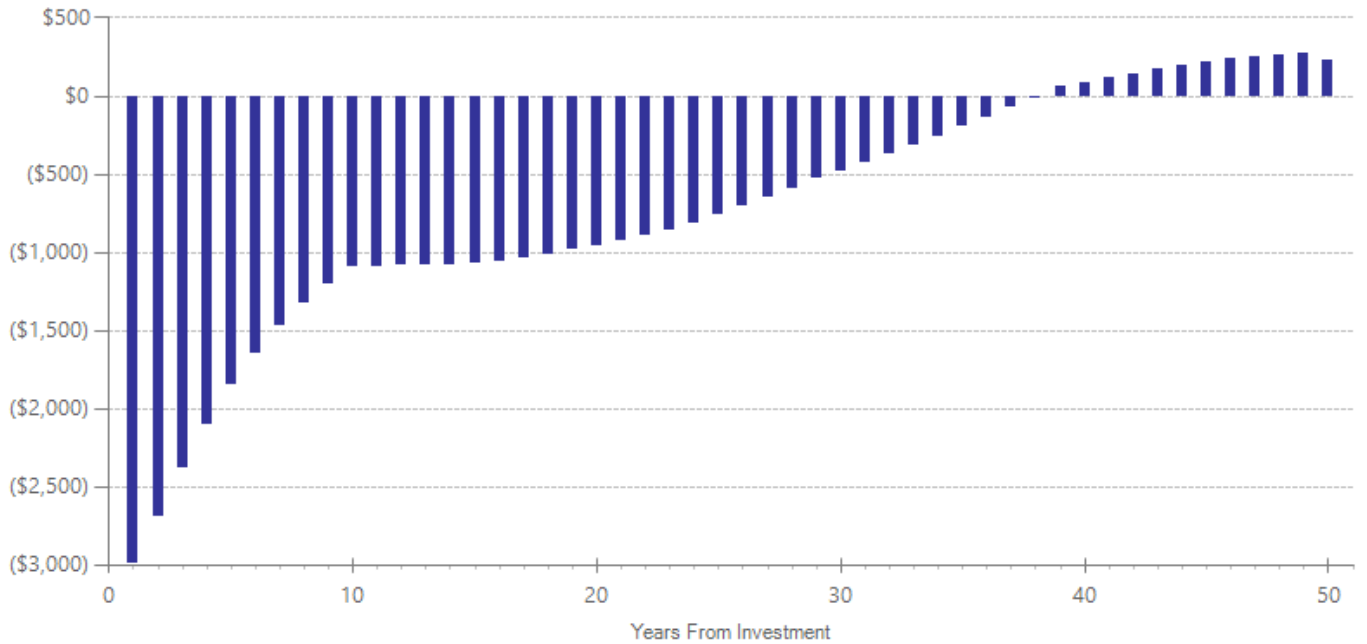
	Annual cost	Year dollars	Summary	
Program costs	\$2,020	2012	Present value of net program costs (in 2018 dollars)	(\$2,184)
Comparison costs	\$0	2012	Cost range (+ or -)	20 %

The treatment group cost represented the cost of therapeutic communities (TCs) beyond the cost of usual group homes. We estimate the per-participant cost by applying an average monthly cost to the average length of treatment in the included studies. We use an estimated cost of treatment provided by Washington State Juvenile Rehabilitation and assume 12 months of treatment to calculate a typical cost of treatment per month. We multiply this per-month cost by the weighted average length of treatment for the included studies (5.4 months).

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	Treatment age	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		
Anxiety disorder	16	1	160	-0.289	0.102	16	-0.114	0.094	17	-0.289	0.004
Crime	16	1	160	-0.030	0.101	17	-0.030	0.101	25	-0.030	0.768
Major depressive disorder	16	1	160	-0.220	0.102	16	0.000	0.310	18	-0.220	0.031
Regular smoking	16	1	160	0.200	0.102	16	0.200	0.102	26	0.200	0.049
Substance use disorder <sup>^</sup>	16	1	160	-0.270	0.102	16	n/a	n/a	n/a	-0.270	0.008

<sup>^</sup>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

Morral, A.R., McCaffrey, D.F., & Ridgeway, G. (2004). Effectiveness of community-based treatment for substance-abusing adolescents: 12-month outcomes of youths entering Phoenix Academy or alternative probation dispositions. *Psychology of Addictive Behaviors, 18*(3), 257-68.

## Diversion with services (vs. simple release)

### Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated May 2019.

Program Description: Diversion is an alternative to formal sanctions or processing in the juvenile justice system. The goals of diversion are to alleviate the negative consequences associated with the juvenile justice system (e.g., stigmatizing youth as deviant) and to maintain a youth's pro-social ties in the community. Diversion programs included in this meta-analysis vary in their structure. Some programs divert youth at the initial stages of the juvenile justice system (e.g., diverted by law enforcement upon arrest), while others divert youth once they reach the juvenile courts (e.g., pre- or post-adjudication). In these programs, youth agree to participate in community-based services such as mentoring, counseling, or job training. In addition, youth are commonly required to complete a specific number of community service hours.

This analysis compares youth who receive diversion programs that include services with youth who are warned and released (e.g., no formal processing by the juvenile justice system and no referrals to programming). These diversion programs target youth with no previous criminal history or with non-violent misdemeanor/felony offenses. Among studies in this analysis, the length of program enrollment ranged from four to eight months. Programs that mandated community service required an average of 45 hours. In the studies in our analysis that reported demographic information, 60% of participants were youth of color, and 15% were female.

Diversion programs with services and diversion programs without services compared to traditional juvenile court processing are excluded from this analysis and analyzed separately.

#### Benefit-Cost Summary Statistics Per Participant

##### Benefits to:

Taxpayers	\$7	Benefit to cost ratio	(\$0.48)
Participants	\$2	Benefits minus costs	(\$1,486)
Others	\$14	Chance the program will produce	
Indirect	(\$501)	benefits greater than the costs	34 %
<u>Total benefits</u>	<u>(\$479)</u>		
<u>Net program cost</u>	<u>(\$1,008)</u>		
Benefits minus cost	(\$1,486)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$6	\$12	\$3	\$21
Labor market earnings associated with high school graduation	\$2	\$1	\$1	\$0	\$5
Costs of higher education	\$0	\$0	\$0	\$0	(\$1)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$504)	(\$504)
<b>Totals</b>	<b>\$2</b>	<b>\$7</b>	<b>\$14</b>	<b>(\$501)</b>	<b>(\$479)</b>

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

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

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

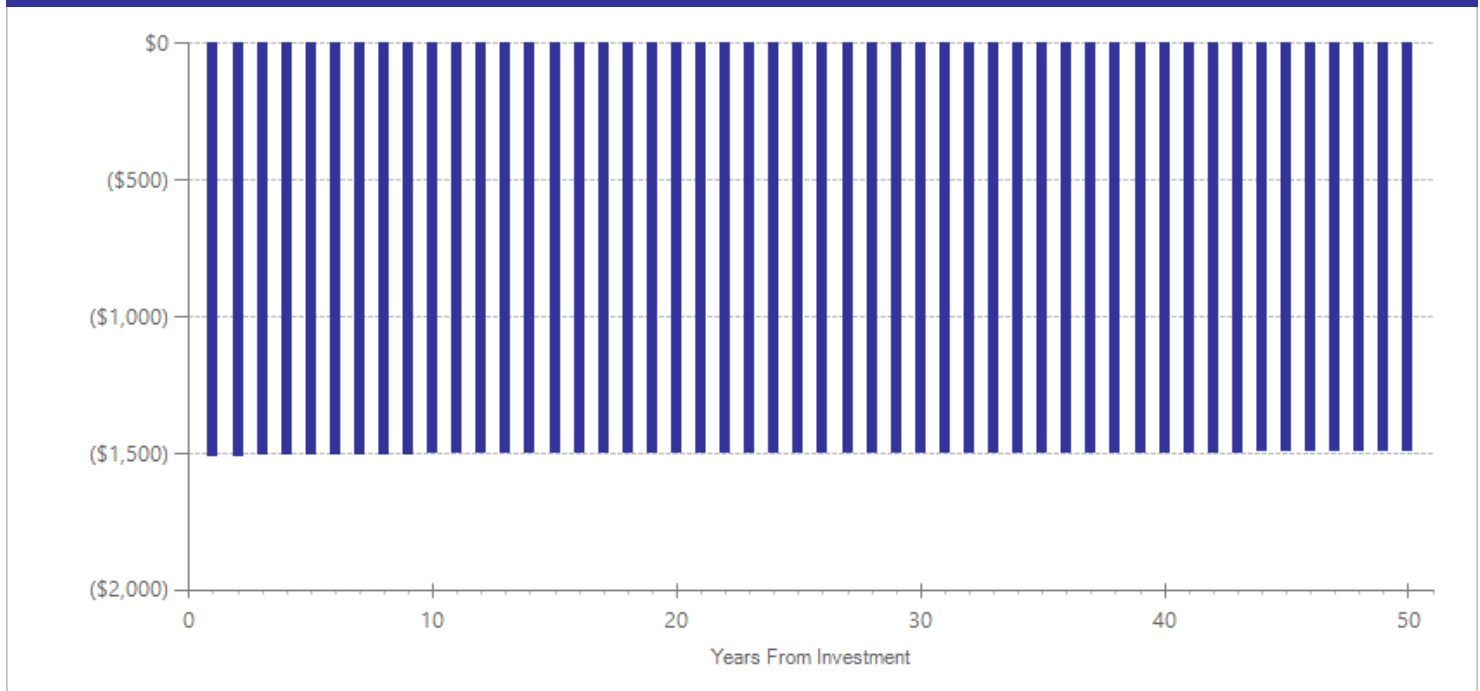
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$970	2016	Present value of net program costs (in 2018 dollars)	(\$1,008)
Comparison costs	\$0	2016	Cost range (+ or -)	20 %

We estimate the per-participant cost for diversion programs with services using the Spokane County Juvenile Court cost-per-day for their diversion program as reported in the 2016 Juvenile Court Services Annual Report (<https://www.spokanecounty.org/ArchiveCenter/ViewFile/Item/8443>), multiplied by the weighted average length of programming in the included studies, 6.4 months.

