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

Juvenile Justice

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

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

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.

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

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

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	$11,457	Benefit to cost ratio	$4.30
Participants	$272	Benefits minus costs	$31,118
Others	$27,915	Chance the program will produce benefits greater than the costs	93 %
Indirect	$918		
Total benefits	$40,561		
Net program cost	($9,443)		
Benefits minus cost	$31,118		

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

Meta-Analysis of Program Effects

Outcomes measured	Treatment age	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
				First time ES is estimated			Second time ES is estimated				
				ES	SE	Age	ES	SE	Age	ES	p-value
Crime	15	4	157	-0.548	0.166	16	-0.548	0.166	24	-0.548	0.001
Regular smoking^^	15	1	32	-0.190	0.240	16	n/a	n/a	n/a	-0.190	0.429
Major depressive disorder	15	1	81	-0.378	0.157	23	0.000	0.310	25	-0.378	0.016
Teen pregnancy (under age 18)^	15	1	78	-0.538	0.187	16	n/a	n/a	n/a	-0.538	0.004
Suicide attempts^	15	1	81	0.095	0.233	23	n/a	n/a	n/a	0.095	0.685
Alcohol use before end of high school^^	15	1	32	-0.126	0.240	16	n/a	n/a	n/a	-0.126	0.601
Cannabis use before end of high school^^	15	1	32	-0.230	0.241	16	n/a	n/a	n/a	-0.230	0.340
Suicidal ideation^	15	1	81	-0.458	0.157	23	n/a	n/a	n/a	-0.458	0.004
Psychosis symptoms (positive)^	15	1	75	-0.364	0.216	16	n/a	n/a	n/a	-0.364	0.091
Substance use^	15	1	32	-0.261	0.241	16	n/a	n/a	n/a	-0.261	0.279

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

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

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

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

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

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

Detailed Monetary Benefit Estimates Per Participant

Affected outcome:	Resulting benefits:[1]	Benefits accrue to:				
		Taxpayers	Participants	Others[2]	Indirect[3]	Total
Crime	Criminal justice system	$11,242	$0	$27,805	$5,621	$44,667
Major depressive disorder	K-12 grade repetition	$5	$0	$0	$3	$8
Major depressive disorder	Labor market earnings associated with major depression	$102	$240	$0	($51)	$291
Major depressive disorder	Health care associated with major depression	$107	$30	$110	$53	$300
Major depressive disorder	Mortality associated with depression	$1	$2	$0	$14	$16
Program cost	Adjustment for deadweight cost of program	$0	$0	$0	($4,722)	($4,722)
Totals		$11,457	$272	$27,915	$918	$40,561

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

[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.

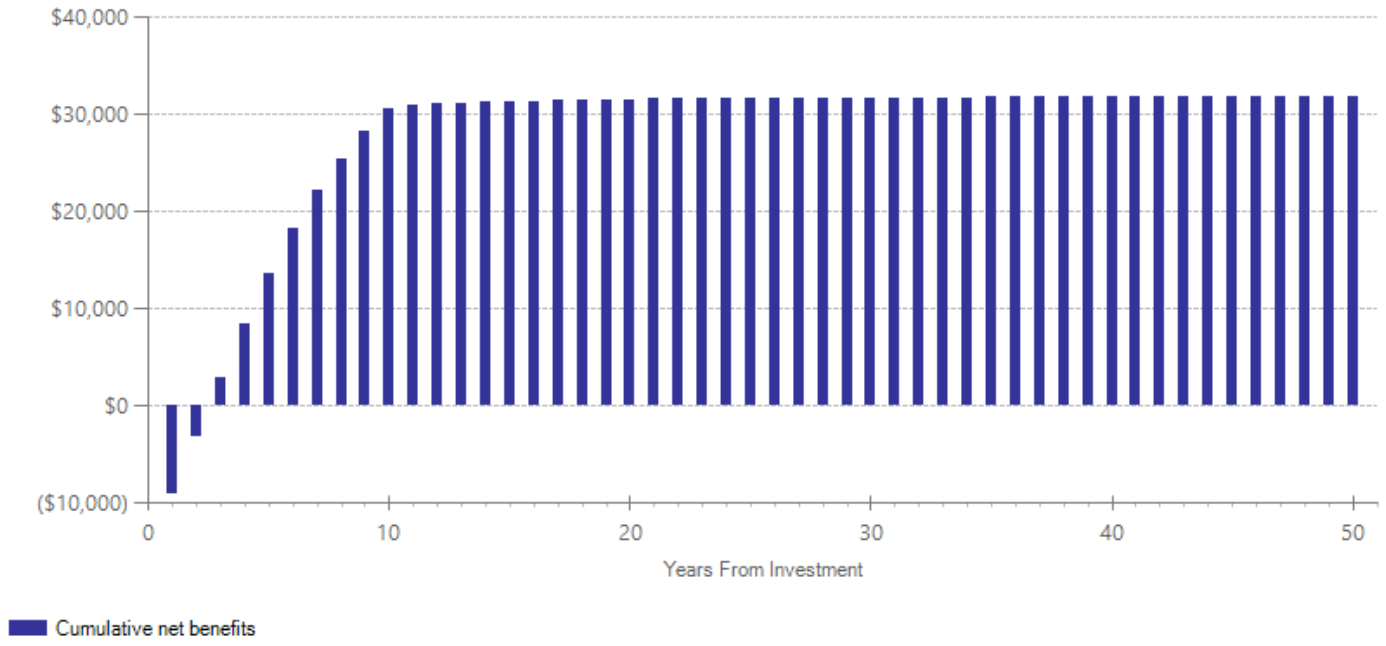
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	$27,863	2017	Present value of net program costs (in 2018 dollars)	($9,443)
Comparison costs	$18,232	2015	Cost range (+ or -)	20 %

