

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

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

### Boot camps Juvenile Justice

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

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

#### Benefit-Cost Summary Statistics Per Participant

##### Benefits to:

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

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$2,658	\$8,532	\$1,330	\$12,520
Labor market earnings associated with high school graduation	\$426	\$193	\$195	\$0	\$813
Health care associated with educational attainment	(\$13)	\$46	(\$50)	\$23	\$6
Costs of higher education	(\$33)	(\$22)	(\$10)	(\$11)	(\$75)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$21,394	\$21,394
<b>Totals</b>	<b>\$380</b>	<b>\$2,875</b>	<b>\$8,666</b>	<b>\$22,736</b>	<b>\$34,658</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.

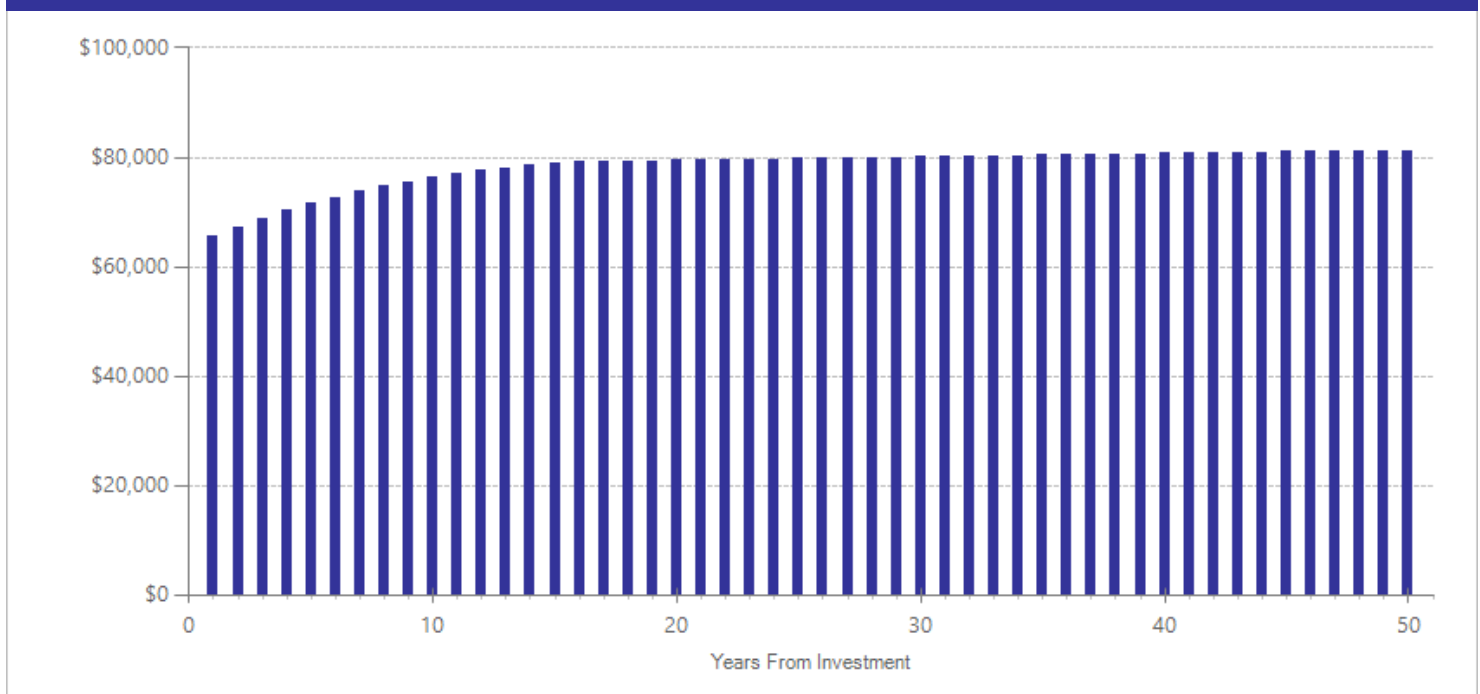
## Detailed Annual Cost Estimates Per Participant

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

Per-participant cost estimate provided by the Washington State Department of Corrections.

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

## Detailed Annual Cost Estimates Per Participant



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

Meta-Analysis of Program Effects										
Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	2	703	-0.092	0.085	20	-0.092	0.085	30	-0.092	0.284

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

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

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

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

## Citations Used in the Meta-Analysis

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

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

# Functional Family Therapy (youth in state institutions)

## Juvenile Justice

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

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, which can be done in a variety of settings (e.g., clinic, home, school, institutions). The five major components of FFT include engagement, motivation, identifying patterns of interaction within the family, behavior change, and generalizing positive interactions into new situations. Trained FFT therapists have a caseload of 10 to 12 families and the intervention involves 12 to 14 visits over a three to five month period.

In our analysis, we only include effect sizes from programs that were delivered competently and with fidelity to the program model.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$9,813	Benefit to cost ratio	\$12.60
Participants	\$1,377	Benefits minus costs	\$40,229
Others	\$29,693	Chance the program will produce	
Indirect	\$2,813	benefits greater than the costs	99 %
<b>Total benefits</b>	<b>\$43,696</b>		
<b>Net program cost</b>	<b>(\$3,467)</b>		
<b>Benefits minus cost</b>	<b>\$40,229</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$9,026	\$29,204	\$4,503	\$42,733
Labor market earnings associated with high school graduation	\$1,540	\$700	\$705	\$0	\$2,945
Health care associated with educational attainment	(\$45)	\$166	(\$182)	\$83	\$22
Costs of higher education	(\$118)	(\$78)	(\$35)	(\$39)	(\$271)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,734)	(\$1,734)
<b>Totals</b>	<b>\$1,377</b>	<b>\$9,813</b>	<b>\$29,693</b>	<b>\$2,813</b>	<b>\$43,696</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.

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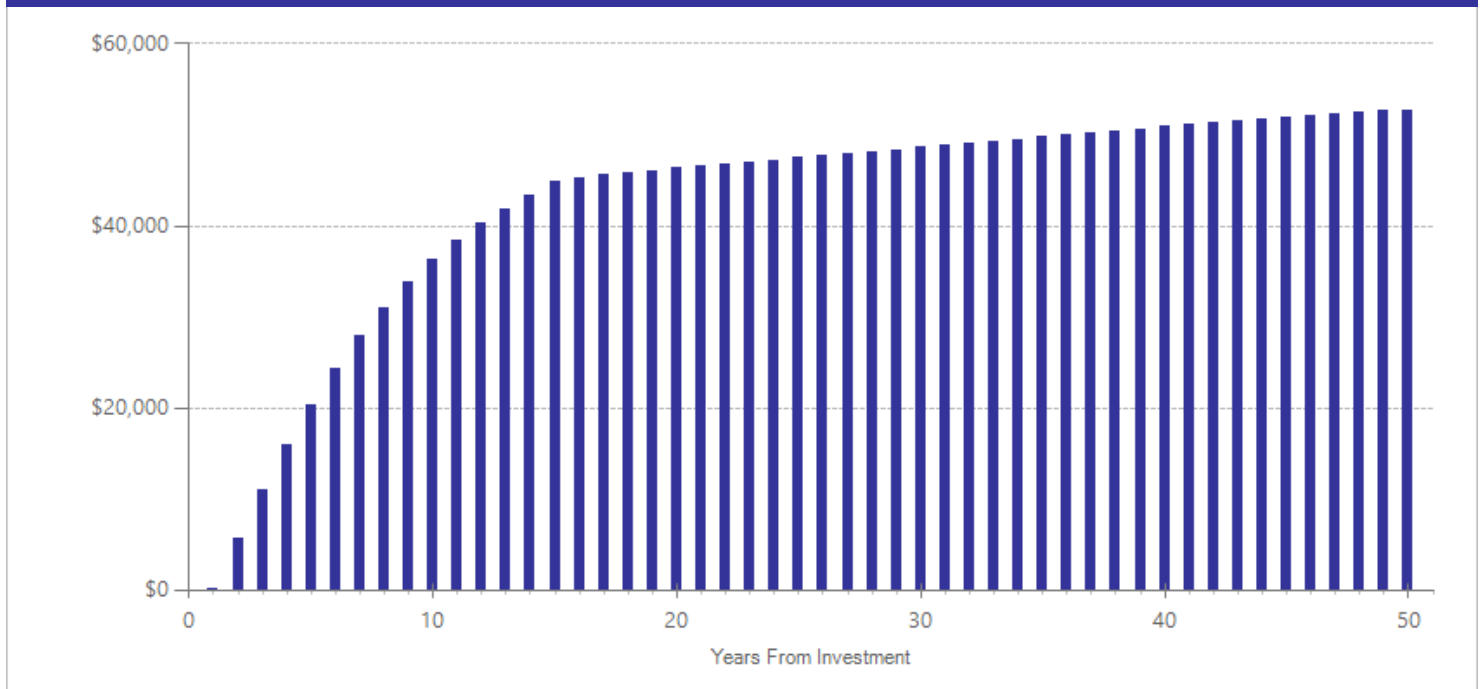
## Detailed Annual Cost Estimates Per Participant

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

The per-participant costs, based on three months, are from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. No. 09-12-1201). Olympia: Washington State Institute for Public Policy.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	8	681	-0.261	0.096	19	-0.261	0.096	29	-0.585	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

- Alexander, J.F., & Parsons, B.V. (1973). Short-term behavioral intervention with delinquent families: Impact on family process and recidivism. *Journal of Abnormal Psychology, 81*(3), 219-225.
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- 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.
- Hansson, K. (1998). *Functional Family Therapy Replication in Sweden: Treatment Outcome with Juvenile Delinquents*. Paper presented to the Eighth International Conference on treating addictive behaviors. Santa Fe, NM, February 1998, as reported in: Alexander, J., Barton, C., Gordon, D., Grotzinger, J., Hansson, K., Harrison, R., Mears, S., Mihalic, S., Parsons, B., Pugh, C., Schulman, S., Waldron, H., and Sexton, T. (1998). *Blueprints for Violence Prevention, Book Three: Functional Family Therapy*. Boulder, CO: Center for the Study and Prevention of Violence.
- Klein, N.C., Alexander, J.F., & Parsons, B.V. (1977). Impact of family systems intervention on recidivism and sibling delinquency: A model of primary prevention and program evaluation. *Journal of Consulting and Clinical Psychology, 45*(3), 469-474.
- Sexton, T., & Turner, C.W. (2010). The effectiveness of Functional Family Therapy for youth with behavioral problems in a community practice setting. *Journal of Family Psychology, 24*(3), 339-348.

# Parenting with Love and Limits

## Juvenile Justice

Benefit-cost estimates updated May 2017. Literature review updated June 2016.

Program Description: Parenting with Love and Limits (PLL) is a therapeutic model for families of children with behavioral diagnoses and co-occurring disorders such as substance abuse and delinquency. The PLL model has been adapted as a juvenile offender diversion and aftercare treatment. In this analysis, the diversion model consists of parent training group classes that cover various parenting and family therapy modules typically over 20 one- to two-hour sessions with a therapist. The aftercare model consists of individual therapy before a juvenile offender is released, parent training sessions, and family therapy once the juvenile offender is released.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$9,779	Benefit to cost ratio	\$22.91
Participants	\$2,015	Benefits minus costs	\$37,352
Others	\$23,697	Chance the program will produce	
Indirect	\$3,567	benefits greater than the costs	98 %
<u>Total benefits</u>	<u>\$39,057</u>		
<u>Net program cost</u>	<u>(\$1,705)</u>		
Benefits minus cost	\$37,352		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$8,528	\$22,549	\$4,278	\$35,354
Labor market earnings associated with high school graduation	\$2,120	\$963	\$978	\$0	\$4,061
K-12 special education	\$0	\$219	\$0	\$110	\$329
Health care associated with disruptive behavior disorder	\$58	\$177	\$219	\$89	\$543
Costs of higher education	(\$163)	(\$108)	(\$49)	(\$54)	(\$375)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$855)	(\$855)
<b>Totals</b>	<b>\$2,015</b>	<b>\$9,779</b>	<b>\$23,697</b>	<b>\$3,567</b>	<b>\$39,057</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.

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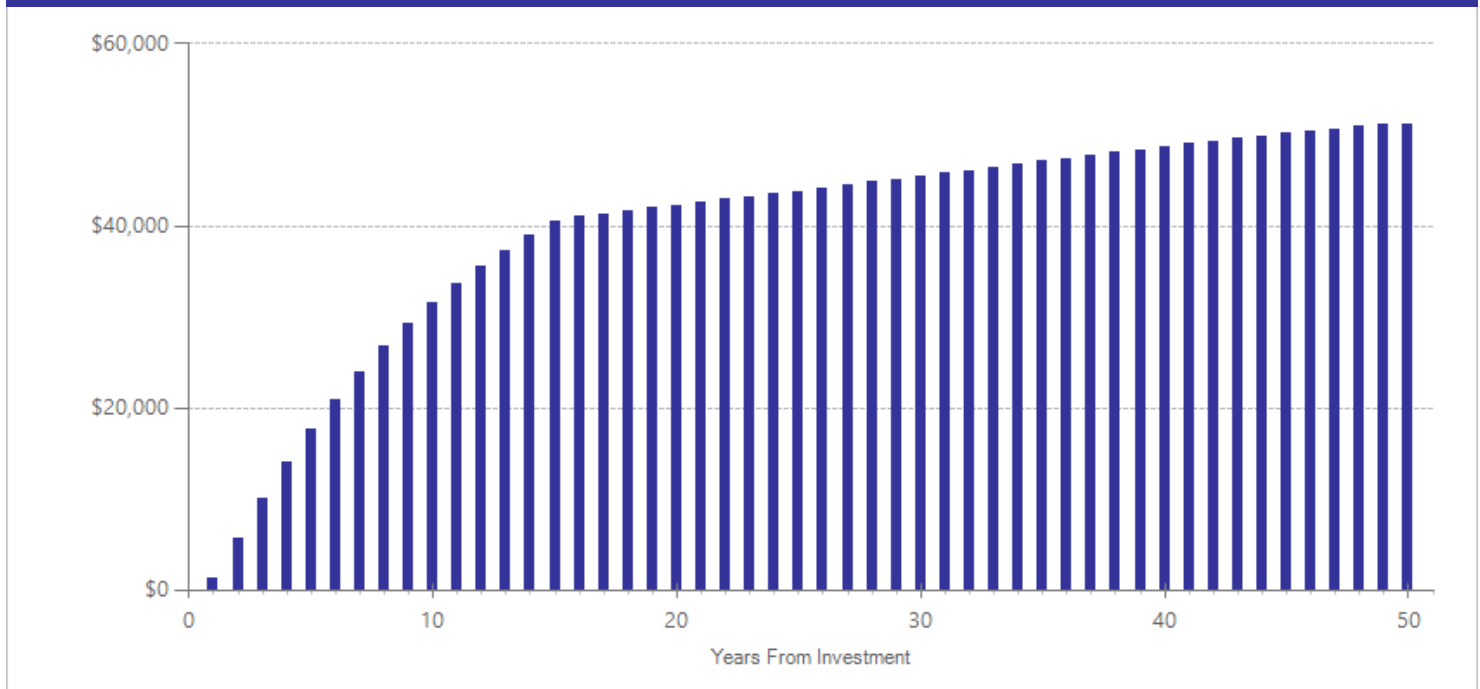
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,682	2014	Present value of net program costs (in 2016 dollars)	(\$1,705)
Comparison costs	\$0	2014	Cost range (+ or -)	10 %

The per-participant cost estimate, based on 20 sessions, was retrieved from SAMHSA's national registry of evidence-based programs and practices and includes the cost of program materials and activities per family.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	3	327	-0.291	0.118	18	-0.291	0.118	28	-0.363	0.021
Externalizing behavior symptoms	1	19	-0.208	0.325	17	-0.099	0.173	20	-0.724	0.031

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



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

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

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

## Citations Used in the Meta-Analysis

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.

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.

# Education and Employment Training (EET, King County)

## Juvenile Justice

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

Program Description: Education and Employment Training is a program for juveniles at moderate-to high-risk of re-offense. The program focuses on three domains: employment, school engagement, and use of free time. For youth in school, the program provides job readiness training and connects youth with jobs. The county pays the minimum wage for up to 20 hours per week—up to a total of 150 hours. Youth not in school must re-engage in school or get a General Equivalence Diploma (GED). The program provides assistance to prepare for the GED.

### Benefit-Cost Summary Statistics Per Participant

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

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$8,058	\$21,215	\$4,032	\$33,305
Labor market earnings associated with high school graduation	\$1,888	\$857	\$869	\$0	\$3,614
Health care associated with educational attainment	(\$56)	\$204	(\$223)	\$102	\$27
Costs of higher education	(\$145)	(\$96)	(\$43)	(\$48)	(\$332)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$433)	(\$433)
<b>Totals</b>	<b>\$1,687</b>	<b>\$9,023</b>	<b>\$21,817</b>	<b>\$3,654</b>	<b>\$36,180</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.

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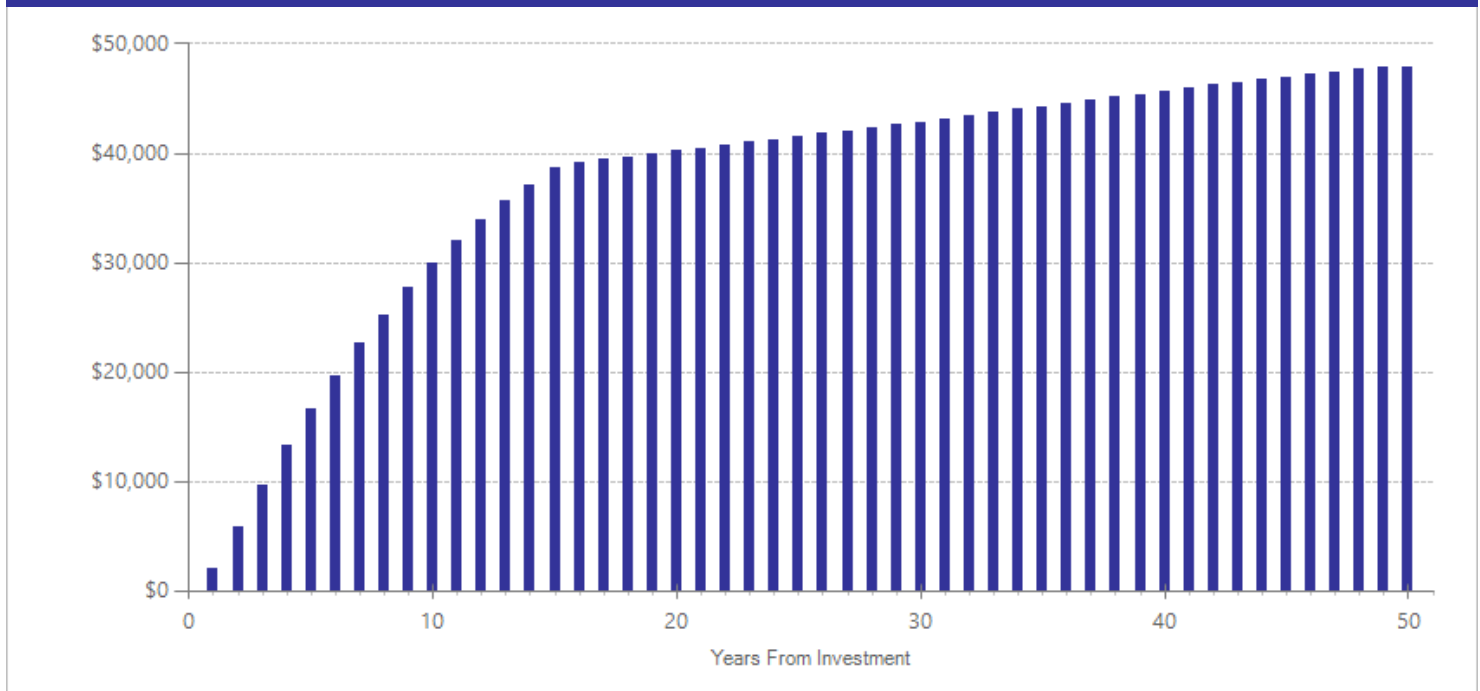
## Detailed Annual Cost Estimates Per Participant

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

The per-participant cost, based on an average of 6.3 months, is 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	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	1	266	-0.292	0.106	19	-0.292	0.106	29	-0.282	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.