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	Treatment age	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	15	8	1049	0.000	0.062	16	0.000	0.062	24	0.000	0.994

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

Dunford, F.W., Osgood, D.W., & Weichselbaum, H.F. (1982). *National evaluation of diversion projects, final report*. U.S. Department of Justice.

Lipsey, M.W., Cordray, D.S., & Berger, D.E. (1981). Evaluation of a juvenile diversion program using multiple lines of evidence. *Evaluation Review*, 5 (3), 283-306.

Smith, P., Bohnstedt, M., & Tompkins, T. (1979). *Juvenile diversion evaluation - Report of an experimental study (from Pretrial Services Annual Journal, P 118-140, 1979, by D Alan Henry - See NCJ-69868)*. United States.

Wiebush, R.G. (1985). *Recidivism in the juvenile diversion project of the Young Volunteers in Action Program (final report)*.

# Cognitive behavioral therapy (CBT) for court-involved youth

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

Program Description: Cognitive behavioral therapy (CBT) uses cognitive restructuring, self-talk, skill-building, and other strategies to treat mental illness or address problem behaviors. In a juvenile justice setting, CBT emphasizes individual accountability and teaches participants that cognitive deficits, distortions, and flawed thinking processes can cause criminal behavior. The studies included in this meta-analysis evaluated two name-brands programs: Reasoning and Rehabilitation and Community Opportunity Growth.

In this meta-analysis, CBT is delivered to court-involved youth. We include evaluations of CBT programs that target criminal behavior, rather than specific mental health problems. In the included studies, participants were in treatment for four to five months and received a total of 24 to 72 hours of group-based CBT. In the included studies that report demographic information, 41% of participants were youth of color and 22% were female.

Evaluations on CBT for youth in state institutions are excluded from this analysis and analyzed separately.

### Benefit-Cost Summary Statistics Per Participant

Benefit-Cost Summary Statistics Per Participant			
<b>Benefits to:</b>			
Taxpayers	(\$493)	Benefit to cost ratio	(\$13.98)
Participants	(\$118)	Benefits minus costs	(\$2,186)
Others	(\$1,140)	Chance the program will produce	
Indirect	(\$290)	benefits greater than the costs	41 %
<u>Total benefits</u>	<u>(\$2,040)</u>		
<u>Net program cost</u>	<u>(\$146)</u>		
Benefits minus cost	(\$2,186)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Detailed Monetary Benefit Estimates Per Participant					
Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$447)	(\$1,070)	(\$224)	(\$1,740)
Labor market earnings associated with high school graduation	(\$137)	(\$58)	(\$76)	\$0	(\$272)
Costs of higher education	\$20	\$13	\$6	\$6	\$45
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$73)	(\$73)
<b>Totals</b>	<b>(\$118)</b>	<b>(\$493)</b>	<b>(\$1,140)</b>	<b>(\$290)</b>	<b>(\$2,040)</b>

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

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

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

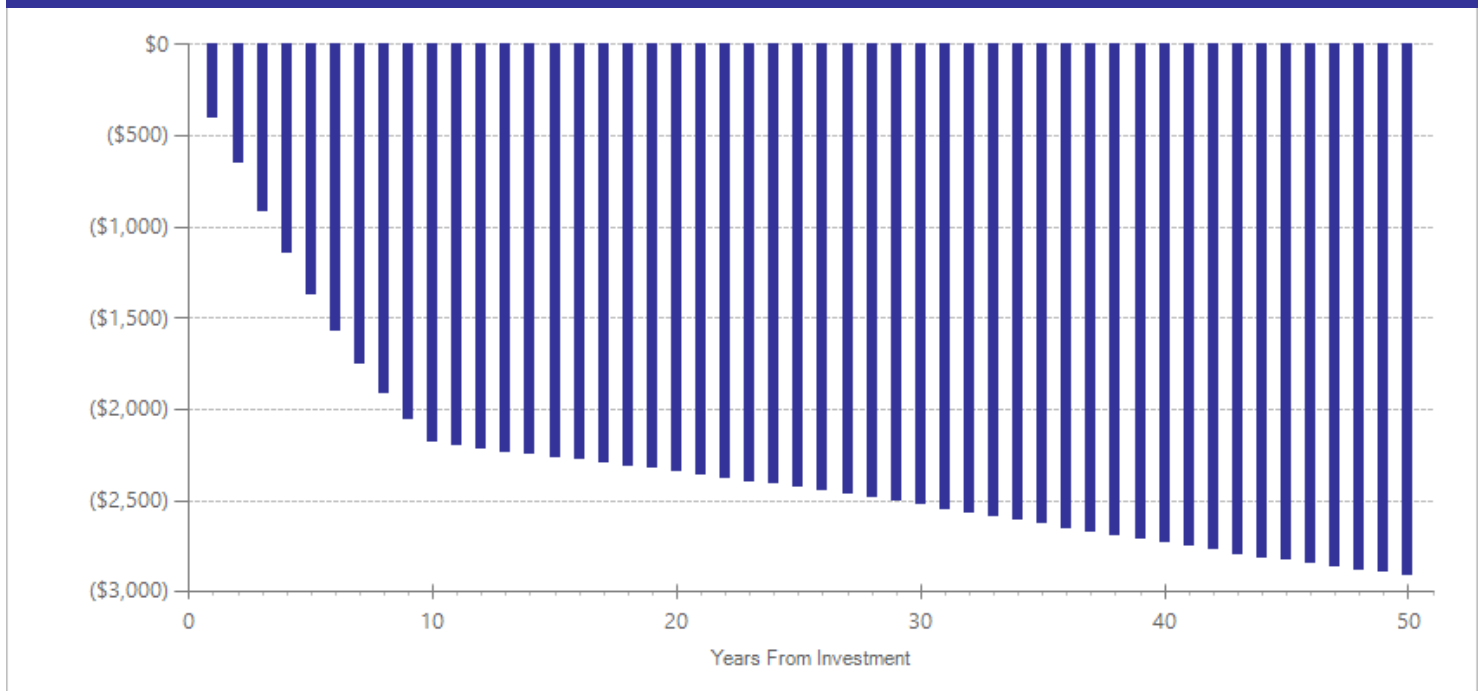
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$146	2018	Present value of net program costs (in 2018 dollars)	(\$146)
Comparison costs	\$0	2018	Cost range (+ or -)	50 %

The per-participant cost estimate is based on provider wages for the average implementation of cognitive behavioral therapy (CBT) in the included studies. We estimate that participants receive an average of 27 hours of group therapy, as reported in the included studies. We use hourly wage information for Corrections Mental Health Counselors from the Office of Financial Management (<https://ofm.wa.gov/state-human-resources/compensation-job-classes/ClassifiedJobListing/SalaryRange/1208>) and multiply this by 1.44 to account for benefits. We assume that there are eight participants in the average CBT group.

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	Treatment age	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	15	2	347	0.025	0.137	16	0.025	0.137	24	0.025	0.852

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

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

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

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

## Citations Used in the Meta-Analysis

- Jewell, J.D., Malone, M.D., Rose, P., Sturgeon, D., & Owens, S. (2015). A multiyear follow-up study examining the effectiveness of a cognitive behavioral group therapy program on the recidivism of juveniles on probation. *International journal of offender therapy and comparative criminology*, 59 (3), 259-272.
- Pullen, S. (1996). *Evaluation of the Reasoning and Rehabilitation cognitive skills development program as implemented in juvenile ISP in Colorado*. Denver: Colorado Department of Public Safety, Division of Criminal Justice.



# Vocational and employment training for youth in state institutions

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

Program Description: Vocational and employment training for youth in state institutions includes intensive vocational programs that also provide specialized education. These programs aim to support positive outcomes to reduce recidivism, support life and community skills, encourage education attainment, and teach employable skills. Vocational skills training uses classroom-based job training to teach youth employable skills. As part of some training curriculums, youth can receive certification in a variety of specialties (e.g., carpentry, landscaping, culinary arts). Upon release into the community, youth may receive additional services, including employment search assistance, job contacts, housing support, transportation support, mental health/substance use disorder services and educational placements.

This analysis focuses on programs that provide services to youth while confined and then released to supervision. In the included study, participants received services while confined for approximately nine months and continued services in the community for another eleven months. Youth were moderate risk per a validated risk assessment tool. In the included study, 56% of participants were youth of color, and all youth were male. Youth in the comparison group were confined in other residential facilities and received treatment as usual.

Evaluations of Education and Employment Training (EET), mentoring programs, and vocational and employment training programs for court-involved youth are excluded from this analysis and analyzed separately.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	(\$171)	Benefit to cost ratio	(\$1.84)
Participants	\$889	Benefits minus costs	(\$2,349)
Others	(\$1,554)	Chance the program will produce	
Indirect	(\$688)	benefits greater than the costs	43 %
<u>Total benefits</u>	<u>(\$1,523)</u>		
<u>Net program cost</u>	<u>(\$826)</u>		
Benefits minus cost	(\$2,349)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$549)	(\$1,554)	(\$275)	(\$2,377)
Labor market earnings	\$889	\$378	\$0	\$0	\$1,267
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$413)	(\$413)
<b>Totals</b>	<b>\$889</b>	<b>(\$171)</b>	<b>(\$1,554)</b>	<b>(\$688)</b>	<b>(\$1,523)</b>

