

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.

Family-based therapy (Parenting with Love and Limits model)

Benefit-cost estimates updated June 2016. 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	\$9,252	Benefit to cost ratio	\$20.56
Participants	\$1,885	Benefits minus costs	\$33,004
Others	\$19,790	Chance the program will produce	
Indirect	\$3,763	benefits greater than the costs	98 %
Total benefits	\$34,691		
Net program cost	(\$1,688)		
Benefits minus cost	\$33,004		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$8,173	\$19,116	\$4,078	\$31,368
Labor market earnings associated with high school graduation	\$2,109	\$958	\$975	\$464	\$4,504
Health care associated with educational attainment	(\$63)	\$228	(\$250)	\$114	\$29
Costs of higher education	(\$161)	(\$107)	(\$50)	(\$53)	(\$370)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$840)	(\$839)
Totals	\$1,885	\$9,252	\$19,790	\$3,763	\$34,691

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

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

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

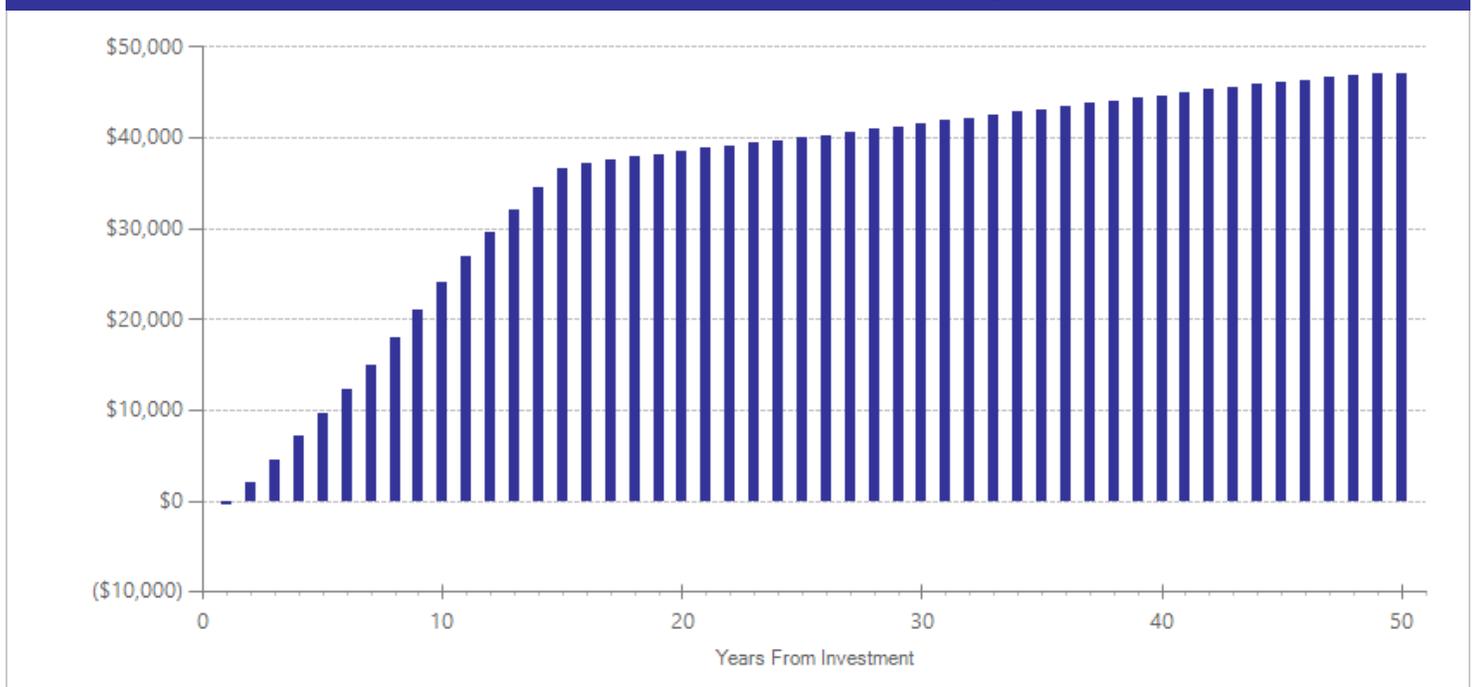
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,682	2014	Present value of net program costs (in 2015 dollars)	(\$1,688)
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. (<http://legacy.nreppadmin.net/ViewIntervention.aspx?id=45>)

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	172	-0.333	0.156	19	-0.333	0.156	29	-0.589	0.033
Externalizing behavior symptoms	1	19	-0.208	0.325	16	-0.099	0.173	19	-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.
- 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.

Functional Family Therapy (youth in state institutions)

Benefit-cost estimates updated June 2016. 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	\$7,833	Benefit to cost ratio	\$9.38
Participants	\$1,239	Benefits minus costs	\$28,723
Others	\$20,888	Chance the program will produce	
Indirect	\$2,191	benefits greater than the costs	99 %
Total benefits	\$32,150		
Net program cost	(\$3,427)		
Benefits minus cost	\$28,723		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$7,124	\$20,448	\$3,565	\$31,137
Labor market earnings associated with high school graduation	\$1,384	\$629	\$636	\$303	\$2,952
Health care associated with educational attainment	(\$41)	\$150	(\$164)	\$75	\$19
Costs of higher education	(\$105)	(\$69)	(\$32)	(\$35)	(\$241)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,717)	(\$1,717)
Totals	\$1,239	\$7,833	\$20,888	\$2,191	\$32,150

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

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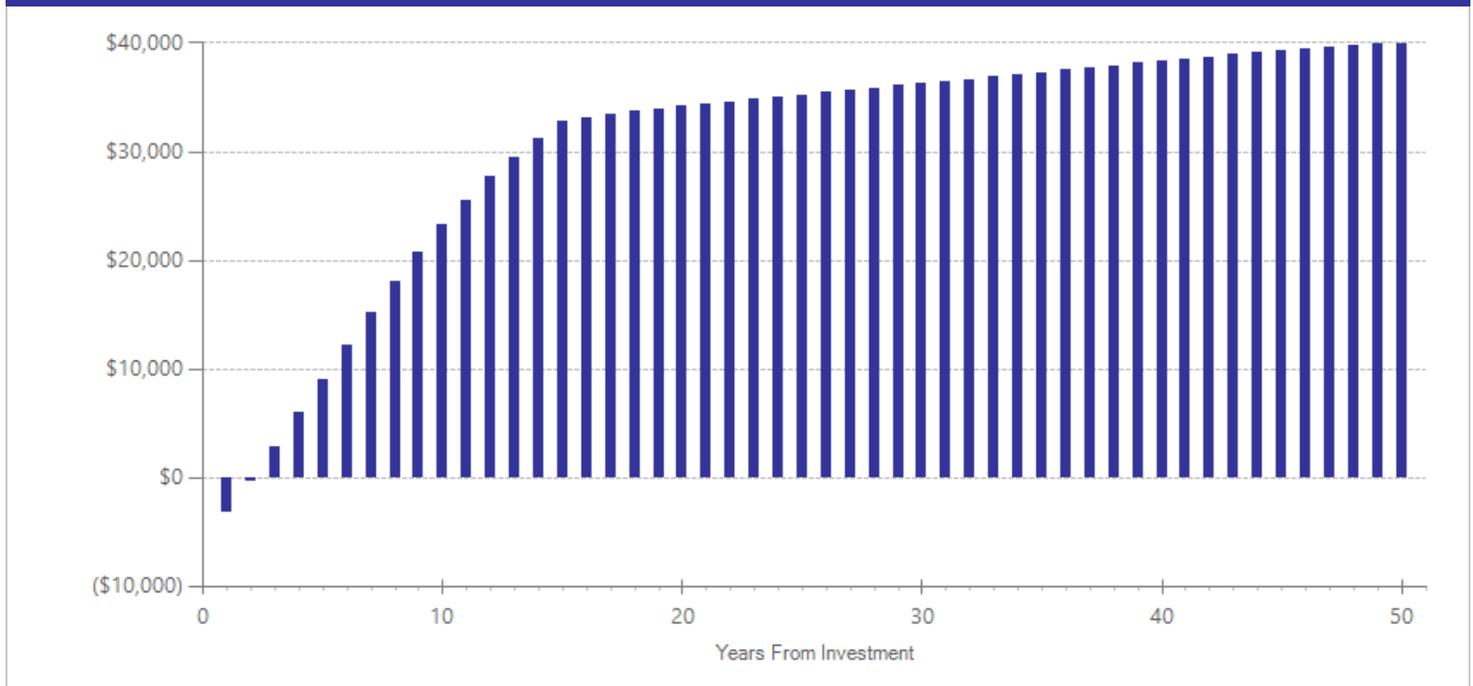
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,134	2008	Present value of net program costs (in 2015 dollars)	(\$3,427)
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.

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

Citations Used in the Meta-Analysis

- Alexander, J.F., & Parsons, B.V. (1973). Short-term behavioral intervention with delinquent families: Impact on family process and recidivism. *Journal of Abnormal Psychology, 81*(3), 219-225.
- Barnoski, R. (2004). *Outcome evaluation of Washington State's research-based programs for juvenile offenders* (Document No. 04-01-1201). Olympia: Washington State Institute for Public Policy.
- Barton, C., Alexander, J.F., Waldron, H., Turner, C.W., & Warburton, J. (1985). Generalizing treatment effects of functional family therapy: Three replications. *American Journal of Family Therapy, 13*(3), 16-26.
- Gordon, D.A., Graves, K., & Arbuthnot, J. (1995). The effect of Functional Family Therapy for delinquents on adult criminal behavior. *Criminal Justice and Behavior, 22*(1), 60-73.
- 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.

Education and Employment Training (EET, King County)

Benefit-cost estimates updated June 2016. 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	\$7,279	Benefit to cost ratio	\$31.24
Participants	\$1,688	Benefits minus costs	\$25,853
Others	\$14,543	Chance the program will produce	
Indirect	\$3,198	benefits greater than the costs	100 %
Total benefits	\$26,708		
Net program cost	(\$855)		
Benefits minus cost	\$25,853		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$6,315	\$13,943	\$3,158	\$23,415
Labor market earnings associated with high school graduation	\$1,885	\$856	\$866	\$413	\$4,020
Health care associated with educational attainment	(\$56)	\$203	(\$222)	\$102	\$27
Costs of higher education	(\$142)	(\$94)	(\$44)	(\$47)	(\$327)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$427)	(\$427)
Totals	\$1,688	\$7,279	\$14,543	\$3,198	\$26,708

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

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

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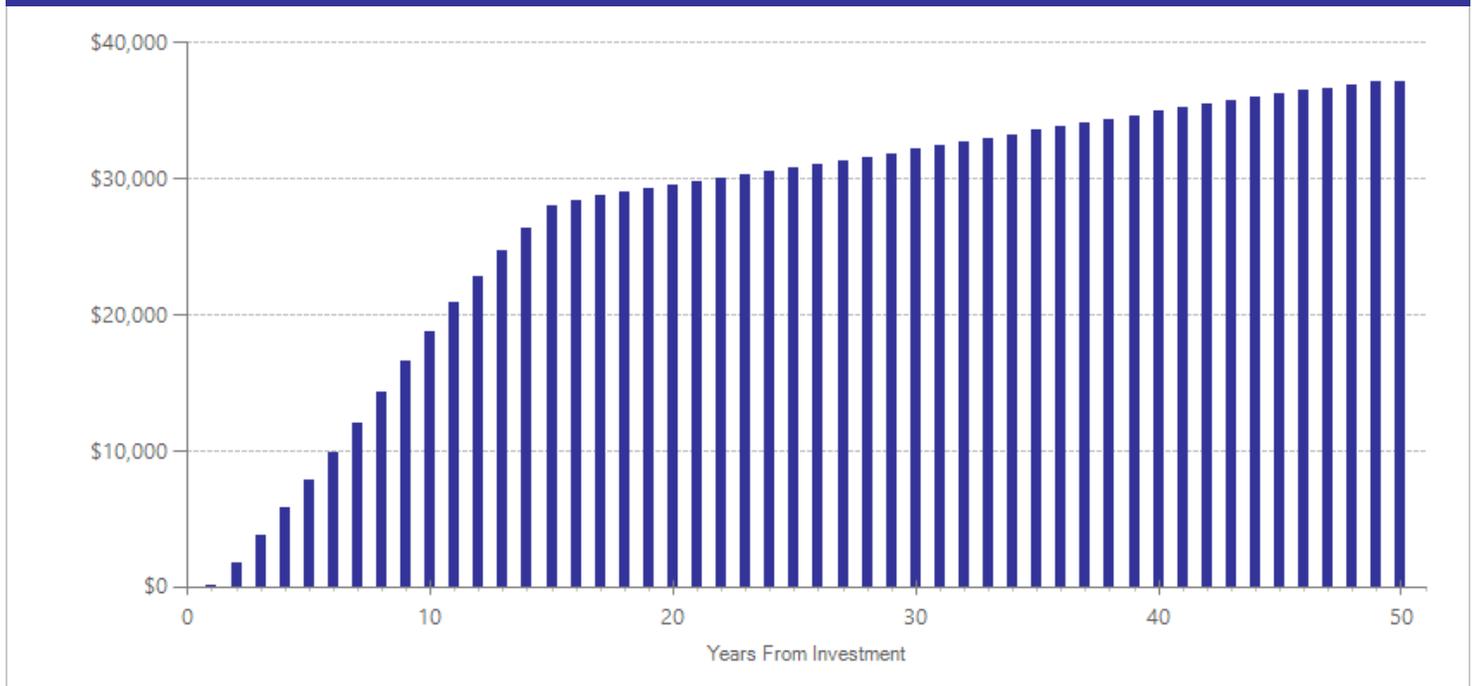
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,776	2012	Present value of net program costs (in 2015 dollars)	(\$855)
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.

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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Functional Family Therapy (youth on probation)

Benefit-cost estimates updated June 2016. 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	\$6,451	Benefit to cost ratio	\$6.51
Participants	\$1,489	Benefits minus costs	\$18,889
Others	\$12,881	Chance the program will produce	
Indirect	\$1,494	benefits greater than the costs	99 %
Total benefits	\$22,316		
Net program cost	(\$3,427)		
Benefits minus cost	\$18,889		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$5,600	\$12,352	\$2,794	\$20,745
Labor market earnings associated with high school graduation	\$1,667	\$757	\$766	\$364	\$3,555
Health care associated with educational attainment	(\$49)	\$180	(\$198)	\$90	\$23
Costs of higher education	(\$129)	(\$86)	(\$40)	(\$43)	(\$297)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,710)	(\$1,710)
Totals	\$1,489	\$6,451	\$12,881	\$1,494	\$22,316

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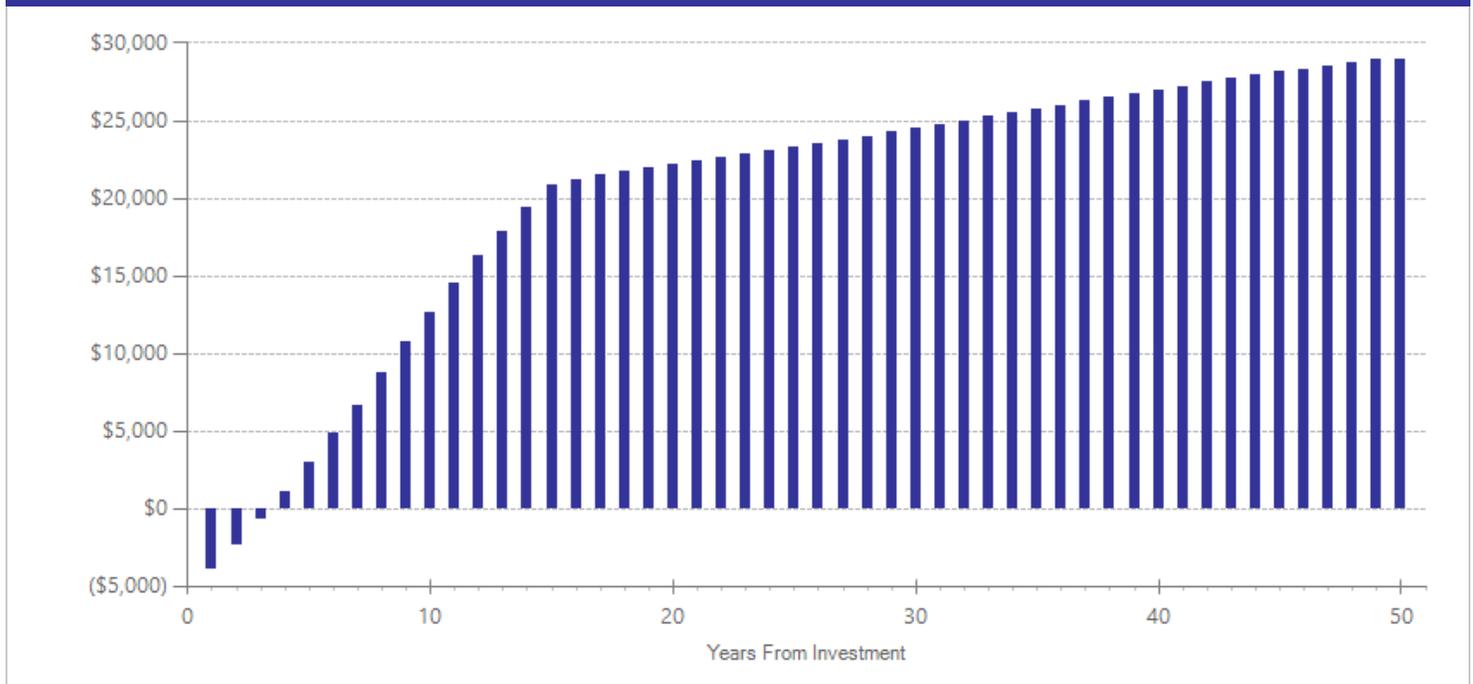
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,134	2008	Present value of net program costs (in 2015 dollars)	(\$3,427)
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.