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## Citations Used in the Meta-Analysis

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# Functional Family Therapy (youth on probation)

## Juvenile Justice

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

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, which can be done in a variety of settings (e.g., clinic, home, school, institutions). The five major components of FFT include engagement, motivation, identifying patterns of interaction within the family, behavior change, and generalizing positive interactions into new situations. Trained FFT therapists have a caseload of 10 to 12 families and the intervention involves 12 to 14 visits over a three to five month period.

In our analysis, we only include effect sizes from programs that were delivered competently and with fidelity to the program model.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$8,017	Benefit to cost ratio	\$8.87
Participants	\$1,507	Benefits minus costs	\$27,322
Others	\$19,378	Chance the program will produce	
Indirect	\$1,890	benefits greater than the costs	99 %
<b>Total benefits</b>	<b>\$30,792</b>		
<b>Net program cost</b>	<b>(\$3,470)</b>		
<b>Benefits minus cost</b>	<b>\$27,322</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

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

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$7,155	\$18,843	\$3,580	\$29,578
Labor market earnings associated with high school graduation	\$1,685	\$765	\$772	\$0	\$3,222
Health care associated with educational attainment	(\$50)	\$181	(\$199)	\$91	\$24
Costs of higher education	(\$128)	(\$85)	(\$38)	(\$43)	(\$294)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,739)	(\$1,739)
<b>Totals</b>	<b>\$1,507</b>	<b>\$8,017</b>	<b>\$19,378</b>	<b>\$1,890</b>	<b>\$30,792</b>

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

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

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

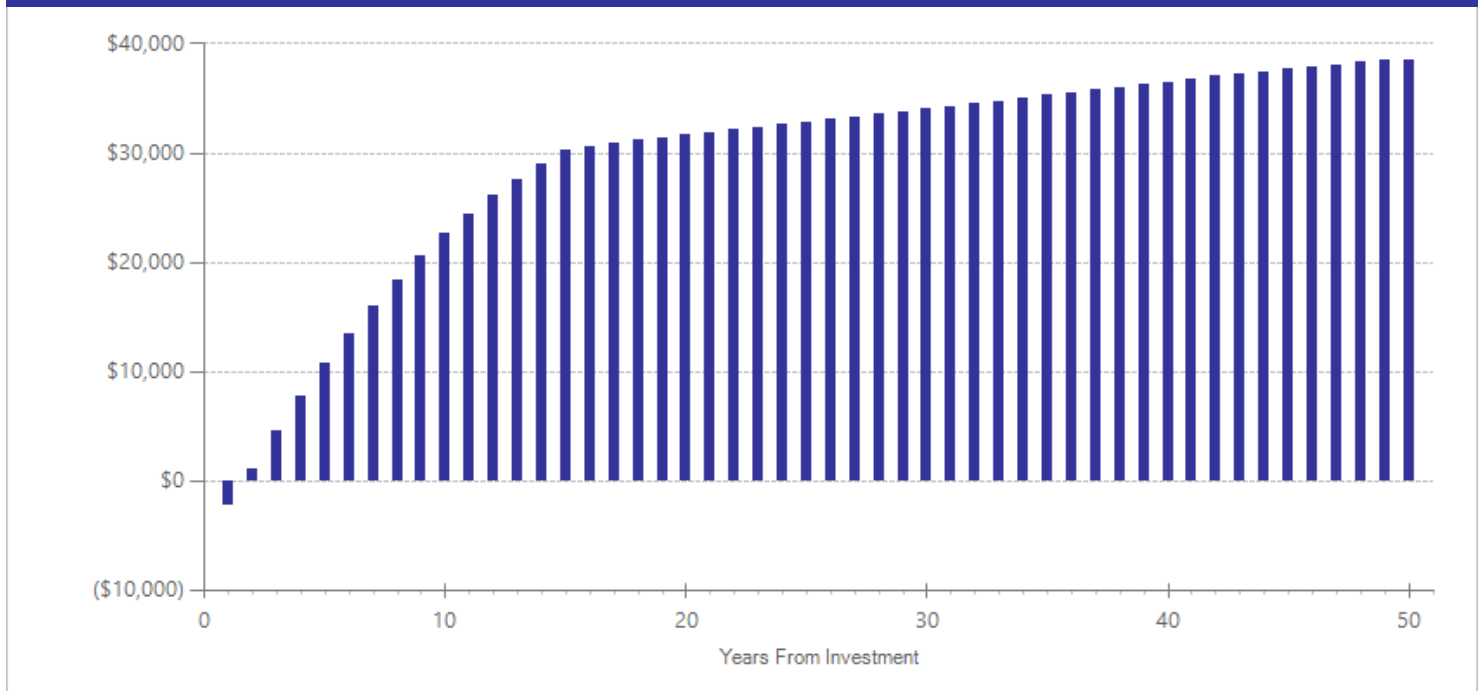
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,134	2008	Present value of net program costs (in 2016 dollars)	(\$3,470)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant costs, based on three months, are from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. No. 09-12-1201). Olympia: Washington State Institute for Public Policy.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	8	681	-0.261	0.096	19	-0.261	0.096	29	-0.585	0.001

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

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

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

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

## Citations Used in the Meta-Analysis

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# Aggression Replacement Training (youth in state institutions)

## Juvenile Justice

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

Program Description: Aggression Replacement Training® (ART®) is a cognitive behavioral intervention that specifically 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 eight to 12 participants, three times per week.

In our analysis, we only include effect sizes from programs that were delivered competently and with fidelity to the program model.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$4,816	Benefit to cost ratio	\$14.26
Participants	\$813	Benefits minus costs	\$21,266
Others	\$15,845	Chance the program will produce	
Indirect	\$1,396	benefits greater than the costs	93 %
<b>Total benefits</b>	<b>\$22,870</b>		
<b>Net program cost</b>	<b>(\$1,604)</b>		
<b>Benefits minus cost</b>	<b>\$21,266</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$4,350	\$15,554	\$2,168	\$22,072
Labor market earnings associated with high school graduation	\$909	\$413	\$418	\$0	\$1,740
Health care associated with educational attainment	(\$27)	\$99	(\$108)	\$49	\$13
Costs of higher education	(\$68)	(\$45)	(\$20)	(\$22)	(\$156)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$799)	(\$799)
<b>Totals</b>	<b>\$813</b>	<b>\$4,816</b>	<b>\$15,845</b>	<b>\$1,396</b>	<b>\$22,870</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.



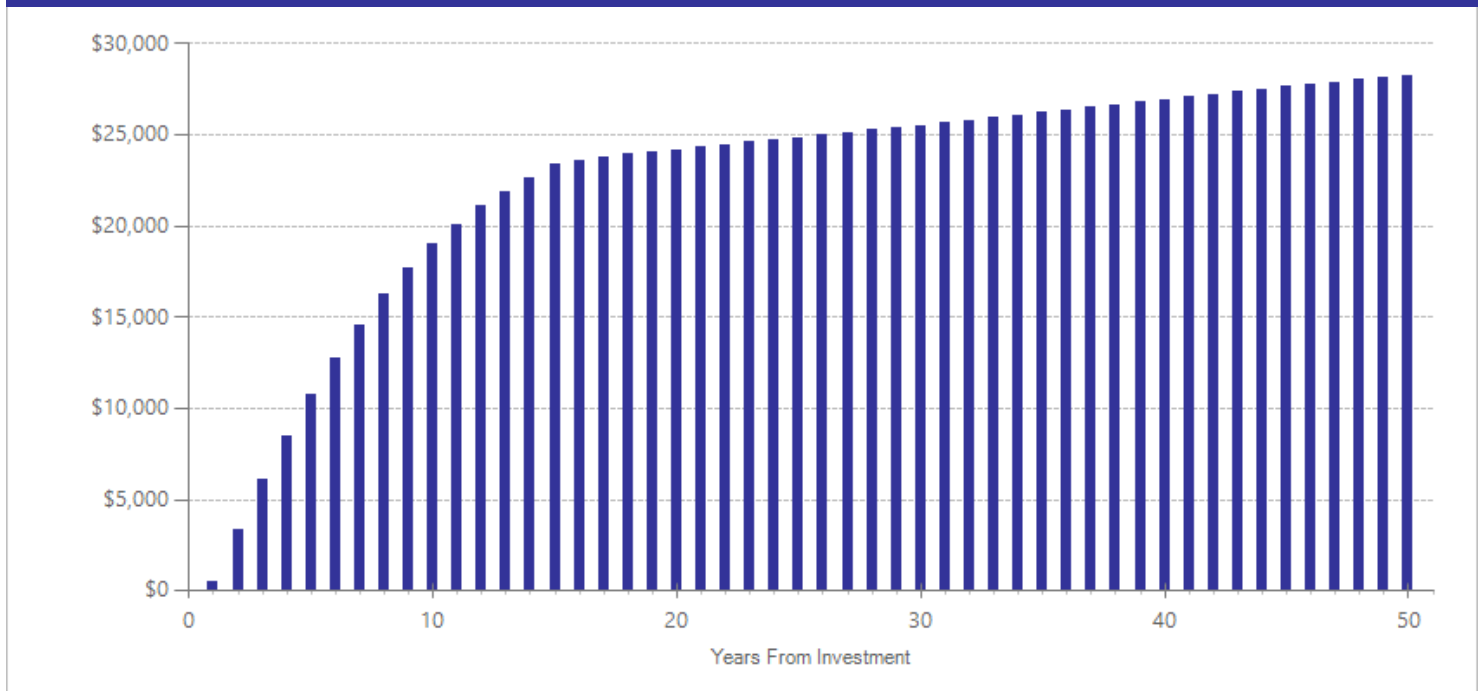
## Detailed Annual Cost Estimates Per Participant

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

The per-participant costs, based on ten weeks, are from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. No. 09-12-1201). Olympia: Washington State Institute for Public Policy.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	4	579	-0.144	0.088	17	-0.144	0.088	27	-0.513	0.059

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.
- Gibbs, J.C. (1995). EQUIP: A peer-group treatment program for delinquents. In R. R. Ross, D. H. Antonowicz, & G. K. Dhaliwal (Eds.), *Going straight: Effective delinquency prevention & offender rehabilitation* (pp. 179-192). Ottawa, Ontario, Canada: AIR Training Publications.
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# Wilderness experience programs

## Juvenile Justice

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

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

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$8,367	Benefit to cost ratio	\$4.24
Participants	\$2,598	Benefits minus costs	\$20,946
Others	\$16,146	Chance the program will produce	
Indirect	\$298	benefits greater than the costs	100 %
<b>Total benefits</b>	<b>\$27,408</b>		
<b>Net program cost</b>	<b>(\$6,462)</b>		
<b>Benefits minus cost</b>	<b>\$20,946</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$6,882	\$15,216	\$3,425	\$25,523
Labor market earnings associated with high school graduation	\$2,900	\$1,317	\$1,336	\$0	\$5,552
Health care associated with educational attainment	(\$85)	\$312	(\$341)	\$155	\$40
Costs of higher education	(\$216)	(\$144)	(\$65)	(\$71)	(\$496)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,211)	(\$3,211)
<b>Totals</b>	<b>\$2,598</b>	<b>\$8,367</b>	<b>\$16,146</b>	<b>\$298</b>	<b>\$27,408</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.

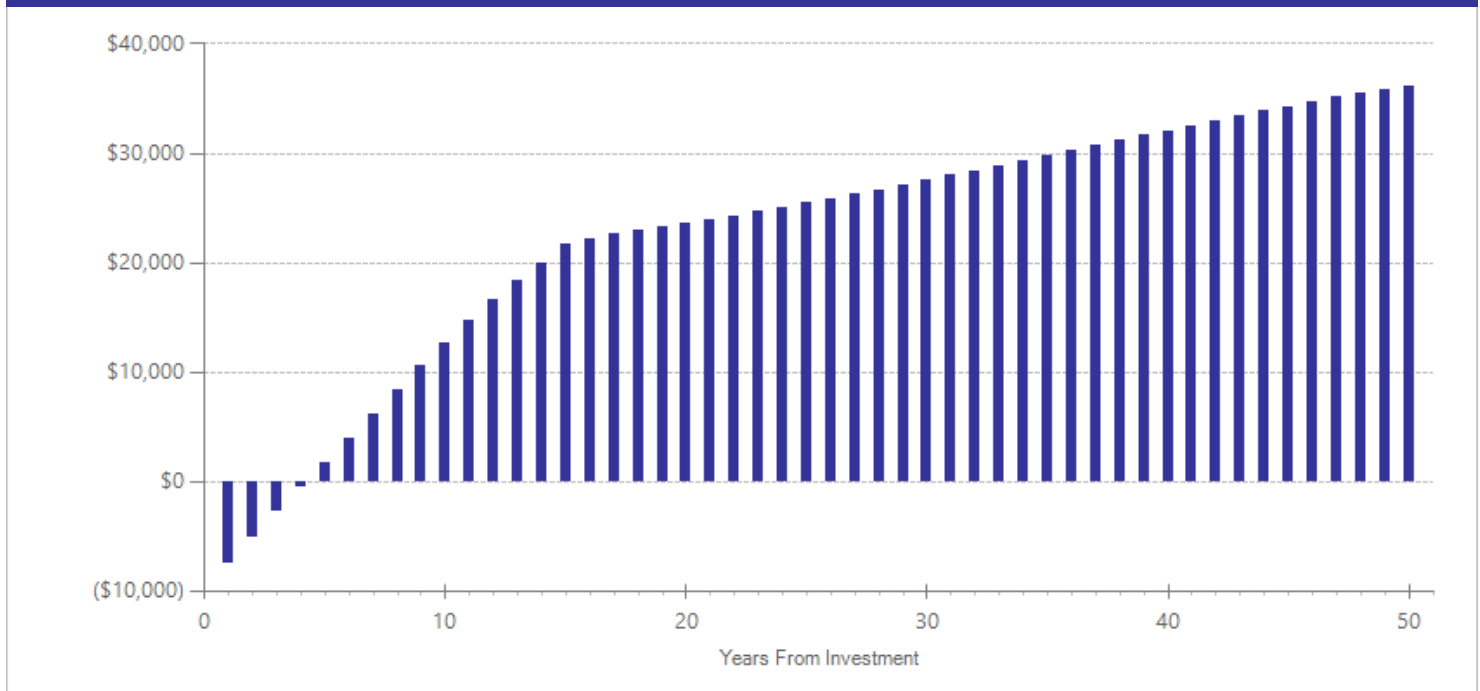
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$6,389	2015	Present value of net program costs (in 2016 dollars)	(\$6,462)
Comparison costs	\$0	2015	Cost range (+ or -)	10 %

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	9	536	-0.457	0.090	17	-0.457	0.090	27	-0.509	0.001

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

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

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

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

## Citations Used in the Meta-Analysis

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## Family Integrated Transitions (youth in state institutions)

### Juvenile Justice

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

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

#### Benefit-Cost Summary Statistics Per Participant

##### Benefits to:

Taxpayers	\$7,132	Benefit to cost ratio	\$2.43
Participants	\$1,198	Benefits minus costs	\$17,096
Others	\$23,454	Chance the program will produce	
Indirect	(\$2,740)	benefits greater than the costs	75 %
<b>Total benefits</b>	<b>\$29,044</b>		
<b>Net program cost</b>	<b>(\$11,948)</b>		
<b>Benefits minus cost</b>	<b>\$17,096</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

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

##### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$6,447	\$23,027	\$3,229	\$32,704
Labor market earnings associated with high school graduation	\$1,336	\$607	\$613	\$0	\$2,557
Health care associated with educational attainment	(\$39)	\$144	(\$157)	\$72	\$19
Costs of higher education	(\$99)	(\$66)	(\$30)	(\$33)	(\$228)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$6,009)	(\$6,009)
<b>Totals</b>	<b>\$1,198</b>	<b>\$7,132</b>	<b>\$23,454</b>	<b>(\$2,740)</b>	<b>\$29,044</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.