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

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

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

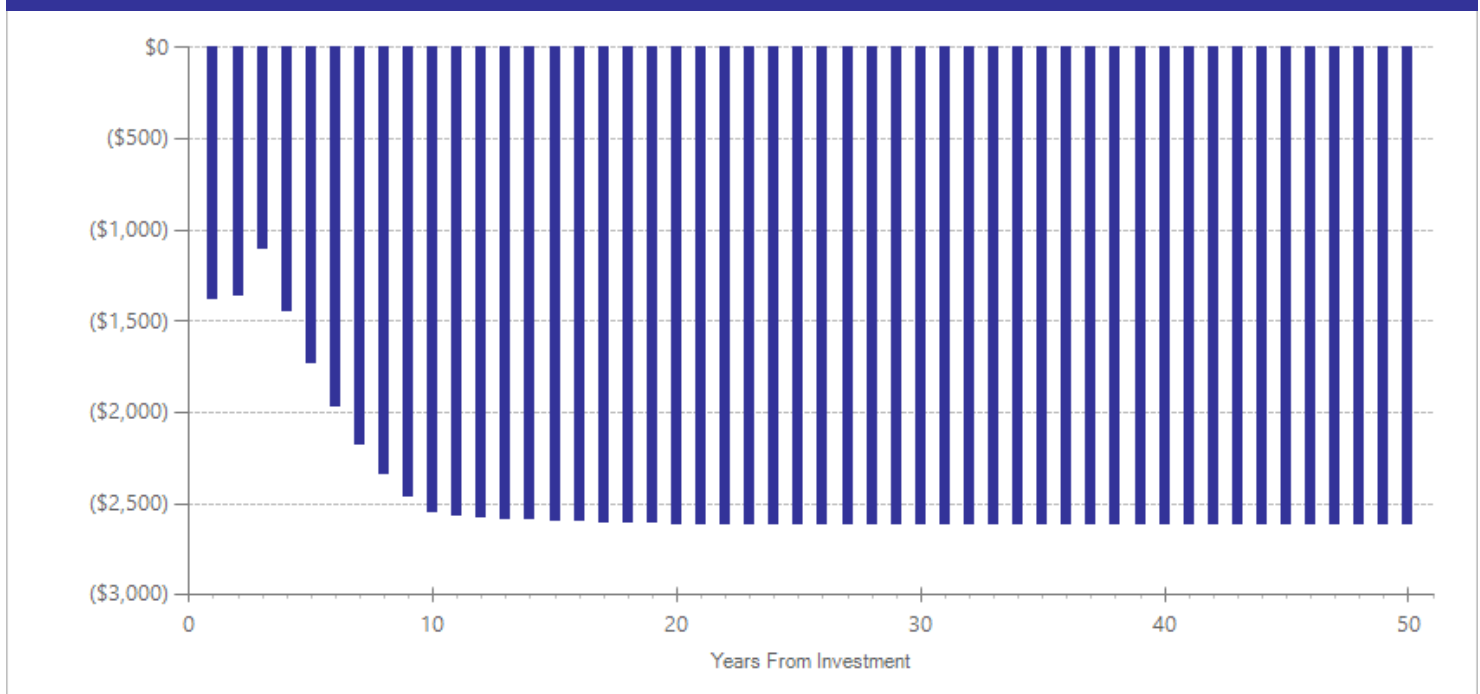
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$24,765	2003	Present value of net program costs (in 2018 dollars)	(\$826)
Comparison costs	\$24,136	2003	Cost range (+ or -)	20 %

We use the per-participant cost of the Avon Park Youth Academy as reported in the study in this analysis: National Council on Crime and Delinquency. (2009). In search of evidence-based practice in juvenile corrections: An evaluation of Florida's Avon Park Youth Academy and STREET Smart Program. Madison, WI: National Council on Crime and Delinquency. For the comparison group youth, we use the per-participant cost of the comparison group conditions as reported in National Council on Crime and Delinquency (2009), weighted by the participation by the comparison group in each condition.

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	Treatment age	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	1	369	0.018	0.113	19	0.018	0.113	27	0.018	0.870
Earnings*	18	1	369	0.110	0.109	20	0.000	0.000	21	0.110	0.313
Employment^^	18	1	369	0.170	0.120	20	n/a	n/a	n/a	0.170	0.156
GED attainment^	18	1	369	0.067	0.100	19	n/a	n/a	n/a	0.067	0.500
High school graduation	18	1	369	0.180	0.100	18	0.180	0.100	18	0.180	0.072

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

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

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

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

National Council on Crime and Delinquency. (2009). *In search of evidence-based practice in juvenile corrections: An evaluation of Florida’s Avon Park Youth Academy and STREET Smart Program*. Madison, WI: National Council on Crime and Delinquency.

## Other (non-therapeutic communities) substance use disorder treatment for court-involved youth

### Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated August 2017.

Program Description: This analysis is on court-involved youth receiving substance use disorder treatment as a condition of their probation. Other substance use disorder treatment is a broadly defined category that 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 interventions can be delivered in individual, group, or family modalities.

In the included studies, youth participated in a variety of community-based treatment types, which could include individual-, group-, or family-based interventions. Most youth were classified as high-risk per scores on a validated recidivism risk instrument. In the included study that reported treatment duration, youth were in treatment for 3.5 months. In the included studies that report demographics, 64% of participants were youth of color and 6% were female.

We exclude evaluations of therapeutic communities and substance use disorder treatments for youth in state institutions from this meta-analysis and analyze them separately.

#### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$734	Benefit to cost ratio	\$0.17
Participants	\$1,981	Benefits minus costs	(\$2,562)
Others	(\$736)	Chance the program will produce	
Indirect	(\$1,453)	benefits greater than the costs	42 %
<u>Total benefits</u>	<u>\$526</u>		
Net program cost	(\$3,087)		
Benefits minus cost	(\$2,562)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$431)	(\$1,114)	(\$215)	(\$1,760)
Labor market earnings associated with smoking	\$1,870	\$796	\$0	\$0	\$2,667
Health care associated with smoking	\$103	\$366	\$378	\$183	\$1,030
Property loss associated with alcohol abuse or dependence	\$0	\$0	\$1	\$0	\$1
Mortality associated with smoking	\$6	\$3	\$0	\$123	\$132
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,544)	(\$1,544)
<b>Totals</b>	<b>\$1,981</b>	<b>\$734</b>	<b>(\$736)</b>	<b>(\$1,453)</b>	<b>\$526</b>

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

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

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

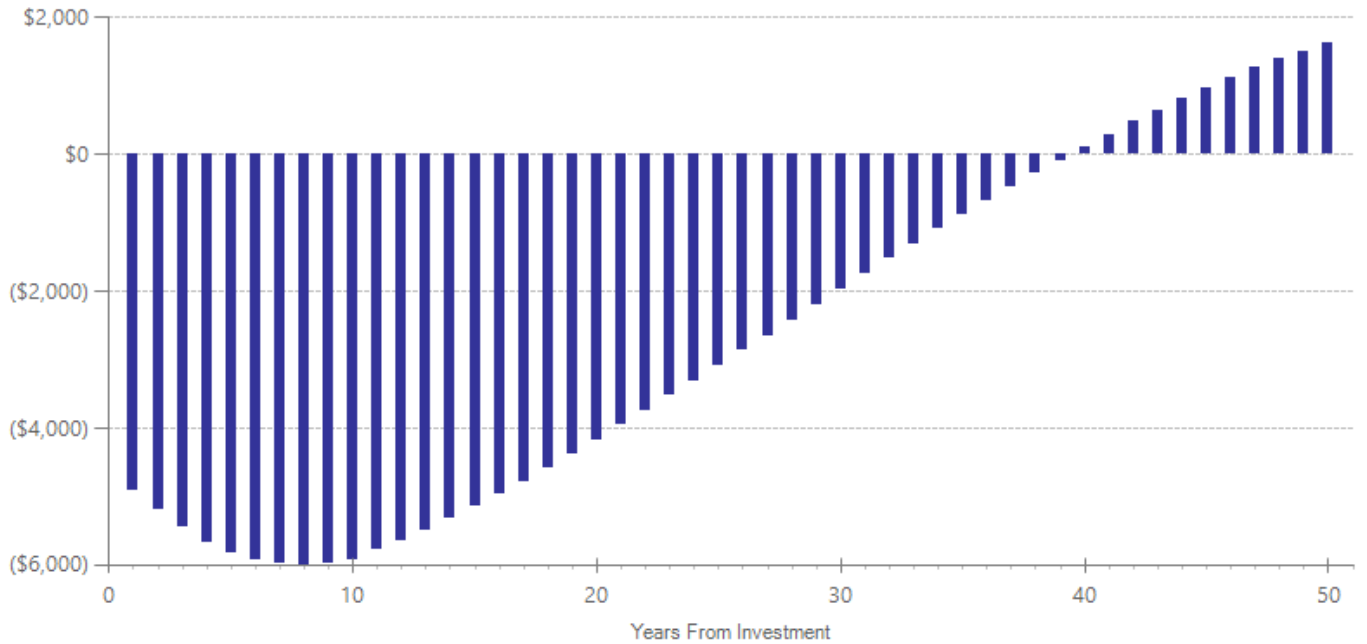
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,855	2012	Present value of net program costs (in 2018 dollars)	(\$3,087)
Comparison costs	\$0	2012	Cost range (+ or -)	20 %

The per-participant cost estimate is based on the average monthly cost of treatment in Washington applied to the average length of treatment in the included studies. We estimate the monthly cost of treatment using a per-youth cost of substance use treatment provided by Washington State Juvenile Rehabilitation, divided by the average length of treatment in Washington. We multiply this monthly cost by the weighted average length of treatment for the included studies (3.5 months).

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	Treatment age	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	16	1	146	-0.231	0.102	16	0.000	0.187	19	-0.231	0.024
Cannabis use disorder	16	1	146	-0.007	0.102	16	0.000	0.187	19	-0.007	0.944
Crime	16	1	146	0.020	0.102	17	0.020	0.102	25	0.020	0.842
Regular smoking	16	1	146	-0.092	0.102	16	-0.092	0.102	26	-0.092	0.369
Substance use disorder <sup>^</sup>	16	1	58	-0.017	0.228	16	n/a	n/a	n/a	-0.017	0.939

<sup>^</sup>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

- Chassin, L., Knight, G., Vargas-Chanes, D., Losoya, S.H., & Naranjo, D. (2009). Substance use treatment outcomes in a sample of male serious juvenile offenders. *Journal of Substance Abuse Treatment, 36* (2), 183-194.
- Henderson, C.E., Wevodau, A.L., Henderson, S.E., Colbourn, S.L., Gharagozloo, L., North, L.W., & Lotts, V.A. (2016). An independent replication of the adolescent-community reinforcement approach with justice-involved youth. *The American Journal on Addictions, 25* (3), 233-240.

