Acceptance and Commitment Therapy for schizophrenia/psychosis

Adult Mental Health: Serious Mental Illness

Benefit-cost estimates updated December 2016. Literature review updated September 2016.

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: Acceptance and Commitment Therapy for schizophrenia/psychosis aims to increase client acceptance of psychotic symptoms (such as hallucinations and delusions) and reduce the negative behavioral impact of psychosis. Acceptance and Commitment Therapy relies on six core processes of change: 1) acceptance; 2) learning to view thoughts as hypotheses rather than facts; 3) being present; 4) viewing the self as context for experience; 5) identifying core values; and 6) acting based on those values. These core principles are applied through various exercises and through homework.

Treatment groups received 2 to 16 hours of individual acceptance and commitment therapy. Treatments in this review provided acceptance and commitment therapy as an addition to usual treatment; comparison groups received usual treatment. This review excludes studies of acceptance and commitment therapy for other disorders.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	$886	Benefit to cost ratio	$1.73
Participants	$12	Benefits minus costs	$503
Others	$199	Chance the program will produce benefits greater than the costs	58 %
Indirect	$98		
Total benefits	$1,195		
Net program cost	($692)		
Benefits minus cost	$503		

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
Health care associated with psychiatric hospitalization	$12	$886	$199	$443	$1,540
Adjustment for deadweight cost of program	$0	$0	$0	($345)	($345)
Totals	$12	$886	$199	$98	$1,195

[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.

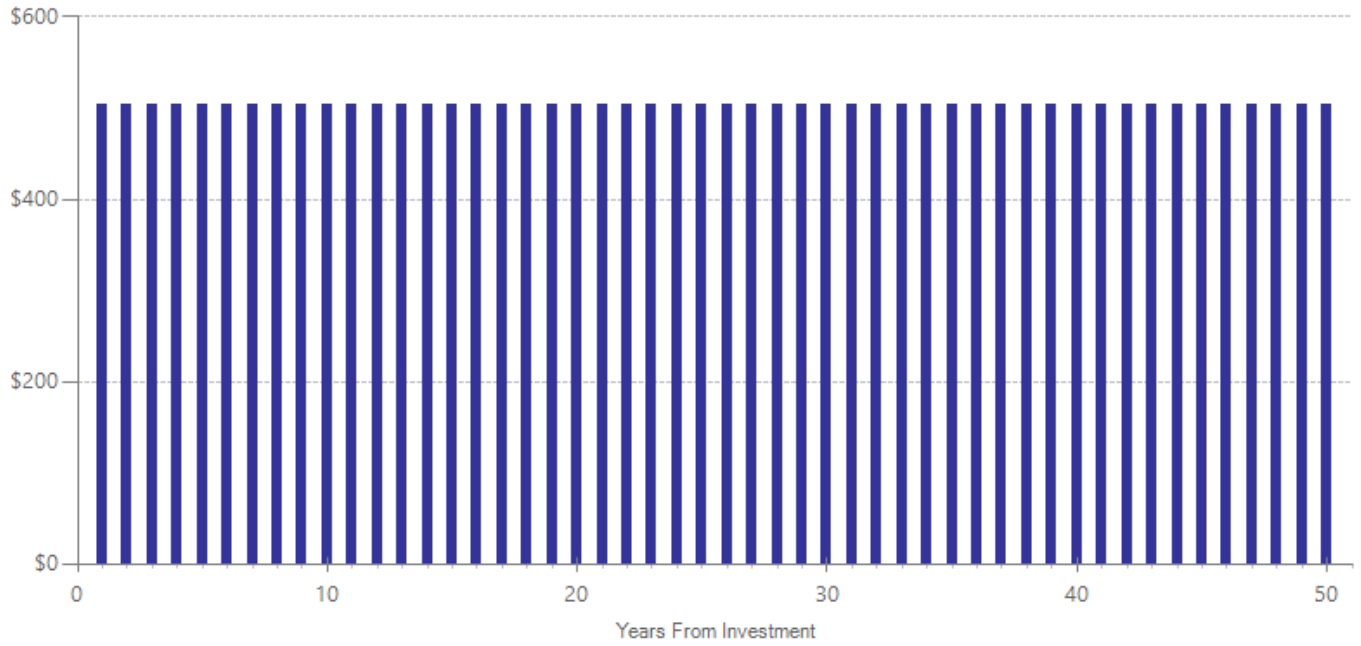
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	$693	2015	Present value of net program costs (in 2015 dollars)	($692)
Comparison costs	$0	2015	Cost range (+ or -)	15 %

These therapies took place over 2-12 weekly or bi-weekly sessions; total length of treatment was 6 weeks on average. The per-participant cost of treatment was weighted by the treatment Ns reported in the studies. Cost per session is $122.25/session (2015 dollars). This rate is based on actuarial tables reported in Mercer (2014) Behavioral Health Data Book for the State of Washington For Rates Effective January 1, 2015.

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	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
Global functioning	2	39	0.214	0.231	40	0.158	0.433	41	0.214	0.355
Medication adherence	1	35	-0.245	0.329	40	-0.181	0.522	41	-0.245	0.457
Hospitalization (psychiatric)	3	64	-0.596	0.245	40	0.000	0.118	41	-0.596	0.015
Psychosis symptoms (positive)	3	53	-0.230	0.198	40	-0.170	0.411	41	-0.230	0.247
Psychiatric symptoms	2	39	-0.454	0.233	40	-0.337	0.522	41	-0.454	0.051
Psychosis symptoms (negative)	3	53	-0.433	0.209	40	-0.321	0.500	41	-0.433	0.038

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

Bach, P., & Hayes, S.C. (2002). The use of acceptance and commitment therapy to prevent the rehospitalization of psychotic patients: a randomized controlled trial., *Journal of Consulting and Clinical Psychology, 70,* (5), 1129-39.

Gaudiano, B.A., & Herbert, J.D. (2006). Acute treatment of inpatients with psychotic symptoms using Acceptance and Commitment Therapy: Pilot results. *Behaviour Research and Therapy, 44,* (3), 415-437.

White, R., Gumley, A., McTaggart, J., Rattrie, L., McConville, D., Cleare, S., & Mitchell, G. (2011). A feasibility study of Acceptance and Commitment Therapy for emotional dysfunction following psychosis. *Behaviour Research and Therapy, 49,* (12), 901-907.

Shawyer, F., Farhall, J., Mackinnon, A., Trauer, T., Sims, E., Ratcliff, K., Larner, C., ... Copolov, D. (2012). A randomised controlled trial of acceptance-based cognitive behavioural therapy for command hallucinations in psychotic disorders. *Behaviour Research and Therapy, 50,* (2), 110-121.

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