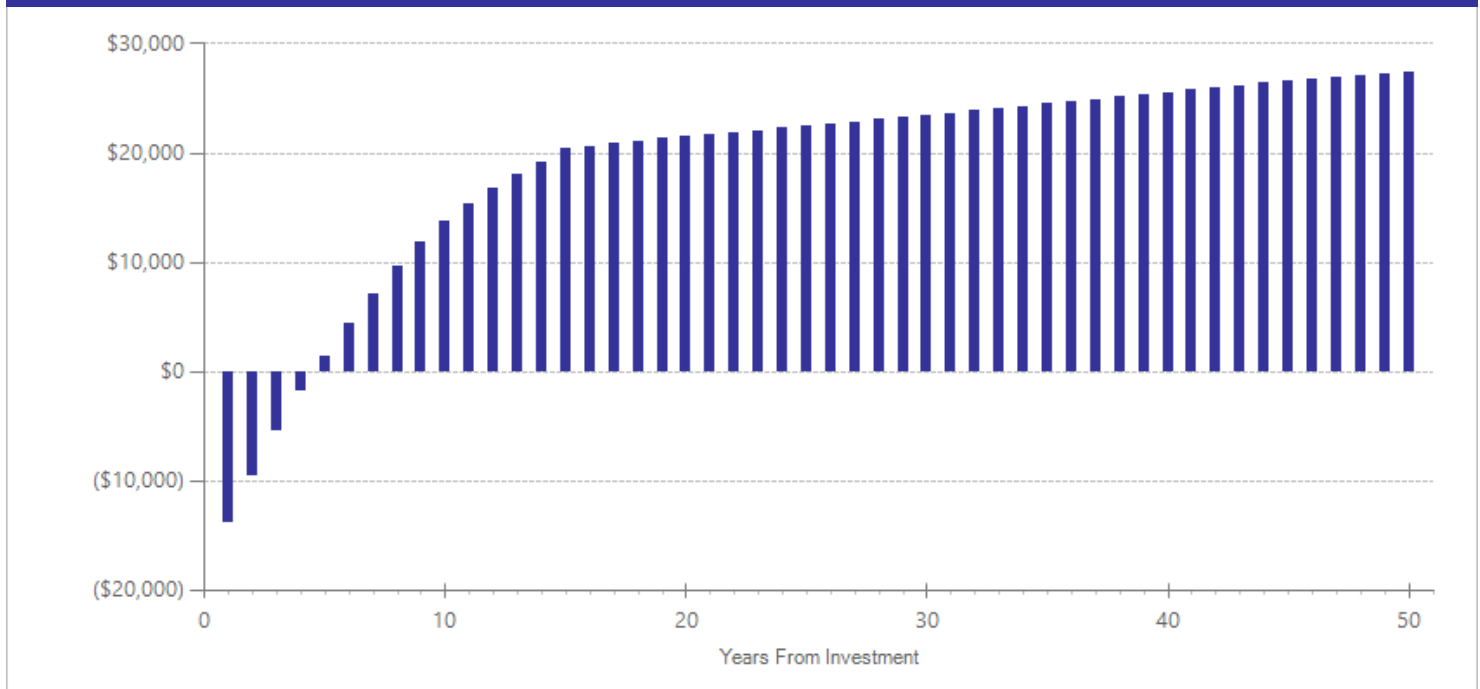
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$10,795	2008	Present value of net program costs (in 2016 dollars)	(\$11,948)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant costs, based on five months in the program, are from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. No. 09-12-1201). Olympia: Washington State Institute for Public Policy.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	1	105	-0.207	0.152	17	-0.207	0.152	27	-0.207	0.174

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

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

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

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

## Citations Used in the Meta-Analysis

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



# Aggression Replacement Training (youth on probation)

## Juvenile Justice

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

Program Description: Aggression Replacement Training® (ART®) is a cognitive behavioral intervention that specifically 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 eight to 12 participants, three times per week.

In our analysis, we only include effect sizes from programs that were delivered competently and with fidelity to the program model.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$4,181	Benefit to cost ratio	\$10.58
Participants	\$988	Benefits minus costs	\$15,347
Others	\$10,740	Chance the program will produce	
Indirect	\$1,040	benefits greater than the costs	92 %
<b>Total benefits</b>	<b>\$16,949</b>		
<b>Net program cost</b>	<b>(\$1,603)</b>		
<b>Benefits minus cost</b>	<b>\$15,347</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$3,616	\$10,389	\$1,812	\$15,817
Labor market earnings associated with high school graduation	\$1,104	\$501	\$506	\$0	\$2,111
Health care associated with educational attainment	(\$33)	\$119	(\$130)	\$60	\$16
Costs of higher education	(\$83)	(\$55)	(\$25)	(\$28)	(\$191)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$803)	(\$803)
<b>Totals</b>	<b>\$988</b>	<b>\$4,181</b>	<b>\$10,740</b>	<b>\$1,040</b>	<b>\$16,949</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.

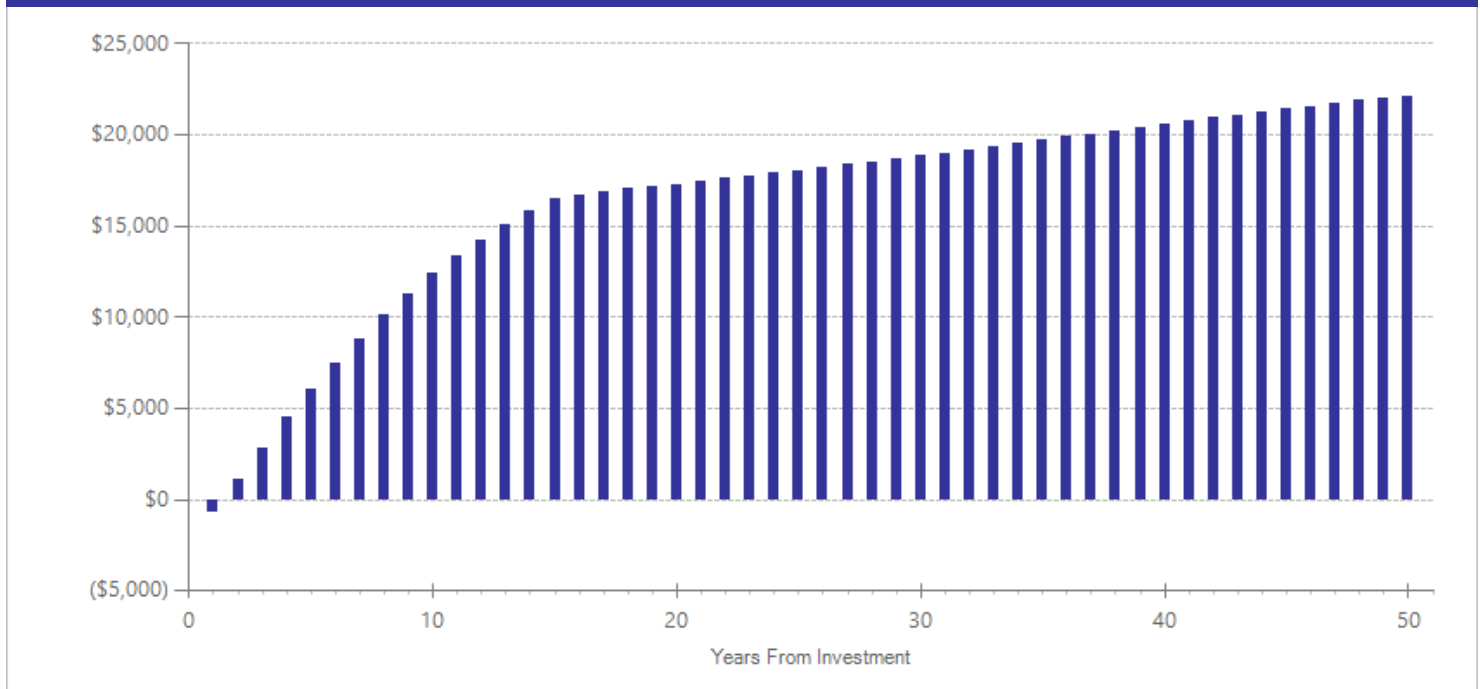
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,449	2008	Present value of net program costs (in 2016 dollars)	(\$1,603)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant costs, based on ten weeks, are from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. No. 09-12-1201). Olympia: Washington State Institute for Public Policy.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	4	579	-0.144	0.088	17	-0.144	0.088	27	-0.513	0.059

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

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

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

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

## Citations Used in the Meta-Analysis

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# Therapeutic communities for juveniles with substance use disorder

## Juvenile Justice

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

Program Description: Therapeutic communities are the most intensive form of substance use disorder treatment. These residential living units are highly structured using a hierarchical model among peers within the community. Youth gain responsibility as they progress through the stages of long-term treatment. Depending on the level of dependency and the program, therapeutic communities can range from five to ten months.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$4,529	Benefit to cost ratio	\$4.10
Participants	\$767	Benefits minus costs	\$14,623
Others	\$14,332	Chance the program will produce	
Indirect	(\$288)	benefits greater than the costs	83 %
<b>Total benefits</b>	<b>\$19,340</b>		
<b>Net program cost</b>	<b>(\$4,717)</b>		
<b>Benefits minus cost</b>	<b>\$14,623</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$4,149	\$13,914	\$2,062	\$20,125
Labor market earnings associated with high school graduation	\$810	\$368	\$372	\$0	\$1,550
Health care associated with smoking	\$17	\$52	\$65	\$25	\$159
Costs of higher education	(\$61)	(\$40)	(\$18)	(\$20)	(\$139)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,355)	(\$2,355)
<b>Totals</b>	<b>\$767</b>	<b>\$4,529</b>	<b>\$14,332</b>	<b>(\$288)</b>	<b>\$19,340</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.

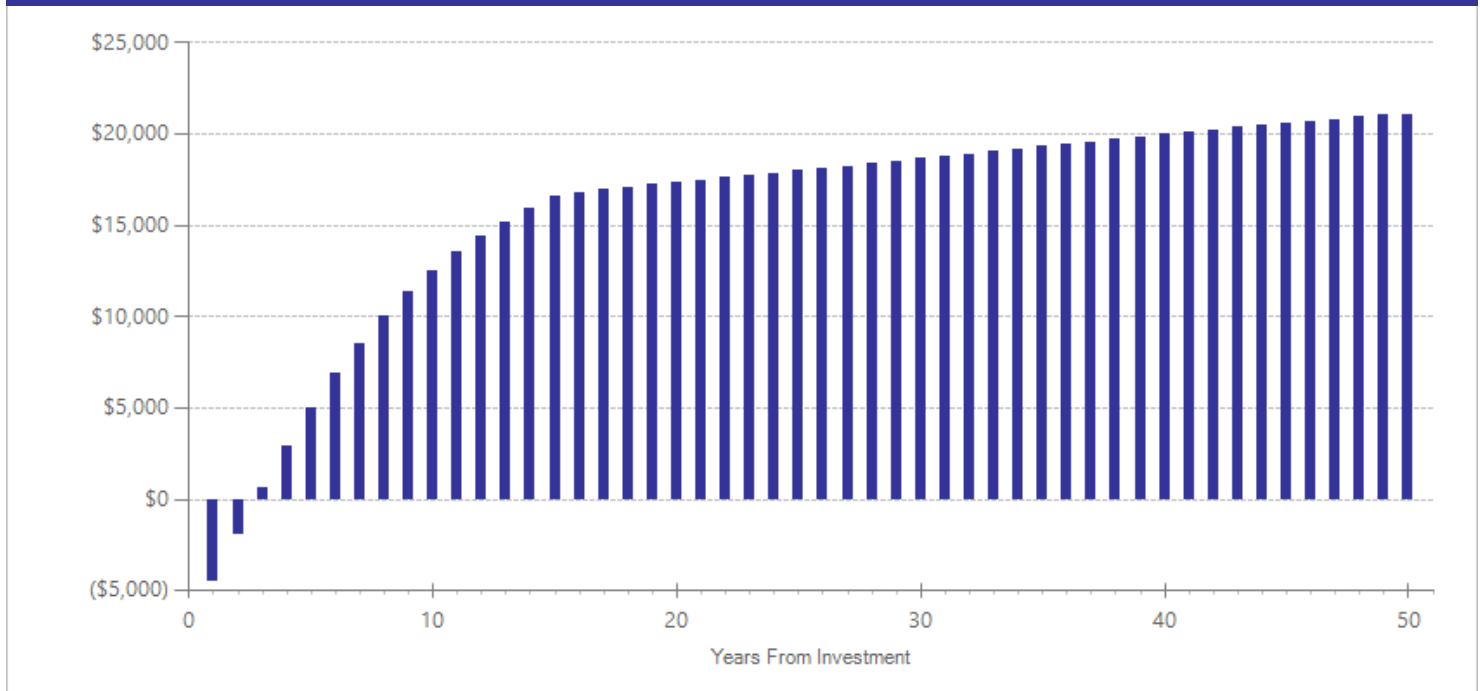
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$4,522	2012	Present value of net program costs (in 2016 dollars)	(\$4,717)
Comparison costs	\$0	2012	Cost range (+ or -)	10 %

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	3	1009	-0.129	0.087	18	-0.129	0.087	28	-0.129	0.137
Smoking in high school	2	320	-0.050	0.250	18	-0.050	0.250	28	-0.050	0.842

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)

## Juvenile Justice

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

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

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

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$3,672	Benefit to cost ratio	\$37.87
Participants	\$805	Benefits minus costs	\$14,562
Others	\$9,044	Chance the program will produce	
Indirect	\$1,436	benefits greater than the costs	94 %
<b>Total benefits</b>	<b>\$14,957</b>		
<b>Net program cost</b>	<b>(\$395)</b>		
<b>Benefits minus cost</b>	<b>\$14,562</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$3,212	\$8,757	\$1,608	\$13,576
Labor market earnings associated with high school graduation	\$899	\$408	\$414	\$0	\$1,721
Health care associated with educational attainment	(\$27)	\$97	(\$106)	\$49	\$13
Costs of higher education	(\$68)	(\$45)	(\$20)	(\$23)	(\$156)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$198)	(\$198)
<b>Totals</b>	<b>\$805</b>	<b>\$3,672</b>	<b>\$9,044</b>	<b>\$1,436</b>	<b>\$14,957</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.

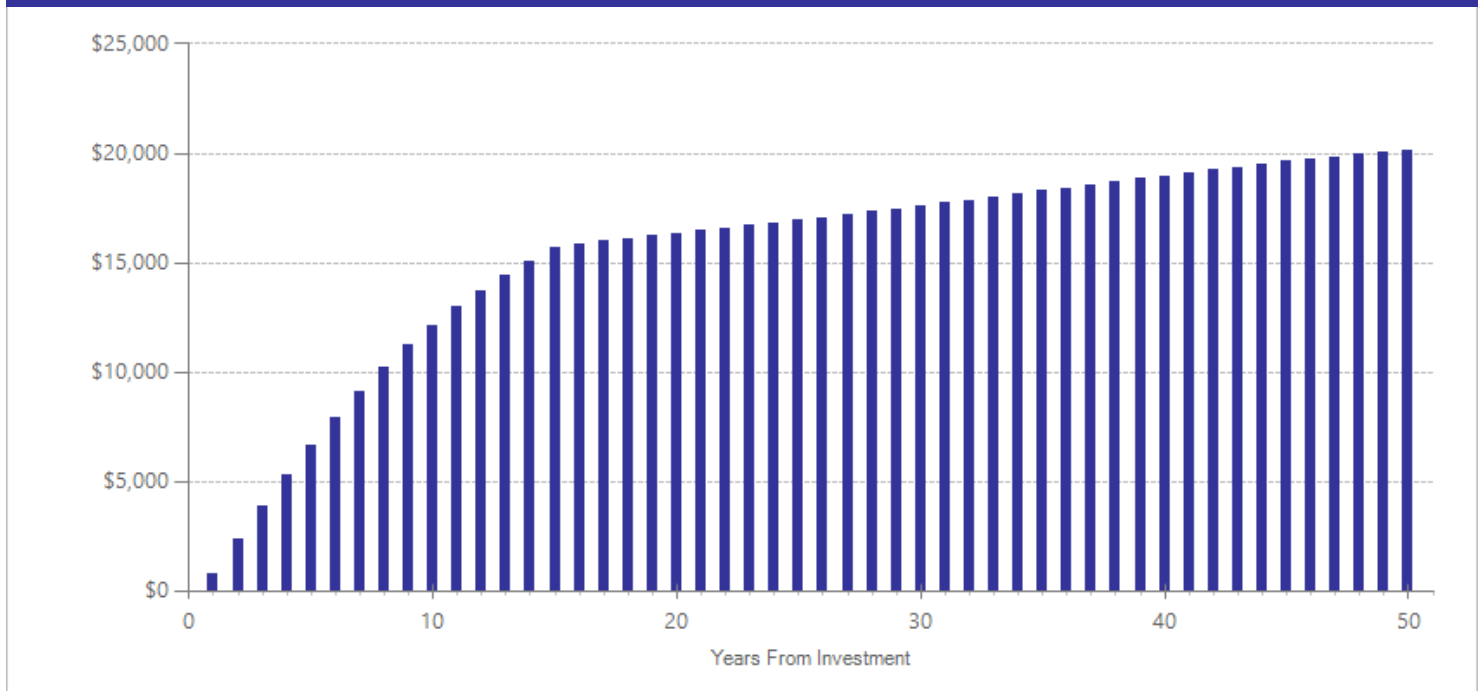
## Detailed Annual Cost Estimates Per Participant

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

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	8	2114	-0.122	0.077	18	-0.122	0.077	28	-0.122	0.110

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



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

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

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

## Citations Used in the Meta-Analysis

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## Other family-based therapies (non-name brand)

### Juvenile Justice

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

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

#### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$3,675	Benefit to cost ratio	\$8.36
Participants	\$926	Benefits minus costs	\$13,333
Others	\$9,844	Chance the program will produce	
Indirect	\$701	benefits greater than the costs	96 %
<b>Total benefits</b>	<b>\$15,145</b>		
<b>Net program cost</b>	<b>(\$1,812)</b>		
<b>Benefits minus cost</b>	<b>\$13,333</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$3,145	\$9,511	\$1,575	\$14,232
Labor market earnings associated with high school graduation	\$1,031	\$468	\$476	\$0	\$1,975
Health care associated with educational attainment	(\$30)	\$111	(\$121)	\$56	\$15
Costs of higher education	(\$75)	(\$50)	(\$22)	(\$25)	(\$172)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$905)	(\$905)
<b>Totals</b>	<b>\$926</b>	<b>\$3,675</b>	<b>\$9,844</b>	<b>\$701</b>	<b>\$15,145</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.

