

Individual Placement and Support (IPS) for individuals with serious mental illness Adult Mental Health: Serious Mental Illness

Benefit-cost estimates updated December 2019. Literature review updated May 2014.

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: These studies assess the Individual Placement and Support (IPS) model of supported employment compared with typical vocational services for individuals with serious mental illness. The IPS model focuses on competitive employment, client interests, rapid job placement, and ongoing support by employment specialists. In contrast, the comparison groups typically received vocational services that focused on building job skills before employment placement.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	\$2,098	Benefit to cost ratio	\$7.77
Participants	\$4,910	Benefits minus costs	\$5,741
Others	\$2	Chance the program will produce	
Indirect	(\$420)	benefits greater than the costs	80 %
Total benefits	\$6,589		
Net program cost	(\$849)		
Benefits minus cost	\$5,741		

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		
Competitive employment [^]	40	13	963	1.075	0.105	40	n/a	n/a	n/a	1.075	0.001
Earnings ^{^^}	40	6	417	0.385	0.123	40	0.000	0.000	41	0.385	0.002
Employment	40	5	403	0.358	0.283	40	0.000	0.000	41	0.358	0.206
Hospitalization (psychiatric)	40	2	222	-0.003	0.288	40	0.000	0.000	41	-0.003	0.993
Hours worked [^]	40	4	347	0.303	0.196	40	n/a	n/a	n/a	0.303	0.121
Psychiatric symptoms [^]	40	1	74	-0.136	0.164	40	n/a	n/a	n/a	-0.136	0.404

[^]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
Employment	Labor market earnings	\$2,090	\$4,910	\$0	\$0	\$7,000
Hospitalization (psychiatric)	Health care associated with psychiatric hospitalization	\$8	\$0	\$2	\$4	\$14
Program cost	Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$424)	(\$424)
Totals		\$2,098	\$4,910	\$2	(\$420)	\$6,589

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.

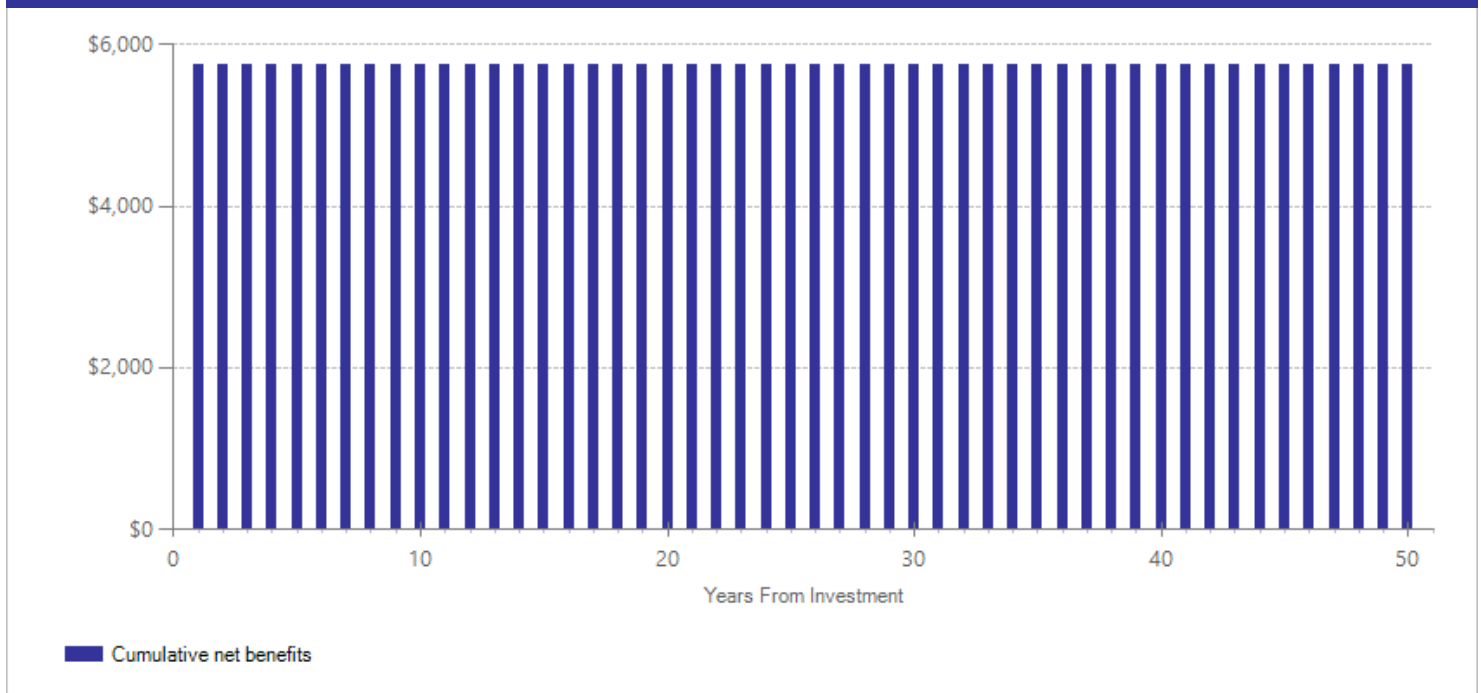
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,644	2001	Present value of net program costs (in 2018 dollars)	(\$849)
Comparison costs	\$1,027	2001	Cost range (+ or -)	60 %

