

Strengthening Families for Parents and Youth 10-14

Public Health & Prevention: Home- or Family-based

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

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: Strengthening Families for Parents and Youth 10-14 (also known as the Iowa Strengthening Families Program) aims to reduce behavior problems and substance use by enhancing parenting skills, parent-child relationships, and family communication. Parents and youth attend weekly group sessions lasting two hours for seven weeks. Each session includes a separate, concurrent one-hour parent and youth skills-building session followed by a one-hour family session. A trained group leader uses Strengthening Families curriculum and videos to guide each session. The studies in this analysis included middle school students and their families. On average, 11 families participated in each group.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	\$961	Benefit to cost ratio	\$5.36
Participants	\$1,102	Benefits minus costs	\$2,540
Others	\$1,075	Chance the program will produce	
Indirect	(\$14)	benefits greater than the costs	60 %
Total benefits	\$3,123		
Net program cost	(\$583)		
Benefits minus cost	\$2,540		

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	p-value
				ES	SE	Age	ES	SE	Age		
Crime	12	1	161	-0.055	0.118	13	-0.055	0.118	23	-0.144	0.223
Alcohol use before end of middle school	12	2	223	-0.022	0.136	12	-0.022	0.136	13	-0.058	0.680
Cannabis use before end of middle school	12	1	61	0.121	0.262	12	0.121	0.262	13	0.121	0.644
Substance use [^]	12	1	161	-0.005	0.118	13	n/a	n/a	n/a	-0.012	0.919
Smoking before end of middle school	12	1	62	0.000	0.261	12	0.000	0.261	13	0.000	1.000
Alcohol use before end of high school	12	2	514	-0.045	0.098	13	-0.045	0.098	18	-0.080	0.414
Smoking before end of high school	12	2	514	0.010	0.125	13	0.010	0.125	18	-0.072	0.735
Cannabis use before end of high school	12	1	147	-0.035	0.224	13	-0.035	0.224	18	-0.091	0.690
Illicit drug use before end of middle school	12	1	62	0.000	0.261	12	0.000	0.261	13	0.000	1.000
Externalizing behavior symptoms	12	3	675	-0.037	0.061	13	-0.020	0.038	16	-0.072	0.235
Internalizing symptoms	12	1	161	-0.027	0.118	13	-0.027	0.118	15	-0.071	0.549
Illicit drug use before end of high school	12	1	367	-0.025	0.293	13	-0.025	0.293	18	-0.025	0.933
Problem alcohol use	12	1	367	-0.071	0.253	13	-0.071	0.253	23	-0.071	0.781

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

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

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

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

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

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	\$407	\$0	\$995	\$204	\$1,606
Internalizing symptoms	K-12 grade repetition	\$1	\$0	\$0	\$0	\$1
Externalizing behavior symptoms	K-12 special education	\$23	\$0	\$0	\$12	\$35
Problem alcohol use	Labor market earnings associated with problem alcohol use	\$458	\$1,075	\$0	\$0	\$1,533
Problem alcohol use	Property loss associated with problem alcohol use	\$0	\$3	\$6	\$0	\$10
Externalizing behavior symptoms	Health care associated with externalizing behavior symptoms	\$71	\$20	\$73	\$35	\$199
Problem alcohol use	Mortality associated with problem alcohol	\$1	\$3	\$0	\$26	\$31
Program cost	Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$291)	(\$291)
Totals		\$961	\$1,102	\$1,075	(\$14)	\$3,123

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.

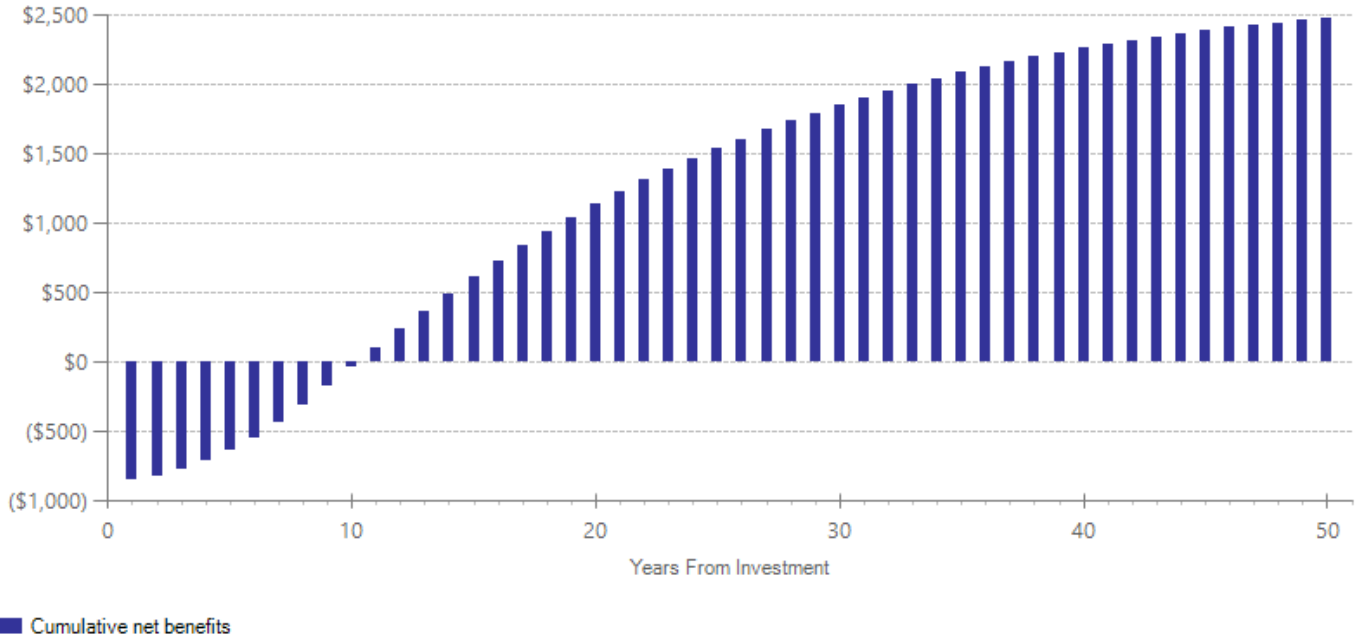
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$500	2009	Present value of net program costs (in 2018 dollars)	(\$583)
Comparison costs	\$0	2009	Cost range (+ or -)	50 %