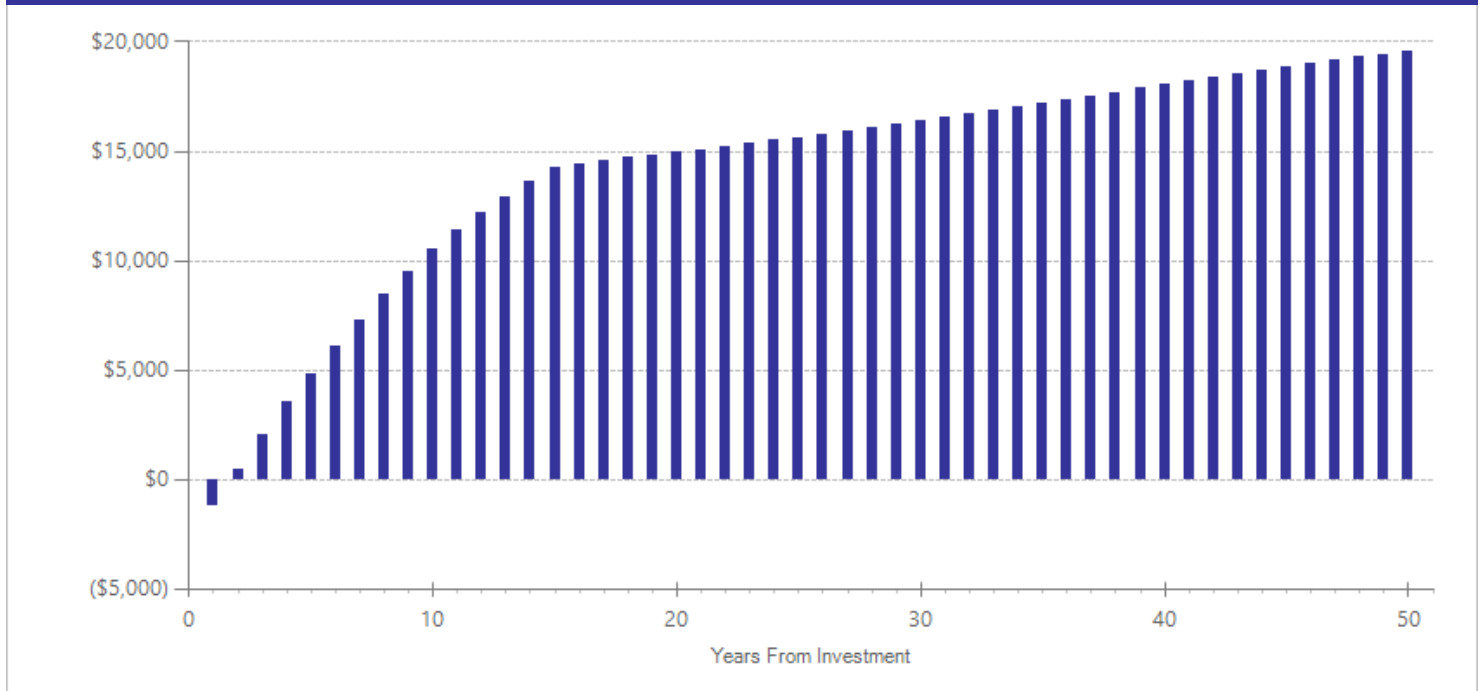
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,788	2014	Present value of net program costs (in 2016 dollars)	(\$1,812)
Comparison costs	\$0	2014	Cost range (+ or -)	10 %

We calculated the cost per participant based on the cost of Functional Family Therapy in Washington, a similar family therapy program that lasts four months on average, weighted by the average length of the programs from the literature in the meta-analysis (2.1 months). See: Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. No. 09-12-1201). Olympia: Washington State Institute for Public Policy.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	11	1624	-0.132	0.062	16	-0.132	0.062	26	-0.349	0.020

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

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

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

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

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## Multisystemic Therapy Juvenile Justice

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

Program Description: Multisystemic Therapy (MST) is an intensive family- and community-based therapy for youth with antisocial behaviors. In the juvenile justice setting, MST is designed for violent and chronic offenders. One goal of MST is to identify problems and assess how they fit within the context of the youth's life including home, family, school, and peers. MST therapists meet with family members and others in the home or directly within the environment of the youth (e.g., school). The intervention typically lasts between three to six months. Although there is no specific number of contacts, multiple family-therapist contacts are made weekly. MST therapists are employed by community mental health agencies that contract to receive MST training and consultation services.

In our analysis, we only include effect sizes from programs that were delivered competently and with fidelity to the program model.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$4,651	Benefit to cost ratio	\$2.42
Participants	\$786	Benefits minus costs	\$11,102
Others	\$15,280	Chance the program will produce	
Indirect	(\$1,782)	benefits greater than the costs	84 %
<u>Total benefits</u>	<u>\$18,935</u>		
<u>Net program cost</u>	<u>(\$7,834)</u>		
Benefits minus cost	\$11,102		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$4,202	\$14,999	\$2,091	\$21,292
Labor market earnings associated with high school graduation	\$877	\$398	\$403	\$0	\$1,678
Health care associated with educational attainment	(\$26)	\$94	(\$103)	\$47	\$12
Costs of higher education	(\$65)	(\$43)	(\$19)	(\$21)	(\$148)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,898)	(\$3,898)
<u>Totals</u>	<u>\$786</u>	<u>\$4,651</u>	<u>\$15,280</u>	<u>(\$1,782)</u>	<u>\$18,935</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.

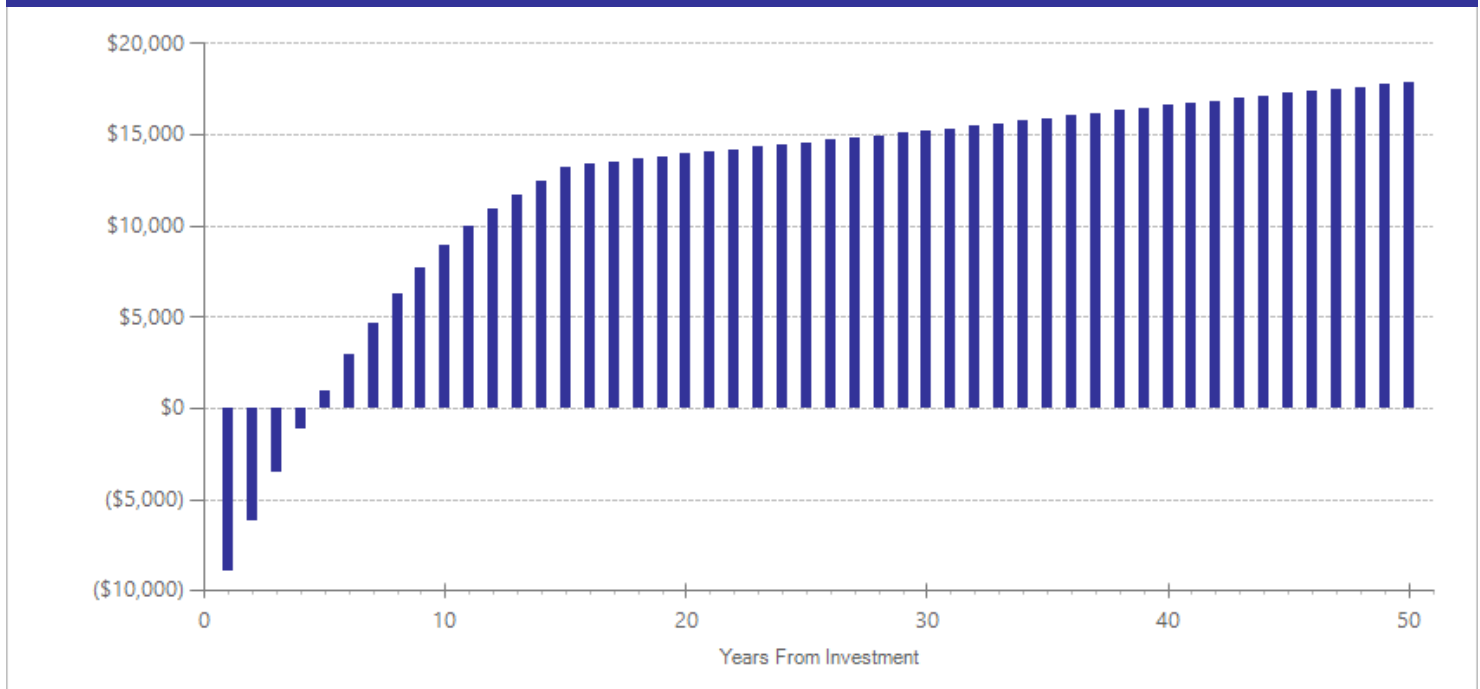
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$7,076	2008	Present value of net program costs (in 2016 dollars)	(\$7,834)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant costs, based on four months, are from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. No. 09-12-1201). Olympia: Washington State Institute for Public Policy.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	11	754	-0.140	0.067	17	-0.138	0.068	27	-0.425	0.001

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

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

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

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

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## Mentoring Juvenile Justice

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

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

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

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$4,267	Benefit to cost ratio	\$4.15
Participants	\$1,216	Benefits minus costs	\$10,385
Others	\$8,029	Chance the program will produce	
Indirect	\$172	benefits greater than the costs	84 %
<b>Total benefits</b>	<b>\$13,685</b>		
<b>Net program cost</b>	<b>(\$3,300)</b>		
<b>Benefits minus cost</b>	<b>\$10,385</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$3,573	\$7,593	\$1,788	\$12,954
Labor market earnings associated with high school graduation	\$1,359	\$617	\$625	\$0	\$2,601
Health care associated with educational attainment	(\$40)	\$145	(\$159)	\$73	\$19
Costs of higher education	(\$102)	(\$68)	(\$31)	(\$34)	(\$235)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,655)	(\$1,655)
<b>Totals</b>	<b>\$1,216</b>	<b>\$4,267</b>	<b>\$8,029</b>	<b>\$172</b>	<b>\$13,685</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.



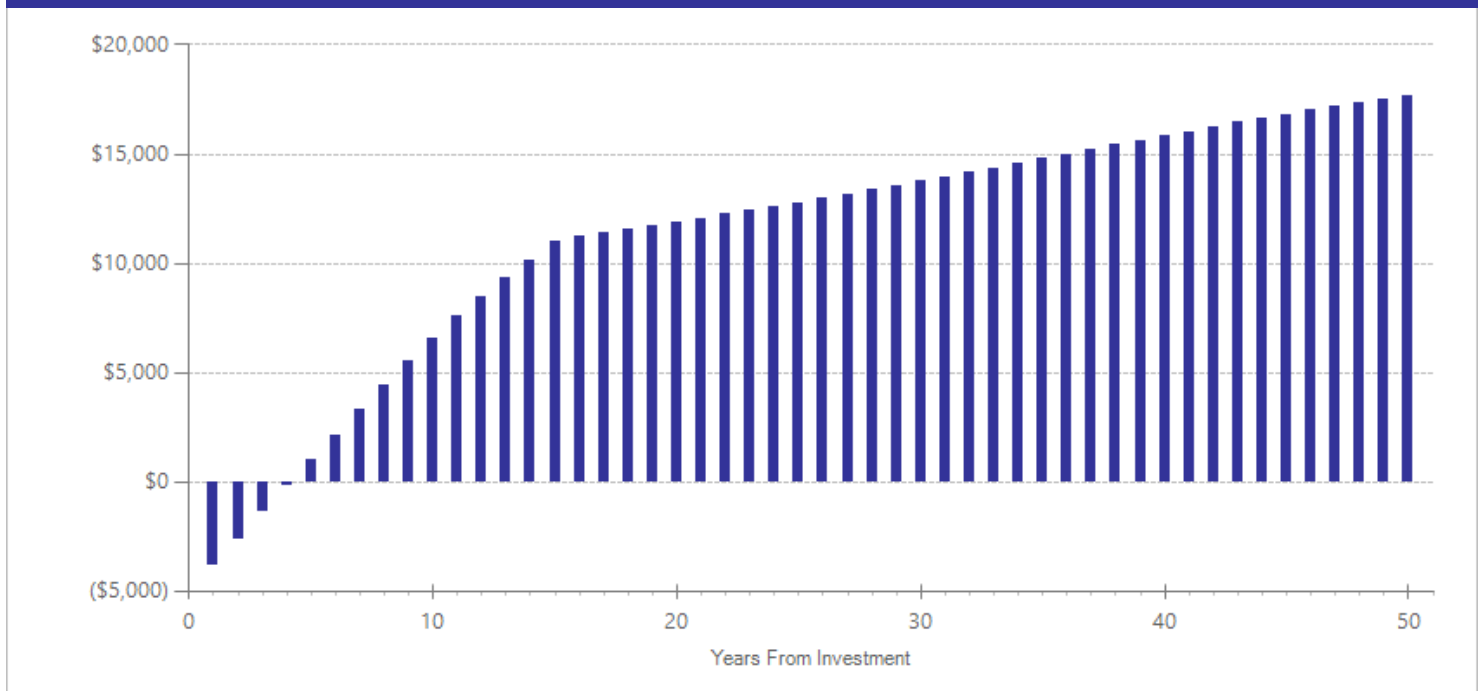
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,748	2005	Present value of net program costs (in 2016 dollars)	(\$3,300)
Comparison costs	\$0	2005	Cost range (+ or -)	10 %

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	7	539	-0.215	0.148	18	-0.215	0.148	28	-0.327	0.044

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

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

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

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

## Citations Used in the Meta-Analysis

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# Adolescent Diversion Project

## Juvenile Justice

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

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

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

### Benefit-Cost Summary Statistics Per Participant

Benefit-Cost Summary Statistics Per Participant			
<b>Benefits to:</b>			
Taxpayers	\$2,226	Benefit to cost ratio	n/a
Participants	\$832	Benefits minus costs	\$9,926
Others	\$4,523	Chance the program will produce	
Indirect	\$1,381	benefits greater than the costs	97 %
<u>Total benefits</u>	<u>\$8,961</u>		
<u>Net program cost</u>	<u>\$965</u>		
Benefits minus cost	\$9,926		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1,750	\$4,229	\$872	\$6,851
Labor market earnings associated with high school graduation	\$927	\$421	\$423	\$0	\$1,771
Health care associated with educational attainment	(\$27)	\$100	(\$109)	\$49	\$13
Costs of higher education	(\$68)	(\$45)	(\$20)	(\$22)	(\$156)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$482	\$482
<b>Totals</b>	<b>\$832</b>	<b>\$2,226</b>	<b>\$4,523</b>	<b>\$1,381</b>	<b>\$8,961</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.

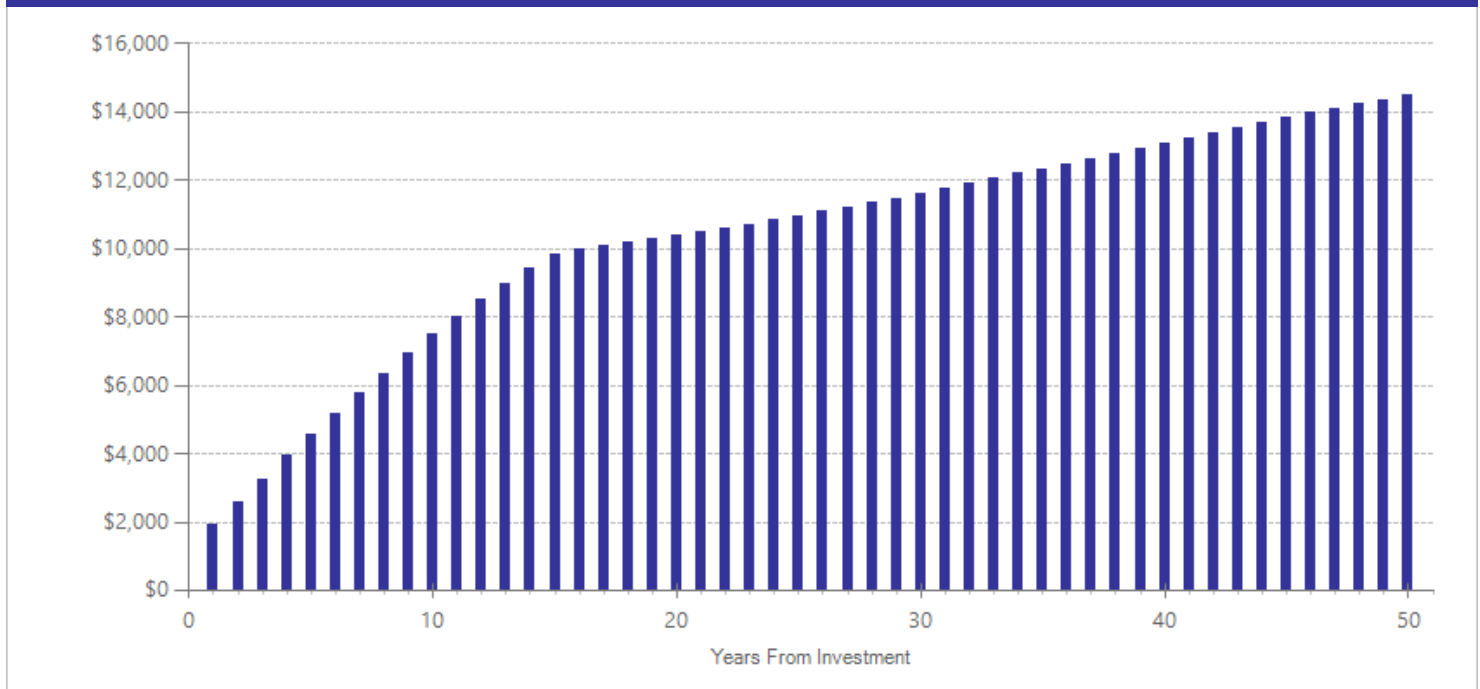
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,021	2006	Present value of net program costs (in 2016 dollars)	\$965
Comparison costs	\$1,950	2008	Cost range (+ or -)	10 %

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	8	628	-0.129	0.083	16	-0.129	0.083	26	-0.365	0.001

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

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

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

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

## Citations Used in the Meta-Analysis

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## Coordination of Services Juvenile Justice

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

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

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$2,758	Benefit to cost ratio	\$23.55
Participants	\$864	Benefits minus costs	\$9,450
Others	\$5,302	Chance the program will produce	
Indirect	\$945	benefits greater than the costs	96 %
<u>Total benefits</u>	<u>\$9,869</u>		
<u>Net program cost</u>	<u>(\$419)</u>		
Benefits minus cost	\$9,450		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$2,264	\$4,995	\$1,127	\$8,385
Labor market earnings associated with high school graduation	\$965	\$438	\$442	\$0	\$1,845
Health care associated with educational attainment	(\$29)	\$104	(\$114)	\$52	\$14
Costs of higher education	(\$72)	(\$48)	(\$22)	(\$24)	(\$165)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$210)	(\$210)
<u>Totals</u>	<u>\$864</u>	<u>\$2,758</u>	<u>\$5,302</u>	<u>\$945</u>	<u>\$9,869</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.

