



Inventory of Evidence-based, Research-based, and Promising Practices: Prevention and Intervention Services for Adult Behavioral Health

Benefit-Cost & Meta-Analysis Results

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Assertive Community Treatment

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

Program Description: Assertive Community Treatment (ACT) is a treatment and case management approach that includes the following key elements: a multidisciplinary team that includes a medication prescriber, direct service provided by team members, caseloads that are shared between team members, services provided in locations convenient for the patient, and low patient-to-staff ratios. The studies reviewed in this analysis compared ACT to treatment as usual or other forms of case management. ACT is associated with significant reductions in homelessness, for which the current WSIPP benefit-cost model does not estimate monetary benefits. To test the sensitivity of our benefit-cost results to this known limitation, 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 firstyear effects. *Journal of Policy Analysis and Management*, 30(2), 233-255.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	(\$740)	Benefit to cost ratio	(\$0.52)
Taxpayers	\$59	Benefits minus costs	(\$26,842)
Other	\$262	Probability of a positive net present value	1 %
Other indirect	(\$8,704)		
Total	(\$9,124)		
Costs	(\$17,719)		
Benefits minus cost	(\$26,842)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other	Other indirect	
From primary participant					
Crime	\$0	\$72	\$167	\$36	\$276
Labor market earnings (alcohol abuse/dependence)	(\$746)	(\$318)	\$0	\$0	(\$1,065)
Health care (alcohol abuse/dependence)	(\$2)	(\$4)	(\$4)	(\$2)	(\$11)
Property loss (alcohol abuse/dependence)	(\$1)	\$0	(\$1)	\$0	(\$2)
Health care (general hospitalization)	\$1	\$18	\$16	\$9	\$44
Health care (psychiatric hospitalization)	\$4	\$269	\$61	\$127	\$461
Health care (emergency department visits)	\$4	\$21	\$24	\$11	\$60
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$8,886)	(\$8,886)
Totals	(\$740)	\$59	\$262	(\$8,704)	(\$9,124)

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics
Program costs	\$14,000	1.892	2013	Present value of net program costs (in 2013 dollars) (\$17,719)
Comparison costs	\$4,482	1.892	2013	Uncertainty (+ or - %) 10 %

The annual per patient cost of ACT in Washington State was used to estimate the program costs (Washington State Department of Social & Health Services, 2013). Since the comparison groups in the included studies had an average caseload that was 3.12 times as high as the ACT caseload, we estimated the costs of the comparison group by reducing the ACT costs by this factor.

Washington State Department of Social & Health Services. (2013). *2013 program description, Washington Program for Assertive Community Treatment*. Retrieved from <https://fortress.wa.gov/dshs/adsaapps/about/programs/MH%20Program%20for%20Assertive%20Community%20Treatment.docx>.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Hospitalization (psychiatric)	Primary	22	-0.141	0.070	0.045	-0.141	0.070	42	0.000	0.118	43
Emergency department visits	Primary	3	-0.048	0.215	0.823	-0.048	0.215	42	n/a	n/a	43
Alcohol abuse or dependence	Primary	4	0.097	0.127	0.446	0.097	0.127	42	n/a	n/a	43
Crime	Primary	8	-0.042	0.070	0.546	-0.042	0.070	42	n/a	n/a	43
Hospitalization (general)	Primary	4	-0.014	0.110	0.897	-0.014	0.110	42	n/a	n/a	43
Psychiatric symptoms	Primary	11	-0.050	0.061	0.496	-0.050	0.061	42	n/a	n/a	43
Homelessness	Primary	8	-0.228	0.098	0.020	-0.228	0.098	42	n/a	n/a	43
Global functioning	Primary	5	0.142	0.096	0.139	0.142	0.096	42	n/a	n/a	43

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Cognitive Behavioral Therapy (CBT) for anxiety