# Intensive supervision for court-involved youth (vs. traditional probation)

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

**Program Description:** Intensive supervision is a model of supervision that emphasizes a higher degree of surveillance than traditional supervision in the community. Intensive supervision often involves case management with smaller caseloads of an average of 30 youth. The conditions of supervision vary but may include urinalysis testing, increased face-to-face or collateral contacts, and required participation in programming. Programming may include mentoring, tutoring, counseling, job training, or other community-based services. Youth may have 4-20 monthly contacts with their juvenile probation counselor.

This analysis compares adjudicated youth on intensive supervision to adjudicated youth on traditional probation supervision. In the included studies, participants were at high risk of recidivism per a validated risk assessment tool. The length of intensive supervision ranged from 3-14 months, with most youth receiving supervision for nine months. In the studies in our analysis that reported demographic information, 60% of participants were youth of color and 12% were female.

Evaluations of intensive supervision for youth placed directly on supervision compared to confined youth and intensive supervision for youth released from confinement compared to youth released from confinement and placed on traditional supervision are excluded from this analysis and analyzed separately.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	(\$643)	Benefit to cost ratio	(\$5.17)
Participants	(\$581)	Benefits minus costs	(\$3,227)
Others	(\$1,015)	Chance the program will produce	
Indirect	(\$465)	benefits greater than the costs	29 %
<b>Total benefits</b>	<b>(\$2,704)</b>		
<b>Net program cost</b>	<b>(\$523)</b>		
<b>Benefits minus cost</b>	<b>(\$3,227)</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).



## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$388)	(\$1,003)	(\$194)	(\$1,584)
Labor market earnings associated with alcohol abuse or dependence	(\$578)	(\$246)	\$0	\$0	(\$824)
Health care associated with alcohol abuse or dependence	(\$2)	(\$9)	(\$10)	(\$5)	(\$26)
Property loss associated with alcohol abuse or dependence	(\$1)	\$0	(\$2)	\$0	(\$3)
Mortality associated with alcohol	(\$1)	\$0	\$0	(\$6)	(\$7)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$261)	(\$261)
<b>Totals</b>	<b>(\$581)</b>	<b>(\$643)</b>	<b>(\$1,015)</b>	<b>(\$465)</b>	<b>(\$2,704)</b>

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

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

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

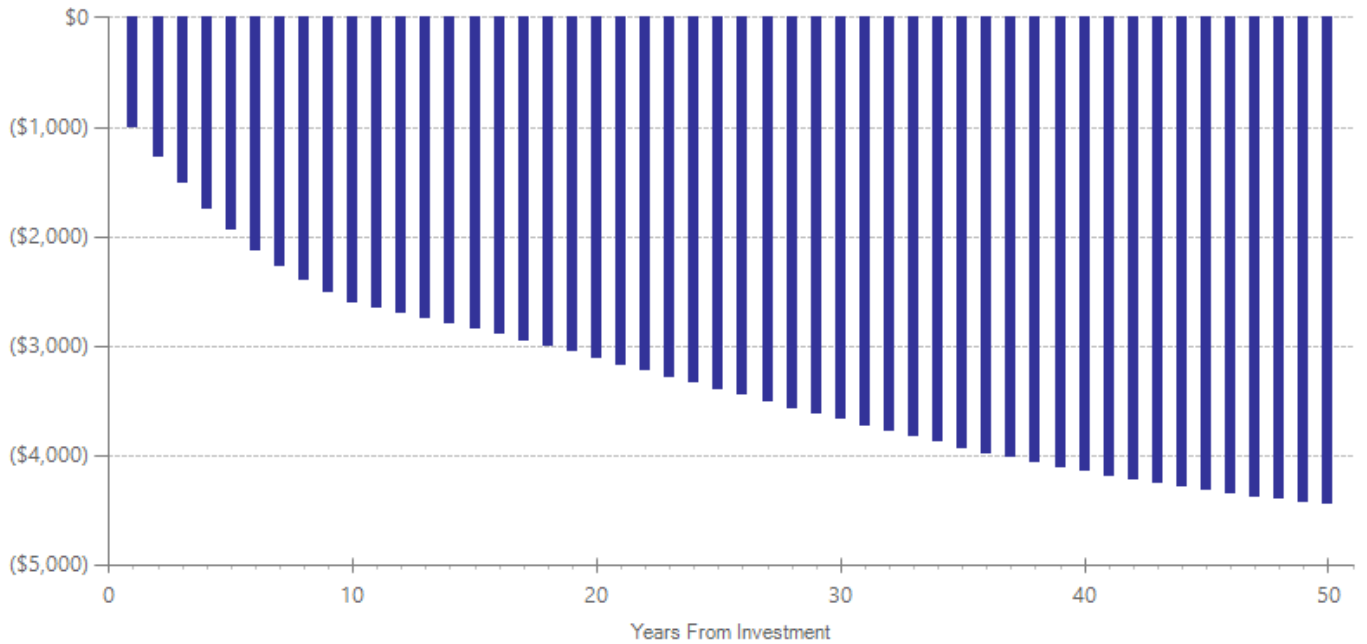
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,145	2015	Present value of net program costs (in 2018 dollars)	(\$523)
Comparison costs	\$1,647	2015	Cost range (+ or -)	50 %

We estimate the per-participant program cost using WSIPP’s annual marginal cost estimate for juvenile local supervision (as reported in Washington State Institute for Public Policy. (December 2018). Benefit-cost technical documentation. Olympia, WA: Author) to compute a monthly cost estimate. We apply the ratio of the intensive supervision caseload (33), as reported in the included studies, to the traditional probation caseload (43)—as reported in Burley, M. & Barnoski, R. (1997). Washington State Juvenile Courts: Workloads and Costs. Olympia: Washington State Institute for Public Policy—to the monthly marginal average cost estimate for juvenile supervision. We multiply this monthly cost by the weighted average time on supervision reported by the studies included in this meta-analysis (8.7 months). The comparison cost uses the annual marginal cost estimate for juvenile local supervision multiplied by the weighted average time on supervision, 8.7 months.

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	Treatment age	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 before end of high school	16	1	226	0.037	0.114	16	0.037	0.114	18	0.037	0.746
Crime	16	18	5210	0.018	0.034	17	0.018	0.034	25	0.018	0.594
Illicit drug use <sup>^</sup>	16	1	226	0.143	0.113	16	n/a	n/a	n/a	0.143	0.205
Status offense <sup>^</sup>	16	1	226	0.081	0.181	16	n/a	n/a	n/a	0.081	0.654
Technical violations <sup>^^</sup>	16	2	463	0.492	0.091	17	n/a	n/a	n/a	0.492	0.001

<sup>^</sup>WSIPP’s benefit-cost model does not monetize this outcome.

<sup>^^</sup>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

- Alarid, L.F., & Rangel, L.M. (2018). Completion and recidivism rates of high-risk youth on probation: Do home visits make a difference? *The Prison Journal*, 98 (2), 143-162.
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- National Council on Crime and Delinquency. (1987). *The impact of juvenile court intervention*. San Francisco: Author.
- National Council on Crime and Delinquency, & United States of America. (2001). *Evaluation of the RYSE Program: Alameda County Probation Department*.

# Aggression Replacement Training (ART) for court-involved/post-release youth Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated June 2019.

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 is a ten-week, 30-hour intervention delivered in groups of 8 to 12 participants, three times per week.

This analysis is on ART for juvenile justice system-involved youth in the community, including court-involved youth and post-release youth. Youth in the included studies were at moderate to high risk for recidivism and were assessed as having violent/aggressive behavior. In the studies that reported demographics, 35% of participants were youth of color and 25% of participants were female. All participants in the treatment and comparison groups received treatment as usual, which included some participation in evidence-based programs.

Evaluations on ART for youth in state institutions are excluded from this analysis and analyzed separately.

## Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	(\$424)	Benefit to cost ratio	(\$1.51)
Participants	(\$83)	Benefits minus costs	(\$4,169)
Others	(\$976)	Chance the program will produce	
Indirect	(\$1,023)	benefits greater than the costs	23 %
<b>Total benefits</b>	<b>(\$2,506)</b>		
<b>Net program cost</b>	<b>(\$1,663)</b>		
<b>Benefits minus cost</b>	<b>(\$4,169)</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$391)	(\$927)	(\$196)	(\$1,514)
Labor market earnings associated with high school graduation	(\$97)	(\$41)	(\$54)	\$0	(\$192)
Costs of higher education	\$14	\$9	\$4	\$5	\$32
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$832)	(\$832)
<b>Totals</b>	<b>(\$83)</b>	<b>(\$424)</b>	<b>(\$976)</b>	<b>(\$1,023)</b>	<b>(\$2,506)</b>