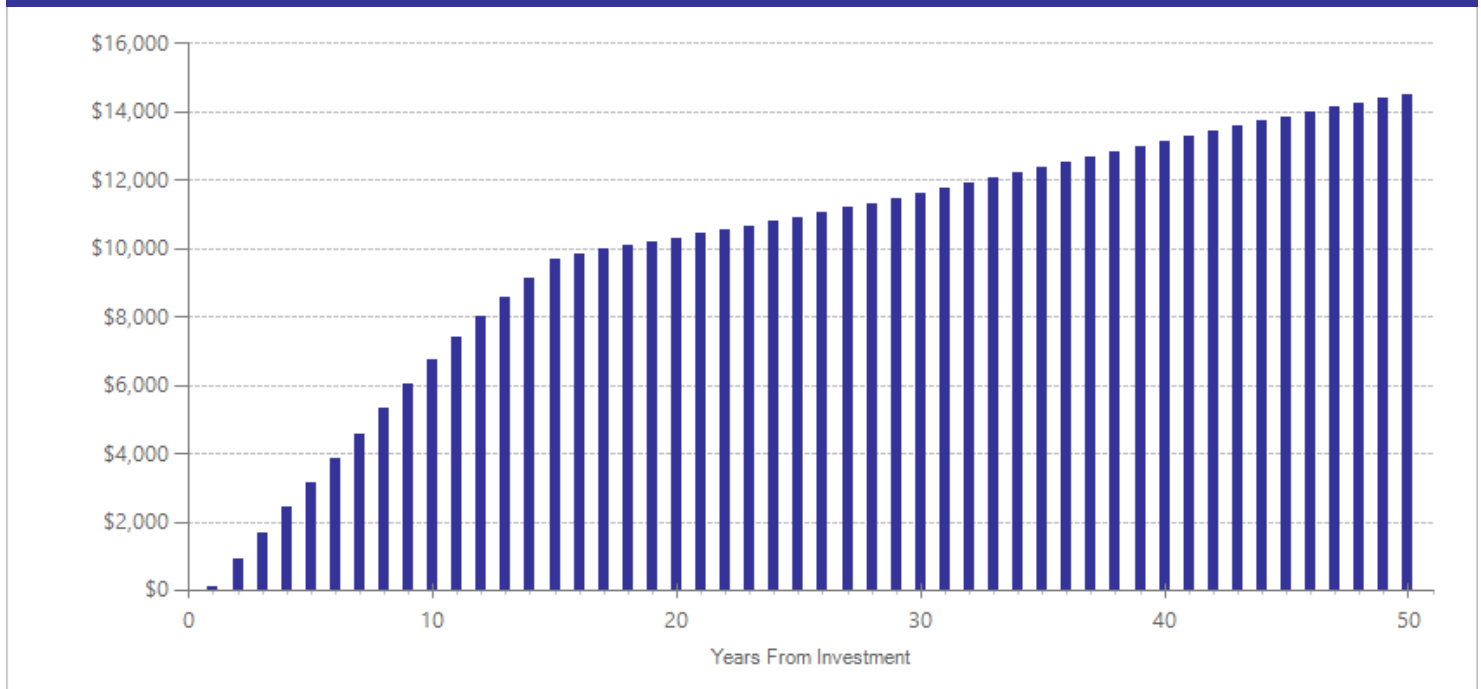
## Detailed Annual Cost Estimates Per Participant

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

The per-participant costs, based on a 12-hour seminar, are from Barnoski, R. (2009,). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. No. 09-12-1201). Olympia: Washington State Institute for Public Policy.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	2	870	-0.143	0.076	18	-0.143	0.076	28	-0.143	0.058

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

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

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

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

## Citations Used in the Meta-Analysis

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

## Juvenile Justice

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

**Program Description:** Multidimensional Treatment Foster Care (MTFC) is an intensive therapeutic foster care alternative to institutional placement for adolescents who have problems with chronic antisocial behavior, emotional disturbance, and delinquency. MTFC activities include skills training and therapy for youth as well as behavioral parent training and support for foster parents and biological parents. The length of the program varies for each youth depending on their age, when they obtain a permanent placement or are reunited with the biological family, or are no longer under the jurisdiction of the Juvenile Rehabilitation Administration.

In our analysis, we only include effect sizes from programs that were delivered competently and with fidelity to the program model.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$4,575	Benefit to cost ratio	\$2.08
Participants	\$881	Benefits minus costs	\$9,054
Others	\$14,092	Chance the program will produce	
Indirect	(\$2,116)	benefits greater than the costs	62 %
<b>Total benefits</b>	<b>\$17,432</b>		
<b>Net program cost</b>	<b>(\$8,379)</b>		
<b>Benefits minus cost</b>	<b>\$9,054</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$4,012	\$13,592	\$2,014	\$19,618
Labor market earnings associated with high school graduation	\$924	\$420	\$430	\$0	\$1,774
K-12 grade repetition	\$0	\$22	\$0	\$11	\$33
K-12 special education	\$0	\$94	\$0	\$47	\$142
Property loss associated with alcohol abuse or dependence	\$1	\$0	\$2	\$0	\$3
Health care associated with disruptive behavior disorder	\$23	\$72	\$89	\$36	\$221
Costs of higher education	(\$68)	(\$45)	(\$20)	(\$23)	(\$156)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$4,202)	(\$4,202)
<b>Totals</b>	<b>\$881</b>	<b>\$4,575</b>	<b>\$14,092</b>	<b>(\$2,116)</b>	<b>\$17,432</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.

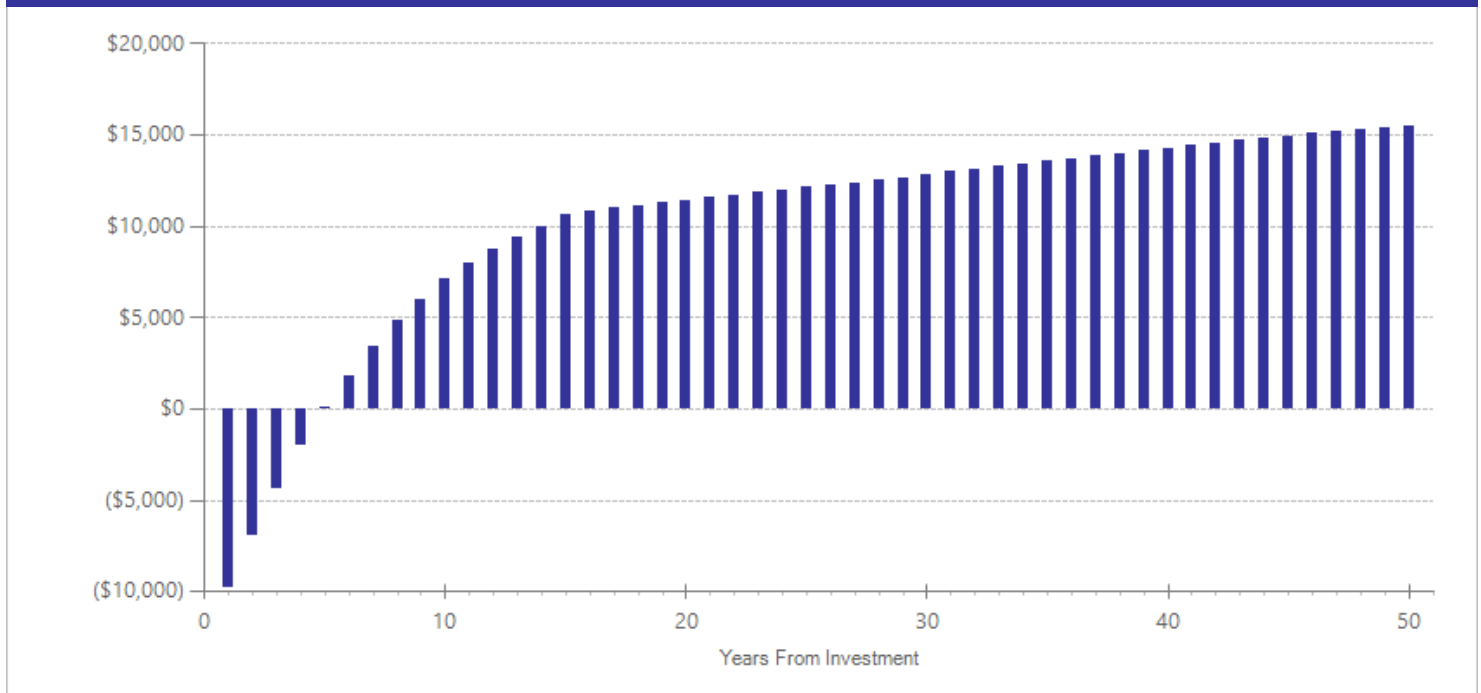
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$31,883	2007	Present value of net program costs (in 2016 dollars)	(\$8,379)
Comparison costs	\$24,536	2007	Cost range (+ or -)	10 %

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol use in high school	1	32	-0.045	0.240	17	-0.045	0.240	19	-0.126	0.601
Cannabis use in high school	1	32	-0.083	0.240	17	-0.083	0.240	19	-0.230	0.340
Crime	3	134	-0.110	0.126	17	-0.110	0.126	27	-0.544	0.091
Externalizing behavior symptoms	1	20	-0.627	0.350	17	-0.299	0.221	20	-0.627	0.073
Illicit drug use in high school	1	32	-0.094	0.240	17	-0.094	0.240	19	-0.261	0.279
Internalizing symptoms	1	20	-0.428	0.346	17	-0.312	0.295	20	-0.428	0.216
Smoking in high school	1	32	-0.068	0.240	17	-0.068	0.240	19	-0.190	0.429
Teen pregnancy (under age 18) <sup>^</sup>	1	81	-0.538	0.187	16	-0.538	0.187	18	-0.538	0.004

<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

- Chamberlain, P., Fisher, P.A., & Moore, K. (2002). Multidimensional treatment foster care: Applications of the OSLC intervention model to high-risk youth and their families. In J.B. Reid, G.R. Patterson, & J. Snyder (Eds.), *Antisocial behavior in children and adolescents: A developmental analysis and model for intervention* (pp. 203-218). Washington DC: American Psychological Association.
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- Smith, D.K., Chamberlain, P., & Eddy, J.M. (2010). Preliminary support for multidimensional treatment foster care in reducing substance use in delinquent boys. *Journal of Child & Adolescent Substance Abuse*, 19(4), 343-358.
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- Westermark, P.K., Hansson, K., & Olsson, M. (2011). Multidimensional treatment foster care (MTFC): Results from an independent replication. *Journal of Family Therapy*, 33(1), 20-41.

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

### Juvenile Justice

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

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

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

#### Benefit-Cost Summary Statistics Per Participant

##### Benefits to:

Taxpayers	\$1,747	Benefit to cost ratio	n/a
Participants	\$612	Benefits minus costs	\$8,140
Others	\$3,440	Chance the program will produce	
Indirect	\$1,261	benefits greater than the costs	98 %
<u>Total benefits</u>	<u>\$7,060</u>		
<u>Net program cost</u>	<u>\$1,080</u>		
Benefits minus cost	\$8,140		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

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

##### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1,398	\$3,223	\$700	\$5,320
Labor market earnings associated with high school graduation	\$683	\$310	\$313	\$0	\$1,306
Health care associated with educational attainment	(\$20)	\$73	(\$80)	\$37	\$10
Costs of higher education	(\$51)	(\$34)	(\$15)	(\$17)	(\$117)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$541	\$541
<b>Totals</b>	<b>\$612</b>	<b>\$1,747</b>	<b>\$3,440</b>	<b>\$1,261</b>	<b>\$7,060</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.

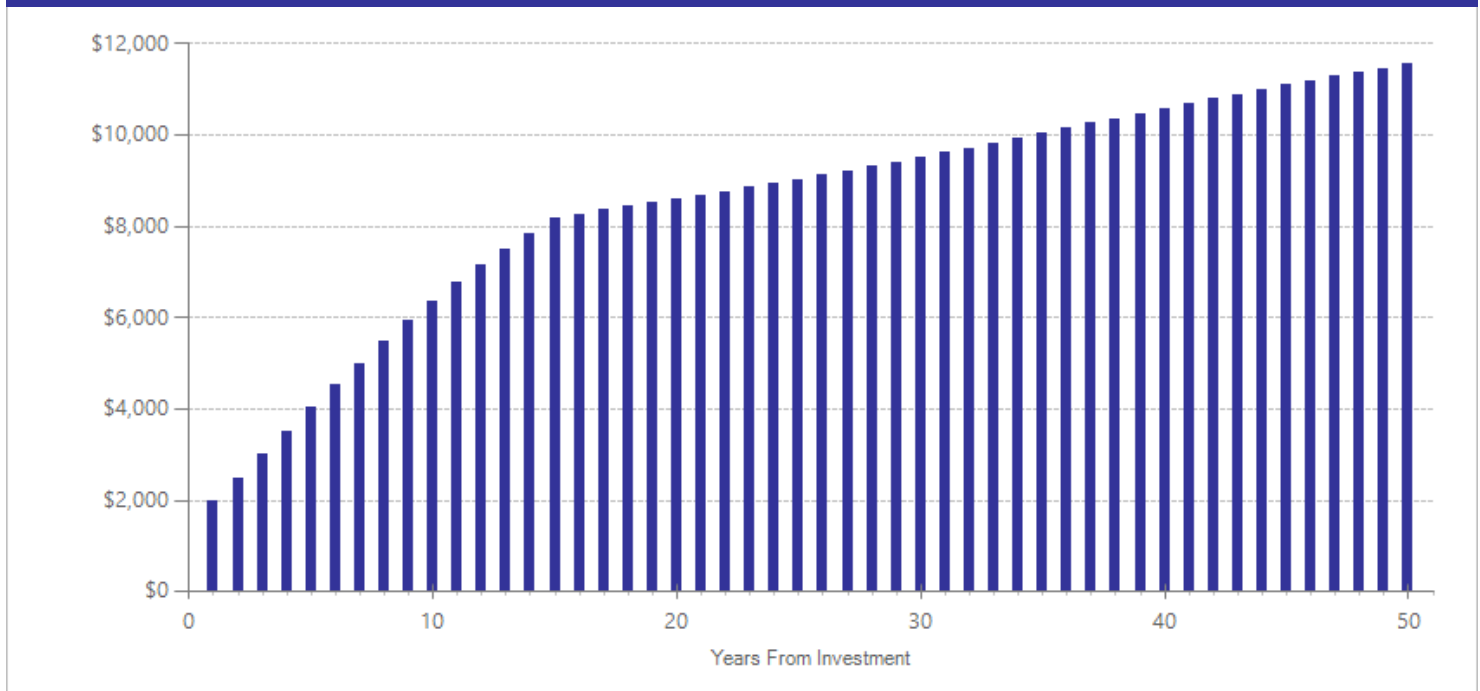
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$353	2014	Present value of net program costs (in 2016 dollars)	\$1,080
Comparison costs	\$1,300	2008	Cost range (+ or -)	10 %

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	8	1623	-0.098	0.061	17	-0.098	0.061	27	-0.088	0.066

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.
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## Functional Family Parole (with quality assurance) Juvenile Justice

Benefit-cost estimates updated May 2017. Literature review updated January 2013.

Program Description: Functional Family Parole (FFP) is a case management model for youth who are supervised in the community. FFP is based on Functional Family Therapy (FFT), a structured family-based intervention that uses a multi-step approach to enhance protective factors and reduce risk factors in the family.

In our analysis, we only include effect sizes from programs that were delivered competently and with fidelity to the program model.

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$3,078	Benefit to cost ratio	\$2.58
Participants	\$431	Benefits minus costs	\$7,297
Others	\$9,283	Chance the program will produce	
Indirect	(\$876)	benefits greater than the costs	71 %
<u>Total benefits</u>	<u>\$11,916</u>		
<u>Net program cost</u>	<u>(\$4,618)</u>		
Benefits minus cost	\$7,297		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$2,832	\$9,129	\$1,405	\$13,365
Labor market earnings associated with high school graduation	\$482	\$219	\$222	\$0	\$923
Health care associated with educational attainment	(\$14)	\$52	(\$57)	\$26	\$7
Costs of higher education	(\$37)	(\$25)	(\$11)	(\$12)	(\$85)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,294)	(\$2,294)
<u>Totals</u>	<u>\$431</u>	<u>\$3,078</u>	<u>\$9,283</u>	<u>(\$876)</u>	<u>\$11,916</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.

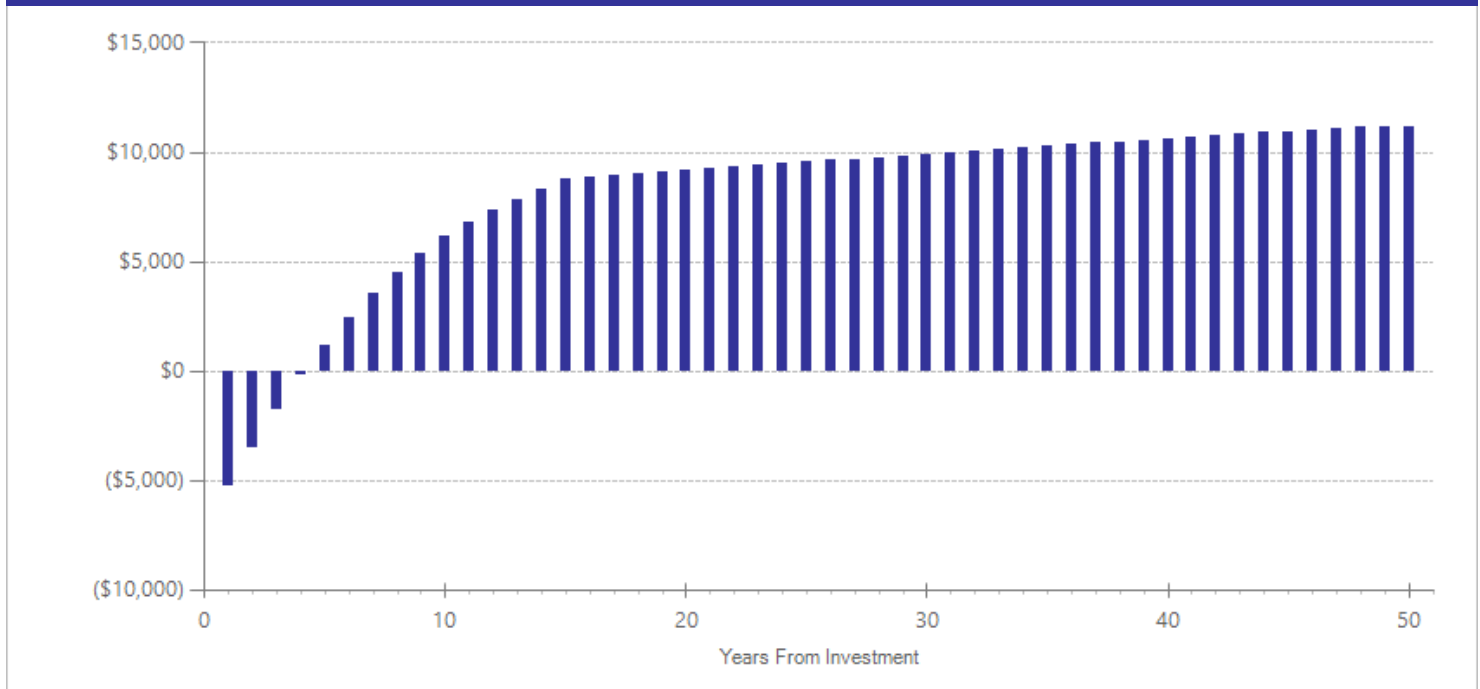
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$4,426	2012	Present value of net program costs (in 2016 dollars)	(\$4,618)
Comparison costs	\$0	2012	Cost range (+ or -)	10 %

WSIPP estimates based on implementation costs of FFT and additional supervision costs.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	4	465	-0.087	0.077	19	-0.087	0.077	29	-0.108	0.194

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

- B. A. Lucenko, L. He, D. Mancuso, and B. Felver (2011). *Effects of Functional Family Parole on Re-Arrest and Employment for Youth in Washington State*. Research Data Analysis Division: Olympia, Washington.
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## Group homes (Teaching-Family Model)

### Juvenile Justice

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

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

#### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$8,010	Benefit to cost ratio	\$1.32
Participants	\$1,383	Benefits minus costs	\$7,200
Others	\$27,680	Chance the program will produce	
Indirect	(\$7,511)	benefits greater than the costs	59 %
<b>Total benefits</b>	<b>\$29,563</b>		
<b>Net program cost</b>	<b>(\$22,362)</b>		
<b>Benefits minus cost</b>	<b>\$7,200</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$7,218	\$27,185	\$3,606	\$38,009
Labor market earnings associated with high school graduation	\$1,541	\$700	\$710	\$0	\$2,951
Health care associated with educational attainment	(\$45)	\$166	(\$181)	\$83	\$22
Costs of higher education	(\$112)	(\$74)	(\$34)	(\$37)	(\$257)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$11,162)	(\$11,162)
<b>Totals</b>	<b>\$1,383</b>	<b>\$8,010</b>	<b>\$27,680</b>	<b>(\$7,511)</b>	<b>\$29,563</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.