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			First time ES is estimated			Second time ES is estimated			ES	p-value
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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.

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- 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.

Mentoring

Benefit-cost estimates updated June 2016. 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	\$5,936	Benefit to cost ratio	\$6.53
Participants	\$1,394	Benefits minus costs	\$18,022
Others	\$12,648	Chance the program will produce	
Indirect	\$1,305	benefits greater than the costs	87 %
Total benefits	\$21,283		
Net program cost	(\$3,260)		
Benefits minus cost	\$18,022		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$5,139	\$12,152	\$2,554	\$19,845
Labor market earnings associated with high school graduation	\$1,556	\$707	\$716	\$331	\$3,310
Health care associated with educational attainment	(\$46)	\$168	(\$184)	\$83	\$21
Costs of higher education	(\$117)	(\$77)	(\$36)	(\$38)	(\$269)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,625)	(\$1,625)
Totals	\$1,394	\$5,936	\$12,648	\$1,305	\$21,283

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

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

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

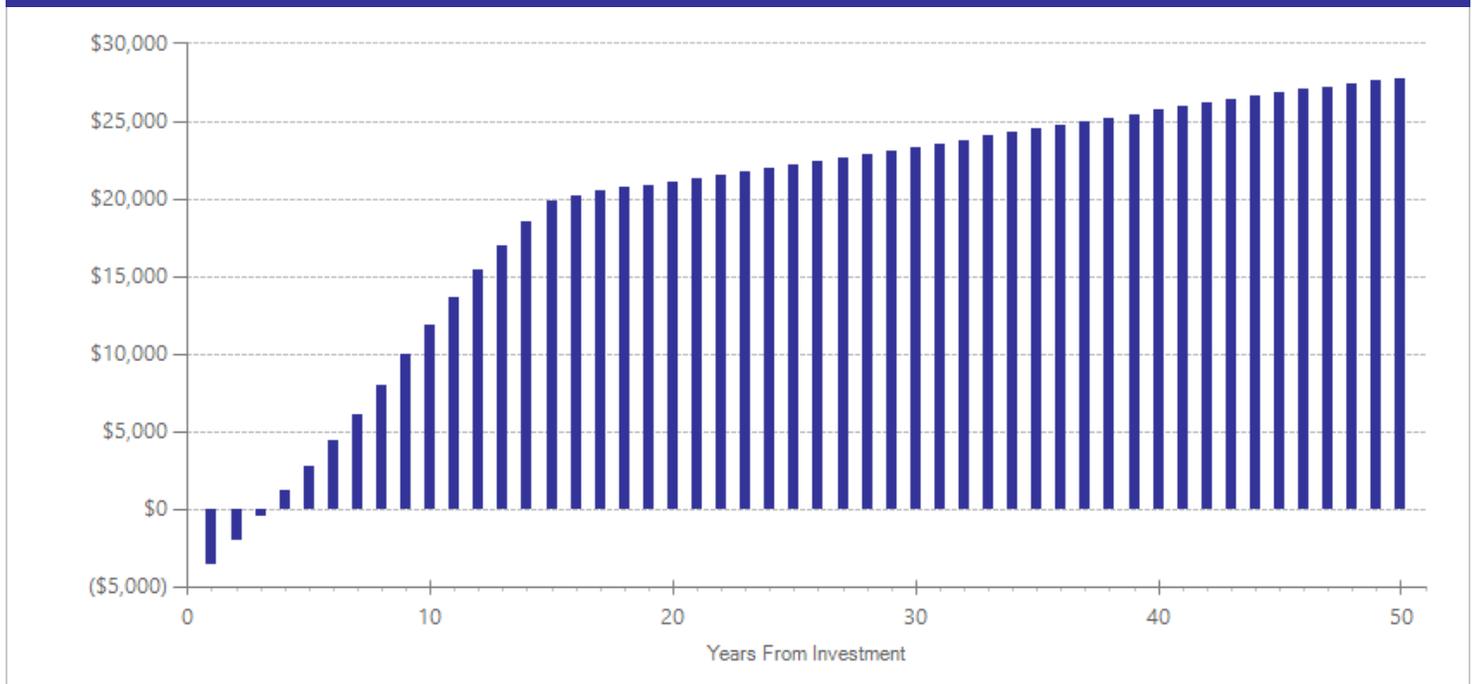
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,748	2005	Present value of net program costs (in 2015 dollars)	(\$3,260)
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

- Blakely, C.H., Menon, R., & Jones, D.J. (1995). *Project BELONG: Final report*. College Station, TX: Texas A&M University, Public Policy Research Institute.
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Aggression Replacement Training (youth in state institutions)

Benefit-cost estimates updated June 2016. 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

Benefit-Cost Summary Statistics Per Participant			
Benefits to:			
Taxpayers	\$4,017	Benefit to cost ratio	\$10.85
Participants	\$833	Benefits minus costs	\$15,606
Others	\$11,149	Chance the program will produce	
Indirect	\$1,190	benefits greater than the costs	92 %
<u>Total benefits</u>	<u>\$17,190</u>		
<u>Net program cost</u>	<u>(\$1,584)</u>		
Benefits minus cost	\$15,606		

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

Detailed Monetary Benefit Estimates Per Participant

Detailed Monetary Benefit Estimates Per Participant					
Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$3,540	\$10,852	\$1,764	\$16,157
Labor market earnings associated with high school graduation	\$930	\$423	\$428	\$192	\$1,973
Health care associated with educational attainment	(\$27)	\$100	(\$110)	\$50	\$13
Costs of higher education	(\$70)	(\$46)	(\$21)	(\$23)	(\$160)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$792)	(\$792)
Totals	<u>\$833</u>	<u>\$4,017</u>	<u>\$11,149</u>	<u>\$1,190</u>	<u>\$17,190</u>

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

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

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

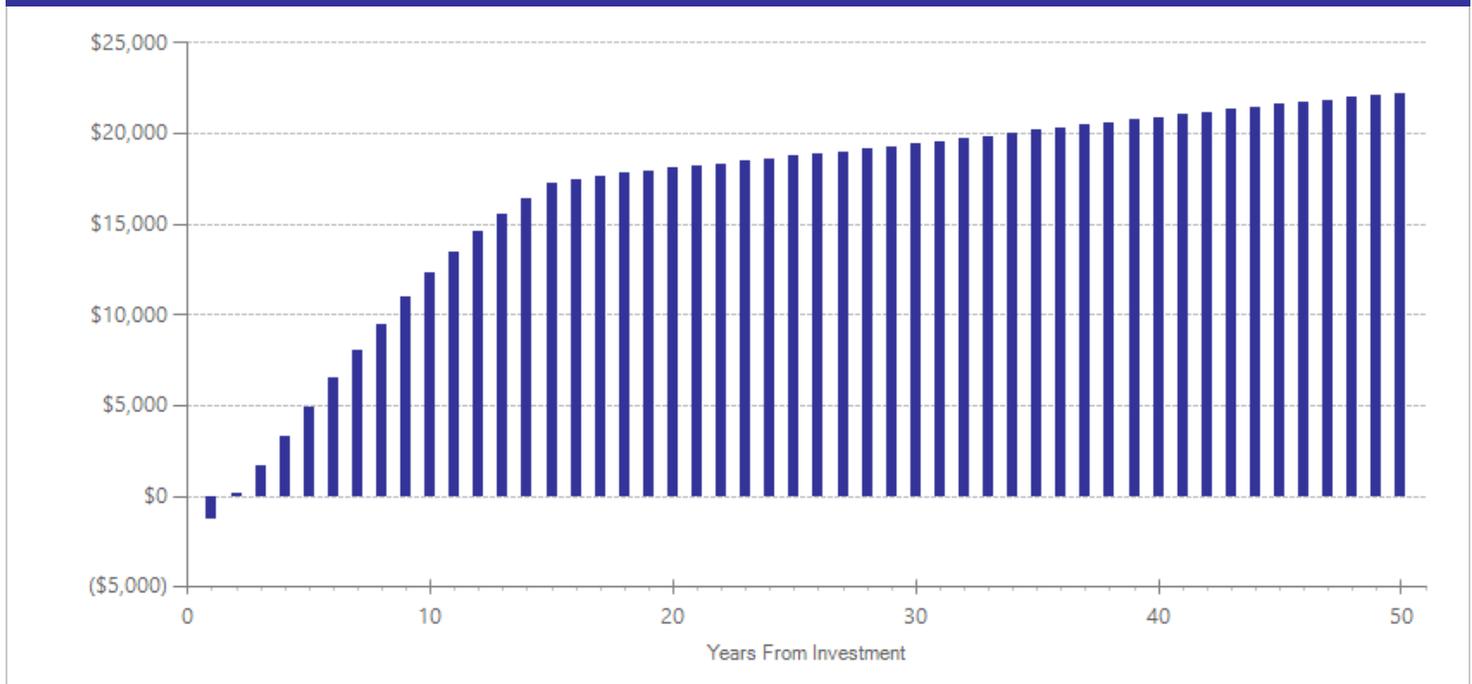
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,449	2008	Present value of net program costs (in 2015 dollars)	(\$1,584)
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.
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- Goldstein, A.P., & Glick, B. (1995). Aggression Replacement Training for delinquents. In R. R. Ross, D. H. Antonowicz, & G. K. Dhaliwal (Eds.), *Going straight: Effective delinquency prevention & offender rehabilitation* (pp. 135-161). Ottawa, Ontario, Canada: AIR Training Publications.

Group homes (Teaching-Family Model)

Benefit-cost estimates updated June 2016. 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	\$10,447	Benefit to cost ratio	\$1.70
Participants	\$2,235	Benefits minus costs	\$15,409
Others	\$30,765	Chance the program will produce	
Indirect	(\$5,938)	benefits greater than the costs	65 %
Total benefits	\$37,510		
Net program cost	(\$22,101)		
Benefits minus cost	\$15,409		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to:¹

Benefits to:

	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$9,168	\$29,970	\$4,559	\$43,697
Labor market earnings associated with high school graduation	\$2,491	\$1,131	\$1,146	\$497	\$5,266
Health care associated with educational attainment	(\$74)	\$269	(\$295)	\$133	\$34
Costs of higher education	(\$183)	(\$121)	(\$56)	(\$60)	(\$420)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$11,067)	(\$11,067)
Totals	\$2,235	\$10,447	\$30,765	(\$5,938)	\$37,510

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

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

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

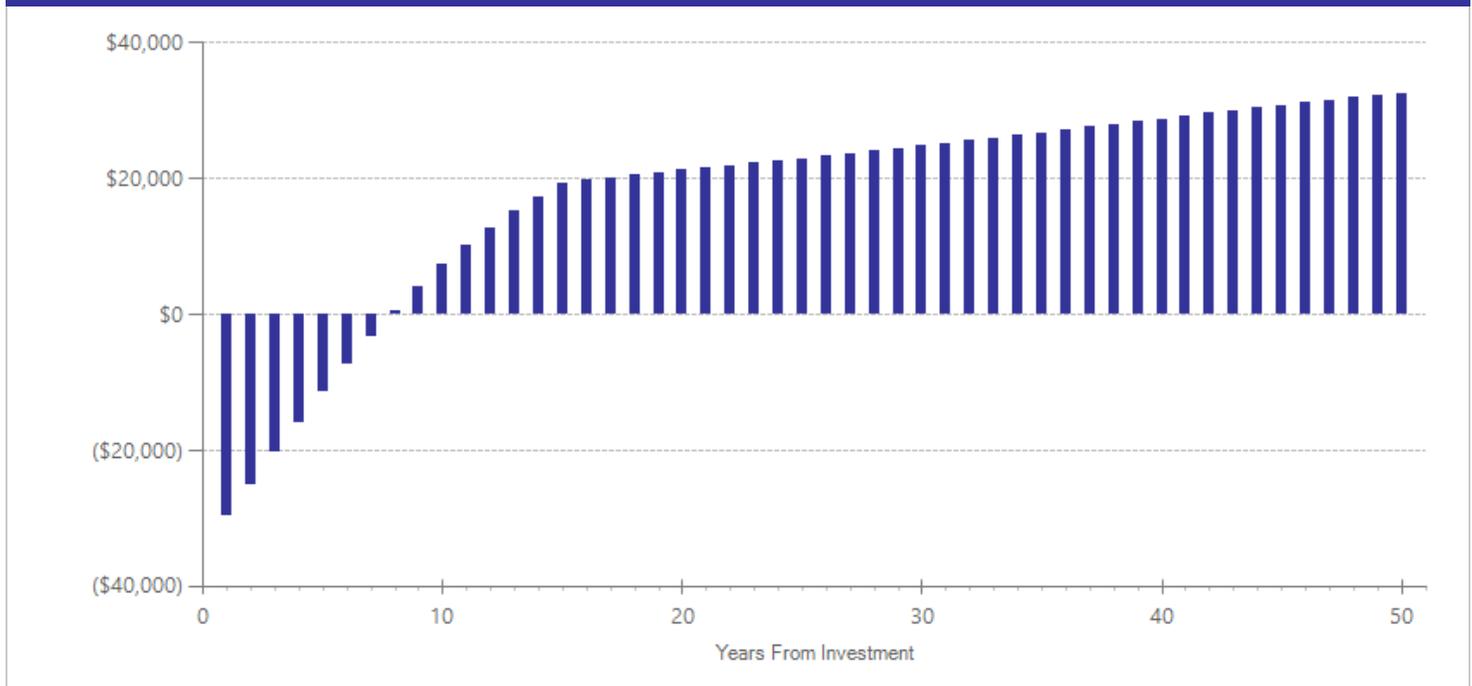
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$20,210	2008	Present value of net program costs (in 2015 dollars)	(\$22,101)
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	14	-0.248	0.200	24	-0.248	0.216

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

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

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

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

Citations Used in the Meta-Analysis

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

Wilderness experience programs

Benefit-cost estimates updated June 2016. 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	\$6,035	Benefit to cost ratio	\$3.04
Participants	\$3,079	Benefits minus costs	\$13,054
Others	\$10,587	Chance the program will produce	
Indirect	(\$259)	benefits greater than the costs	100 %
<u>Total benefits</u>	<u>\$19,442</u>		
<u>Net program cost</u>	<u>(\$6,388)</u>		
Benefits minus cost	\$13,054		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$4,274	\$9,490	\$2,153	\$15,917
Labor market earnings associated with high school graduation	\$3,437	\$1,561	\$1,581	\$707	\$7,286
Health care associated with educational attainment	(\$102)	\$371	(\$406)	\$187	\$51
Costs of higher education	(\$257)	(\$170)	(\$79)	(\$86)	(\$592)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,221)	(\$3,220)
Totals	\$3,079	\$6,035	\$10,587	(\$259)	\$19,442