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

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

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

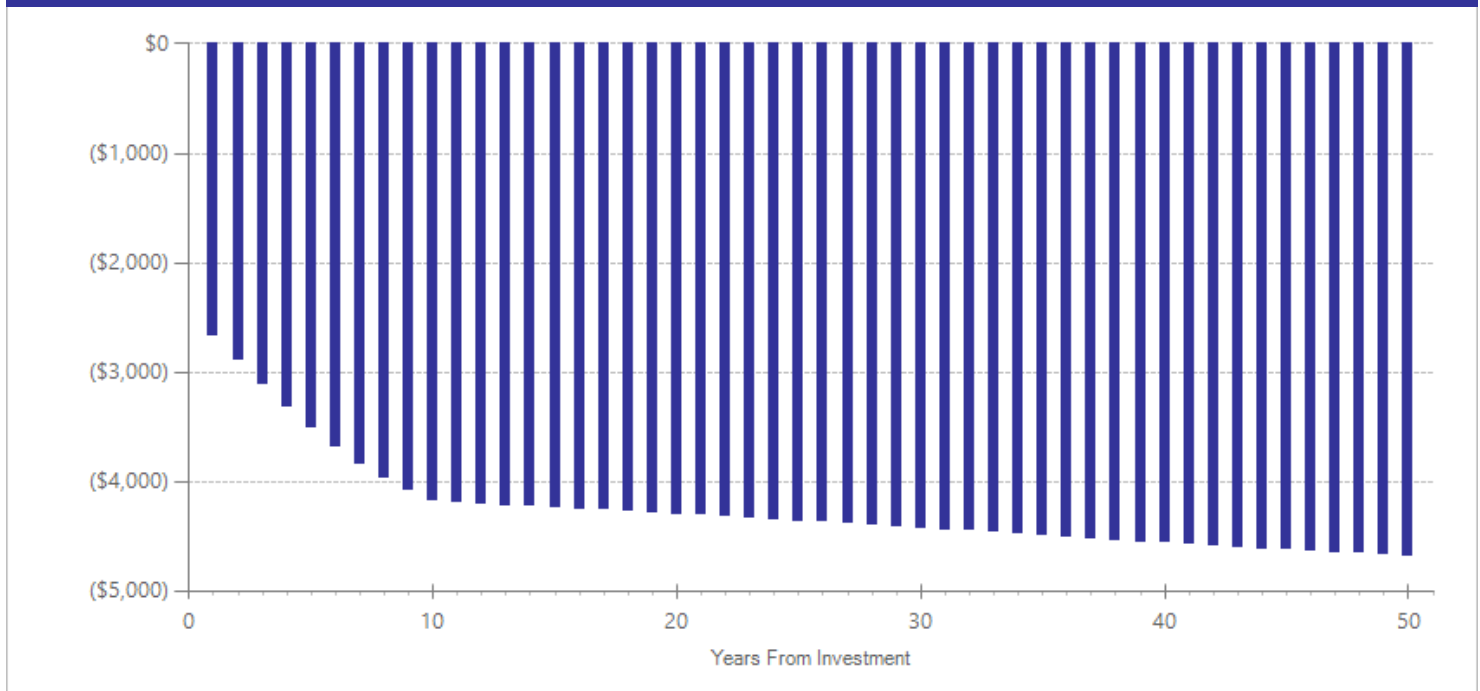
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,601	2016	Present value of net program costs (in 2018 dollars)	(\$1,663)
Comparison costs	\$0	2016	Cost range (+ or -)	10 %

The per-participant cost estimate was provided by C. Redman (personal communication, Washington State Juvenile Rehabilitation, April 16, 2019). This cost is based on estimates 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	Treatment age	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	3	7177	0.019	0.062	17	0.019	0.062	25	0.019	0.763

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.
- Goldstein, A.P., Glick, B., Irwin, M.J., Pask-McCartney, C., & Rubama, I. (1989). *Reducing delinquency: Intervention in the community*. New York: Pergamon Press.
- Knoth, L., Wanner, P., & He, L. (2019). *Washington State's Aggression Replacement Training for juvenile court youth: Outcome evaluation*. (Document Number 19-06-1201). Olympia: Washington State Institute for Public Policy.

# Sexual Abuse Family Education and Treatment Program (SAFE-T) for court-involved youth convicted of a sex offense

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated June 2019.

**Program Description:** Sexual Abuse Family Education and Treatment Program (SAFE-T) is a community-based treatment program that provides sexual abuse specific assessment, treatment, and support. This analysis is on SAFE-T for adolescents who have sexually offended. SAFE-T has multiple goals and aims to discourage sex offending, improve social skills, encourage appropriate anger expression, and improve trust. SAFE-T begins with a comprehensive assessment which informs an individually tailored treatment plan for the youth and their family. The treatment plan varies depending on participants' needs but typically includes a combination of concurrent individual, family, and group-based therapies.

Participants in the included study received an average of 18 months of treatment, including an average of 10 months of group therapy and 11 months of family therapy (often concurrently). The included study did not report the race/ethnicity of participants; 6% of participants were female. Participants in the comparison group received usual treatment services for youth with sex offenses, which included some participation in group therapies and milieu treatment approaches.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$7,663	Benefit to cost ratio	\$0.59
Participants	\$1,758	Benefits minus costs	(\$10,328)
Others	\$14,706	Chance the program will produce	
Indirect	(\$9,221)	benefits greater than the costs	25 %
<b>Total benefits</b>	<b>\$14,905</b>		
<b>Net program cost</b>	<b>(\$25,233)</b>		
<b>Benefits minus cost</b>	<b>(\$10,328)</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

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

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$6,983	\$13,659	\$3,491	\$24,133
Labor market earnings associated with high school graduation	\$2,050	\$873	\$1,134	\$0	\$4,057
Costs of higher education	(\$292)	(\$193)	(\$88)	(\$96)	(\$669)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$12,616)	(\$12,616)
<b>Totals</b>	<b>\$1,758</b>	<b>\$7,663</b>	<b>\$14,706</b>	<b>(\$9,221)</b>	<b>\$14,905</b>

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

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

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

## Detailed Annual Cost Estimates Per Participant

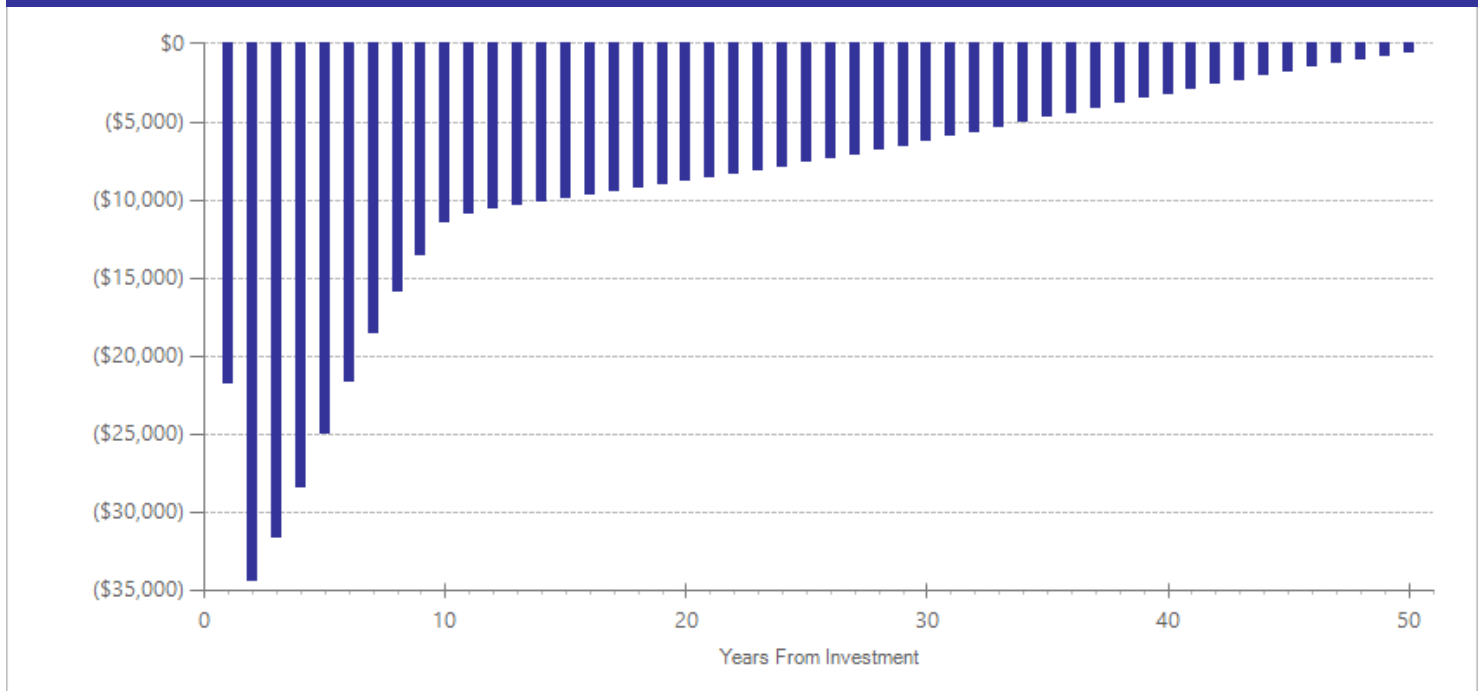
	Annual cost	Year dollars	Summary	
Program costs	\$19,264	2016	Present value of net program costs (in 2018 dollars)	(\$25,233)
Comparison costs	\$4,240	2015	Cost range (+ or -)	50 %

The per-participant cost of Sexual Abuse Family Education and Treatment Program (SAFE-T) represents the average annual cost over the 18-month program. We estimate the cost of SAFE-T by applying the average length of treatment for participants in the included study to the average monthly cost of a similar program: Multisystemic Therapy – Problem Sexual Behavior (MST-PSB). We use the average monthly cost of MST in Washington, estimated using cost information provided by C. Redman (personal communication, Washington State Juvenile Rehabilitation, April 16, 2019), which relies on estimates 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. We use MST-PSB's monthly cost because it also relies on a combination of group, family, and individual therapy and adjusts treatment strategies to fit the needs of participants, much like SAFE-T.

The comparison group received typical sex offense treatment services. We calculate costs for the comparison group using an estimate of the cost of sex offense treatment for youth on parole in Washington, provided by J. Pelander (personal communication, Washington State Juvenile Rehabilitation, July 8, 2016).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



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



## Meta-Analysis of Program Effects

Outcomes measured	Treatment age	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	15	1	85	-0.493	0.226	16	-0.493	0.226	24	-0.493	0.029
Sex offense <sup>^</sup>	15	1	85	-0.069	0.335	16	n/a	n/a	n/a	-0.069	0.838

<sup>^</sup>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

Worling, J.R., & Curwen, T. (2000). Adolescent sexual offender recidivism: Success of specialized treatment and implications for risk prediction. *Child Abuse & Neglect*, 24 (7), 965-982.

## Teen courts (vs. diversion, no services)

### Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated May 2019.