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

Program Description: Cognitive-behavioral therapies include various components, such as cognitive restructuring, behavioral activation, emotion regulation, exposure, communication skills, and problem-solving. Most commonly, studies offering this treatment provided 10-20 therapeutic hours per client in individual or group modality. Most studies in this analysis focused on a single anxiety disorder (generalized anxiety, obsessive-compulsive, panic, social phobia) with aspects of the treatment tailored to the specific disorder. This review excludes studies of CBT for post-traumatic stress disorder.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$41,828	Benefit to cost ratio	\$177.04
Taxpayers	\$18,692	Benefits minus costs	\$61,709
Other	\$1,224	Probability of a positive net present value	99 %
Other indirect	\$316		
Total	\$62,060		
Costs	(\$351)		
Benefits minus cost	\$61,709		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (anxiety disorder)	\$41,507	\$17,704	\$0	\$0	\$59,211
Health care (anxiety disorder)	\$322	\$988	\$1,224	\$491	\$3,025
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$175)	(\$175)
Totals	\$41,828	\$18,692	\$1,224	\$316	\$62,060

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,142	1	2008	Present value of net program costs (in 2013 dollars)	(\$351)
Comparison costs	\$814	1	2008	Uncertainty (+ or - %)	10 %

Based on therapist time as reported in the studies, multiplied by reported DSHS reimbursement rates reported in Mercer (2008) Behavioral Health Data Book for the State of Washington For Rates Effective January 1, 2009.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Anxiety disorder	Primary	20	-0.836	0.095	0.000	-0.527	0.095	31	-0.274	0.116	33

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Cognitive Behavioral Therapy (CBT) for depression

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

Program Description: Cognitive-behavioral therapies include various components, such as cognitive restructuring, behavioral activation, emotion regulation, communication skills, and problem-solving. Treatment is goal-oriented and generally of limited duration. Most commonly, studies offering this treatment provided 10-20 therapeutic hours per client in individual or group modality.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$13,002	Benefit to cost ratio	\$100.99
Taxpayers	\$6,699	Benefits minus costs	\$23,301
Other	\$1,659	Probability of a positive net present value	100 %
Other indirect	\$2,174		
Total	\$23,535		
Costs	(\$233)		
Benefits minus cost	\$23,301		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (major depression)	\$12,566	\$5,360	\$0	\$1,617	\$19,542
Health care (major depression)	\$436	\$1,340	\$1,659	\$674	\$4,110
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$117)	(\$117)
Totals	\$13,002	\$6,699	\$1,659	\$2,174	\$23,535

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$890	1	2008	Present value of net program costs (in 2013 dollars)	(\$233)
Comparison costs	\$672	1	2008	Uncertainty (+ or - %)	10 %

Based on therapist time as reported in the studies, multiplied by reported DSHS reimbursement rates reported in Mercer (2008) Behavioral Health Data Book for the State of Washington For Rates Effective January 1, 2009.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Major depressive disorder	Primary	43	-0.675	0.056	0.000	-0.442	0.056	37	-0.230	0.069	39

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Cognitive Behavioral Therapy (CBT) for PTSD

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

Program Description: Treatments include several components, such as psycho-education about PTSD, relaxation, and other techniques for managing physiological and emotional stress, exposure (the gradual desensitization to memories of the traumatic event), and cognitive restructuring of inaccurate or unhelpful thoughts. The studies in this review employed a number of trauma-specific treatment models including Prolonged Exposure Therapy (PE), Narrative Exposure Therapy (NET), and Cognitive Processing Therapy (CPT). In the studies in this review, treatments provided between one and 50 therapeutic hours per client in individual or group settings. Studies were conducted on all continents and subjects had experienced a variety of types trauma including terrorism, sexual or physical assault, domestic violence, war, political detention, and automobile accidents.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$29,727	Benefit to cost ratio	\$156.14
Taxpayers	\$16,465	Benefits minus costs	\$53,315
Other	\$5,444	Probability of a positive net present value	100 %
Other indirect	\$2,024		
Total	\$53,660		
Costs	(\$345)		
Benefits minus cost	\$53,315		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (PTSD)	\$28,296	\$12,069	\$0	\$0	\$40,365
Health care (PTSD)	\$1,431	\$4,396	\$5,444	\$2,197	\$13,468
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$173)	(\$173)
Totals	\$29,727	\$16,465	\$5,444	\$2,024	\$53,660