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

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

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

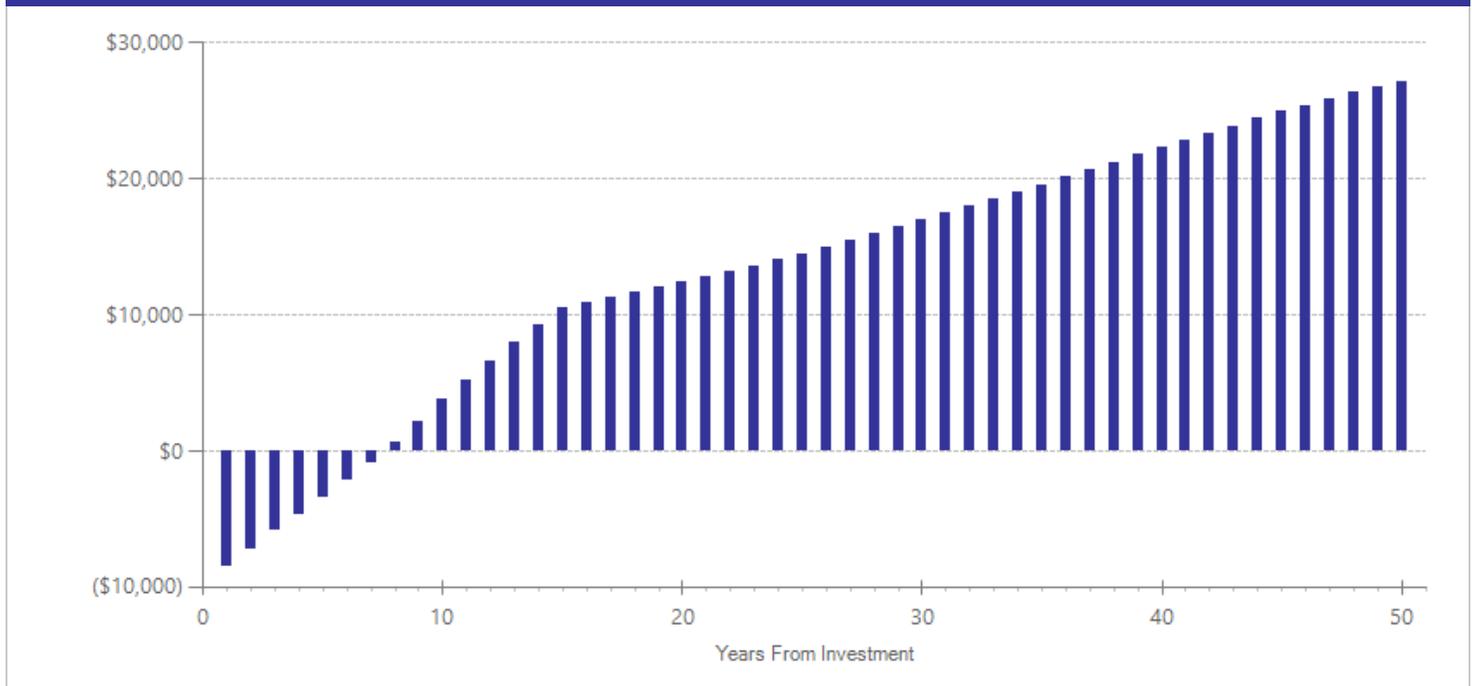
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$6,389	2015	Present value of net program costs (in 2015 dollars)	(\$6,388)
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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Cognitive Behavioral Therapy (CBT)

Benefit-cost estimates updated June 2016. 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

Benefit-Cost Summary Statistics Per Participant			
Benefits to:			
Taxpayers	\$3,023	Benefit to cost ratio	\$28.56
Participants	\$797	Benefits minus costs	\$10,756
Others	\$6,025	Chance the program will produce	
Indirect	\$1,301	benefits greater than the costs	94 %
<u>Total benefits</u>	<u>\$11,146</u>		
<u>Net program cost</u>	<u>(\$390)</u>		
Benefits minus cost	\$10,756		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,567	\$5,741	\$1,281	\$9,590
Labor market earnings associated with high school graduation	\$891	\$405	\$410	\$189	\$1,895
Health care associated with educational attainment	(\$26)	\$96	(\$106)	\$48	\$12
Costs of higher education	(\$68)	(\$45)	(\$21)	(\$22)	(\$156)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$195)	(\$195)
Totals	\$797	\$3,023	\$6,025	\$1,301	\$11,146

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

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

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

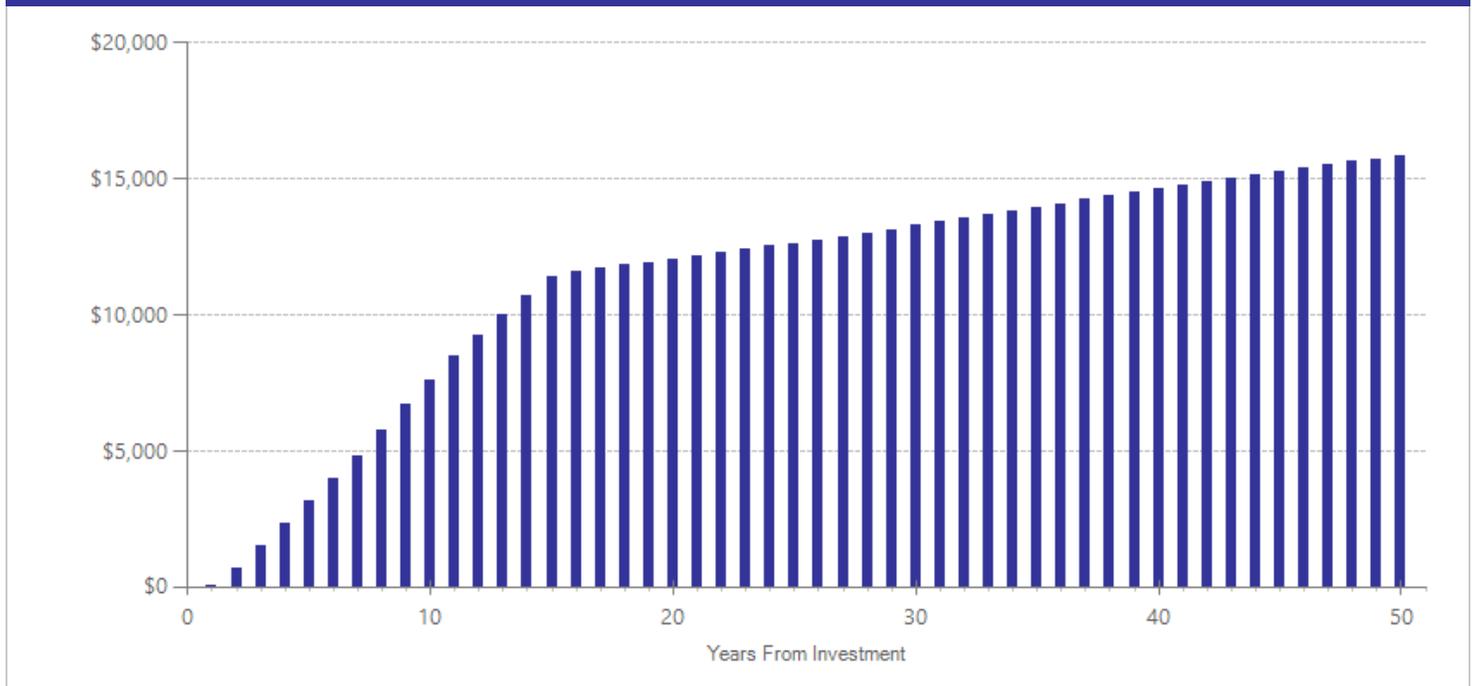
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$285	1998	Present value of net program costs (in 2015 dollars)	(\$390)
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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Aggression Replacement Training (youth on probation)

Benefit-cost estimates updated June 2016. 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	\$3,435	Benefit to cost ratio	\$7.78
Participants	\$956	Benefits minus costs	\$10,742
Others	\$7,031	Chance the program will produce	
Indirect	\$905	benefits greater than the costs	91 %
<u>Total benefits</u>	<u>\$12,327</u>		
<u>Net program cost</u>	<u>(\$1,585)</u>		
Benefits minus cost	\$10,742		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,887	\$6,695	\$1,450	\$11,033
Labor market earnings associated with high school graduation	\$1,067	\$485	\$487	\$218	\$2,256
Health care associated with educational attainment	(\$32)	\$116	(\$127)	\$59	\$16
Costs of higher education	(\$79)	(\$53)	(\$24)	(\$26)	(\$183)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$795)	(\$795)
Totals	\$956	\$3,435	\$7,031	\$905	\$12,327

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

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

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

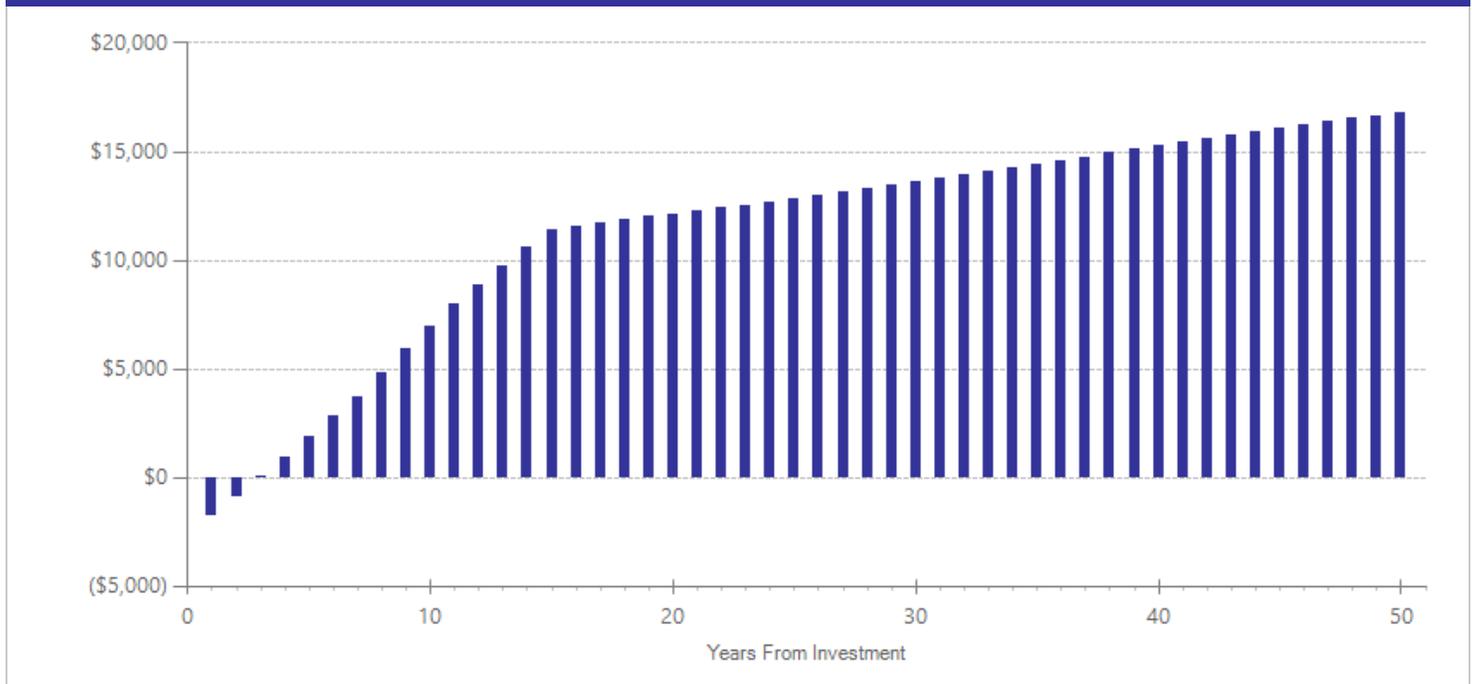
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,449	2008	Present value of net program costs (in 2015 dollars)	(\$1,585)
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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Other family-based therapies (non-name brand)

Benefit-cost estimates updated June 2016. 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	\$3,062	Benefit to cost ratio	\$6.15
Participants	\$890	Benefits minus costs	\$9,248
Others	\$6,481	Chance the program will produce	
Indirect	\$611	benefits greater than the costs	95 %
Total benefits	\$11,043		
Net program cost	(\$1,795)		
Benefits minus cost	\$9,248		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,552	\$6,165	\$1,282	\$10,000
Labor market earnings associated with high school graduation	\$992	\$451	\$456	\$198	\$2,097
Health care associated with educational attainment	(\$29)	\$108	(\$118)	\$54	\$15
Costs of higher education	(\$73)	(\$49)	(\$23)	(\$24)	(\$169)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$900)	(\$900)
Totals	\$890	\$3,062	\$6,481	\$611	\$11,043

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

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

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

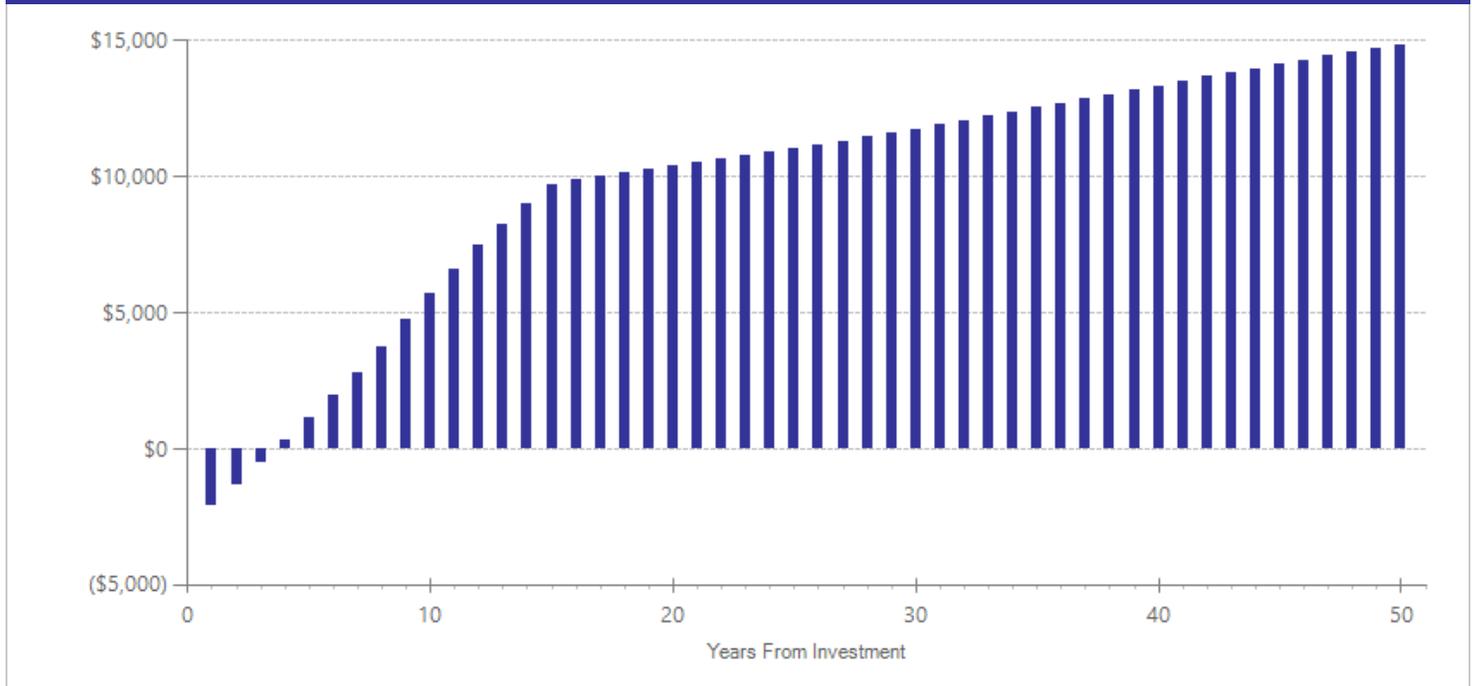
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,788	2014	Present value of net program costs (in 2015 dollars)	(\$1,795)
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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Adolescent Diversion Project