**Program Description:** Teen courts (sometimes called youth courts) are restorative justice problem-solving courts that divert youth from traditional processing in juvenile courts. Teen courts target delinquent youth with low-level or misdemeanor offenses who agree to a hearing and judgment from a court led by their peers. Student volunteers (or youth previously involved with the court) fill court roles acting as lawyers, bailiffs, clerks, judges, and juries to provide alternative dispositions for youth who committed minor offenses. Typically, student volunteers are overseen by a judge to ensure proper procedure is maintained. Youth and families who participate in teen court agree to honor the sentence set down by the teen court. Most sentences rely on youth making restitution to the person harmed or inconvenienced by their actions (e.g., community service or letters of apology).

For this analysis, we compare youth diverted to teen court to youth diverted with no services. Among studies included in this analysis, the time spent in teen court for a single case averaged one hour, with supervision lasting three to six months. In the studies in our analysis that report demographic information, 42% of participants were youth of color and 38% were female.

Evaluations of teen court comparing participants to youth in traditional juvenile court are excluded from this analysis and analyzed separately.

#### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	(\$3,755)	Benefit to cost ratio	(\$48.45)
Participants	(\$1,281)	Benefits minus costs	(\$15,265)
Others	(\$8,206)	Chance the program will produce	
Indirect	(\$1,714)	benefits greater than the costs	2 %
<b>Total benefits</b>	<b>(\$14,956)</b>		
<b>Net program cost</b>	<b>(\$309)</b>		
<b>Benefits minus cost</b>	<b>(\$15,265)</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$3,260)	(\$7,443)	(\$1,630)	(\$12,332)
Labor market earnings associated with high school graduation	(\$1,494)	(\$636)	(\$827)	\$0	(\$2,957)
Costs of higher education	\$213	\$141	\$64	\$70	\$488
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$154)	(\$154)
<b>Totals</b>	<b>(\$1,281)</b>	<b>(\$3,755)</b>	<b>(\$8,206)</b>	<b>(\$1,714)</b>	<b>(\$14,956)</b>

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

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

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

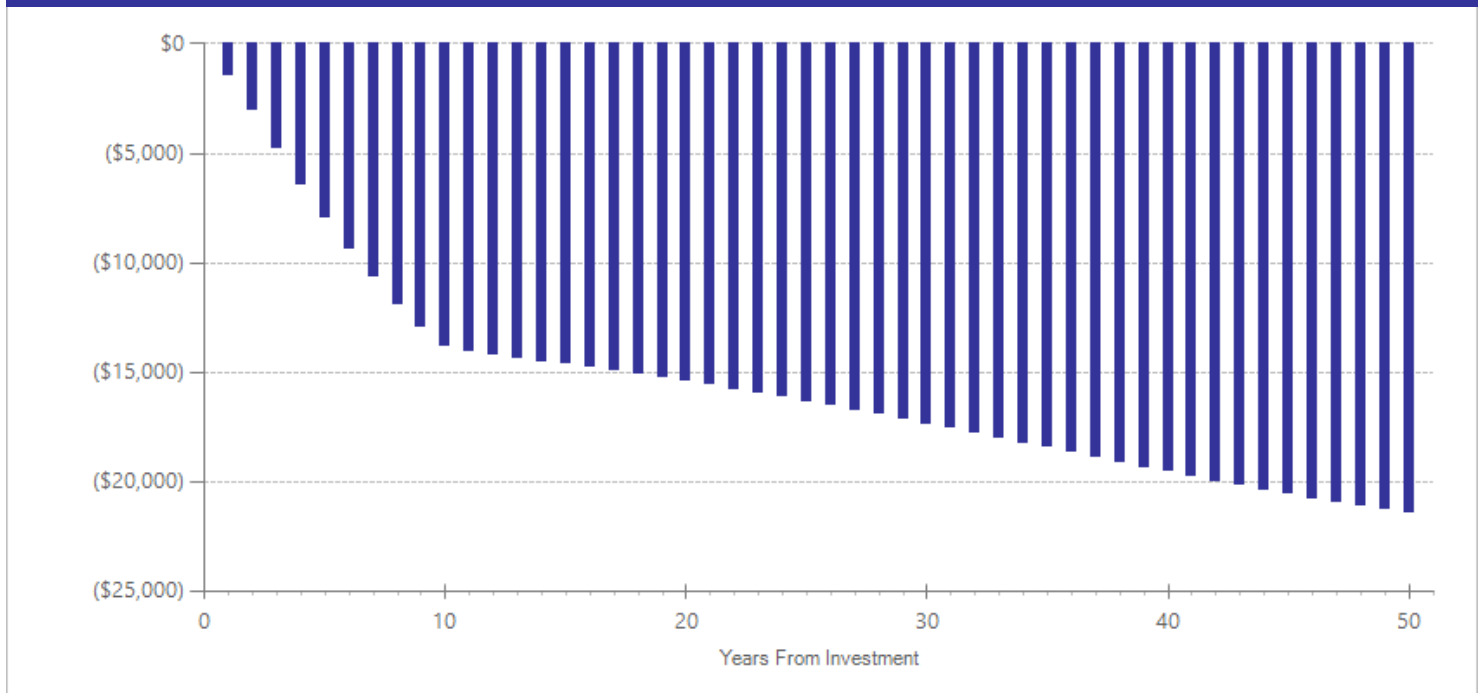
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$205	1995	Present value of net program costs (in 2018 dollars)	(\$309)
Comparison costs	\$0	1995	Cost range (+ or -)	50 %

We estimate the per-participant cost using the average cost of processing youth through a typical teen or youth court model, as presented in Zehner, S.J. (1997). Teen court. FBI Law Enforcement Bulletin, 66(3), 1-7. The comparison group cost represents youth warned and released by police without further juvenile court processing.

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	Treatment age	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	15	2	230	0.271	0.130	16	0.271	0.130	24	0.271	0.038

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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# Intensive supervision for youth post-release (vs. traditional post-release supervision)

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

**Program Description:** Intensive supervision or intensive aftercare is a model of supervision that emphasizes a higher degree of surveillance than traditional supervision in the community. Intensive supervision often involves case management with caseloads of 25 or fewer youth. Case management starts when youth are first confined and continues upon their release into the community. The conditions of supervision vary but typically may include urinalysis testing, increased face-to-face or collateral contacts, and required participation in programming. Programming may include mentoring, tutoring, counseling, job training, or other community-based services. Youth typically have daily exposure to their juvenile probation counselor or (in some cases) members of their aftercare team.

This analysis compares youth released from confinement and assigned to intensive supervision to youth released and assigned to supervision-as-usual. In the included studies, participants were youth at higher risk of recidivism per a validated risk assessment tool; the evaluations in the analysis often excluded youth adjudicated with sex offenses or highly violent felonies. Intensive supervision and aftercare last three to nine months, with most youth under supervision for seven months. In the studies in our analysis that report demographic information, 70% of participants were youth of color and 7% were female.

Evaluations of intensive supervision for court-involved youth (i.e., youth placed directly on supervision without a period of confinement) compared to traditional probation or confined youth are excluded from this analysis and analyzed separately.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	(\$2,008)	Benefit to cost ratio	(\$2.37)
Participants	(\$246)	Benefits minus costs	(\$16,235)
Others	(\$5,817)	Chance the program will produce	
Indirect	(\$3,350)	benefits greater than the costs	5 %
<b>Total benefits</b>	<b>(\$11,421)</b>		
<b>Net program cost</b>	<b>(\$4,814)</b>		
<b>Benefits minus cost</b>	<b>(\$16,235)</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$1,913)	(\$5,670)	(\$957)	(\$8,539)
Labor market earnings associated with high school graduation	(\$288)	(\$123)	(\$160)	\$0	(\$571)
Costs of higher education	\$42	\$28	\$13	\$14	\$96
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,407)	(\$2,407)
<b>Totals</b>	<b>(\$246)</b>	<b>(\$2,008)</b>	<b>(\$5,817)</b>	<b>(\$3,350)</b>	<b>(\$11,421)</b>

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

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

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

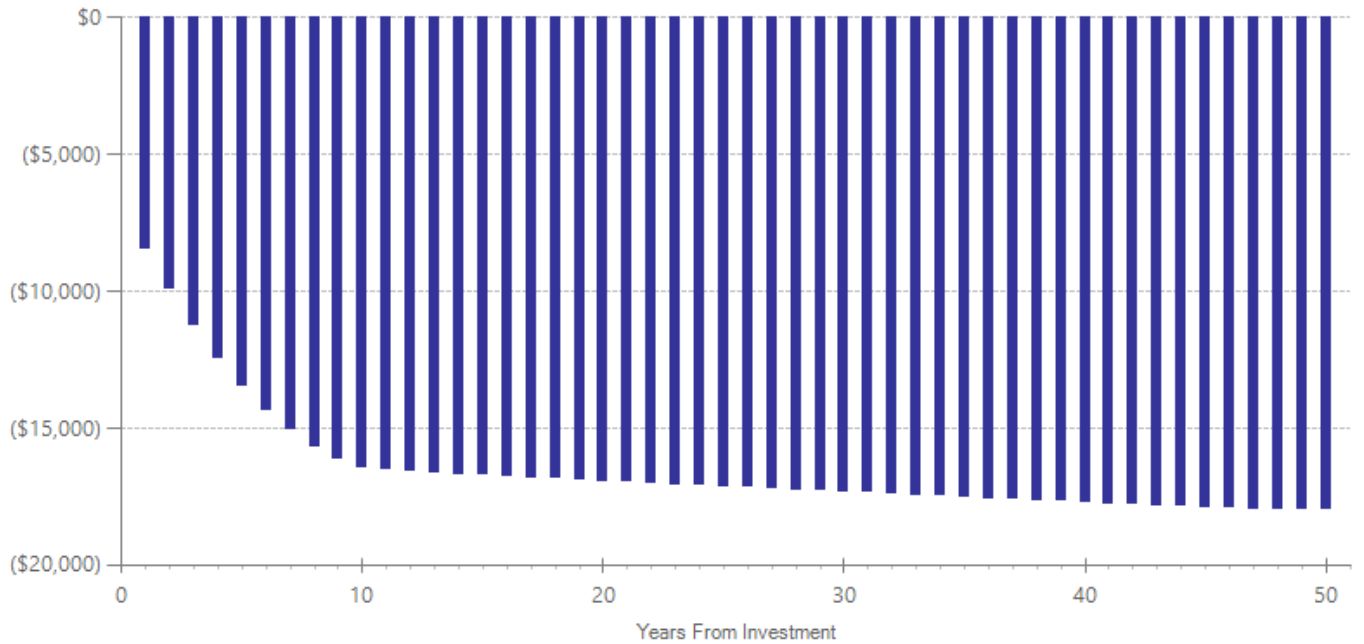
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$10,102	2015	Present value of net program costs (in 2018 dollars)	(\$4,814)
Comparison costs	\$5,515	2015	Cost range (+ or -)	50 %

We estimate per-participant program costs using WSIPP's annual marginal cost estimate for juvenile state parole to compute a monthly cost estimate (Washington State Institute for Public Policy. (December 2018). Benefit-cost technical documentation. Olympia, WA: Author). We apply the ratio of the intensive supervision caseload (23), as reported in the studies, to the traditional probation caseload (43)—as reported in Burley, M. & Barnoski, R. (1997). Washington State Juvenile Courts: Workloads and costs. Olympia: Washington State Institute for Public Policy—to the monthly marginal average cost estimate for juvenile parole. We multiply this monthly cost by the weighted average time on supervision (6.9 months) in the studies included in the analysis. The comparison cost uses the marginal cost estimate for juvenile state parole, multiplied by the weighted average time on supervision, 6.9 months.