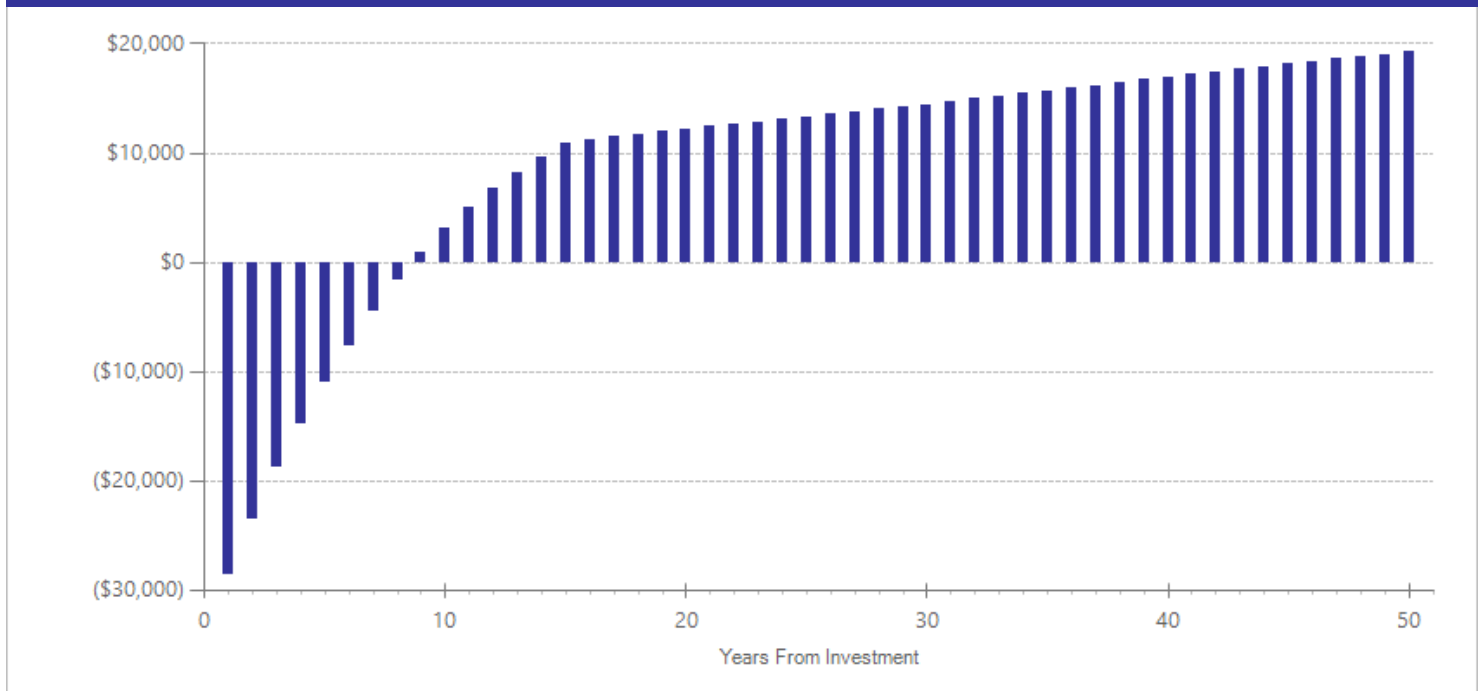
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$20,210	2008	Present value of net program costs (in 2016 dollars)	(\$22,362)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	2	140	-0.248	0.200	16	-0.248	0.200	26	-0.248	0.216

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

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

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

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

## Citations Used in the Meta-Analysis

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## Vocational and employment training

### Juvenile Justice

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

Program Description: Vocational and employment training programs for juvenile offenders can be community-based residential and non-residential programs or take place during incarceration. Training typically consists of classroom-based or unpaid job experiences that teach juveniles employable skills such as construction and carpentry trades, landscaping, or culinary arts. Most programs combine vocational skills training with academic education or tutoring and provide some job search assistance such as interview preparation, resume building, or job placement services over a period of three to ten months.

The studies included in this meta-analysis consist of federal government-initiated workforce training programs that have an offender subgroup, state juvenile justice department programs, and programs operated through private organizations (i.e. the Homebuilders Institute). Using regression analysis on the studies included in the meta-analysis, we tested whether specific program components (vocational education, employment experiences, academic education, etc.) have a differentiated effect on crime. Programs with a vocational education component have greater reductions in crime with a statistically significant effect ( $p = 0.0001$ ). However, the interaction between participation in vocational education and months spent in the program has a significant negative effect. That is, the longer a subject participates in vocational education, the greater the increase in crime ( $p = 0.0087$ ). Programs with an academic education component also show reductions in crime ( $p = 0.0531$ ) and no statistically significant interaction with months in the program. Programs that utilize unpaid employment experiences show statistically significant increases in crime ( $p = 0.0001$ ).

#### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$5,912	Benefit to cost ratio	\$1.69
Participants	\$2,707	Benefits minus costs	\$5,213
Others	\$5,874	Chance the program will produce	
Indirect	(\$1,670)	benefits greater than the costs	58 %
<b>Total benefits</b>	<b>\$12,822</b>		
<b>Net program cost</b>	<b>(\$7,609)</b>		
<b>Benefits minus cost</b>	<b>\$5,213</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$2,270	\$5,991	\$1,135	\$9,396
Labor market earnings associated with employment	\$3,551	\$1,612	\$0	\$0	\$5,163
Property loss associated with alcohol abuse or dependence	\$3	\$0	\$5	\$0	\$8
Public assistance	(\$816)	\$1,921	\$0	\$959	\$2,064
Health care associated with educational attainment	(\$30)	\$109	(\$122)	\$47	\$3
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,811)	(\$3,811)
<b>Totals</b>	<b>\$2,707</b>	<b>\$5,912</b>	<b>\$5,874</b>	<b>(\$1,670)</b>	<b>\$12,822</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.

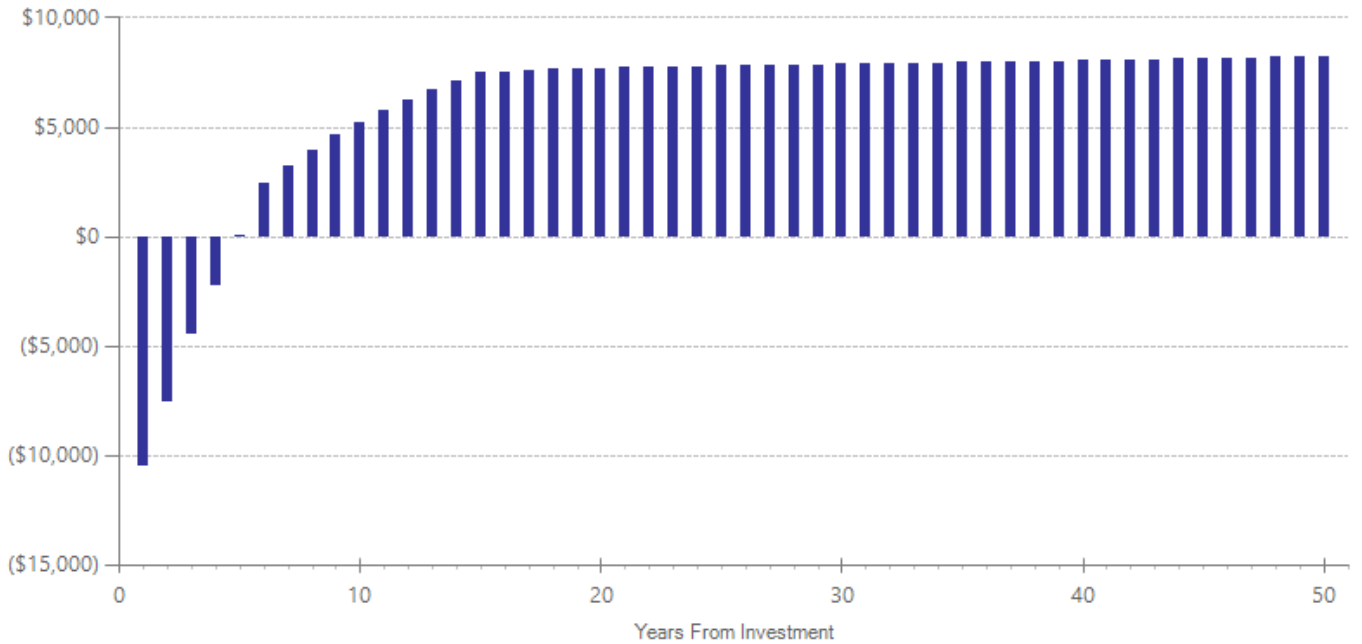
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$7,500	2014	Present value of net program costs (in 2016 dollars)	(\$7,609)
Comparison costs	\$0	2014	Cost range (+ or -)	10 %

We calculated the cost per participant from the literature in the meta-analysis, based on 6.5 months, weighted by the number of youth served by these programs. Our weighted average cost estimate also incorporates the cost per participant of youth served by a similar (non-residential) program in Washington.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol use in high school	2	344	-0.125	0.140	18	-0.125	0.140	28	-0.125	0.373
Crime	12	2413	-0.084	0.042	19	-0.084	0.042	29	-0.082	0.052
Earnings <sup>^^</sup>	4	1065	0.075	0.047	22	0.000	0.018	23	0.075	0.115
Employment <sup>^^</sup>	3	431	0.140	0.202	18	0.140	0.202	28	0.140	0.488
GED attainment <sup>^</sup>	4	869	0.282	0.135	19	0.282	0.135	29	0.282	0.037
High school graduation	2	419	0.010	0.323	19	0.010	0.323	29	0.010	0.975
Illicit drug use in high school	2	344	0.110	0.173	18	0.110	0.173	28	0.110	0.526
Public assistance	3	1032	-0.132	0.074	19	-0.132	0.074	29	-0.132	0.073

<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](#).

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## Intensive supervision (parole)

### Juvenile Justice

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

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

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

#### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,660	Benefit to cost ratio	\$3.14
Participants	\$269	Benefits minus costs	\$4,611
Others	\$5,154	Chance the program will produce	
Indirect	(\$316)	benefits greater than the costs	68 %
<b>Total benefits</b>	<b>\$6,768</b>		
<b>Net program cost</b>	<b>(\$2,156)</b>		
<b>Benefits minus cost</b>	<b>\$4,611</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1,506	\$5,058	\$746	\$7,311
Labor market earnings associated with high school graduation	\$300	\$136	\$138	\$0	\$575
Health care associated with educational attainment	(\$9)	\$32	(\$35)	\$16	\$4
Costs of higher education	(\$22)	(\$15)	(\$7)	(\$7)	(\$51)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,071)	(\$1,071)
<b>Totals</b>	<b>\$269</b>	<b>\$1,660</b>	<b>\$5,154</b>	<b>(\$316)</b>	<b>\$6,768</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.

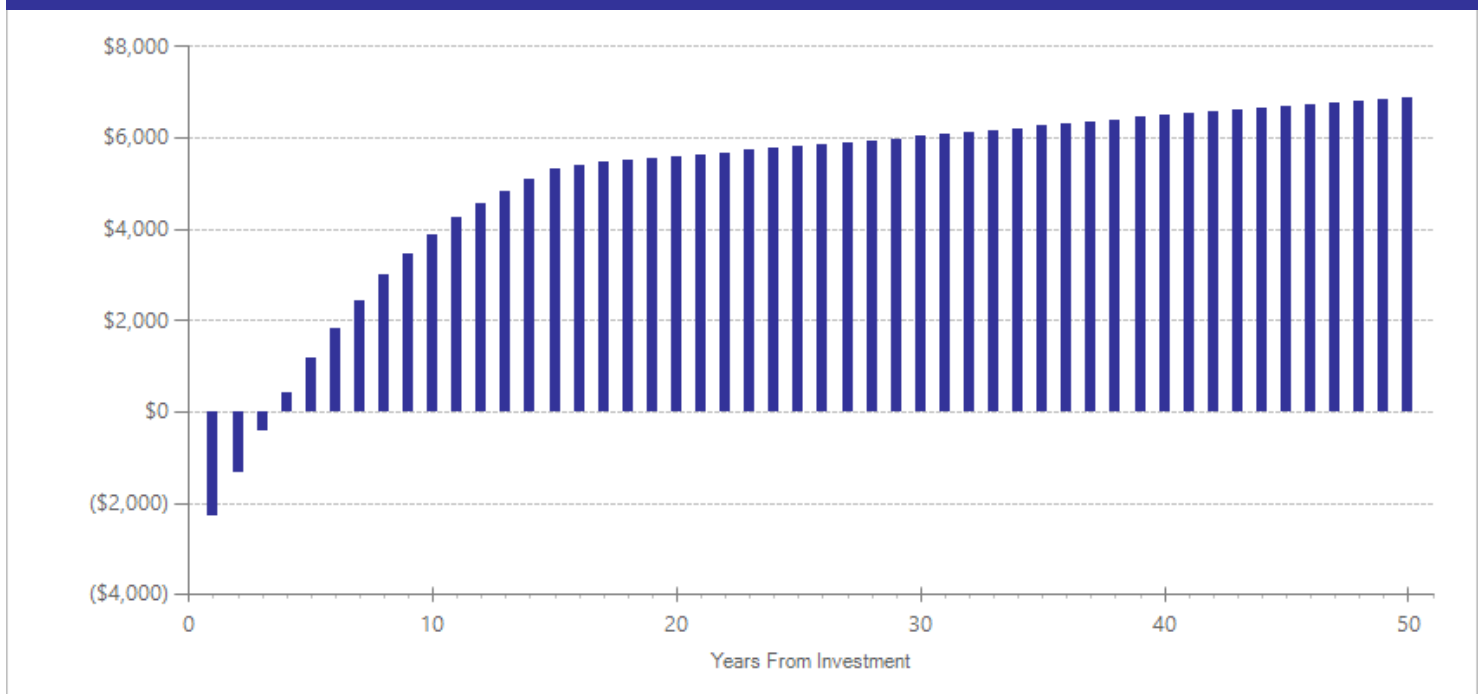
## Detailed Annual Cost Estimates Per Participant

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

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	9	1101	-0.049	0.060	18	-0.049	0.060	28	-0.059	0.328

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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## Diversion with services (vs. traditional juvenile court processing)

### Juvenile Justice

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

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

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

#### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$973	Benefit to cost ratio	n/a
Participants	\$343	Benefits minus costs	\$4,508
Others	\$1,929	Chance the program will produce	
Indirect	\$689	benefits greater than the costs	98 %
<b>Total benefits</b>	<b>\$3,934</b>		
<b>Net program cost</b>	<b>\$573</b>		
<b>Benefits minus cost</b>	<b>\$4,508</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$777	\$1,806	\$390	\$2,974
Labor market earnings associated with high school graduation	\$383	\$174	\$176	\$0	\$733
Health care associated with educational attainment	(\$11)	\$41	(\$45)	\$21	\$6
Costs of higher education	(\$28)	(\$19)	(\$8)	(\$9)	(\$65)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$288	\$288
<b>Totals</b>	<b>\$343</b>	<b>\$973</b>	<b>\$1,929</b>	<b>\$689</b>	<b>\$3,934</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.

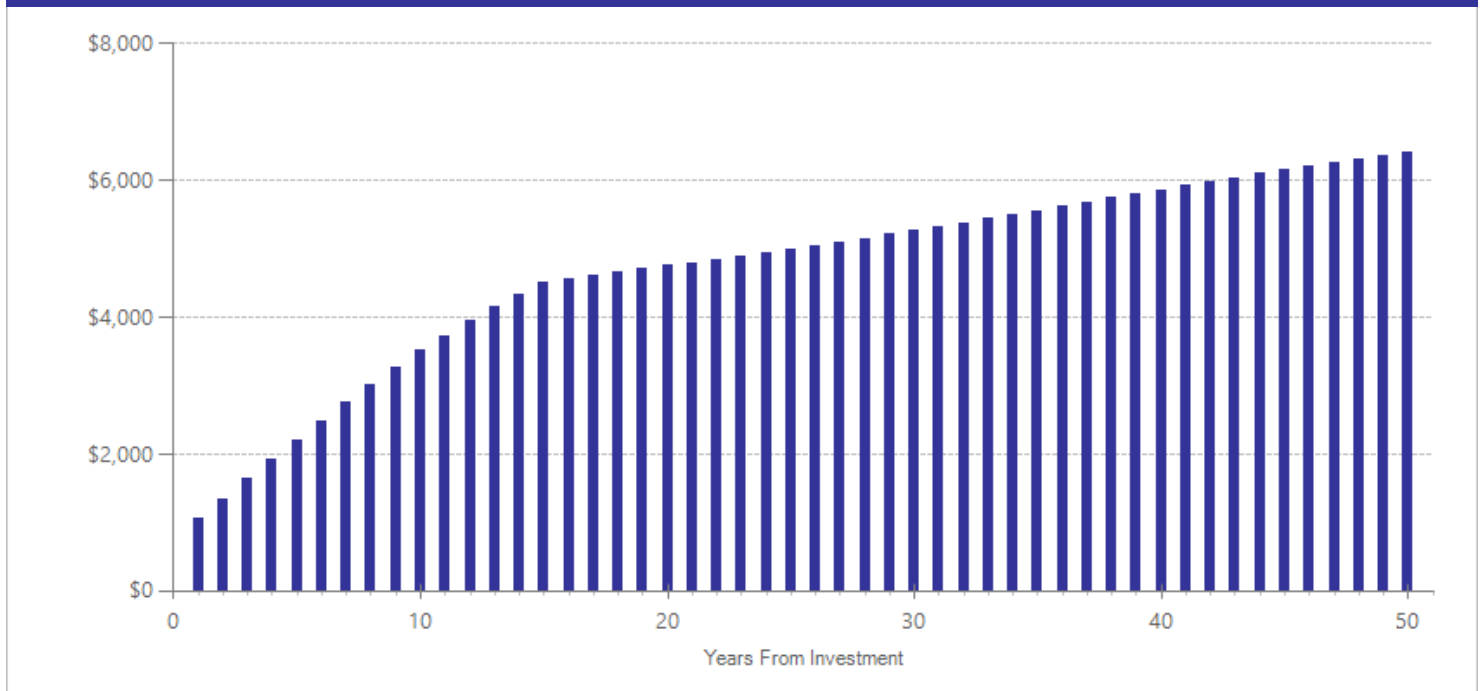
## Detailed Annual Cost Estimates Per Participant

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

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	18	5638	-0.054	0.034	17	-0.054	0.034	27	-0.079	0.007

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](#).