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

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

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

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	\$2,127	Benefit to cost ratio	n/a
Participants	\$826	Benefits minus costs	\$9,076
Others	\$3,647	Chance the program will produce	
Indirect	\$1,522	benefits greater than the costs	97 %
<u>Total benefits</u>	<u>\$8,122</u>		
<u>Net program cost</u>	<u>\$954</u>		
Benefits minus cost	\$9,076		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,655	\$3,354	\$832	\$5,841
Labor market earnings associated with high school graduation	\$921	\$418	\$422	\$183	\$1,944
Health care associated with educational attainment	(\$27)	\$99	(\$108)	\$50	\$13
Costs of higher education	(\$68)	(\$45)	(\$21)	(\$22)	(\$156)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$480	\$480
Totals	\$826	\$2,127	\$3,647	\$1,522	\$8,122

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

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

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

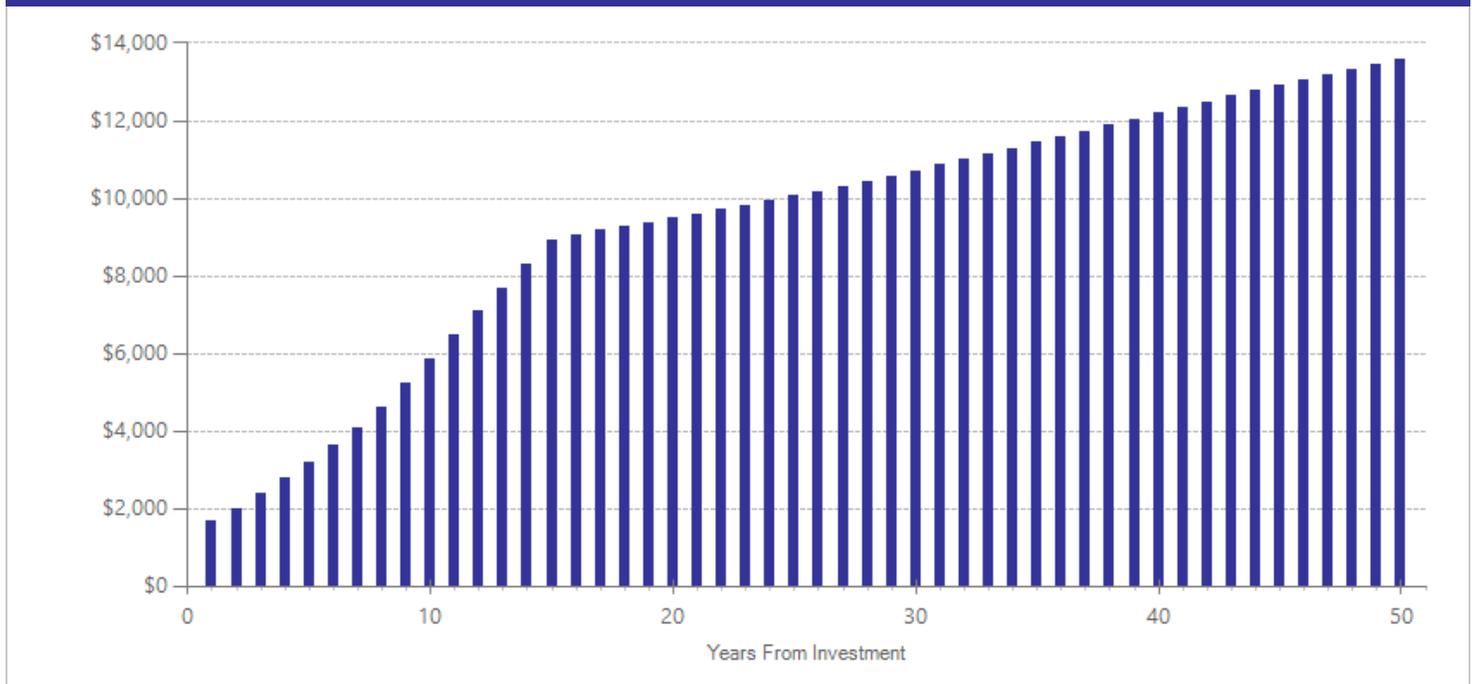
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,021	2006	Present value of net program costs (in 2015 dollars)	\$954
Comparison costs	\$1,950	2008	Cost range (+ or -)	10 %

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

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

Detailed Annual Cost Estimates Per Participant



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

Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Crime	6	628	-0.129	0.083	17	-0.129	0.083	19	-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](#).

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Family Integrated Transitions (youth in state institutions)

Benefit-cost estimates updated June 2016. 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	\$5,882	Benefit to cost ratio	\$1.73
Participants	\$1,219	Benefits minus costs	\$8,616
Others	\$16,323	Chance the program will produce	
Indirect	(\$3,001)	benefits greater than the costs	67 %
Total benefits	\$20,424		
Net program cost	(\$11,809)		
Benefits minus cost	\$8,616		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$5,186	\$15,889	\$2,604	\$23,679
Labor market earnings associated with high school graduation	\$1,359	\$617	\$625	\$279	\$2,881
Health care associated with educational attainment	(\$40)	\$145	(\$159)	\$73	\$19
Costs of higher education	(\$100)	(\$67)	(\$31)	(\$33)	(\$231)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$5,923)	(\$5,923)
Totals	\$1,219	\$5,882	\$16,323	(\$3,001)	\$20,424

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

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

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

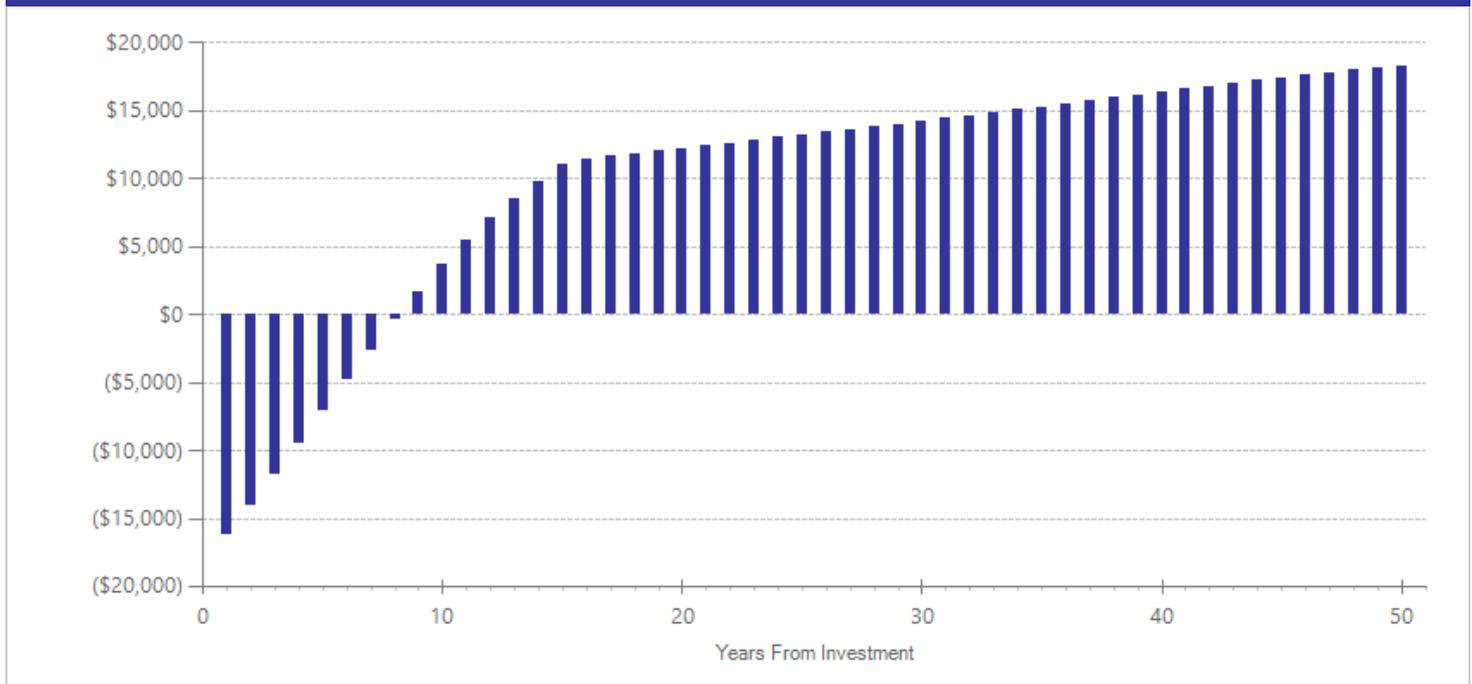
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$10,795	2008	Present value of net program costs (in 2015 dollars)	(\$11,809)
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.

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

Benefit-cost estimates updated June 2016. 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	\$1,762	Benefit to cost ratio	n/a
Participants	\$705	Benefits minus costs	\$7,924
Others	\$2,991	Chance the program will produce	
Indirect	\$1,398	benefits greater than the costs	98 %
<hr/> Total benefits	<hr/> \$6,856		
Net program cost	\$1,068		
Benefits minus cost	\$7,924		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to:¹

Benefits to:

	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,359	\$2,740	\$682	\$4,781
Labor market earnings associated with high school graduation	\$785	\$357	\$361	\$156	\$1,660
Health care associated with educational attainment	(\$23)	\$84	(\$93)	\$42	\$11
Costs of higher education	(\$57)	(\$38)	(\$18)	(\$19)	(\$132)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$536	\$537
<hr/> Totals	<hr/> \$705	<hr/> \$1,762	<hr/> \$2,991	<hr/> \$1,398	<hr/> \$6,856

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

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

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

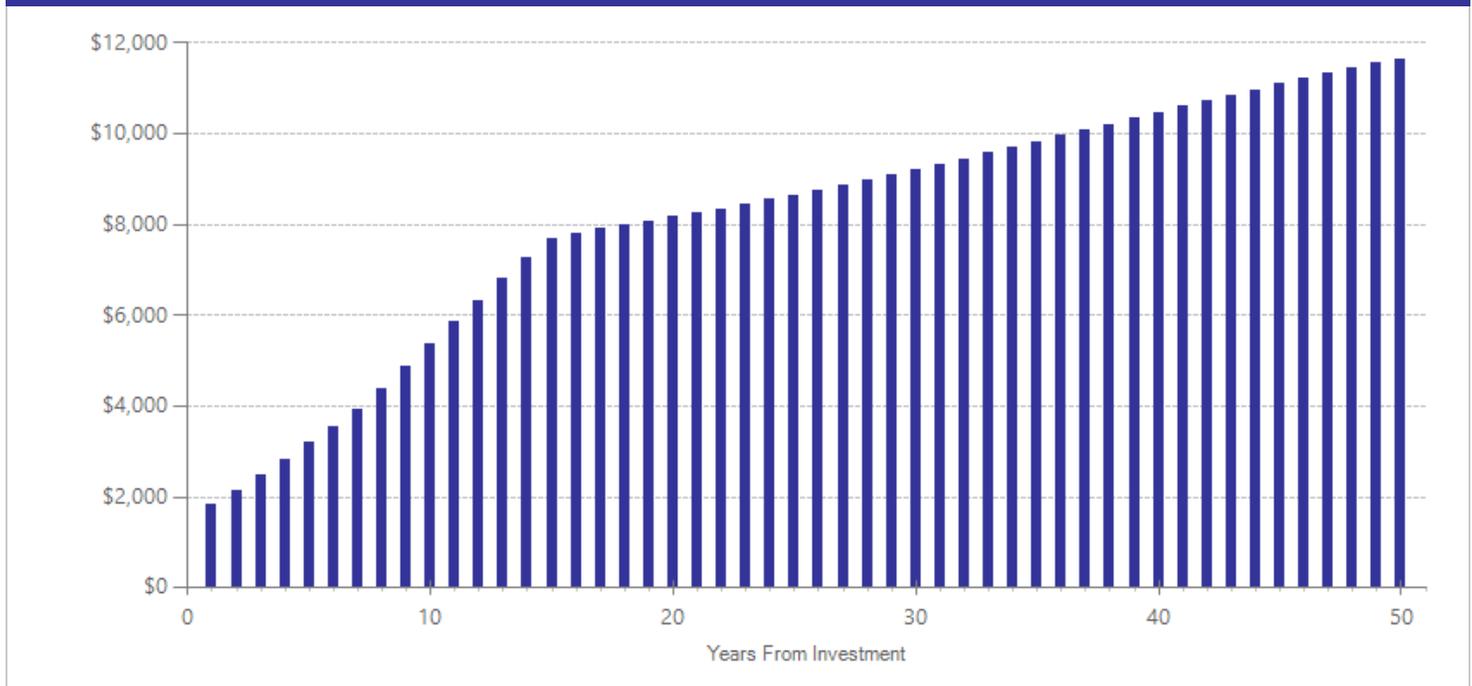
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$353	2014	Present value of net program costs (in 2015 dollars)	\$1,068
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	15	-0.098	0.061	25	-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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- Smith, E.P., Wolf, A.M., Cantillon, D.M., Thomas, O., & Davidson, W.S. (2004). The adolescent diversion project: 25 years of research on an ecological model of intervention. *Journal of Prevention & Intervention in the Community*, 27(2), 29-47.

Functional Family Parole (with quality assurance)

Benefit-cost estimates updated June 2016. 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	\$3,199	Benefit to cost ratio	\$2.56
Participants	\$641	Benefits minus costs	\$7,144
Others	\$8,552	Chance the program will produce	
Indirect	(\$682)	benefits greater than the costs	72 %
Total benefits	\$11,711		
Net program cost	(\$4,567)		
Benefits minus cost	\$7,144		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,831	\$8,324	\$1,406	\$12,561
Labor market earnings associated with high school graduation	\$716	\$325	\$330	\$152	\$1,524
Health care associated with educational attainment	(\$21)	\$78	(\$85)	\$39	\$10
Costs of higher education	(\$54)	(\$36)	(\$17)	(\$18)	(\$124)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,260)	(\$2,260)
Totals	\$641	\$3,199	\$8,552	(\$682)	\$11,711

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

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

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

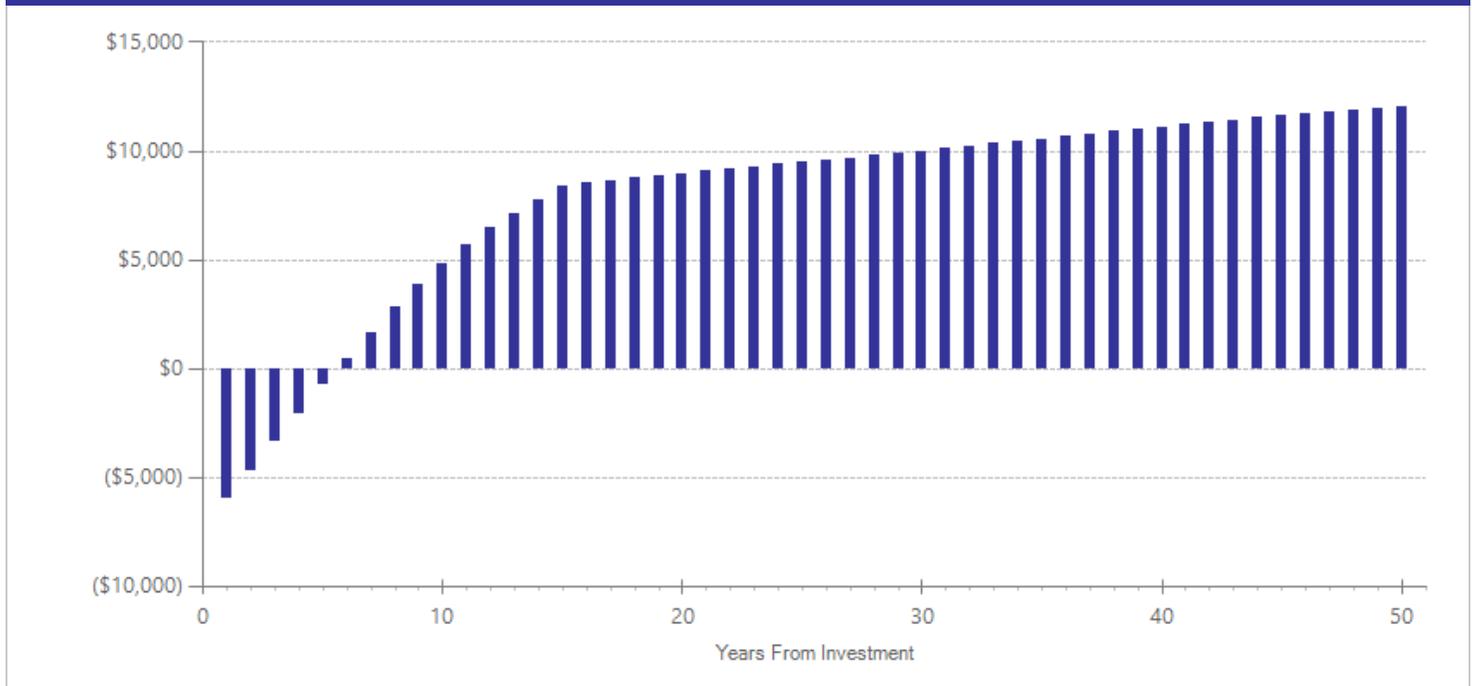
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$4,426	2012	Present value of net program costs (in 2015 dollars)	(\$4,567)
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	17	-0.087	0.077	27	-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.