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

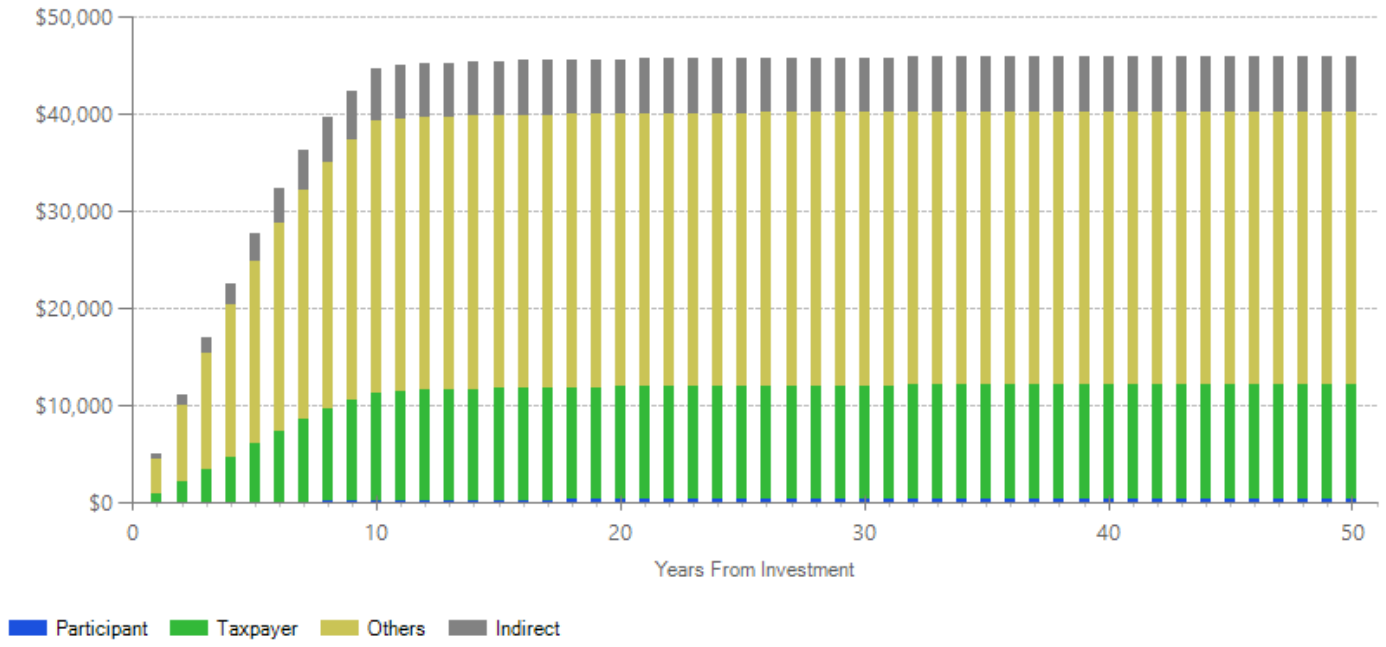
The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty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

Benefits Minus Costs Over Time (Cumulative Discounted Dollars)