The per-participant cost of IPS is based on the average annual cost found by Latimer et al., 2004. The cost of the comparison group is a weighted average of the costs to provide the services that the comparison group received in the studies we reviewed. Comparison group participants in these studies received enhanced vocational rehabilitation, traditional “train and place” vocational services or Clubhouse services. The ratio of the cost of enhanced vocational rehabilitation and traditional train and place vocational services compared to IPS was reported by Dixon et al., 2002 and the cost of Clubhouse vocational services was reported by Macias, 2001. Dixon et al., (2002). Cost-effectiveness of two vocational rehabilitation programs for persons with severe mental illness. *Psychiatric Services*, 53(9), 1118-1124. Latimer et al., (2004). The cost of high-fidelity supported employment programs for people with severe mental illness. *Psychiatric Services*, 55(4), 401-406. Macias, C. (2001). *Massachusetts employment Intervention Demonstration Project: An experimental comparison of PACT and Clubhouse* (Final Report). Retrieved from: <http://www.massclubs.org/Docs/ComparisonPACandClubhouseModels2.pdf>

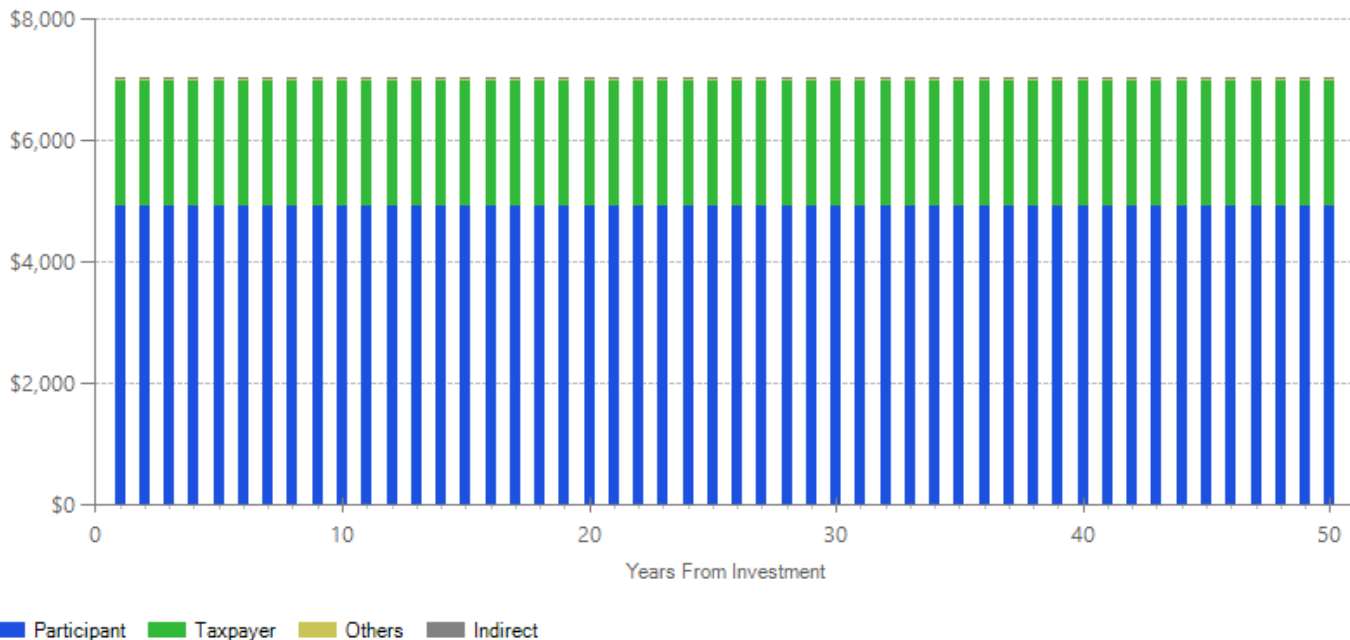
The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty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