Sexton, T., Rowland, M., & McEnery, A., (2009). *Interim Outcome Evaluation of the Washington State Functional Family Parole Project*. Center for Adolescent and Family Studies. Bloomington, Indiana.

Therapeutic communities for substance abusers

Benefit-cost estimates updated June 2016. Literature review updated December 2012.

Program Description: Therapeutic communities are the most intensive form of substance abuse 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	\$3,154	Benefit to cost ratio	\$2.51
Participants	\$655	Benefits minus costs	\$7,047
Others	\$8,672	Chance the program will produce	
Indirect	(\$770)	benefits greater than the costs	76 %
<u>Total benefits</u>	<u>\$11,711</u>		
<u>Net program cost</u>	<u>(\$4,664)</u>		
Benefits minus cost	\$7,047		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,828	\$8,312	\$1,426	\$12,566
Labor market earnings associated with high school graduation	\$692	\$314	\$320	\$147	\$1,475
Health care associated with smoking	\$15	\$46	\$57	\$24	\$141
Costs of higher education	(\$52)	(\$35)	(\$16)	(\$18)	(\$121)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,350)	(\$2,350)
Totals	\$655	\$3,154	\$8,672	(\$770)	\$11,711

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

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

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

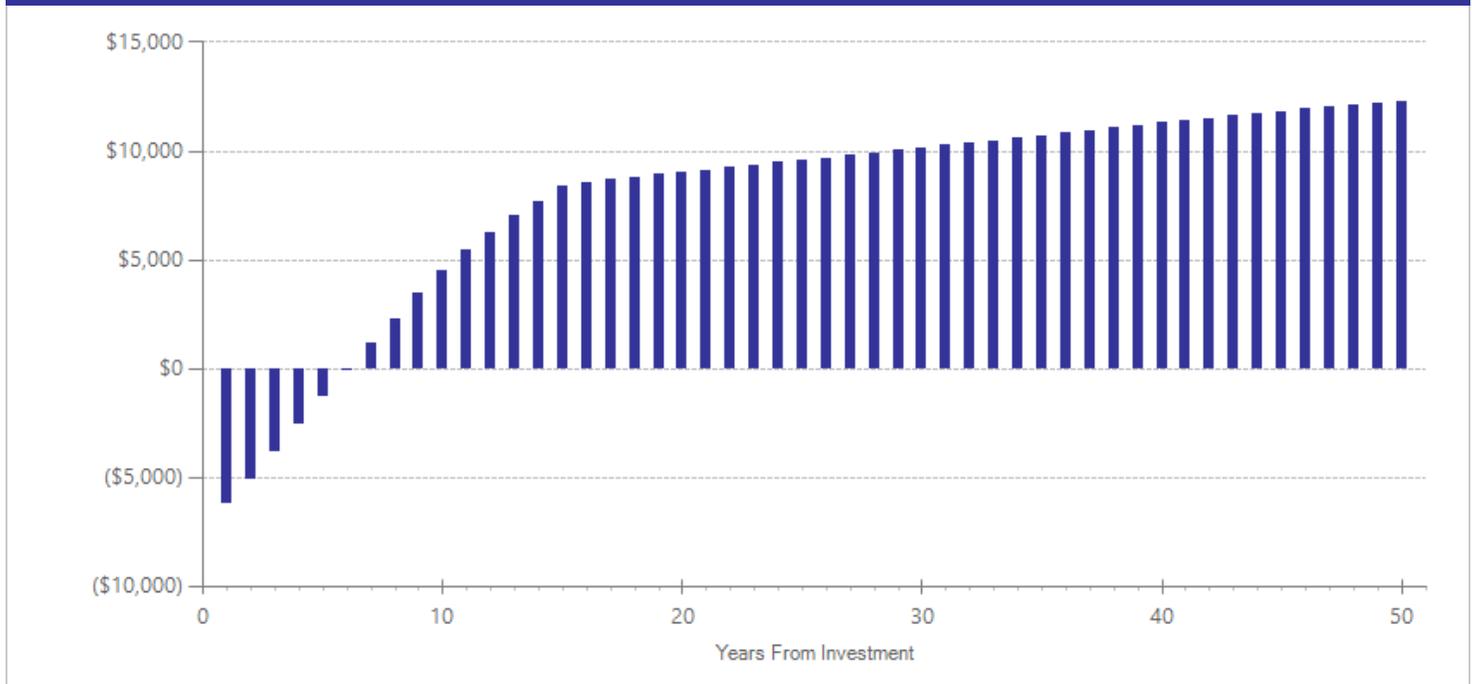
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$4,522	2012	Present value of net program costs (in 2015 dollars)	(\$4,664)
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	4	1158	-0.113	0.075	18	-0.113	0.075	28	-0.113	0.131
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.

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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

- Gordon, J.A. (2002). *Barrett Juvenile Correctional Center: Is it effective?: A comparison of youth released from a residential substance abuse treatment center to youth at a traditional juvenile correctional center*. Richmond, VA: Virginia Commonwealth University.
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- Pealer, J.A. (2004). *A community of peers—promoting behavior change: The effectiveness of a therapeutic community for juvenile male offenders in reducing recidivism*. Unpublished doctoral dissertation, University of Cincinnati, Ohio.

Coordination of Services

Benefit-cost estimates updated June 2016. 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	\$1,737	Benefit to cost ratio	\$15.20
Participants	\$886	Benefits minus costs	\$5,886
Others	\$3,040	Chance the program will produce	
Indirect	\$637	benefits greater than the costs	95 %
Total benefits	\$6,300		
Net program cost	(\$414)		
Benefits minus cost	\$5,886		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,230	\$2,727	\$612	\$4,569
Labor market earnings associated with high school graduation	\$990	\$449	\$453	\$202	\$2,094
Health care associated with educational attainment	(\$29)	\$107	(\$117)	\$53	\$14
Costs of higher education	(\$74)	(\$49)	(\$23)	(\$24)	(\$170)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$206)	(\$206)
Totals	\$886	\$1,737	\$3,040	\$637	\$6,300

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

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

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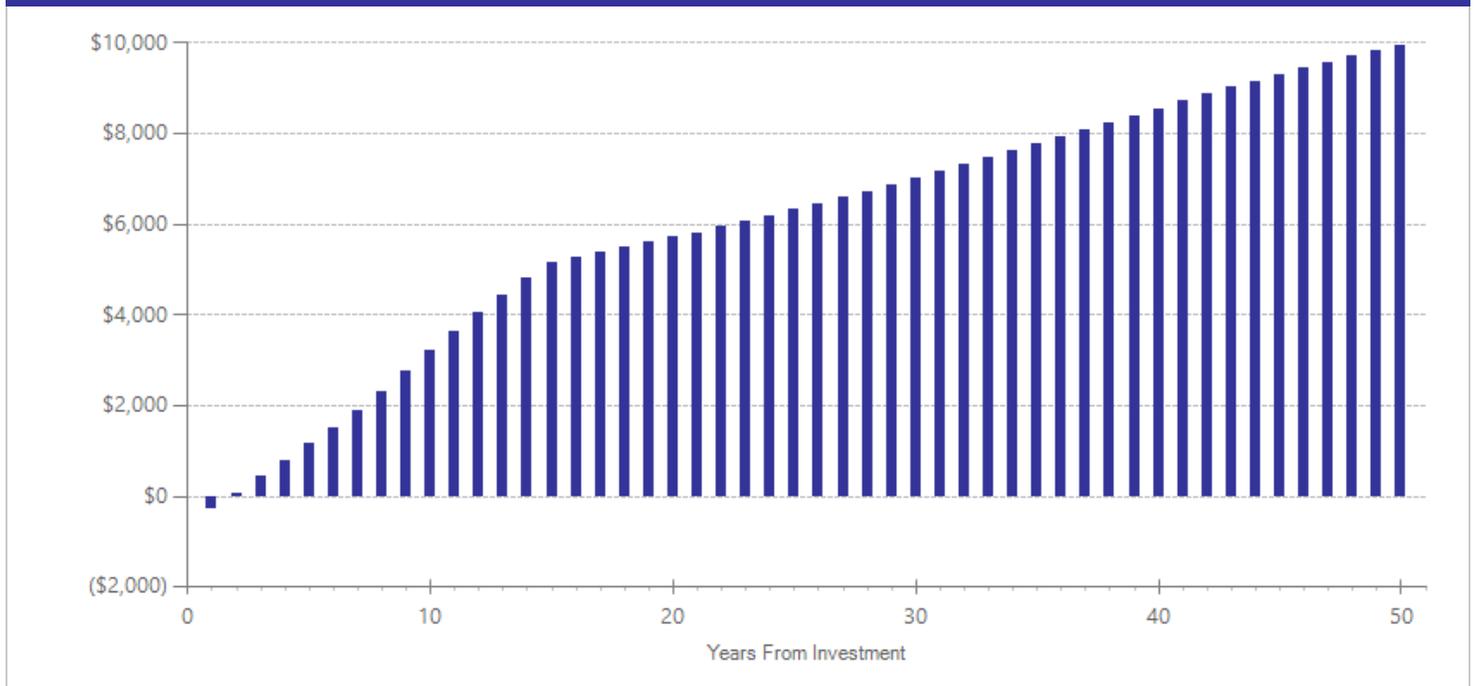
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$379	2008	Present value of net program costs (in 2015 dollars)	(\$414)
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.

Fumia, D., Drake, E., & He, L. (2015). *Washington's Coordination of Services program for juvenile offenders: Outcome evaluation and benefit-cost analysis* (Doc. No. 15-09-1901). Olympia: Washington State Institute for Public Policy.

Multidimensional Treatment Foster Care

Benefit-cost estimates updated June 2016. 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	\$4,168	Benefit to cost ratio	\$1.70
Participants	\$873	Benefits minus costs	\$5,815
Others	\$11,130	Chance the program will produce	
Indirect	(\$2,074)	benefits greater than the costs	61 %
Total benefits	\$14,097		
Net program cost	(\$8,282)		
Benefits minus cost	\$5,815		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$3,613	\$10,640	\$1,806	\$16,058
Labor market earnings associated with high school graduation	\$920	\$418	\$422	\$194	\$1,953
K-12 grade repetition	\$0	\$23	\$0	\$11	\$34
K-12 special education	\$0	\$90	\$0	\$45	\$135
Property loss associated with alcohol abuse or dependence	\$1	\$0	\$2	\$0	\$3
Health care associated with disruptive behavior disorder	\$23	\$71	\$88	\$36	\$219
Costs of higher education	(\$71)	(\$47)	(\$22)	(\$23)	(\$163)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$4,143)	(\$4,142)
Totals	\$873	\$4,168	\$11,130	(\$2,074)	\$14,097

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

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

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

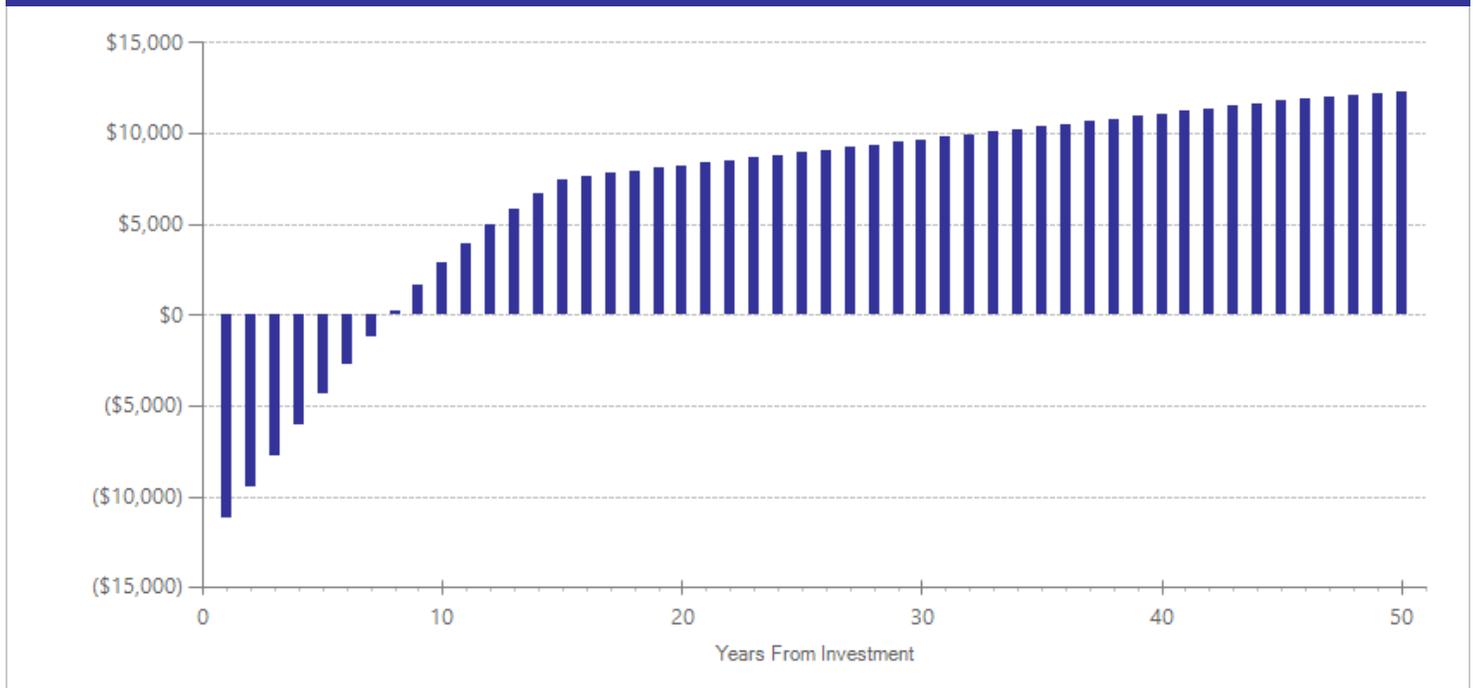
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$31,883	2007	Present value of net program costs (in 2015 dollars)	(\$8,282)
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		
Crime	3	81	-0.110	0.126	17	-0.110	0.126	27	-0.544	0.091
Teen pregnancy (under age 18)	1	134	-0.538	0.187	16	-0.538	0.187	18	-0.538	0.004
Externalizing behavior symptoms	1	20	-0.627	0.350	17	-0.299	0.221	20	-0.627	0.073
Internalizing symptoms	1	20	-0.428	0.346	17	-0.312	0.295	20	-0.428	0.216
Alcohol use in high school	1	32	-0.045	0.240	17	-0.045	0.240	19	-0.126	0.601
Smoking in high school	1	32	-0.068	0.240	17	-0.068	0.240	19	-0.190	0.429
Cannabis use in high school	1	32	-0.083	0.240	17	-0.083	0.240	19	-0.230	0.340
Illicit drug use in high school	1	32	-0.094	0.240	17	-0.094	0.240	19	-0.261	0.279

