

Supported housing for chronically homeless adults

Adult Mental Health: Serious Mental Illness

Benefit-cost estimates updated December 2017. Literature review updated December 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 programs provide permanent supportive housing to chronically homeless single adults. Most of the studies reviewed here used the Housing First model which provides independent apartments with no specific requirements for abstinence or treatment. Programs typically provide intensive case management and services. Housing is in independent apartments—participants hold the lease but receive subsidies to pay rent. Supported housing is associated with significant reductions in homelessness which we are unable to monetize at this time. To test the sensitivity of our benefit-cost results to this known limitation of our model, we examined a recent comprehensive benefit-cost study of housing vouchers (Carlson et al., 2011). Our benefit-cost results would not change significantly if we had included the benefits of providing housing estimated by this study. Carlson, D., Haveman, R., Kaplan, T., & Wolfe, B. (2011). The benefits and costs of the Section 8 housing subsidy program: A framework and estimates of first-year effects. *Journal of Policy Analysis and Management*, 30 (2), 233-255.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	\$287	Benefit to cost ratio	(\$0.46)
Participants	\$90	Benefits minus costs	(\$22,540)
Others	\$149	Chance the program will produce	
Indirect	(\$7,615)	benefits greater than the costs	0 %
Total benefits	(\$7,089)		
Net program cost	(\$15,451)		
Benefits minus cost	(\$22,540)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). 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	\$0	\$1	\$0	\$1
Labor market earnings associated with alcohol abuse or dependence	\$80	\$36	\$0	\$1	\$117
Property loss associated with alcohol abuse or dependence	\$0	\$0	\$0	\$0	\$0
Labor market earnings associated with illicit drug abuse or dependence	(\$3)	(\$1)	\$0	\$0	(\$5)
Health care associated with illicit drug abuse or dependence	\$0	(\$1)	(\$1)	(\$1)	(\$4)
Health care associated with general hospitalization	\$5	\$94	\$81	\$47	\$227
Health care associated with psychiatric hospitalization	\$2	\$126	\$28	\$63	\$219
Health care associated with emergency department visits	\$7	\$34	\$40	\$17	\$98
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$7,742)	(\$7,742)
Totals	\$90	\$287	\$149	(\$7,615)	(\$7,089)

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

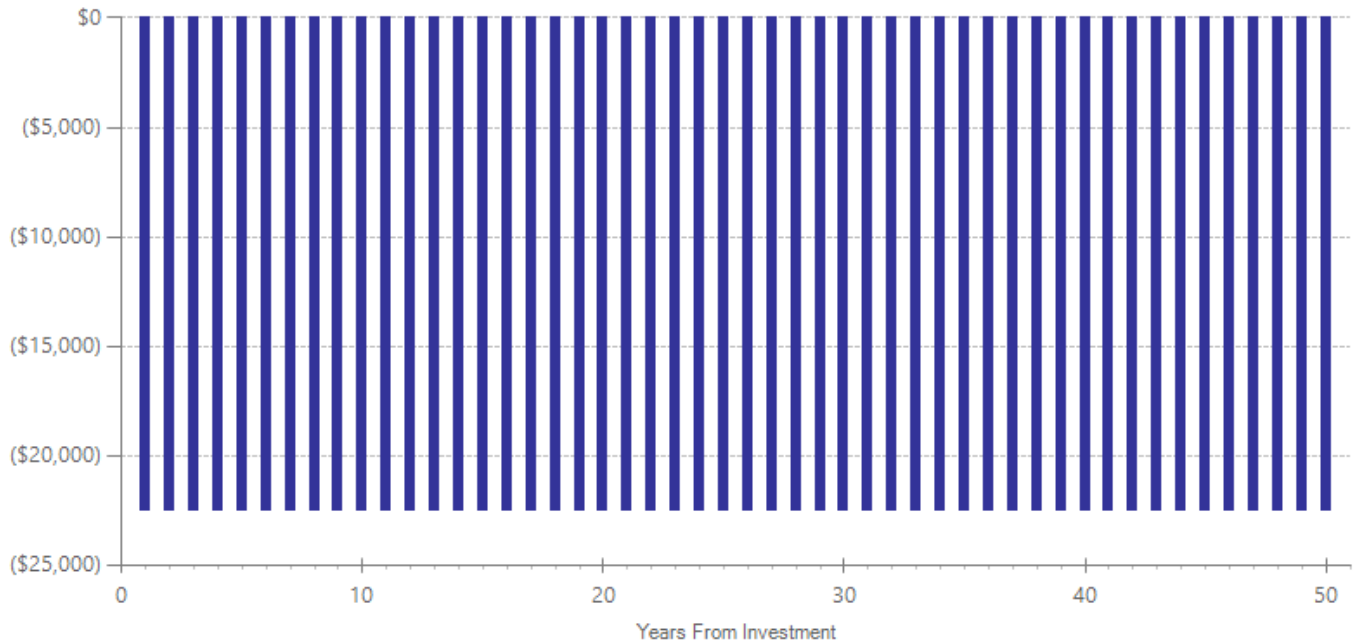
	Annual cost	Year dollars	Summary	
Program costs	\$13,950	2009	Present value of net program costs (in 2016 dollars)	(\$15,451)
Comparison costs	\$0	2009	Cost range (+ or -)	10 %

Per-participant costs are based on the annual cost of a program in Seattle described in Srebnik et al. (2013). Analysis of supported housing in New York (Culhane et al., 2002) indicated the average length of stay was nine months, so we multiply the annual cost of the Seattle program by 0.75.