The per-participant cost includes the cost of staff time (including supervision, facilitation, and training), materials, incentives for families, and facility rental, as reported in Suter, C. (2010). Economic Evaluation of a Community-Based, Family-Skills Prevention Program (Master's Thesis). Washington State University.

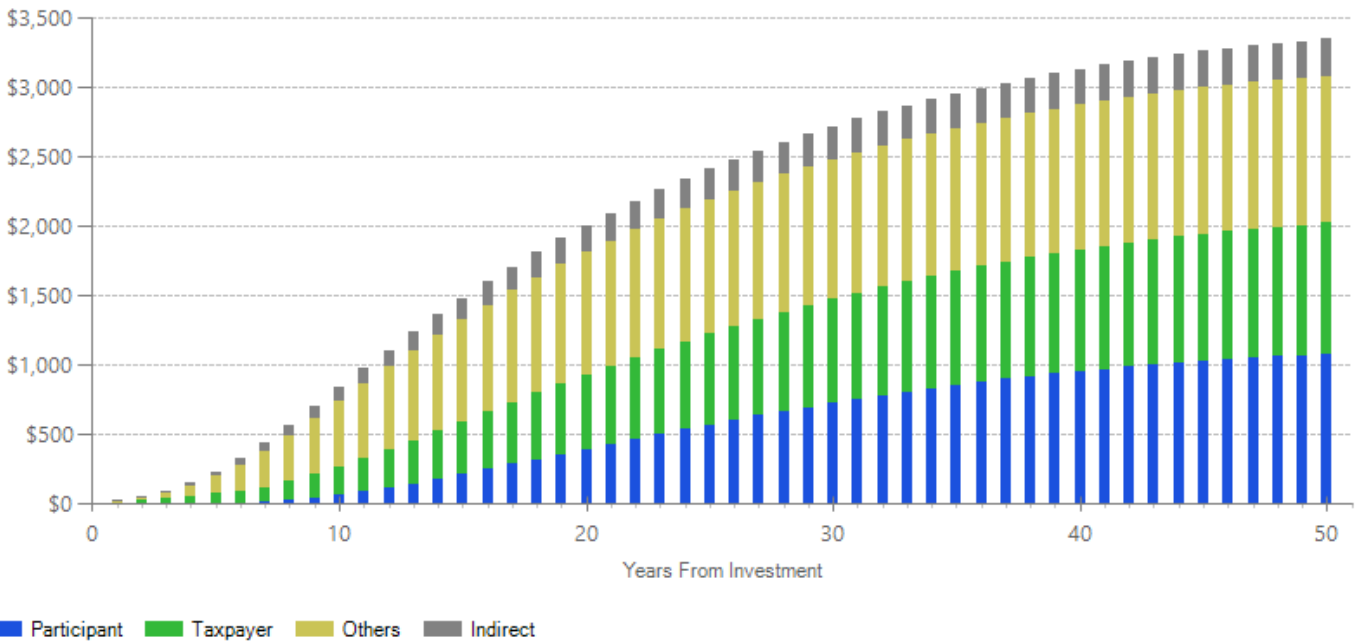
The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty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

Benefits Minus Costs Over Time (Cumulative Discounted Dollars)