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

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

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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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Multisystemic Therapy

Benefit-cost estimates updated June 2016. 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	\$3,872	Benefit to cost ratio	\$1.74
Participants	\$805	Benefits minus costs	\$5,746
Others	\$10,745	Chance the program will produce	
Indirect	(\$1,945)	benefits greater than the costs	75 %
<u>Total benefits</u>	<u>\$13,477</u>		
<u>Net program cost</u>	<u>(\$7,731)</u>		
Benefits minus cost	\$5,746		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to:¹

Benefits to:

	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$3,412	\$10,458	\$1,705	\$15,575
Labor market earnings associated with high school graduation	\$899	\$408	\$414	\$185	\$1,906
Health care associated with educational attainment	(\$27)	\$97	(\$106)	\$48	\$12
Costs of higher education	(\$67)	(\$45)	(\$21)	(\$22)	(\$155)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,861)	(\$3,861)
<u>Totals</u>	<u>\$805</u>	<u>\$3,872</u>	<u>\$10,745</u>	<u>(\$1,945)</u>	<u>\$13,477</u>

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

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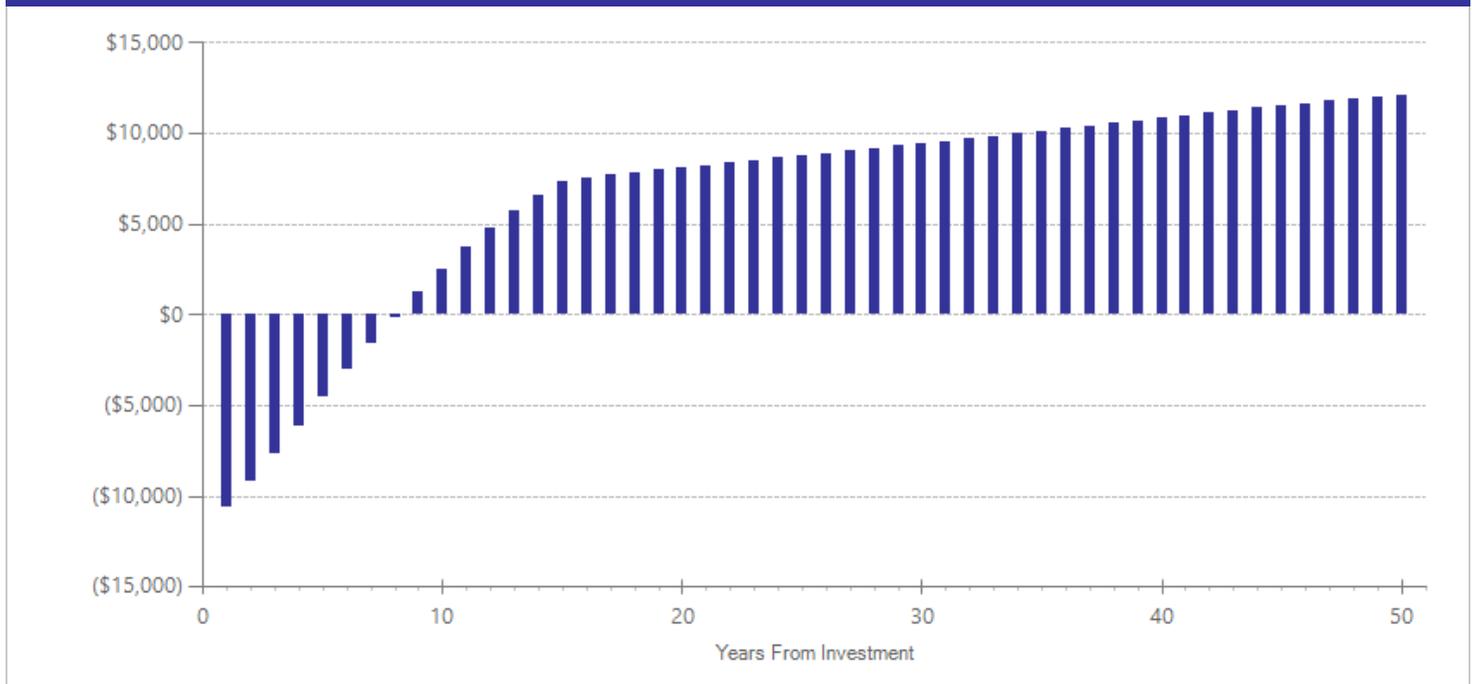
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$7,076	2008	Present value of net program costs (in 2015 dollars)	(\$7,731)
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

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Citations Used in the Meta-Analysis

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Multisystemic Therapy for substance abusers

Benefit-cost estimates updated June 2016. 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	\$3,954	Benefit to cost ratio	\$1.64
Participants	\$181	Benefits minus costs	\$4,920
Others	\$9,221	Chance the program will produce	
Indirect	(\$697)	benefits greater than the costs	54 %
<u>Total benefits</u>	<u>\$12,659</u>		
<u>Net program cost</u>	<u>(\$7,739)</u>		
Benefits minus cost	\$4,920		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$3,490	\$8,848	\$1,746	\$14,084
Property loss associated with alcohol abuse or dependence	\$3	\$0	\$5	\$0	\$8
Labor market earnings associated with illicit drug abuse or dependence	\$166	\$75	\$0	\$1,225	\$1,466
Health care associated with illicit drug abuse or dependence	\$75	\$431	\$387	\$224	\$1,116
Costs of higher education	(\$62)	(\$41)	(\$19)	(\$21)	(\$144)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,871)	(\$3,871)
Totals	\$181	\$3,954	\$9,221	(\$697)	\$12,659

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

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

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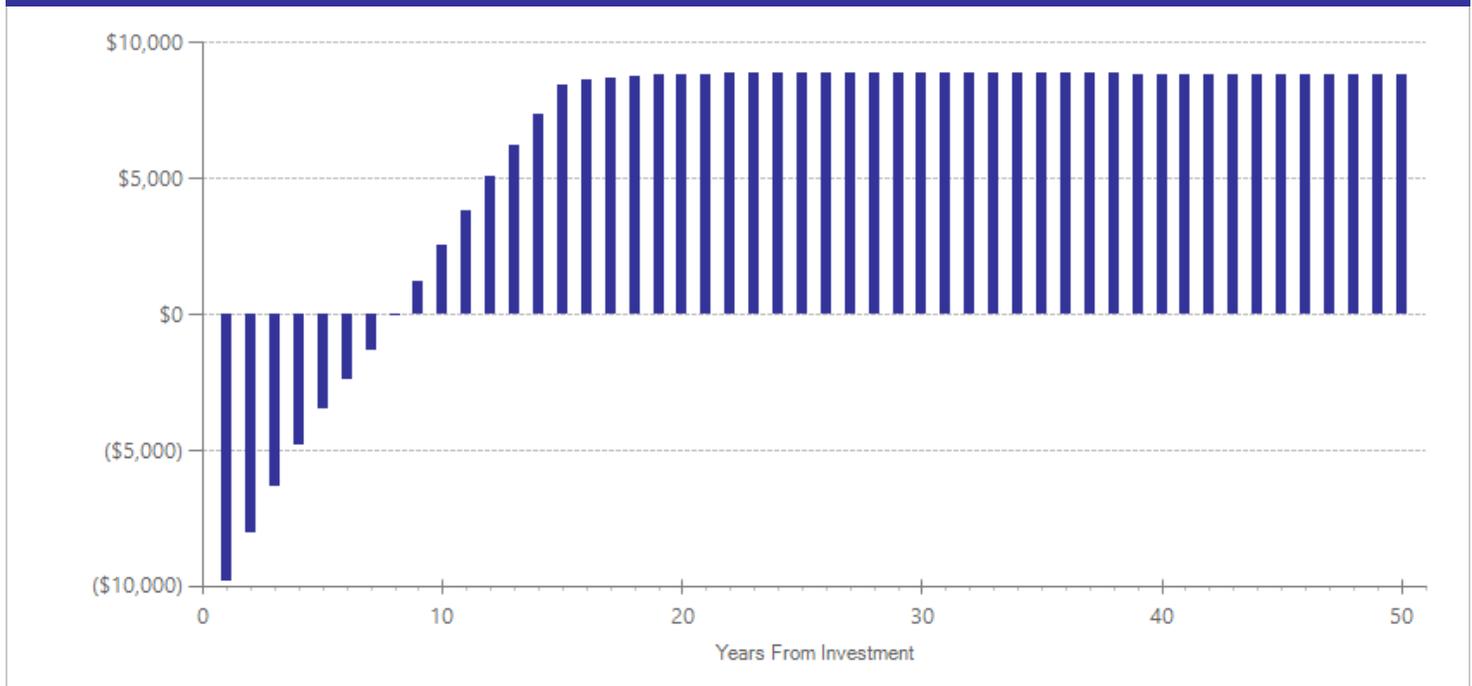
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$7,076	2008	Present value of net program costs (in 2015 dollars)	(\$7,739)
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		
Crime	2	124	-0.113	0.170	17	-0.113	0.170	27	-0.361	0.034
Illicit drug abuse or dependence	1	43	-0.114	0.280	17	0.000	0.187	20	-0.315	0.251
Alcohol abuse or dependence	2	63	-0.177	0.178	17	0.000	0.187	20	-0.473	0.009
Cannabis use	3	109	-0.200	0.155	17	-0.027	0.233	27	-0.562	0.001

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Citations Used in the Meta-Analysis

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

Benefit-cost estimates updated June 2016. 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	\$912	Benefit to cost ratio	n/a
Participants	\$343	Benefits minus costs	\$4,068
Others	\$1,513	Chance the program will produce	
Indirect	\$733	benefits greater than the costs	98 %
<u>Total benefits</u>	<u>\$3,501</u>		
<u>Net program cost</u>	<u>\$566</u>		
Benefits minus cost	\$4,068		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$716	\$1,391	\$359	\$2,466
Labor market earnings associated with high school graduation	\$382	\$174	\$176	\$79	\$811
Health care associated with educational attainment	(\$11)	\$41	(\$45)	\$21	\$5
Costs of higher education	(\$28)	(\$19)	(\$9)	(\$9)	(\$65)
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$284	\$284
Totals	\$343	\$912	\$1,513	\$733	\$3,501

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

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

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

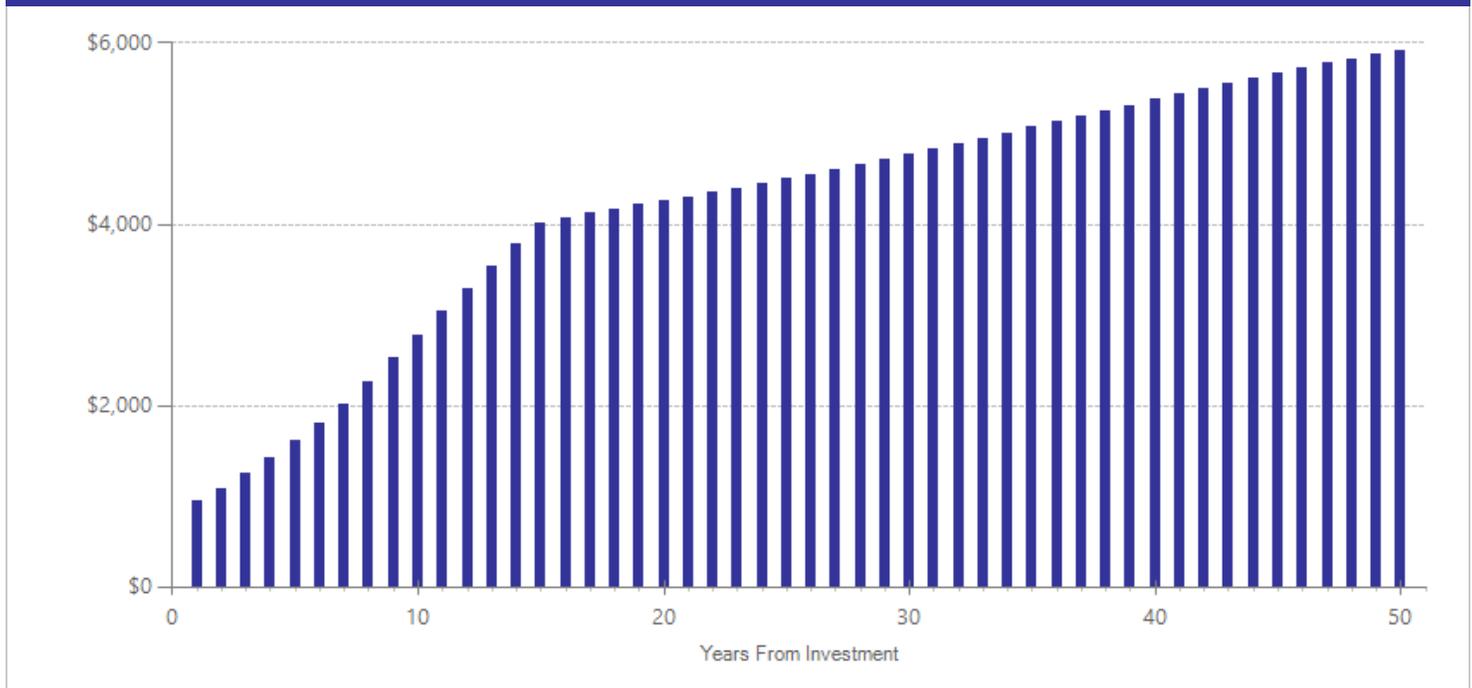
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$853	2014	Present value of net program costs (in 2015 dollars)	\$566
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	18	-0.054	0.034	28	-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.

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

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

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Vocational and employment training

Benefit-cost estimates updated June 2016. 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

Benefit-Cost Summary Statistics Per Participant			
Benefits to:			
Taxpayers	\$5,322	Benefit to cost ratio	\$1.39
Participants	\$2,314	Benefits minus costs	\$2,899
Others	\$4,618	Chance the program will produce	
Indirect	(\$1,831)	benefits greater than the costs	55 %
<u>Total benefits</u>	<u>\$10,424</u>		
<u>Net program cost</u>	<u>(\$7,525)</u>		
Benefits minus cost	\$2,899		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$2,002	\$4,667	\$1,009	\$7,679
Labor market earnings associated with employment	\$3,151	\$1,431	\$0	\$0	\$4,582
Property loss associated with alcohol abuse or dependence	\$3	\$0	\$5	\$0	\$8
Public assistance	(\$796)	\$1,873	\$0	\$945	\$2,022
Health care associated with educational attainment	(\$11)	\$38	(\$44)	\$21	\$4
Costs of higher education	(\$33)	(\$22)	(\$10)	(\$11)	(\$76)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,795)	(\$3,795)
Totals	\$2,314	\$5,322	\$4,618	(\$1,831)	\$10,424