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# Victim offender mediation

## Juvenile Justice

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

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

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,089	Benefit to cost ratio	\$5.77
Participants	\$270	Benefits minus costs	\$2,938
Others	\$2,027	Chance the program will produce	
Indirect	\$168	benefits greater than the costs	75 %
<b>Total benefits</b>	<b>\$3,553</b>		
<b>Net program cost</b>	<b>(\$615)</b>		
<b>Benefits minus cost</b>	<b>\$2,938</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$934	\$1,930	\$466	\$3,330
Labor market earnings associated with high school graduation	\$302	\$137	\$140	\$0	\$580
Health care associated with educational attainment	(\$9)	\$33	(\$36)	\$16	\$4
Costs of higher education	(\$23)	(\$15)	(\$7)	(\$8)	(\$53)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$307)	(\$307)
<b>Totals</b>	<b>\$270</b>	<b>\$1,089</b>	<b>\$2,027</b>	<b>\$168</b>	<b>\$3,553</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.

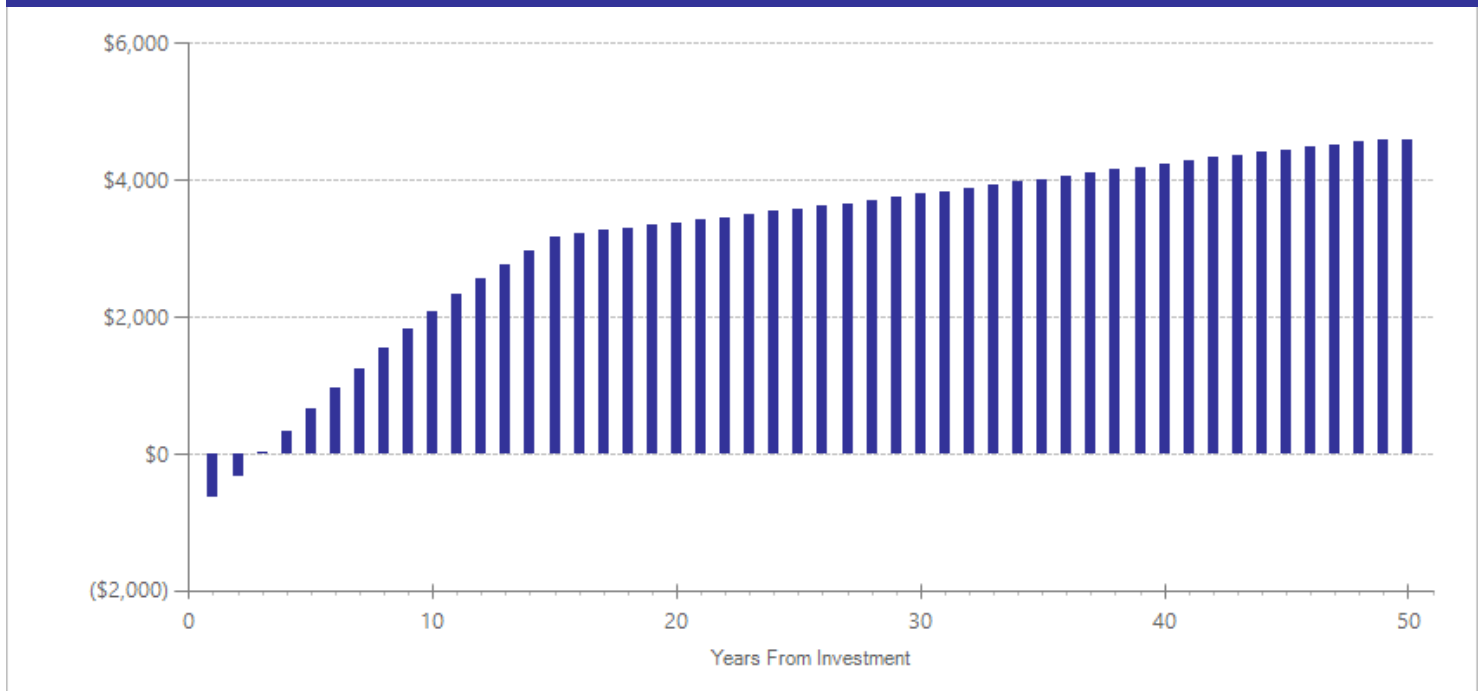
## Detailed Annual Cost Estimates Per Participant

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

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	7	1691	-0.054	0.058	19	-0.054	0.058	29	-0.069	0.224

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



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

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

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

## Citations Used in the Meta-Analysis

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# Multisystemic Therapy for juveniles with substance use disorder

## Juvenile Justice

Benefit-cost estimates updated May 2017. Literature review updated September 2013.

Program Description: Multisystemic Therapy–Substance Abuse (MST–SA) is a form of MST that is targeted toward youth who are abusing drugs and alcohol. MST–SA teams develop a specific written plan for the offender enforced by the juvenile’s caregiver. Random drug testing is an important aspect of the program as well as rewarding positive behavior.

### Benefit-Cost Summary Statistics Per Participant

#### Benefits to:

Taxpayers	\$2,903	Benefit to cost ratio	\$1.14
Participants	\$7	Benefits minus costs	\$1,117
Others	\$8,161	Chance the program will produce	
Indirect	(\$2,121)	benefits greater than the costs	51 %
<b>Total benefits</b>	<b>\$8,950</b>		
<b>Net program cost</b>	<b>(\$7,833)</b>		
<b>Benefits minus cost</b>	<b>\$1,117</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

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

#### Benefits to:

	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$2,773	\$8,027	\$1,396	\$12,197
Property loss associated with alcohol abuse or dependence	\$1	\$0	\$1	\$0	\$2
Labor market earnings associated with illicit drug abuse or dependence	\$40	\$18	\$0	\$319	\$377
Health care associated with illicit drug abuse or dependence	\$30	\$154	\$151	\$84	\$419
Costs of higher education	(\$64)	(\$42)	(\$19)	(\$21)	(\$146)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,899)	(\$3,899)
<b>Totals</b>	<b>\$7</b>	<b>\$2,903</b>	<b>\$8,161</b>	<b>(\$2,121)</b>	<b>\$8,950</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.

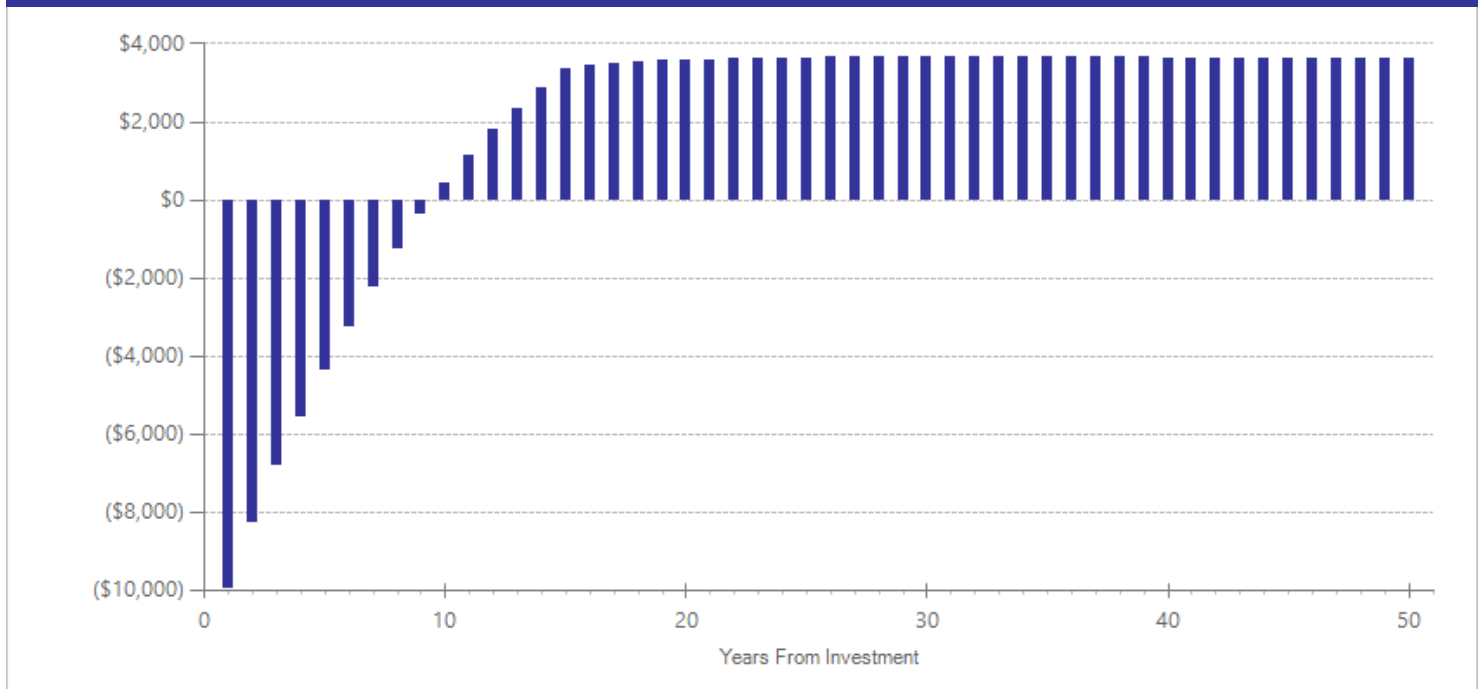
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$7,076	2008	Present value of net program costs (in 2016 dollars)	(\$7,833)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

The per-participant costs, based on traditional MST for four months, are from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. No. 09-12-1201). Olympia: Washington State Institute for Public Policy.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Alcohol use disorder	2	66	-0.177	0.178	15	0.000	0.187	18	-0.473	0.009
Cannabis use <sup>^</sup>	3	109	-0.200	0.155	17	-0.027	0.233	27	-0.562	0.001
Crime	2	124	-0.113	0.170	17	-0.113	0.170	27	-0.361	0.034
Illicit drug use disorder	1	43	-0.114	0.280	15	0.000	0.187	18	-0.315	0.251

<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

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- Henggeler, S. W., Halliday-Boykins, C. A., Cunningham, P. B., Randall, J., Shapiro, S. B., & Chapman, J. E. (2006). Juvenile drug court: Enhancing outcomes by integrating evidence-based treatments. *Journal of Consulting and Clinical Psychology, 74*(1), 42-54.

## Drug court Juvenile Justice

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

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

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$1,291	Benefit to cost ratio	\$0.92
Participants	\$371	Benefits minus costs	(\$248)
Others	\$2,423	Chance the program will produce	
Indirect	(\$1,069)	benefits greater than the costs	48 %
<u>Total benefits</u>	<u>\$3,017</u>		
<u>Net program cost</u>	<u>(\$3,264)</u>		
Benefits minus cost	(\$248)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$1,078	\$2,292	\$539	\$3,909
Labor market earnings associated with high school graduation	\$415	\$188	\$190	\$0	\$794
Health care associated with educational attainment	(\$12)	\$45	(\$49)	\$23	\$6
Costs of higher education	(\$31)	(\$21)	(\$9)	(\$10)	(\$72)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,620)	(\$1,620)
<u>Totals</u>	<u>\$371</u>	<u>\$1,291</u>	<u>\$2,423</u>	<u>(\$1,069)</u>	<u>\$3,017</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.

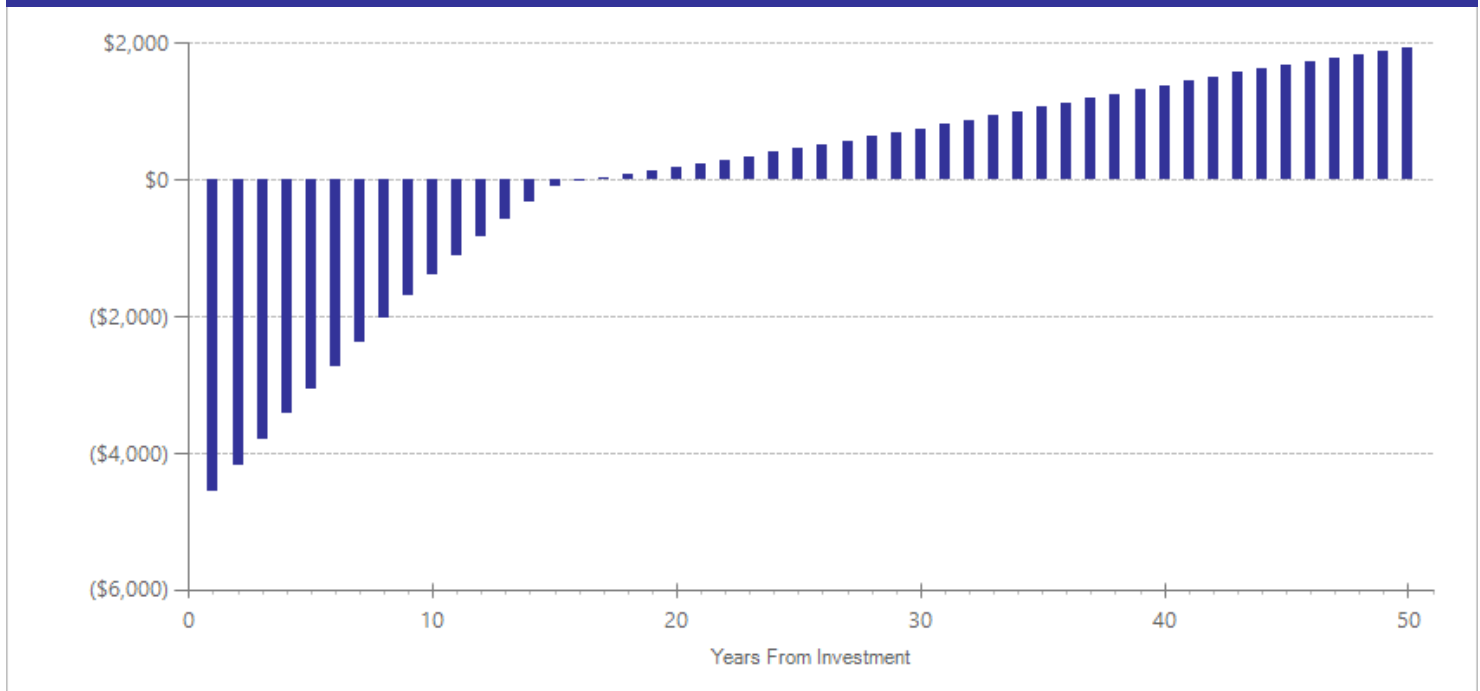
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,645	2004	Present value of net program costs (in 2016 dollars)	(\$3,264)
Comparison costs	\$0	2004	Cost range (+ or -)	10 %

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	12	2896	-0.062	0.096	18	-0.062	0.096	28	-0.061	0.634

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. simple release)

### Juvenile Justice

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

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

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

#### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$3	Benefit to cost ratio	(\$0.48)
Participants	\$1	Benefits minus costs	(\$1,284)
Others	\$11	Chance the program will produce	
Indirect	(\$434)	benefits greater than the costs	38 %
<b>Total benefits</b>	<b>(\$419)</b>		
<b>Net program cost</b>	<b>(\$866)</b>		
<b>Benefits minus cost</b>	<b>(\$1,284)</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$3	\$10	\$1	\$14
Labor market earnings associated with high school graduation	\$1	\$1	\$1	\$0	\$2
Health care associated with educational attainment	\$0	\$0	\$0	\$0	\$0
Costs of higher education	\$0	\$0	\$0	\$0	\$0
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$435)	(\$435)
<b>Totals</b>	<b>\$1</b>	<b>\$3</b>	<b>\$11</b>	<b>(\$434)</b>	<b>(\$419)</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.