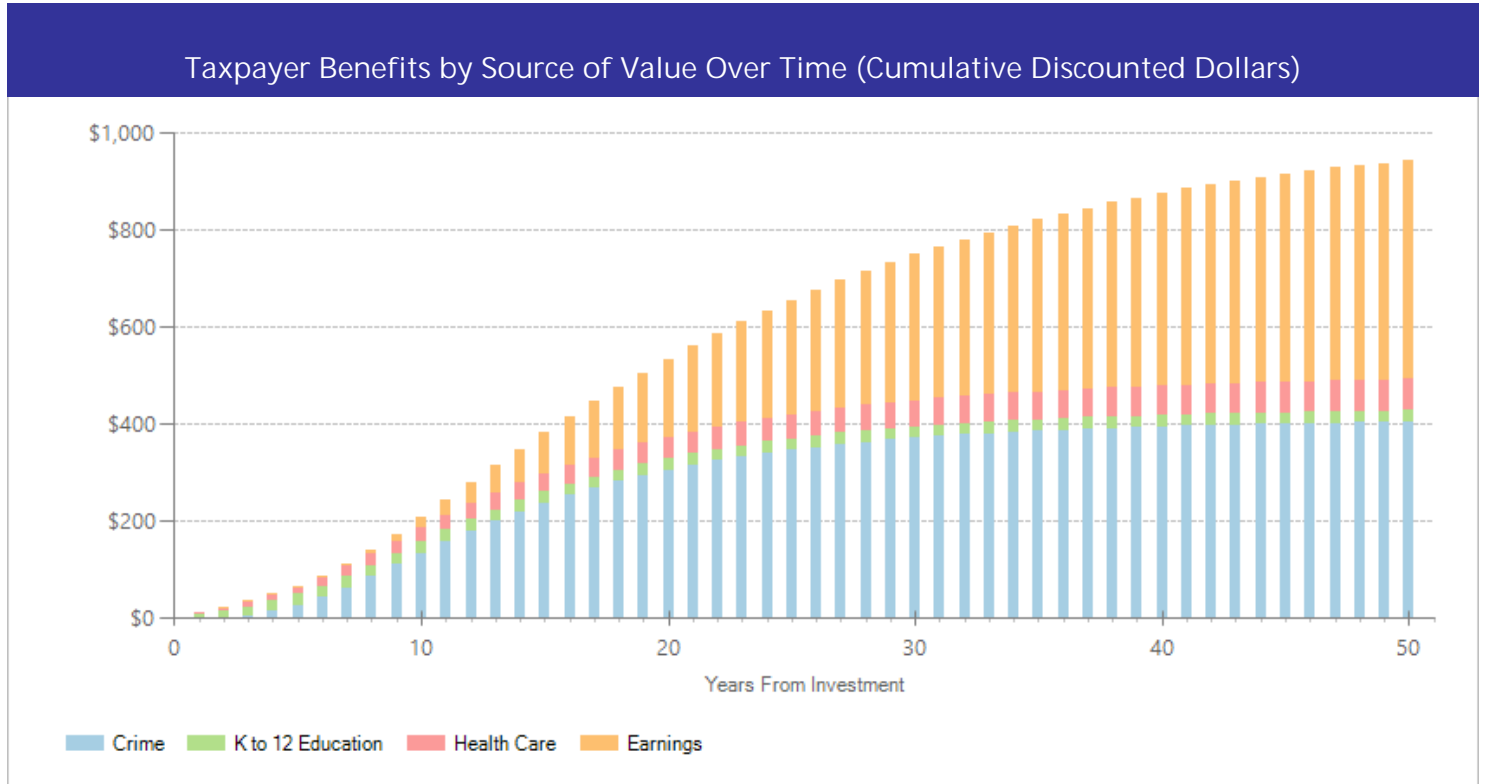


The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in discounted dollars. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost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

- Baldus, C., Thomsen, M., Sack, P. M., Bröning, M., Arnaud, N., Daubmann, A., & Thomasius, R. (2016). Evaluation of a German version of the Strengthening Families Programme 10-14: A randomized controlled trial. *European Journal of Public Health, 26*, 953-959.
- Foxcroft, D.R., Callen, H., Davies, E.L., & Okulicz-Kozaryn, K. (2017). Effectiveness of the Strengthening Families Programme 10-14 in Poland: Cluster randomized controlled trial. *European Journal of Public Health, 27*(3), 494-500.
- Riesch, S.K., Brown, R.L., & Anderson, L.S. (2012). Strengthening Families Program (10-14): Effects on the family environment. *Western Journal of Nursing Research, 34*, 340-376.
- Spoth, R., Redmond, C., & Lepper, H. (1999). Alcohol initiation outcomes of universal family-focused preventive interventions: One- and two-year follow-ups of a controlled study. *Journal of Studies on Alcohol, 13*, 103-111.
- Spoth, R., Reyes, M.L., Redmond, C., & Shin, C. (1999). Assessing a public health approach to delay onset and progression of adolescent substance use: Latent transition and loglinear analyses of longitudinal family preventive intervention outcomes. *Journal of Consulting and Clinical Psychology, 67*(5), 619-630.
- Spoth, R.L., Redmond, C., & Shin, C. (2000). Reducing adolescents' aggressive and hostile behaviors: Randomized trial effects of a brief family intervention 4 years past baseline. *Archives of Pediatrics & Adolescent Medicine, 154*(12), 1248-1258.
- Trudeau, L., Spoth, R.L., Randall, G.K., Mason, W.A., & Shin, C. (2012). Internalizing symptoms: Effects of a preventive intervention on developmental pathways from early adolescence to young adulthood. *Journal of Youth and Adolescence, 41*(6), 788-801.

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