Srebnik et al., (2013). A pilot study of the impact of housing first-supported housing for intensive users of medical hospitalization and sobering services. *American Journal of Public Health, 103*(2), 316-21. Culhane et al., (2002) Public service reductions associated with placement of persons with severe mental illness in supportive housing. *Housing Policy Debate, 13*(1), 107-163.

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	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		
Alcohol use disorder	40	2	478	-0.051	0.144	40	0.000	0.000	41	-0.051	0.723
Crime	40	8	3833	-0.083	0.047	40	0.000	0.000	41	-0.083	0.077
Emergency department visits	40	5	570	-0.164	0.064	40	0.000	0.000	41	-0.164	0.011
Employment	40	3	514	0.179	0.111	40	0.000	0.000	41	0.192	0.183
Homelessness [^]	40	10	4467	-0.505	0.023	40	0.000	0.000	41	-0.505	0.001
Hospitalization	40	7	2490	-0.129	0.054	40	0.000	0.000	41	-0.129	0.016
Hospitalization (psychiatric)	40	4	2727	-0.058	0.028	40	0.000	0.000	41	-0.058	0.036
Illicit drug use disorder	40	1	332	0.062	0.105	40	0.000	0.000	41	0.062	0.553
Primary care visits [^]	40	3	733	0.157	0.052	40	0.000	0.000	41	0.157	0.003

[^]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](#).

Citations Used in the Meta-Analysis

- Basu, A., Kee, R., Sadowski, L.S., & Buchanan, D. (2012). Comparative cost analysis of housing and case management program for chronically ill homeless adults compared to usual care. *Health Services Research, 47*, 523-543.
- Cheng, A.L., Lin, H., Kaspro, W., & Rosenheck, R.A. (2007). Impact of supported housing on clinical outcomes: Analysis of a randomized trial using multiple imputation technique. *The Journal of Nervous and Mental Disease, 195*(1), 83-88.
- Culhane, D.P., Metraux, S., & Hadley, T. (2002). Public service reductions associated with placement of homeless persons with severe mental illness in supportive housing. *Housing Policy Debate, 13*(1), 107-163.
- Gilmer, T.P., Stefancic, A., Ettner, S.L., Manning, W.G., & Tsemberis, S. (2010). Effect of full-service partnerships on homelessness, use and costs of mental health services, and quality of life among adults with serious mental illness. *Archives of General Psychiatry, 67*(6), 645-52.
- Gulcur, L., Stefancic, A., Shinn, M., Tsemberis, S., & Fischer, S. (2003). Housing, hospitalization, and cost outcomes for homeless individuals with psychiatric disabilities participating in continuum of care and housing first programmes. *Journal of Community and Applied Social Psychology, 13*(2), 171-186.
- Johnson, G., Kuehnle, D., Parkinson, S., Sesa, S., & Tseng, Y. (2014). *Resolving long-term homelessness: A randomized controlled trial examining the 36 month costs, benefits, and social outcomes from the journey to Social Inclusion Pilot Program*. Sacred Heart Mission, St. Kilda.
- Johnson, G., Kuehnle, D., Parkinson, S., Sesa, S., & Tseng, Y. (2012). *Resolving long-term homelessness: A randomized controlled trial examining the 24 month costs, benefits, and social outcomes from the ourney to Social Inclusion Pilot Program*. Sacred Heart Mission, St. Kilda.
- Larimer, M.E., Malone, D.K., Garner, M.D., Atkins, D.C., Burlingham, B., Lonczak, H.S., et al. (2009). Health care and public service use and costs before and after provision of housing for chronically homeless persons with severe alcohol problems. *JAMA, 301*(13), 1349-1357.
- Lipton, F.R., Nutt, S., & Sabatini, A. (1988). Housing the homeless mentally ill: A longitudinal study of a treatment approach. *Hospital & Community Psychiatry, 39*(1), 40-45.
- Mares, A., Rosenheck, R.A. (2007) *HUD/HHS/VA Collaborative to Help End Chronic Homelessness National Performance Outcomes Assessment Preliminary Client Outcomes Report*. West Haven, CT: VA Northeast Program Evaluation Center.
- Rosenheck, R., Kaspro, W., Frisman, L., & Liu-Mares, W. (2003). Cost-effectiveness of supported housing for homeless persons with mental illness. *Archives of General Psychiatry, 60*(9), 940-951.
- Sadowski, L.S., Kee, R.A., VanderWeele, T.J., & Buchanan, D. (2009). Effect of a housing and case management program on emergency department visits and hospitalizations among chronically ill homeless adults: A randomized trial. *JAMA, 301*(17), 1771-1778.
- Shern, D.L., Felton, C.J., Hough, R.L., Lehman, A.F., Goldfinger, S., Valencia, E., ... (1997). Housing outcomes for homeless adults with mental illness: Results from the second-round McKinney program. *Psychiatric Services, 48*(2), 239-241.
- Srebnik, D., Connor, T., & Sylla, L. (2013). A pilot study of the impact of housing first-supported housing for intensive users of medical hospitalization and sobering services. *American Journal of Public Health, 103*(2), 316-21.

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