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

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

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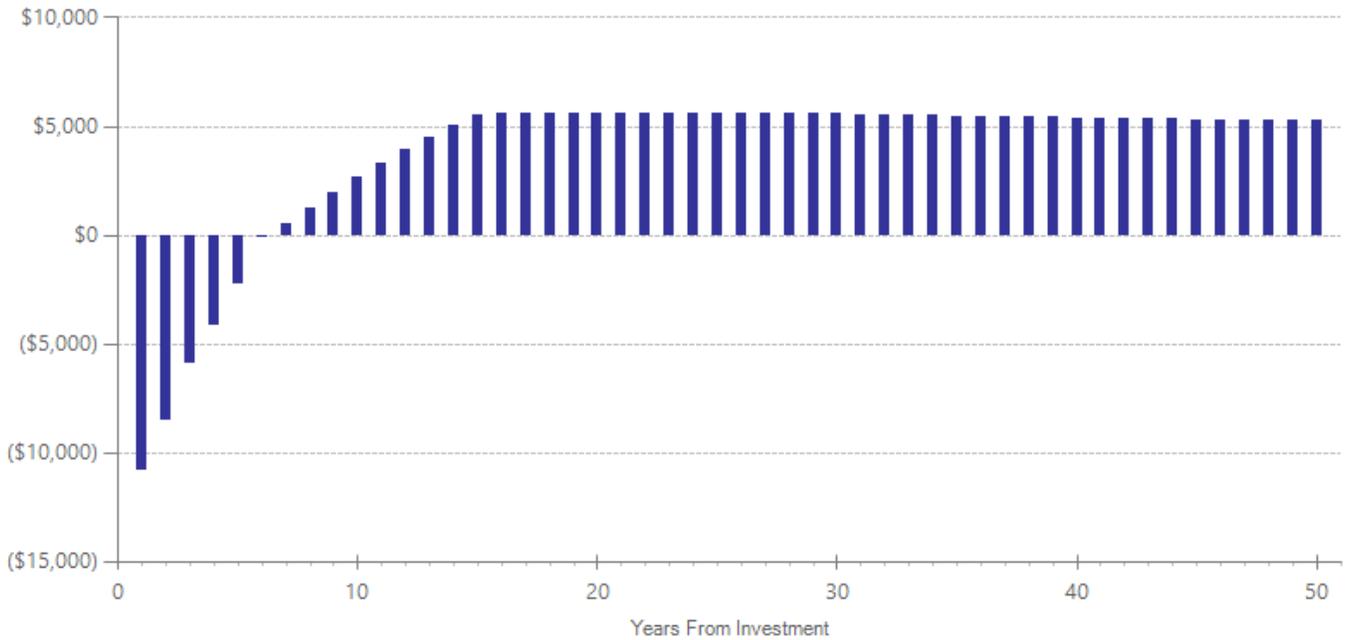
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$7,500	2014	Present value of net program costs (in 2015 dollars)	(\$7,525)
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		
Crime	12	2413	-0.084	0.042	19	-0.084	0.042	29	-0.082	0.052
Employment	3	431	0.140	0.202	18	0.140	0.202	28	0.140	0.488
Earnings	4	1065	0.075	0.047	22	0.000	0.018	23	0.075	0.115
Alcohol use in high school	2	344	-0.125	0.140	18	-0.125	0.140	28	-0.125	0.373
Illicit drug use in high school	2	344	0.110	0.173	18	0.110	0.173	28	0.110	0.526
High school graduation	2	419	0.010	0.323	19	0.010	0.323	29	0.010	0.975
GED attainment	4	869	0.282	0.135	19	0.282	0.135	29	0.282	0.037
Public assistance	3	1032	-0.132	0.074	19	-0.132	0.074	29	-0.132	0.073

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

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

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

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Intensive supervision (parole)

Benefit-cost estimates updated June 2016. 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	\$1,376	Benefit to cost ratio	\$2.33
Participants	\$268	Benefits minus costs	\$2,824
Others	\$3,694	Chance the program will produce	
Indirect	(\$384)	benefits greater than the costs	65 %
Total benefits	\$4,954		
Net program cost	(\$2,129)		
Benefits minus cost	\$2,824		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,223	\$3,598	\$619	\$5,440
Labor market earnings associated with high school graduation	\$299	\$136	\$138	\$63	\$636
Health care associated with educational attainment	(\$9)	\$32	(\$35)	\$16	\$4
Costs of higher education	(\$23)	(\$15)	(\$7)	(\$8)	(\$52)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,075)	(\$1,075)
Totals	\$268	\$1,376	\$3,694	(\$384)	\$4,954

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

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

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

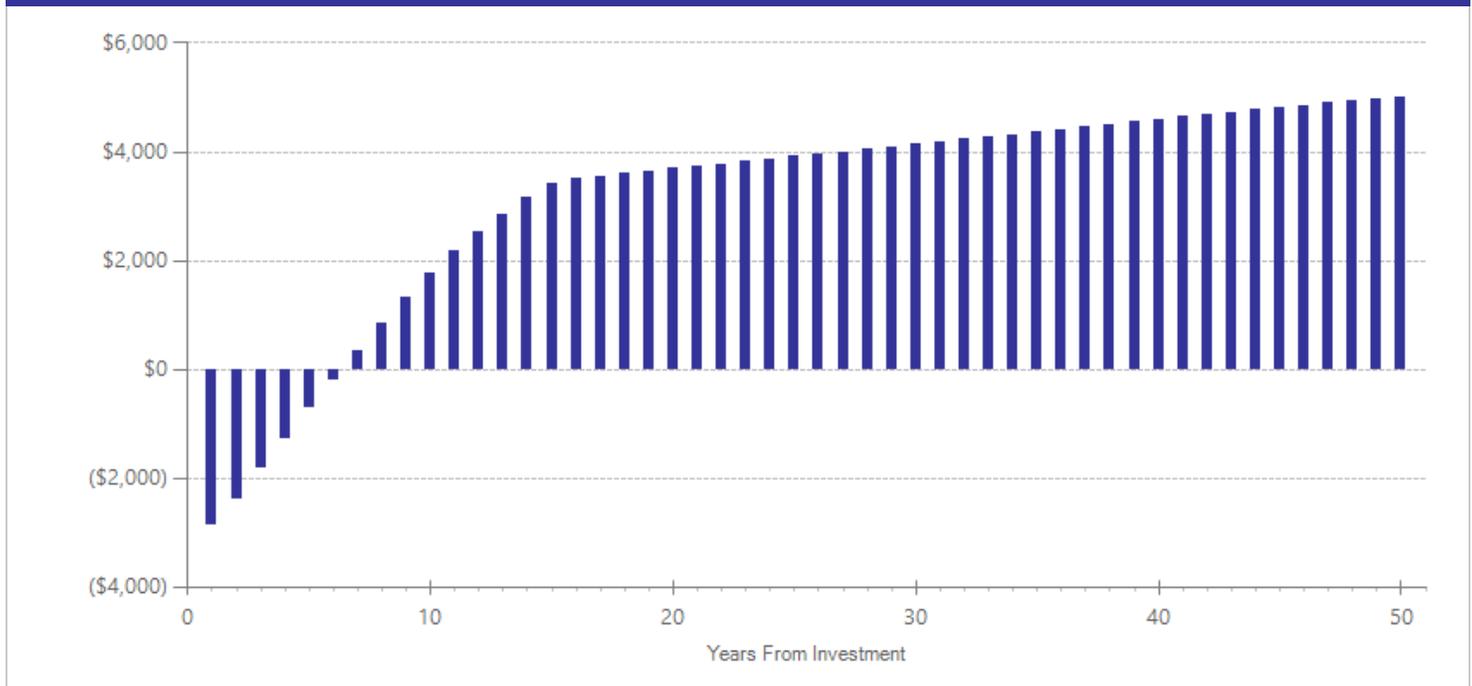
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,947	2009	Present value of net program costs (in 2015 dollars)	(\$2,129)
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](#).

Citations Used in the Meta-Analysis

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Victim offender mediation

Benefit-cost estimates updated June 2016. 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	\$848	Benefit to cost ratio	\$4.65
Participants	\$419	Benefits minus costs	\$2,222
Others	\$1,449	Chance the program will produce	
Indirect	\$114	benefits greater than the costs	78 %
<u>Total benefits</u>	<u>\$2,830</u>		
<u>Net program cost</u>	<u>(\$608)</u>		
Benefits minus cost	\$2,222		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to:¹

Benefits to:

	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$609	\$1,300	\$303	\$2,212
Labor market earnings associated with high school graduation	\$468	\$213	\$215	\$99	\$995
Health care associated with educational attainment	(\$14)	\$50	(\$55)	\$25	\$6
Costs of higher education	(\$35)	(\$23)	(\$11)	(\$12)	(\$81)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$301)	(\$301)
<u>Totals</u>	<u>\$419</u>	<u>\$848</u>	<u>\$1,449</u>	<u>\$114</u>	<u>\$2,830</u>

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

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

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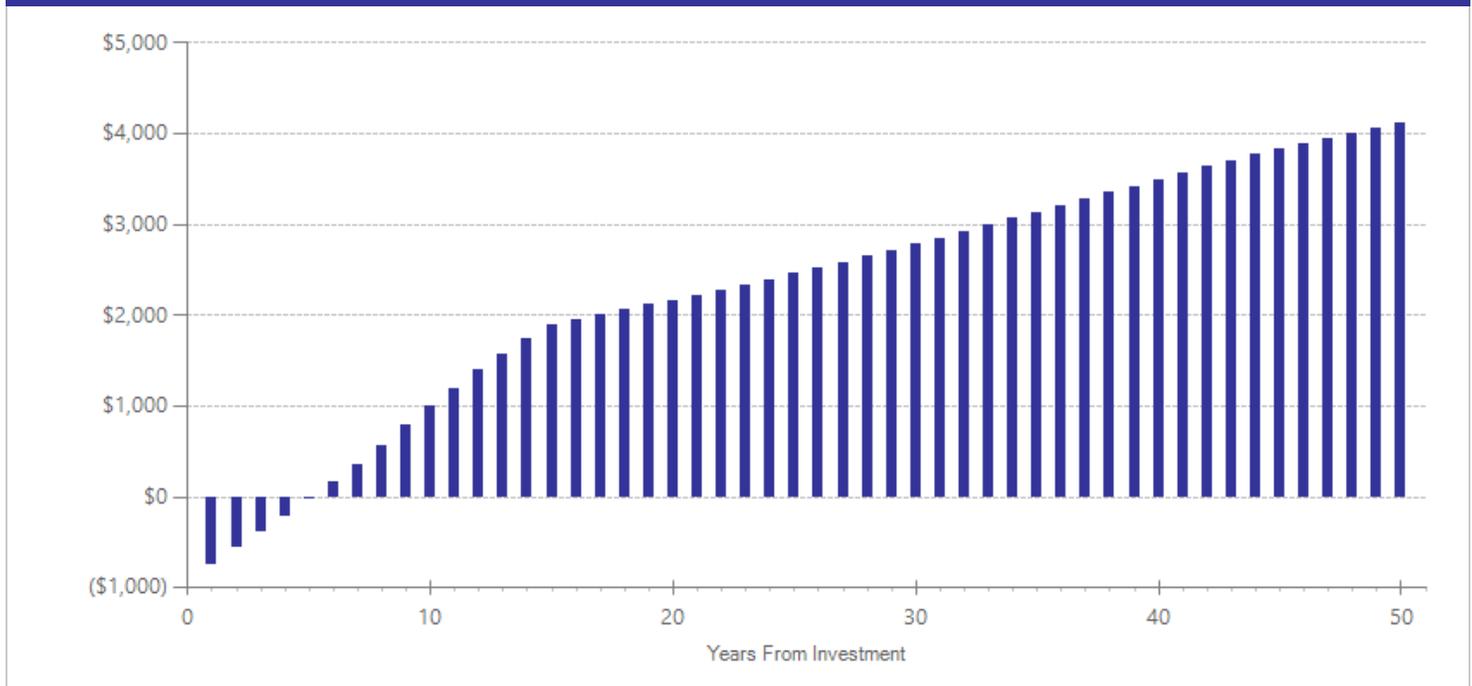
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$565	2010	Present value of net program costs (in 2015 dollars)	(\$608)
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	6	1639	-0.065	0.057	18	-0.065	0.057	28	-0.078	0.153

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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Drug court

Benefit-cost estimates updated June 2016. 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	\$1,696	Benefit to cost ratio	\$1.53
Participants	\$404	Benefits minus costs	\$1,715
Others	\$3,613	Chance the program will produce	
Indirect	(\$773)	benefits greater than the costs	57 %
Total benefits	\$4,941		
Net program cost	(\$3,226)		
Benefits minus cost	\$1,715		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$1,466	\$3,469	\$732	\$5,667
Labor market earnings associated with high school graduation	\$451	\$205	\$207	\$95	\$959
Health care associated with educational attainment	(\$13)	\$48	(\$53)	\$24	\$6
Costs of higher education	(\$34)	(\$23)	(\$10)	(\$11)	(\$78)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,613)	(\$1,613)
Totals	\$404	\$1,696	\$3,613	(\$773)	\$4,941

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

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

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

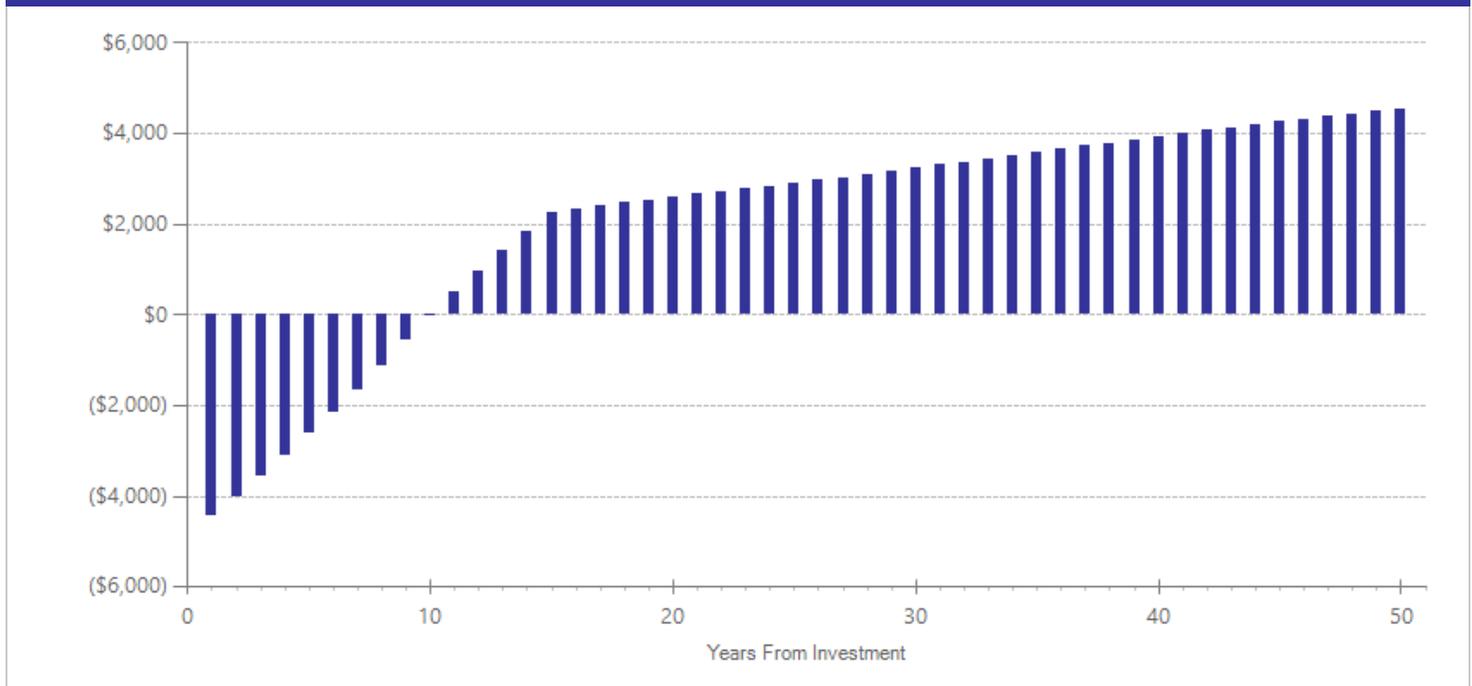
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$2,645	2004	Present value of net program costs (in 2015 dollars)	(\$3,226)
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](#).