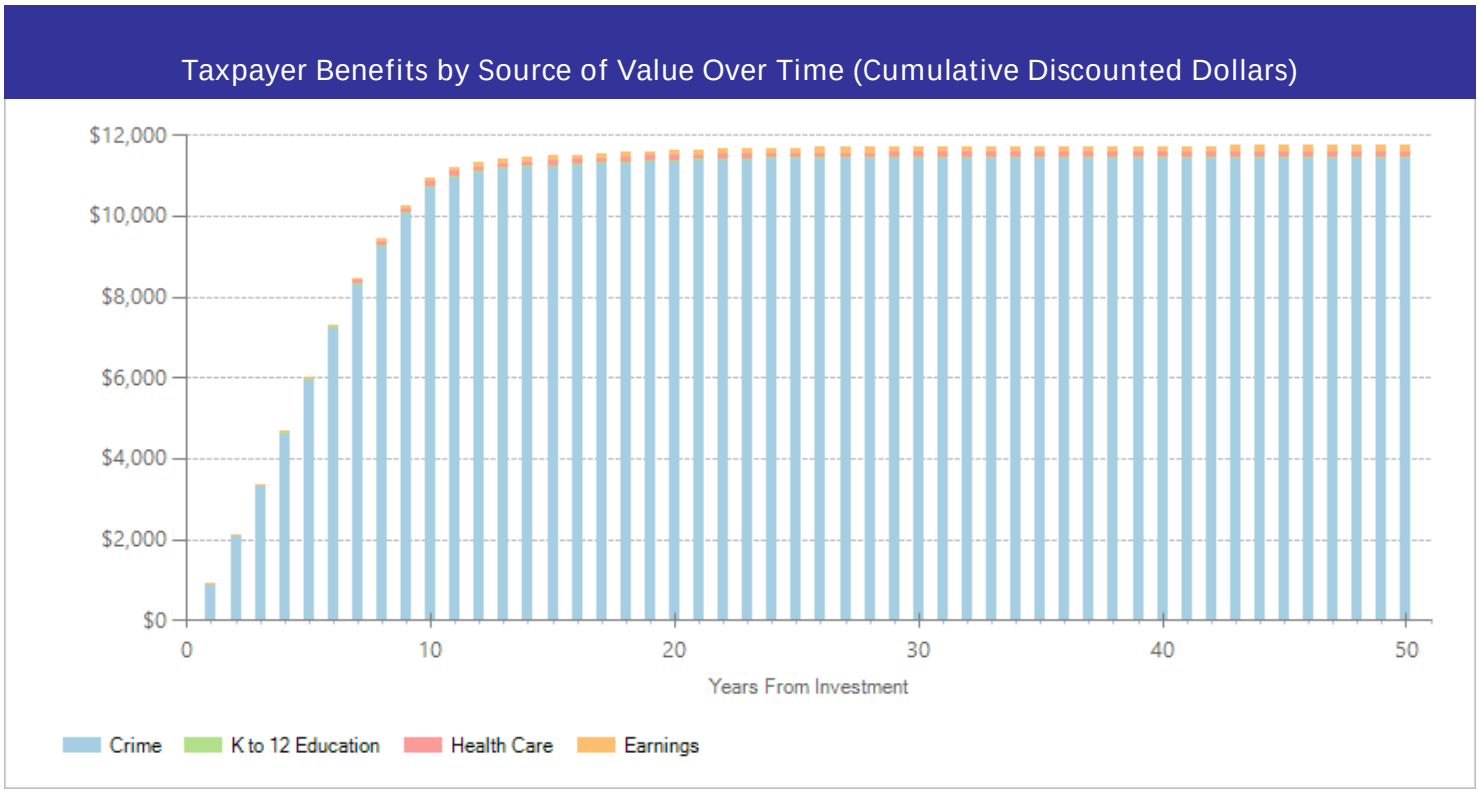


The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in discounted dollars. If the dollars are negative (bars below $0 line), the cumulative benefits do not outweigh the cost 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.

Benefits by Perspective Over Time (Cumulative Discounted Dollars)



The graph above illustrates the breakdown of the estimated cumulative benefits (not including program costs) per-participant for the first fifty years beyond the initial investment in the program. These cash flows provide a breakdown of the classification of dollars over time into four perspectives: taxpayer, participant, others, and indirect. “Taxpayers” includes expected savings to government and expected increases in tax revenue. “Participants” includes expected increases in earnings and expenditures for items such as health care and college tuition. “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. “Indirect benefits” includes estimates of the changes in the value of a statistical life and changes in the deadweight costs of taxation. If a section of the bar is below the $0 line, the program is creating a negative benefit, meaning a loss of value from that perspective.



The graph above focuses on the subset of estimated cumulative benefits that accrue to taxpayers. The cash flows are divided into the source of the value.

Citations Used in the Meta-Analysis

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