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	Treatment age	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 <sup>^</sup>	17	1	38	-0.434	0.237	17	n/a	n/a	n/a	-0.434	0.067
Cannabis use <sup>^</sup>	17	1	38	0.601	0.239	17	n/a	n/a	n/a	0.601	0.012
Crime	17	18	2106	0.069	0.075	18	0.069	0.075	26	0.069	0.361
Employment <sup>^^</sup>	17	1	38	0.149	0.285	17	n/a	n/a	n/a	0.149	0.600
Homelessness <sup>^</sup>	17	1	152	-0.100	0.513	17	n/a	n/a	n/a	-0.100	0.845
Illicit drug use <sup>^</sup>	17	2	190	0.243	0.212	17	n/a	n/a	n/a	0.243	0.253
Technical violations <sup>^</sup>	17	4	425	0.403	0.168	18	n/a	n/a	n/a	0.403	0.016

<sup>^</sup>WSIPP’s benefit-cost model does not monetize this outcome.

<sup>^^</sup>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

- Barnoski, R. (2002). *Evaluating how Juvenile Rehabilitation Administration's intensive parole program affects recidivism*. Olympia: Washington State Institute for Public Policy.
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# Juvenile awareness programs (including Scared Straight) for court-involved youth

## Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated April 2019.

Program Description: Juvenile awareness programs (such as Scared Straight) are prison awareness programs designed to deter juvenile crime. Youth participate in organized group visits and guided tours of adult prisons and interact with prisoners who attempt to scare youth into living a life without crime. These programs are typically delivered in one to three sessions.

This analysis is on juvenile awareness programs (including Scared Straight) delivered to court-involved youth. Youth in these studies visited adult prisons in groups of ten and typically were at the prisons for three to four hours. Among included studies that report demographics, 68% of participants were youth of color and all participants were male.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	(\$4,531)	Benefit to cost ratio	(\$630.45)
Participants	(\$1,031)	Benefits minus costs	(\$17,681)
Others	(\$10,067)	Chance the program will produce	
Indirect	(\$2,023)	benefits greater than the costs	3 %
<u>Total benefits</u>	<u>(\$17,653)</u>		
<u>Net program cost</u>	<u>(\$28)</u>		
Benefits minus cost	(\$17,681)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$4,133)	(\$9,452)	(\$2,066)	(\$15,651)
Labor market earnings associated with high school graduation	(\$1,205)	(\$513)	(\$667)	\$0	(\$2,384)
Costs of higher education	\$173	\$115	\$52	\$57	\$397
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$14)	(\$14)
<b>Totals</b>	<b>(\$1,031)</b>	<b>(\$4,531)</b>	<b>(\$10,067)</b>	<b>(\$2,023)</b>	<b>(\$17,653)</b>

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

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

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

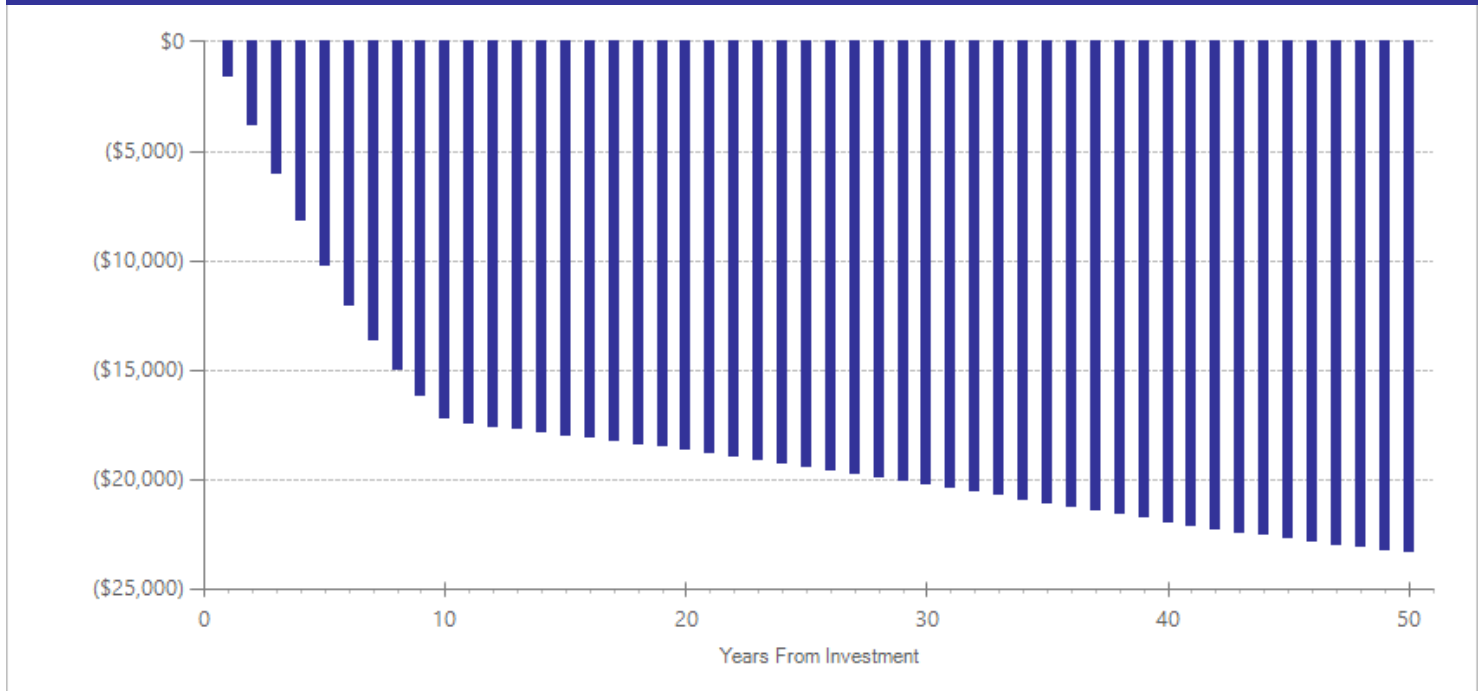
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$28	2018	Present value of net program costs (in 2018 dollars)	(\$28)
Comparison costs	\$0	2018	Cost range (+ or -)	20 %

The per-participant cost includes the wages of providers (Corrections and Custody Officers). We assume that there are ten participants in the group and that each group requires two Corrections and Custody Officers to supervise the youth. We use the average hours in the program as reported in the included studies (about four hours). We use wage information for Corrections and Custody Officers from the Office of Financial Management (<https://ofm.wa.gov/state-human-resources/compensation-job-classes/ClassifiedJobListing/SalaryRange/1222>).

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	Treatment age	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	5	296	0.228	0.121	17	0.228	0.121	25	0.228	0.061

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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# Youth Villages LifeSet (YV LifeSet) for court-involved/post-release youth Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated July 2019.

Program Description: Youth Villages LifeSet (YV LifeSet) is a transitional living program for youth aging out of state custody. This analysis is on YV LifeSet for youth released from juvenile custody. Each youth is assigned to a YV LifeSet Specialist. YV LifeSet Specialists have a caseload of eight to ten youth. The YV LifeSet Specialist meets with individuals weekly to help youth establish goals in the areas of education, employment, housing, and life skills. YV LifeSet Specialists may also refer youth to program-provided practices for mental health or substance abuse treatment. The program duration can range from a few months to over a year. More information can be found on the Youth Villages website: <https://www.youthvillages.org/yvlifeset/>.

In the included study, youth participated in YV LifeSet for an average of 215 days. Program and comparison group youth had access to usual services upon release from juvenile custody. In the included study, 48% of participants were youth of color and 48% were female.

We report a separate analysis on YV LifeSet for youth aging out of the foster system.