Benefits Minus Costs Over Time (Cumulative Discounted Dollars)



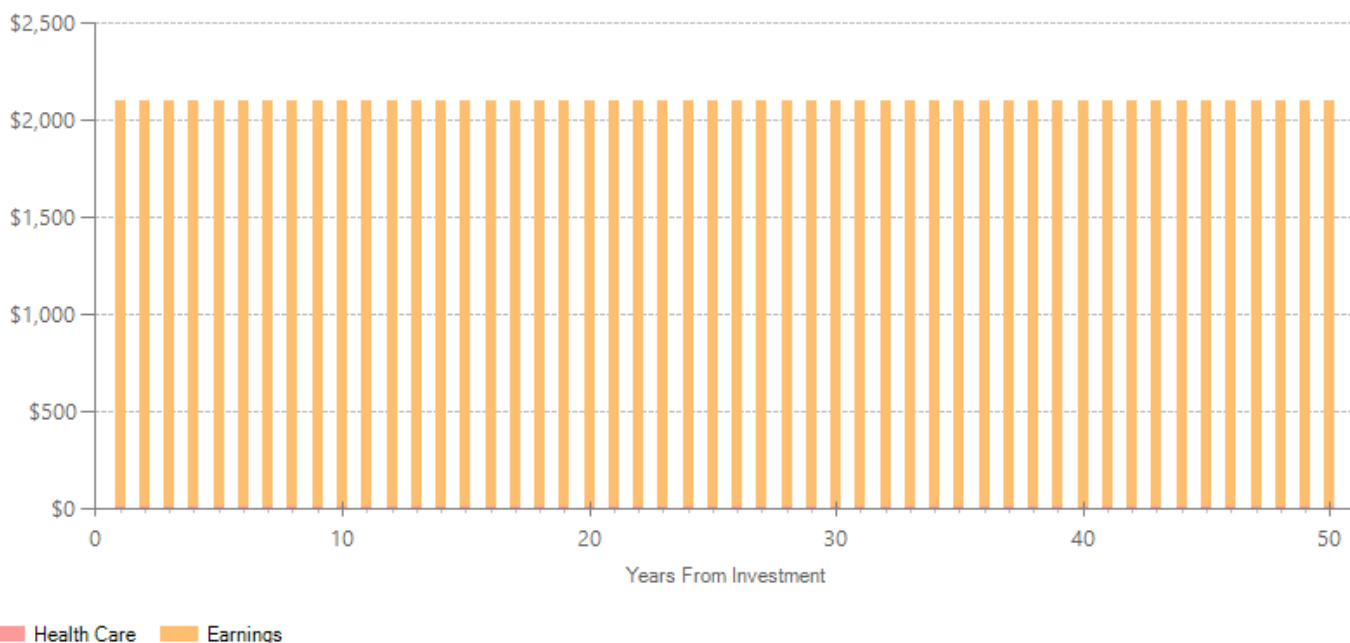
The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in discounted dollars. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost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

Taxpayer Benefits by Source of Value Over Time (Cumulative Discounted Dollars)