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,136	1	2008	Present value of net program costs (in 2013 dollars)	(\$345)
Comparison costs	\$814	1	2008	Uncertainty (+ or - %)	15 %

Cost of treatment by modality (group/individual) weighted for TX N for individual therapy and TX N for group therapy in the studies. Cost per session: \$33.63/session for group, \$96.63 for individual therapy, based on actuarial tables reported in Mercer (2013) Behavioral Health Data Book for the State of Washington For Rates Effective January 1, 2014.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Post-traumatic stress	Primary	57	-0.907	0.050	0.000	-0.438	0.050	39	-0.438	0.050	40
Employment	Primary	1	0.821	0.535	0.125	0.337	0.535	39	0.337	0.535	40

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Collaborative primary care for anxiety

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

Program Description: A care manager provides management and follow-up for patients with anxiety; collaborates primary care provider and usually mental health specialists. The manager focuses both on improving anxiety symptoms

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$21,688	Benefit to cost ratio	\$40.25
Taxpayers	\$9,709	Benefits minus costs	\$31,128
Other	\$659	Probability of a positive net present value	94 %
Other indirect	(\$133)		
Total	\$31,925		
Costs	(\$797)		
Benefits minus cost	\$31,128		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (anxiety disorder)	\$21,515	\$9,177	\$0	\$0	\$30,692
Health care (anxiety disorder)	\$173	\$533	\$659	\$267	\$1,632
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$399)	(\$399)
Totals	\$21,688	\$9,709	\$659	(\$133)	\$31,925

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$787	1	2012	Present value of net program costs (in 2013 dollars)	(\$797)
Comparison costs	\$0	1	2012	Uncertainty (+ or - %)	15 %

Cost of telephone contacts, in-person contacts, supervision & information support, screening, educational materials, and time spent w/GP. Costs were obtained from Ell, K., Katon, W., Xie, B., Lee, P. J., Kapetanovic, S., Guterman, J., & Chou, C. P. (2010). Collaborative care management of major depression among low-income, predominantly Hispanic subjects with diabetes: A randomized controlled trial. *Diabetes Care*, 33(4), 706-713, using 2009 Medicare dollars. The estimate used the average number of telephone and in-person contacts from studies. There is a wide variation of cost, since the time the care manager spent w/each patient varied widely from study to study.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Anxiety disorder	Primary	4	-0.459	0.123	0.000	-0.393	0.123	44	-0.192	0.134	46

Citations Used in the Meta-Analysis

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Collaborative primary care for depression

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

Program Description: A care manager provides management, follow-up, and collaborates with primary care provider and (usually) mental health specialists. The manager focuses on improving depression symptoms.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$3,741	Benefit to cost ratio	\$9.13
Taxpayers	\$2,019	Benefits minus costs	\$6,446
Other	\$609	Probability of a positive net present value	100 %
Other indirect	\$872		
Total	\$7,242		
Costs	(\$796)		
Benefits minus cost	\$6,446		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (major depression)	\$3,581	\$1,528	\$0	\$1,025	\$6,134
Health care (major depression)	\$160	\$492	\$609	\$245	\$1,506
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$398)	(\$398)
Totals	\$3,741	\$2,019	\$609	\$872	\$7,242

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$787	1	2012	Present value of net program costs (in 2013 dollars)	(\$796)
Comparison costs	\$0	1	2012	Uncertainty (+ or - %)	15 %

Cost of telephone contacts, in-person contacts, supervision & information support, screening, educational materials, time spent w/GP. Costs were obtained from Ell, K., Katon, W., Xie, B., Lee, P. J., Kapetanovic, S., Guterman, J., & Chou, C. P. (2010). Collaborative care management of major depression among low-income, predominantly Hispanic subjects with diabetes: A randomized controlled trial. *Diabetes Care*, 33(4), 706-713, using 2009 Medicare dollars. The estimate used the average number of telephone & in-person contacts from studies. There is a wide variation of cost, since the time the care manager spent w/each patient varied widely from study to study.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Major depressive disorder	Primary	48	-0.270	0.024	0.000	-0.279	0.024	52	-0.137	0.026	54