## Benefit-Cost Summary Statistics Per Participant

### Benefits to:

Taxpayers	(\$2,556)	Benefit to cost ratio	(\$1.41)
Participants	(\$1,275)	Benefits minus costs	(\$24,531)
Others	(\$4,443)	Chance the program will produce	
Indirect	(\$6,088)	benefits greater than the costs	2 %
<b>Total benefits</b>	<b>(\$14,362)</b>		
<b>Net program cost</b>	<b>(\$10,169)</b>		
<b>Benefits minus cost</b>	<b>(\$24,531)</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

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

### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$2,016)	(\$4,447)	(\$1,008)	(\$7,471)
Labor market earnings	(\$1,276)	(\$543)	\$0	\$0	(\$1,819)
Property loss associated with problem alcohol use	\$0	\$0	\$1	\$0	\$1
Health care associated with problem alcohol use	\$1	\$3	\$3	\$2	\$9
Mortality associated with problem alcohol	\$0	\$0	\$0	\$3	\$3
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$5,085)	(\$5,085)
<b>Totals</b>	<b>(\$1,275)</b>	<b>(\$2,556)</b>	<b>(\$4,443)</b>	<b>(\$6,088)</b>	<b>(\$14,362)</b>

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

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

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

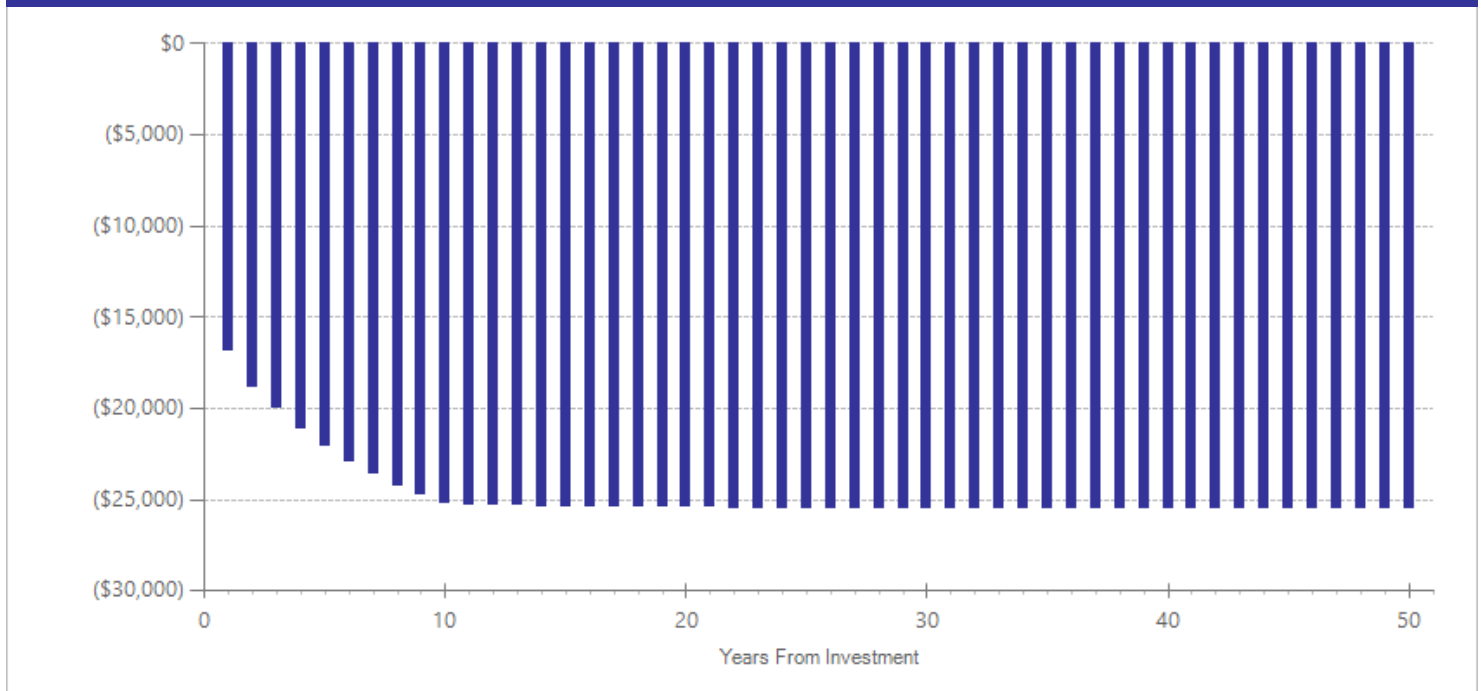
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$9,690	2015	Present value of net program costs (in 2018 dollars)	(\$10,169)
Comparison costs	\$0	2015	Cost range (+ or -)	20 %

The per-participant cost is based on information provided by Youth Villages (June 2016). The cost per day enrolled in the program ranges from \$40 to \$50. In the included study, the average youth was enrolled for 215 days. We multiply the mid-range daily rate of \$45 by the average number of days enrolled.

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	Treatment age	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	19	1	404	0.100	0.110	20	0.100	0.110	28	0.100	0.365
Earnings*	19	1	404	-0.064	0.117	20	0.000	0.014	21	-0.064	0.583
Enroll in any college <sup>^</sup>	19	1	404	-0.157	0.125	20	n/a	n/a	n/a	-0.157	0.209
Homelessness <sup>^</sup>	19	1	330	-0.161	0.086	19	n/a	n/a	n/a	-0.161	0.060
Illicit drug use <sup>^</sup>	19	1	330	-0.021	0.108	19	n/a	n/a	n/a	-0.021	0.846
Problem alcohol use	19	1	330	-0.031	0.086	19	-0.004	0.128	21	-0.031	0.720

<sup>^</sup>WSIPP's benefit-cost model does not monetize this outcome.

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

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 (ADP) (vs. simple release)

## Juvenile Justice

Literature review updated June 2019.

**Program Description:** The Adolescent Diversion Project (ADP) is a diversion program developed by researchers at Michigan State University. Diversion programs provide an alternative to formal sanctions in the juvenile justice system, aim to mitigate potential negative consequences associated with the juvenile justice system (e.g., stigmatizing youth as deviant), and maintain a youth's pro-social ties in the community. In ADP, diverted youth are matched with a volunteer caseworker who provides tailored community-based services that focus on skill building (e.g., strengthening family relationships, improving school involvement, garnering employment, or enrolling in extracurricular activities). Caseworkers spend an average of seven hours a week with their youth over 18 weeks.

This analysis compares the outcomes of ADP youth who were diverted following arrest to youth who are released into parental custody following an arrest and are not formally processed by the juvenile court system. The comparison group youth do not receive any programming following release. In the studies included that report demographic information, 33% of participants were youth of color and 16% were female.

Studies that compare ADP youth to youth formally processed in the juvenile justice system are excluded from this analysis and analyzed separately.

### Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect size and standard error			Unadjusted effect size (random effects model)	
			ES	SE	Age	ES	p-value
Crime	3	49	-1.542	0.374	15	-1.542	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

Davidson, W.S., Seidman, E., Rappaport, J., Berck, P.L., Rapp, N.A., Rhodes, W., & Herring, J. (1977). Diversion program for juvenile offenders. *Social Work Research and Abstracts*, 13 (2), 40-49.

# Aggression Replacement Training (ART) for youth in state institutions

## Juvenile Justice

Literature review updated June 2019.

**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 is a ten-week, 30-hour intervention delivered in groups of 8 to 12 participants, three times per week.

This analysis is on ART for youth in state institutions. Youth in the included study were females in a juvenile rehabilitation facility who had been assessed as having violent/aggressive behavior. In the included study, 33% of participants were youth of color. All participants in the treatment and comparison groups received treatment as usual, which included some cognitive behavioral programs or other individual/group counseling.

Evaluations on ART for juvenile justice system-involved youth in the community, including court-involved youth and post-release youth, are excluded from this analysis and analyzed separately.

### Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect size and standard error			Unadjusted effect size (random effects model)	
			ES	SE	Age	ES	p-value
Disruptive behavior disorder symptoms	1	30	-0.078	0.301	17	-0.078	0.796

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, J.A. (2013). *The efficacy of Aggression Replacement Training with female juvenile offenders in a residential commitment program* (Unpublished dissertation). Tampa: University of South Florida



# Equipping Youth to Help Each Other (EQUIP) for youth in state institutions

## Juvenile Justice

Literature review updated June 2019.

Program Description: Equipping Youth to Help Each Other (EQUIP) is a multi-component group-based treatment for youth in state institutions that aims to reduce recidivism and improve moral judgment and social skills. EQUIP uses the social skills training, anger management, and moral education components of Aggression Replacement Training (ART) in a group format known as Positive Peer Culture (PPC). In this group format, youth are encouraged to hold each other accountable and foster a “culture of change.” EQUIP is delivered in groups of eight to ten participants. Groups meet every weekday for one and half hours throughout a youth’s sentence in a juvenile facility.

This analysis is on EQUIP delivered to youth in state institutions. Youth in the included study participated in EQUIP for approximately six months. Participants were at moderate risk for recidivism. In the included study, 33% of participants were youth of color and all participants were male.

### Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect size and standard error			Unadjusted effect size (random effects model)	
			ES	SE	Age	ES	p-value
Crime	1	20	-0.740	0.378	17	-0.740	0.086

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

Leeman, L.W., Gibbs, J.C., & Fuller, D. (1993). Evaluation of a multi-component group treatment program for juvenile delinquents. *Aggressive Behavior*, 19(4), 281-292.

# Functional Family Therapy (FFT) for post-release youth convicted of a sex offense

## Juvenile Justice

Literature review updated July 2019.

**Program Description:** This analysis compares Functional Family Therapy (FFT) to treatment as usual for youth released from juvenile rehabilitation facilities who have committed sexual offenses. 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 sessions are conducted primarily in the home of the participant's family. FFT was not modified or adapted to address the specific needs of youth who have committed sexual offenses.

All participants were youth convicted of sex offenses being released from juvenile rehabilitation facilities after serving their sentence. FFT participants received 12-16 therapy sessions over 11 months, on average. Youth in the comparison group received treatment as usual for juvenile sex offenders (TAU-JSO), which consisted of weekly or bi-weekly individual and/or group therapy sessions over 22 months. In the included study, 28% of participants were youth of color and 3% were female. Youth were classified as low or moderate risk per scores on a validated recidivism risk instrument.

Evaluations of FFT for court-involved and post-release youth convicted of non-sexual offenses are excluded from this analysis and analyzed separately.

Meta-Analysis of Program Effects							
Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect size and standard error			Unadjusted effect size (random effects model)	
			ES	SE	Age	ES	p-value
Crime	1	41	0.588	0.394	16	0.588	0.136
Sex offense	1	41	0.000	0.383	16	0.000	1.000

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

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

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

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

## Citations Used in the Meta-Analysis

Erickson, C.J. (2008). The effectiveness of functional family therapy in the treatment of juvenile sexual offenders. *Dissertation Abstracts International*, 69-10 (B), 6409, 208.

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Printed on 04-08-2020



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