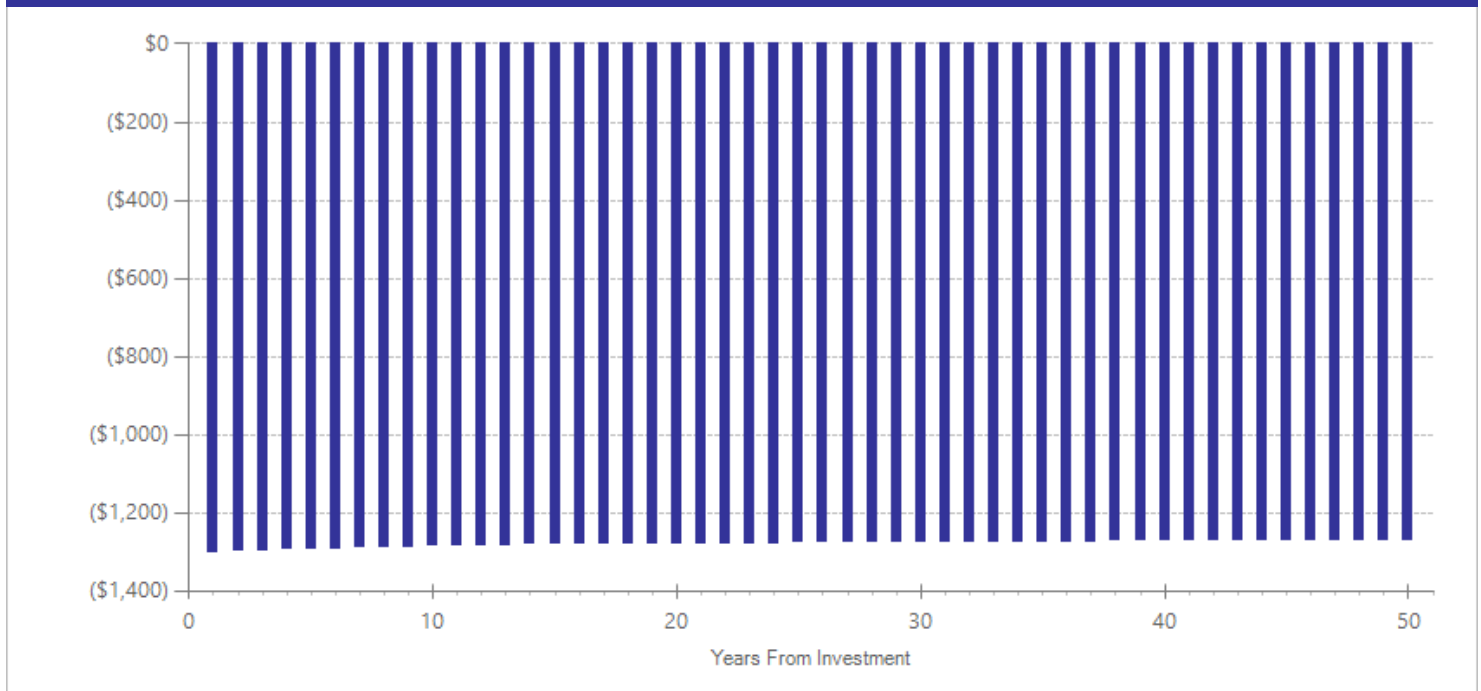
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$853	2014	Present value of net program costs (in 2016 dollars)	(\$866)
Comparison costs	\$0	2014	Cost range (+ or -)	10 %

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	6	995	-0.001	0.063	17	-0.001	0.063	27	-0.001	0.986

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

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

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

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

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## Other chemical dependency treatment for juveniles (non-therapeutic communities)

### Juvenile Justice

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

Program Description: This broad category includes a variety of substance abuse treatment modalities delivered to youth who are involved in the juvenile justice system. These modalities include residential treatment, cognitive behavioral therapy, and Multidimensional Family Therapy. Therapeutic communities were excluded from this meta-analysis.

#### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$200	Benefit to cost ratio	(\$0.25)
Participants	\$46	Benefits minus costs	(\$4,135)
Others	\$484	Chance the program will produce	
Indirect	(\$1,569)	benefits greater than the costs	27 %
<b>Total benefits</b>	<b>(\$839)</b>		
<b>Net program cost</b>	<b>(\$3,296)</b>		
<b>Benefits minus cost</b>	<b>(\$4,135)</b>		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	\$174	\$468	\$87	\$729
Labor market earnings associated with high school graduation	\$51	\$23	\$23	\$0	\$97
Health care associated with educational attainment	(\$1)	\$6	(\$6)	\$3	\$1
Costs of higher education	(\$4)	(\$2)	(\$1)	(\$1)	(\$9)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,658)	(\$1,658)
<b>Totals</b>	<b>\$46</b>	<b>\$200</b>	<b>\$484</b>	<b>(\$1,569)</b>	<b>(\$839)</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.

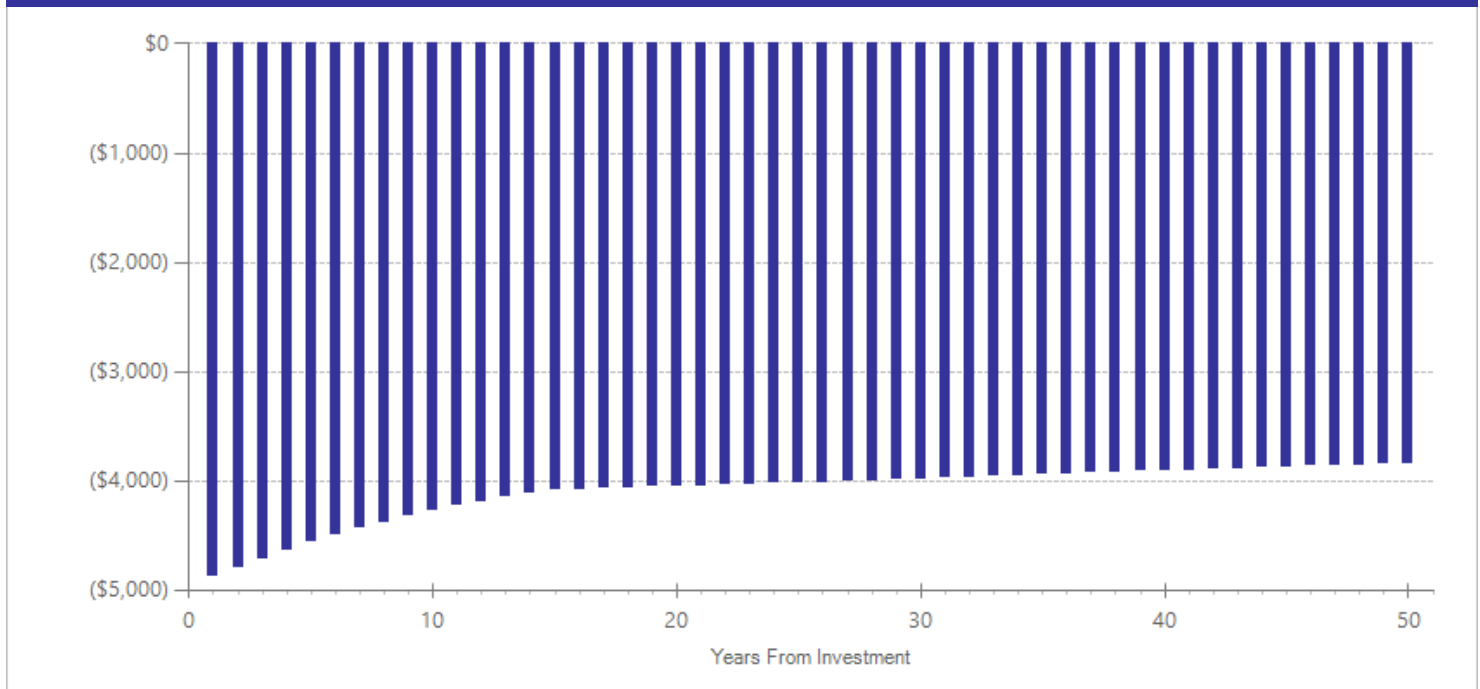
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,157	2012	Present value of net program costs (in 2016 dollars)	(\$3,296)
Comparison costs	\$0	2012	Cost range (+ or -)	10 %

This cost estimate is weighted by the treatment types included in the meta-analysis based on one to four months. Treatment costs were provided by the Washington State Juvenile Rehabilitation Administration.

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	6	1107	-0.007	0.054	18	-0.007	0.054	28	-0.023	0.714

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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## Scared Straight Juvenile Justice

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

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

### Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	(\$2,546)	Benefit to cost ratio	(\$88.14)
Participants	(\$809)	Benefits minus costs	(\$9,477)
Others	(\$4,895)	Chance the program will produce	
Indirect	(\$1,121)	benefits greater than the costs	4 %
<u>Total benefits</u>	<u>(\$9,370)</u>		
<u>Net program cost</u>	<u>(\$106)</u>		
Benefits minus cost	(\$9,477)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: <sup>1</sup>	Benefits to:				
	Participants	Taxpayers	Others <sup>2</sup>	Indirect <sup>3</sup>	Total
Crime	\$0	(\$2,084)	(\$4,607)	(\$1,041)	(\$7,732)
Labor market earnings associated with high school graduation	(\$901)	(\$409)	(\$414)	\$0	(\$1,724)
Health care associated with educational attainment	\$26	(\$97)	\$106	(\$48)	(\$13)
Costs of higher education	\$66	\$44	\$20	\$22	\$152
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$53)	(\$53)
<b>Totals</b>	<b>(\$809)</b>	<b>(\$2,546)</b>	<b>(\$4,895)</b>	<b>(\$1,121)</b>	<b>(\$9,370)</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.

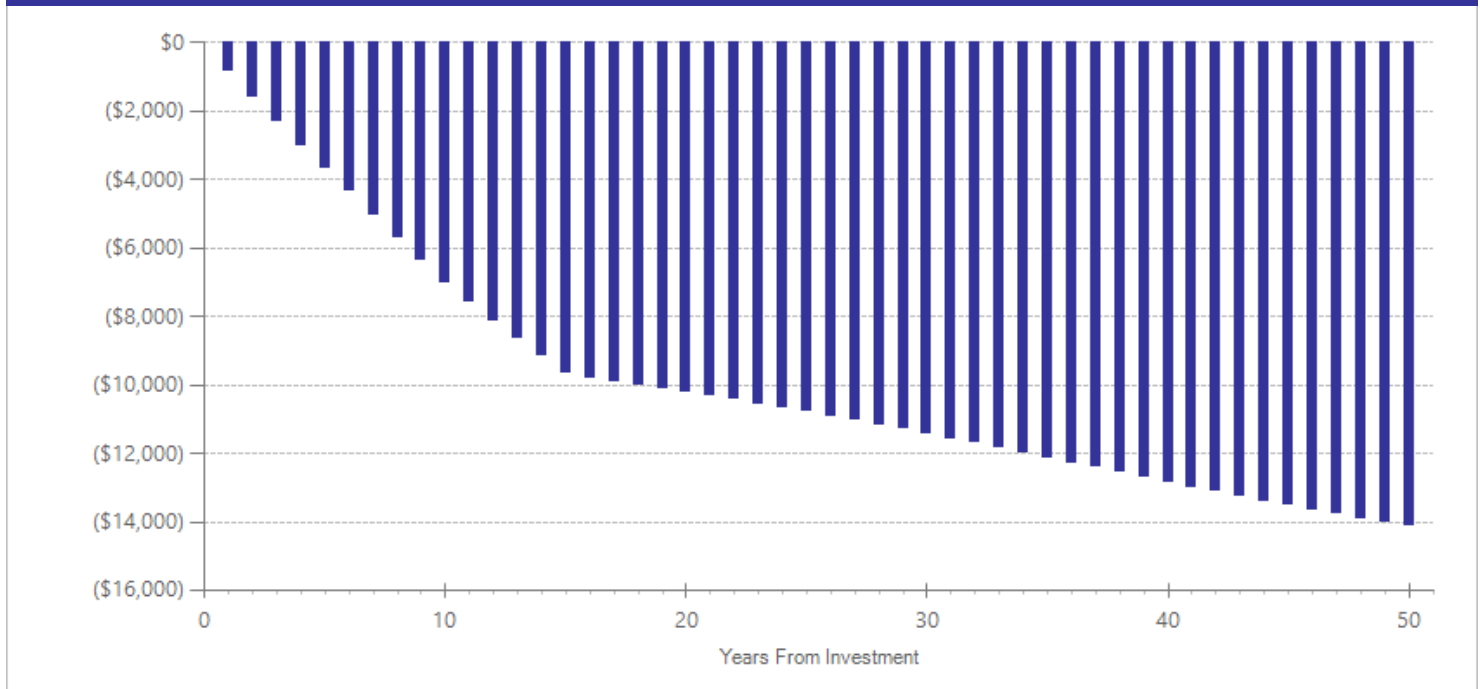
## Detailed Annual Cost Estimates Per Participant

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

The per-participant cost is estimated from a report by Reclaiming Futures, accessed from: [http://reclaimingfutures.org/category/scared\\_straight/page/3](http://reclaimingfutures.org/category/scared_straight/page/3).

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	10	752	0.128	0.072	18	0.128	0.072	28	0.145	0.044

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

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

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

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

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## Intensive supervision (probation)

### Juvenile Justice

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

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

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

### Benefit-Cost Summary Statistics Per Participant

Benefit-Cost Summary Statistics Per Participant			
<b>Benefits to:</b>			
Taxpayers	(\$1,060)	Benefit to cost ratio	(\$1.49)
Participants	(\$280)	Benefits minus costs	(\$10,964)
Others	(\$2,552)	Chance the program will produce	
Indirect	(\$2,662)	benefits greater than the costs	0 %
<u>Total benefits</u>	<u>(\$6,554)</u>		
<u>Net program cost</u>	<u>(\$4,411)</u>		
Benefits minus cost	(\$10,964)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

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	(\$899)	(\$2,452)	(\$450)	(\$3,801)
Labor market earnings associated with high school graduation	(\$314)	(\$142)	(\$144)	\$0	(\$600)
Health care associated with educational attainment	\$9	(\$34)	\$37	(\$17)	(\$4)
Costs of higher education	\$24	\$16	\$7	\$8	\$55
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,203)	(\$2,203)
<b>Totals</b>	<b>(\$280)</b>	<b>(\$1,060)</b>	<b>(\$2,552)</b>	<b>(\$2,662)</b>	<b>(\$6,554)</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.

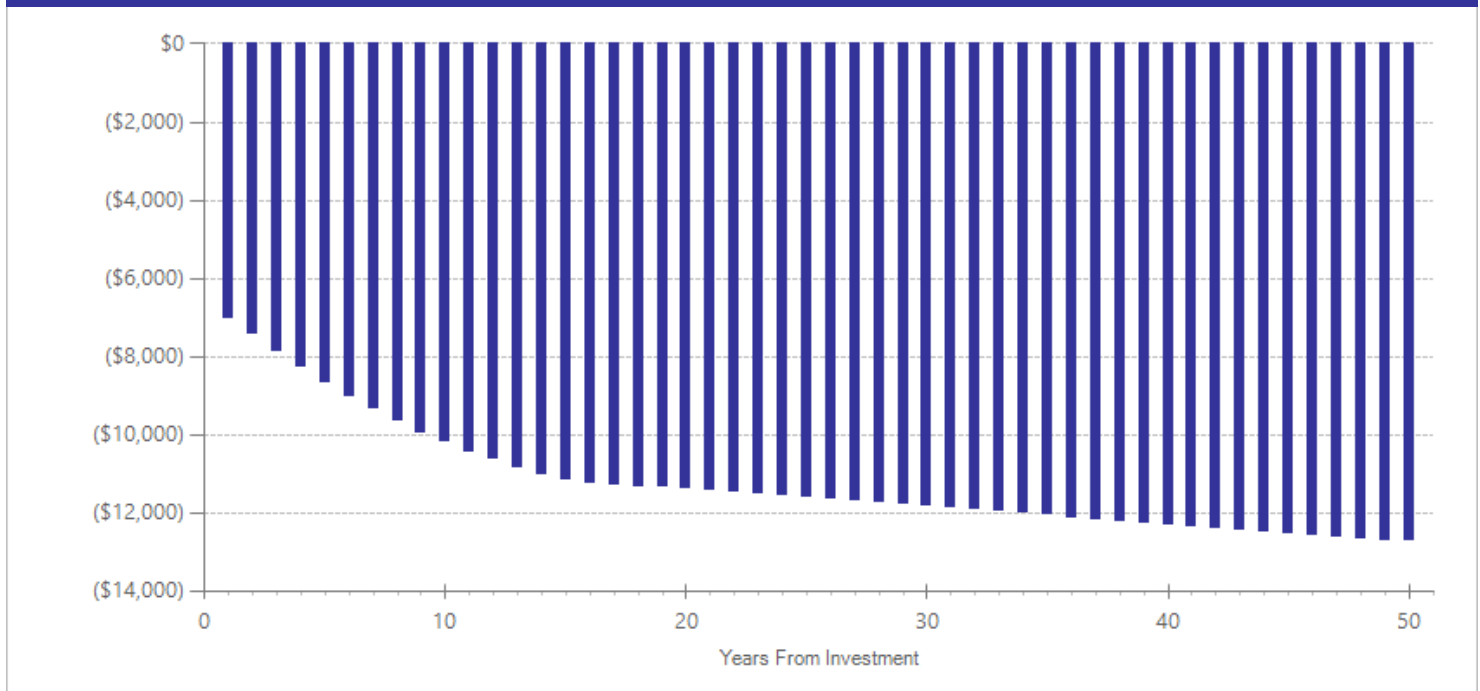
## Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,985	2008	Present value of net program costs (in 2016 dollars)	(\$4,411)
Comparison costs	\$0	2008	Cost range (+ or -)	10 %

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

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

## Detailed Annual Cost Estimates Per Participant



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

## Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	16	5601	0.035	0.028	18	0.035	0.028	28	0.034	0.230
Technical violations^^	3	732	0.435	0.319	18	0.435	0.319	28	0.435	0.173

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

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

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

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

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

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# Dialectical Behavior Therapy

## Juvenile Justice

Literature review updated August 2015.

Program Description: Dialectical Behavior Therapy is a cognitive behavioral treatment for individuals with complex and difficult to treat 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. For this particular study, DBT was delivered to youth who were convicted of crimes and serving sentences at a state juvenile institution.

Meta-Analysis of Program Effects										
Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	1	62	-0.347	0.225	18	-0.347	0.225	28	-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

See WSIPP report: *Recidivism Findings for the Juvenile Rehabilitation Administration's Dialectical Behavior Therapy Program: Final Report*

# Group homes (non-name brand programs)

## Juvenile Justice

Literature review updated June 2015.

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

Meta-Analysis of Program Effects										
Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	1	53	0.000	0.207	14	0.000	0.207	34	0.000	1.000

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

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## Citations Used in the Meta-Analysis

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

# Multisystemic Therapy for juveniles convicted of sex offenses

## Juvenile Justice

Literature review updated June 2014.

Program Description: Multisystemic Therapy for Youth with Problem Sexual Behaviors (MST-PSB) is an adaptation of MST for youth who have committed sexual offenses. MST-PSB addresses a youth's socialization processes and interpersonal transactions. Program staff work with the youth's family and others in the youth's community, such as peers, teachers, or probation officers.

Meta-Analysis of Program Effects										
Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	3	99	-0.250	0.183	16	-0.250	0.183	26	-0.711	0.002

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

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## Citations Used in the Meta-Analysis

- Borduin, C. M., Henggeler, S. W., Blaske, D. M., & Stein, R. (1990). Multisystemic treatment of adolescent sexual offenders. *International Journal of Offender Therapy and Comparative Criminology*, 35(2), 105-113.
- 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.
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## Team Child Juvenile Justice

Literature review updated March 2017.

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

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

Meta-Analysis of Program Effects										
Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	2	315	-0.010	0.095	17	-0.010	0.095	27	-0.010	0.916

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

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

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## 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.

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

## Juvenile Justice

Literature review updated June 2013.

Program Description: Treatment for juveniles convicted of sex offenses (non-MST) includes individual or family therapies that follow cognitive behavioral strategies. Program components can also include relapse prevention, victim empathy, education on human sexuality, healthy attitudes toward sex, and appropriate sexual roles.

### Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	2	131	-0.118	0.386	15	-0.118	0.386	25	-0.118	0.760

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

Lab, S. P., Shields, G., & Schondel, C. (1993). Research note: An evaluation of juvenile sexual offender treatment. *Crime & Delinquency*, 39(4), 543-553.

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.

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## Washington State Institute for Public Policy

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