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Diversion with services (vs. simple release)

Benefit-cost estimates updated June 2016. 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	\$31	Benefit to cost ratio	(\$0.37)
Participants	\$11	Benefits minus costs	(\$1,175)
Others	\$53	Chance the program will produce	
Indirect	(\$414)	benefits greater than the costs	40 %
<u>Total benefits</u>	<u>(\$320)</u>		
<u>Net program cost</u>	<u>(\$855)</u>		
Benefits minus cost	(\$1,175)		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$25	\$48	\$9	\$82
Labor market earnings associated with high school graduation	\$13	\$6	\$6	\$2	\$27
Health care associated with educational attainment	\$0	\$1	(\$1)	\$0	\$0
Costs of higher education	(\$1)	(\$1)	\$0	\$0	(\$2)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$426)	(\$426)
Totals	\$11	\$31	\$53	(\$414)	(\$320)

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

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

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

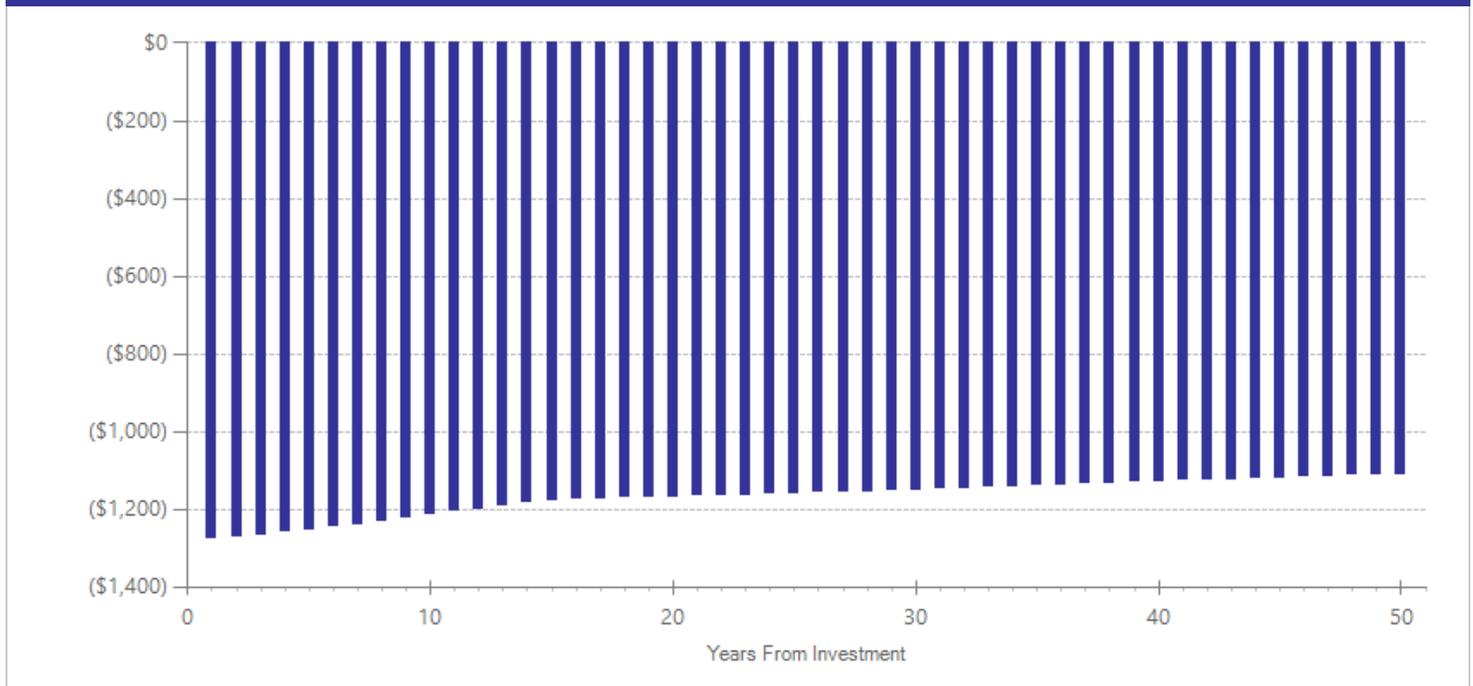
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$853	2014	Present value of net program costs (in 2015 dollars)	(\$855)
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	15	-0.001	0.063	25	-0.001	0.986

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

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

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

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

Citations Used in the Meta-Analysis

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

Benefit-cost estimates updated June 2016. 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	\$170	Benefit to cost ratio	(\$0.30)
Participants	\$46	Benefits minus costs	(\$4,241)
Others	\$338	Chance the program will produce	
Indirect	(\$1,540)	benefits greater than the costs	19 %
<u>Total benefits</u>	<u>(\$986)</u>		
<u>Net program cost</u>	<u>(\$3,255)</u>		
Benefits minus cost	(\$4,241)		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to:¹

Benefits to:

	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$144	\$322	\$74	\$540
Labor market earnings associated with high school graduation	\$51	\$23	\$24	\$11	\$109
Health care associated with educational attainment	(\$1)	\$5	(\$6)	\$3	\$1
Costs of higher education	(\$4)	(\$3)	(\$1)	(\$1)	(\$9)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,627)	(\$1,627)
<u>Totals</u>	<u>\$46</u>	<u>\$170</u>	<u>\$338</u>	<u>(\$1,540)</u>	<u>(\$986)</u>

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

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

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

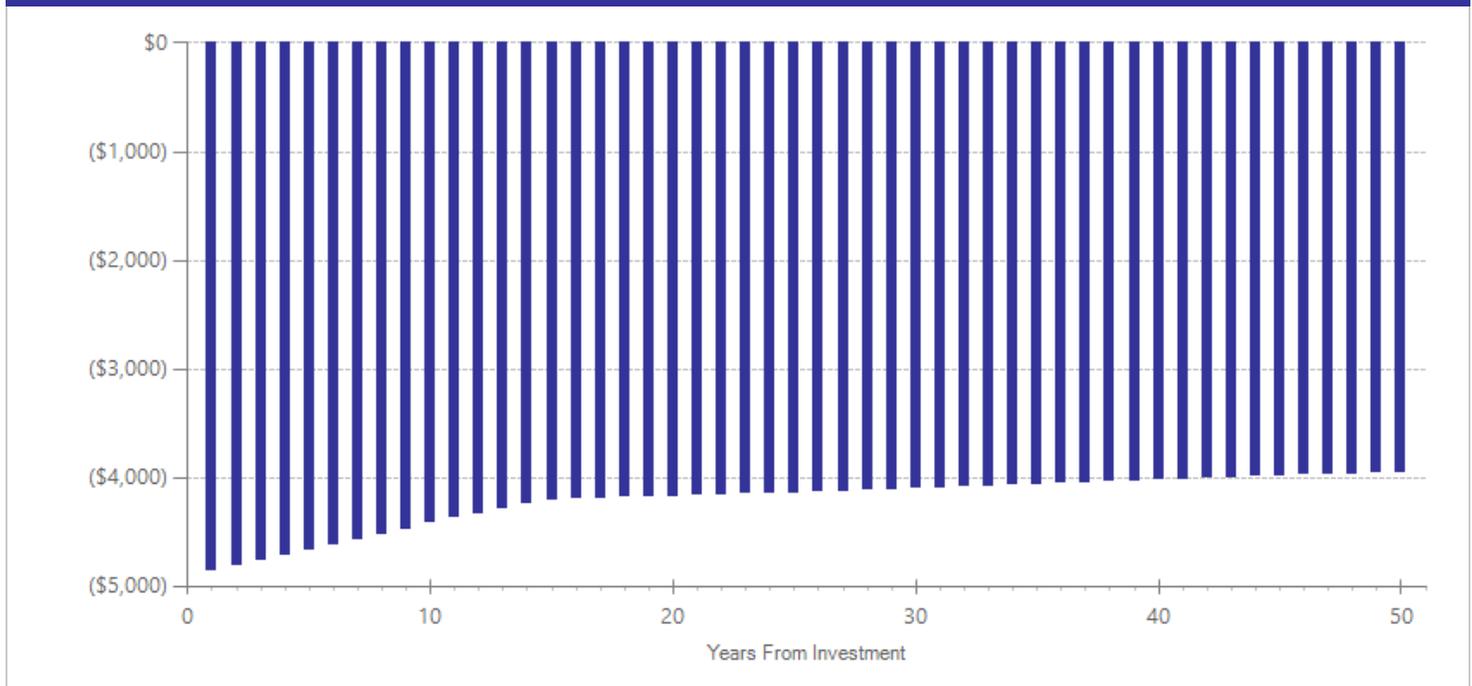
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,157	2012	Present value of net program costs (in 2015 dollars)	(\$3,255)
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	1075	-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](#).

Citations Used in the Meta-Analysis

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Scared Straight

Benefit-cost estimates updated June 2016. 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	(\$2,333)	Benefit to cost ratio	(\$82.77)
Participants	(\$758)	Benefits minus costs	(\$8,802)
Others	(\$4,401)	Chance the program will produce	
Indirect	(\$1,205)	benefits greater than the costs	4 %
<u>Total benefits</u>	<u>(\$8,697)</u>		
<u>Net program cost</u>	<u>(\$105)</u>		
Benefits minus cost	(\$8,802)		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to:¹

Benefits to:

	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	(\$1,899)	(\$4,131)	(\$953)	(\$6,983)
Labor market earnings associated with high school graduation	(\$846)	(\$384)	(\$389)	(\$174)	(\$1,795)
Health care associated with educational attainment	\$25	(\$92)	\$100	(\$46)	(\$12)
Costs of higher education	\$63	\$42	\$19	\$21	\$145
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$53)	(\$53)
Totals	(\$758)	(\$2,333)	(\$4,401)	(\$1,205)	(\$8,697)

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

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

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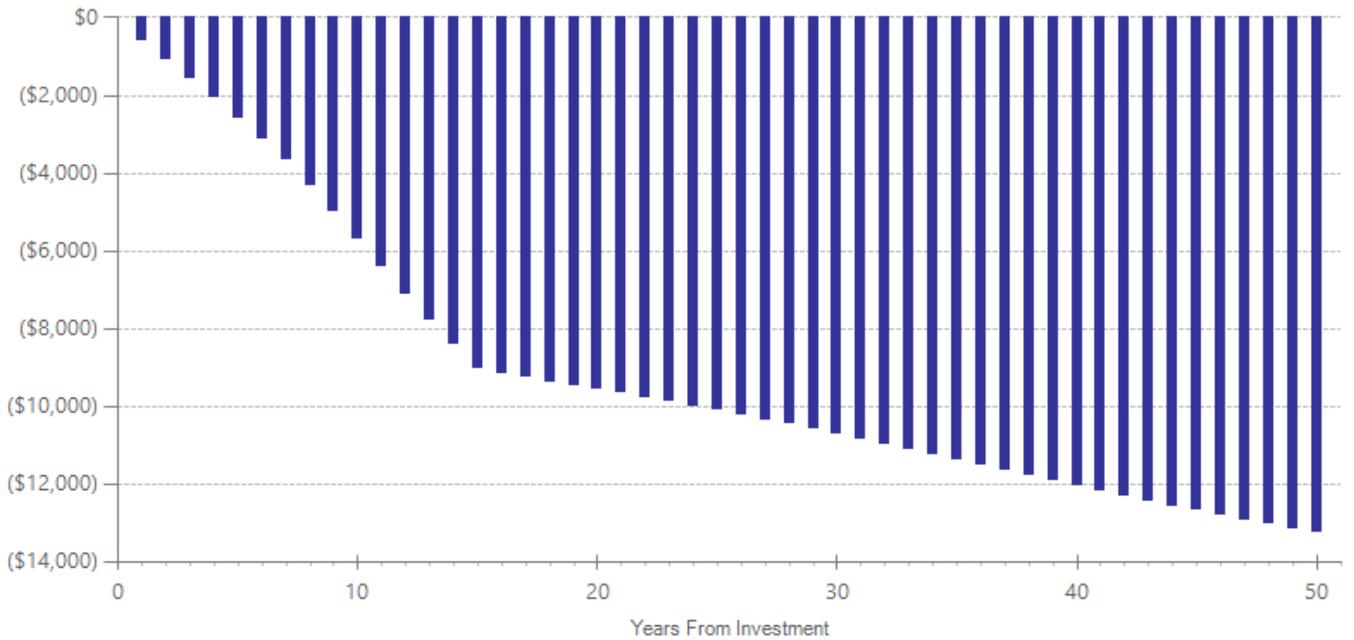
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary
Program costs	\$100	2011	Present value of net program costs (in 2015 dollars) (\$105)
Comparison costs	\$0	2011	Cost range (+ or -) 10 %

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

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

Detailed Annual Cost Estimates Per Participant



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

Meta-Analysis of Program Effects

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

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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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Intensive supervision (probation)

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

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

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

Benefit-Cost Summary Statistics Per Participant

Benefits to:			
Taxpayers	(\$954)	Benefit to cost ratio	(\$1.35)
Participants	(\$277)	Benefits minus costs	(\$10,240)
Others	(\$1,995)	Chance the program will produce	
Indirect	(\$2,657)	benefits greater than the costs	0 %
Total benefits	(\$5,883)		
Net program cost	(\$4,358)		
Benefits minus cost	(\$10,240)		

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

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	(\$804)	(\$1,898)	(\$404)	(\$3,106)
Labor market earnings associated with high school graduation	(\$304)	(\$138)	(\$140)	(\$65)	(\$646)
Health care associated with educational attainment	\$9	(\$33)	\$36	(\$16)	(\$4)
Costs of higher education	\$18	\$21	\$7	\$10	\$56
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,182)	(\$2,182)
Totals	(\$277)	(\$954)	(\$1,995)	(\$2,657)	(\$5,883)

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

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

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

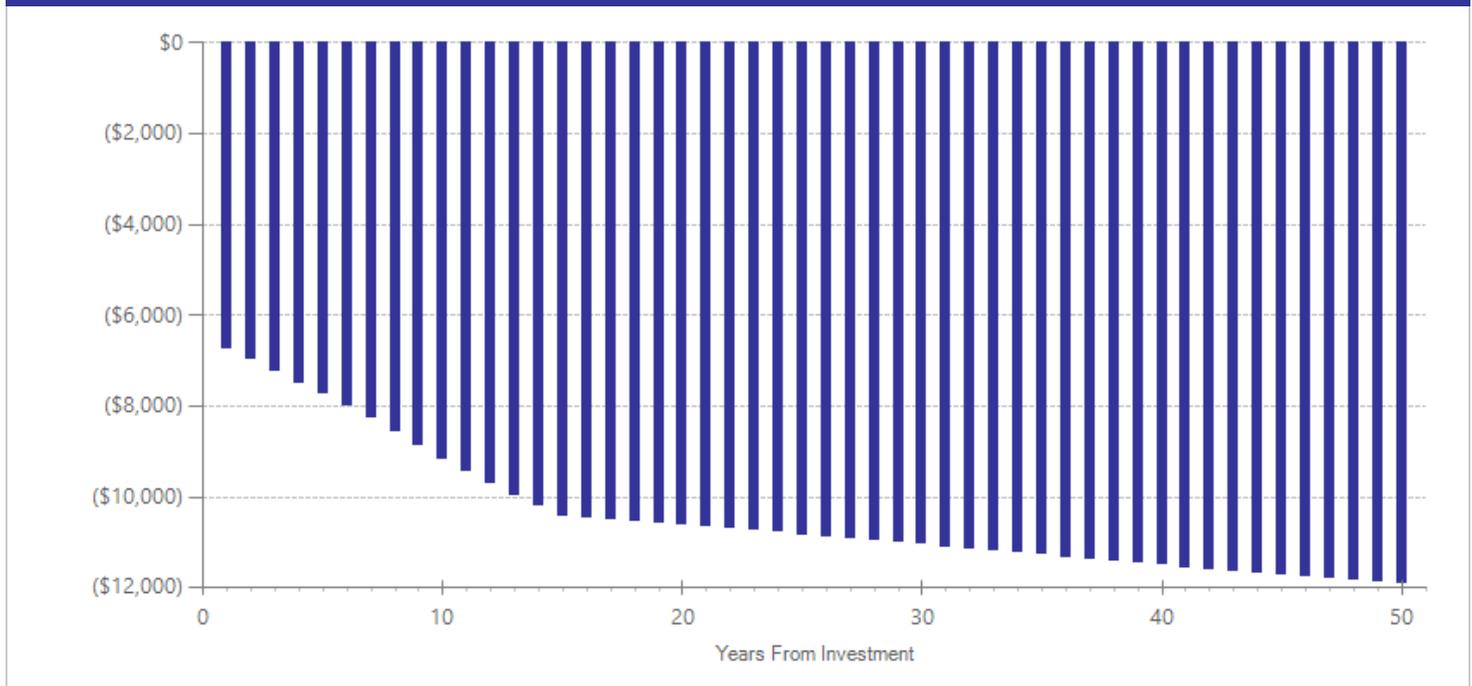
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$3,985	2008	Present value of net program costs (in 2015 dollars)	(\$4,358)
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

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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Dialectical Behavior Therapy

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	SE	Age	ES	SE	Age	ES	p-value
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)

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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Citations Used in the Meta-Analysis

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

Multisystemic Therapy for sex offenders

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

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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Sex offender treatment (non-MST)

Literature review updated June 2013.

Program Description: Sex offender treatment for juvenile offenders 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.

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

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Citations Used in the Meta-Analysis

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Washington State Institute for Public Policy

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