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

- Bond, G.R., Salyers, M.P., Dincin, J., Drake, R., Becker, D.R., Fraser, V.V., & Haines, M. (2007). A randomized controlled trial comparing two vocational models for persons with severe mental illness. *Journal of Consulting and Clinical Psychology, 75*(6), 968-982.
- Burns, T., Catty, J., Becker, T., Drake, R.E., Fioritti, A., Knapp, M., . . . Wiersma, D. (2007). The effectiveness of supported employment for people with severe mental illness: A randomised controlled trial. *The Lancet, 370*(9593), 1146-1152.
- Burns, T., Catty, J., White, S., Becker, T., Koletsi, M., Fioritti, A., . . . Lauber, C. (2009). The impact of supported employment and working on clinical and social functioning: Results of an international study of individual placement and support. *Schizophrenia Bulletin, 35*(5), 949-958.
- Davis, L.L., Leon, A.C., Toscano, R., Drebing, C.E., Ward, L.C., Parker, P.E., Kashner, T.M., . . . Drake, R.E. (2012). A randomized controlled trial of supported employment among veterans with posttraumatic stress disorder. *Psychiatric Services, 63*(5), 464-470.
- Drake, R.E., McHugo, G.J., Becker, D.R., Anthony, W.A., & Clark, R.E. (1996). The New Hampshire Study of Supported Employment for People With Severe Mental Illness. *Journal of Consulting and Clinical Psychology, 64*(2): 391-399.
- Drake, R.E., McHugo, G.J., Bebout, R.R., Becker, D.R., Harris, M., Bond, G.R., & Quimby, E. (1999). A randomized clinical trial of supported employment for inner-city patients with severe mental disorders. *Archives of General Psychiatry, 56*(7), 627-633.
- Heslin, M., Howard, L., Leese, M., McCrone, P., Rice, C., Jarrett, M., . . . Thornicroft, G. (2011). Randomized controlled trial of supported employment in England: 2 year follow up of the Supported Work and Needs (SWAN) study. *World Psychiatry, 10*(2), 132-137.
- Hoffmann, H., Jackel, D., Glauser, S., & Kupper, Z. (2012). A randomised controlled trial of the efficacy of supported employment. *Acta Psychiatrica Scandinavica, 125*(2), 157-67.
- Latimer, E., Lecomte, T., Becker, D.R., Drake, R.E., Duclos, I., Piat, M., . . . Xie, H. (2006). Generalisability of the individual placement and support model of supported employment: Results of a Canadian randomised controlled trial. *The British Journal of Psychiatry, 189*(1), 65-73.
- Lehman, A.F., Goldberg, R., Dixon, L.B., McNary, S., Postrado, L., Hackman, A., & McDonnell, K. (2002). Improving Employment Outcomes for Persons With Severe Mental Illnesses. *Archives of General Psychiatry, 59*(2): 165-172.
- Mueser, K.T., Clark, R.E., Haines, M., Drake, R.E., McHugo, G.J., Bond, G.R., . . . Swain, K. (2004). The Hartford study of supported employment for persons with severe mental illness. *Journal of Consulting and Clinical Psychology, 72*(3), 479-488.
- Tsang, H.W.H., Chan, A., Wong, A., & Liberman, R.P. (2009). Vocational outcomes of an integrated supported employment program for individuals with persistent and severe mental illness. *Journal of Behavior Therapy and Experimental Psychiatry, 40*(2), 292-305.
- Twamley, E., Narvaez, J., Becker, D., Bartels, S., & Jeste, D. (2008). Supported employment for middle-aged and older people with schizophrenia. *American Journal of Psychiatric Rehabilitation, 11*(1), 76-89.
- Wong, K.K., Chiu, R., Tang, B., Mak, D., Liu, J., & Chiu, S.N. (2008). A randomized controlled trial of a supported employment program for persons with long-term mental illness in Hong Kong. *Psychiatric Services, 59*(1), 84-90.

For further information, contact:
(360) 664-9800, institute@wsipp.wa.gov

Printed on 05-16-2021



Washington State Institute for Public Policy

The Washington State Legislature created the Washington State Institute for Public Policy in 1983. A Board of Directors—representing the legislature, the governor, and public universities—governs WSIPP and guides the development of all activities. WSIPP's mission is to carry out practical research, at legislative direction, on issues of importance to Washington State.