Other home visiting programs for at-risk mothers and children

Public Health & Prevention: Home- or Family-based

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

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: This broad grouping of programs focuses on mothers considered to be at risk for parenting problems, based on factors such as maternal age, marital status and education, low household income, lack of social supports, or in some programs, mothers testing positive for drugs at the child's birth. Depending on the program, the content of the home visits consists of instruction in child development and health, referrals for service, or social and emotional support. Some programs provide additional services, such as preschool. This group of programs also includes a subset that is specifically targeted toward preventing repeat pregnancy and birth in the adolescent years.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	$4,415	Benefit to cost ratio	$1.89
Participants	$7,869	Benefits minus costs	$5,205
Others	$824	Chance the program will produce benefits greater than the costs	63 %
Indirect	($2,032)		
Total benefits	$11,075		
Net program cost	($5,870)		
Benefits minus cost	$5,205		

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
Labor market earnings associated with major depression	$646	$293	$0	$7	$946
Health care associated with major depression	$30	$92	$114	$46	$282
Public assistance	($253)	$595	$0	$298	$640
Subtotals	$423	$980	$114	$351	$1,868
From secondary participant					
Crime	$0	$240	$478	$121	$839
Child abuse and neglect	$1,521	$70	$0	$35	$1,627
Out-of-home placement	$0	$74	$0	$37	$111
K-12 grade repetition	$0	$52	$0	$26	$77
K-12 special education	$0	$242	$0	$122	$364
Property loss associated with alcohol abuse or dependence	$1	$0	$1	$0	$2
Health care associated with PTSD	$80	$245	$304	$124	$753
Labor market earnings associated with child abuse & neglect	$6,039	$2,743	$0	$216	$8,998
Costs of higher education	($195)	($231)	($73)	($116)	($615)
Subtotals	$7,446	$3,435	$710	$565	$12,156
Adjustment for deadweight cost of program	$0	$0	$0	($2,948)	($2,948)
Totals	$7,869	$4,415	$824	($2,032)	$11,075

[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.

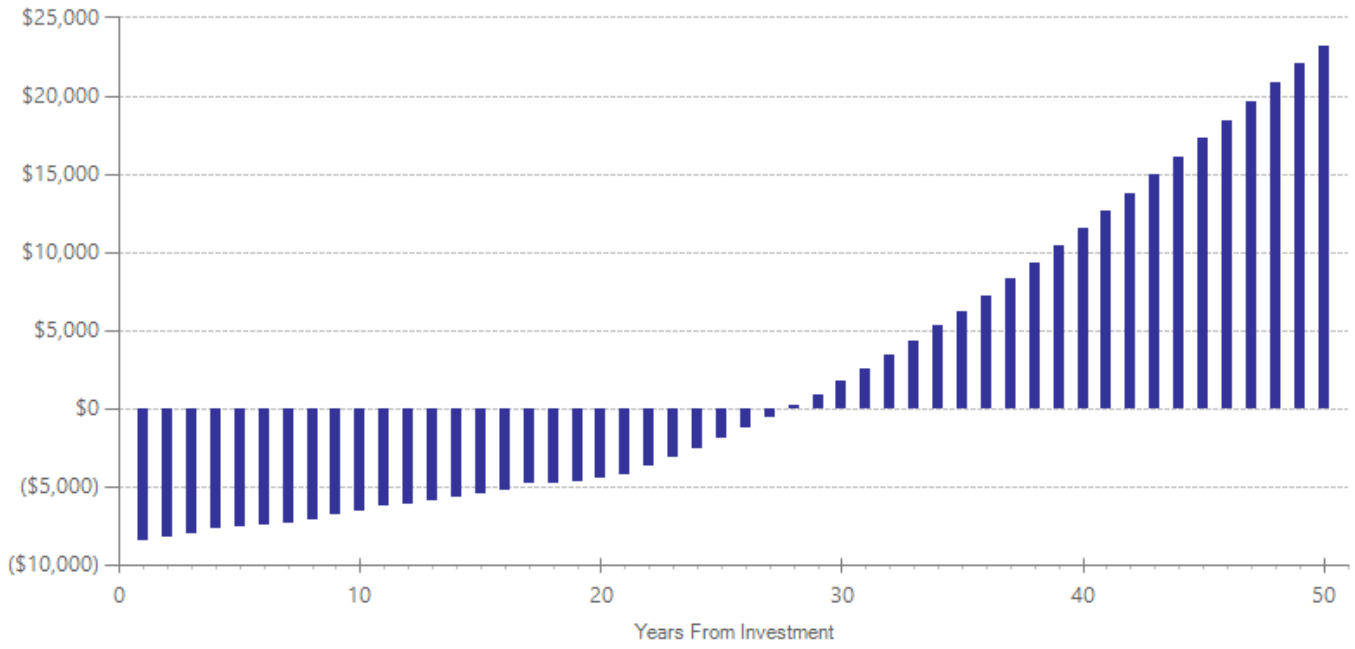
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	$5,368	2008	Present value of net program costs (in 2015 dollars)	($5,870)
Comparison costs	$0	2008	Cost range (+ or -)	10 %

Costs are based on a weighted average of per-family costs published in Black, M.M., Dubowitz, H. Hutcheson, J., Berenson-Howard, J., & Starr Jr., R.H. (1995). A randomized clinical trial of home intervention for children with failure to thrive. *Pediatrics, 95*(6): 807-814; Dawson, P., Van Doorninck, W.J., Robinson, J.L. (1989) Effects of home-based, informal social support on child health. *Developmental and Behavioral Pediatrics, 10*(2):63-67; Ernst, C.C., Grant, T.M., Streissguth, A.P., & Sampson, P.D. (1999). Intervention with high-risk alcohol and drug-abusing mothers: II. Three-year findings from the Seattle Model of Paraprofessional Advocacy.*Journal of Community Psychology, 27*(1), 19-38.; and Hardy, J.B. & Streett, R. (1989). Family support and parenting education in the home: An effective extension of clinic-based preventive health care services for poor children. *Journal of Pediatrics, 115,* 927-931.

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	Primary or secondary participant	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
High school graduation	Primary	1	392	0.062	0.093	22	0.062	0.093	22	0.062	0.504
Test scores	Secondary	6	153	0.252	0.122	4	0.053	0.134	17	0.325	0.009
Child abuse and neglect	Secondary	11	667	-0.448	0.219	10	-0.448	0.219	17	-0.448	0.041
Out-of-home placement	Secondary	6	330	-0.107	0.226	10	-0.107	0.226	17	-0.107	0.636
Public assistance	Primary	1	184	-0.041	0.135	22	-0.041	0.135	32	-0.041	0.761
Major depressive disorder	Primary	4	249	-0.062	0.094	22	-0.032	0.115	23	-0.062	0.508
Repeat teen pregnancy	Primary	6	575	0.078	0.080	19	0.078	0.080	19	0.071	0.371
Repeat teen birth	Primary	6	650	-0.109	0.141	19	-0.109	0.141	19	-0.109	0.437

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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