Citations Used in the Meta-Analysis

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Collaborative primary care for depression with comorbid medical conditions

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

Program Description: A care manager provides management and follow-up for depressed patients with any comorbidity, and collaborates w/GP, and (usually) mental health specialists. Manager focuses both on improving depression and chronic illness symptoms.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$1,488	Benefit to cost ratio	\$4.57
Taxpayers	\$1,039	Benefits minus costs	\$2,989
Other	\$581	Probability of a positive net present value	99 %
Other indirect	\$721		
Total	\$3,830		
Costs	(\$841)		
Benefits minus cost	\$2,989		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (major depression)	\$1,335	\$570	\$0	\$908	\$2,813
Health care (major depression)	\$153	\$469	\$581	\$235	\$1,438
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$421)	(\$421)
Totals	\$1,488	\$1,039	\$581	\$721	\$3,830

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$831	1	2012	Present value of net program costs (in 2013 dollars)	(\$841)
Comparison costs	\$0	1	2012	Uncertainty (+ or - %)	15 %

Cost of telephone contacts, in-person contacts, supervision & information support, screening, educational materials, time spent w/GP. Costs were obtained from Ell, K., Katon, W., Xie, B., Lee, P. J., Kapetanovic, S., Guterman, J., & Chou, C. P. (2010). Collaborative care management of major depression among low-income, predominantly Hispanic subjects with diabetes: A randomized controlled trial. *Diabetes Care*, 33(4), 706-713, using 2009 Medicare dollars. The estimate used the average number of telephone and in-person contacts from studies. There is a wide variation of cost, since the time the care manager spent w/each patient varied widely from study to study.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Major depressive disorder	Primary	11	-0.395	0.077	0.000	-0.384	0.077	62	-0.188	0.084	64
Blood pressure	Primary	4	-0.459	0.182	0.000	-0.355	0.182	62	-0.174	0.198	64
Blood sugar	Primary	3	-0.254	0.134	0.059	-0.213	0.134	62	-0.104	0.146	64

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Forensic Assertive Community Treatment

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

Program Description: Forensic Assertive Community Treatment (FACT) is an adaptation of Assertive Community Treatment (ACT) for individuals with involvement in the criminal justice system. In this analysis the study population included individuals with serious mental illness who were identified as candidates for FACT in jail.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$2	Benefit to cost ratio	(\$0.40)
Taxpayers	\$412	Benefits minus costs	(\$17,530)
Other	\$672	Probability of a positive net present value	0 %
Other indirect	(\$6,061)		
Total	(\$4,974)		
Costs	(\$12,556)		
Benefits minus cost	(\$17,530)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$259	\$638	\$128	\$1,025
Health care (psychiatric hospitalization)	\$2	\$153	\$35	\$76	\$266
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$6,265)	(\$6,265)
Totals	\$2	\$412	\$672	(\$6,061)	(\$4,974)

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$14,000	1.33	2013	Present value of net program costs (in 2013 dollars)	(\$12,556)
Comparison costs	\$4,482	1.33	2013	Uncertainty (+ or - %)	10 %

Specific cost data was not available for FACT. We estimated the cost of FACT using the costs of ACT in Washington State. The annual per patient cost of ACT in Washington State was used to estimate the program costs (Washington State Department of Social & Health Services, 2013). We also assumed that the comparison group in the FACT study would have similar costs to the comparison group in the ACT studies that we reviewed. The cost of the comparison group in these studies was estimated by reducing the cost of the ACT intervention by of 3.12 because the comparison group caseloads were higher ACT caseloads by this factor in the ACT studies that we reviewed. Washington State Department of Social & Health Services. (2013). 2013 program description, Washington Program for Assertive Community Treatment. Retrieved from <https://fortress.wa.gov/dshs/adsaapps/about/programs/MH%20Program%20for%20Assertive%20Community%20Treatment.docx>.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Hospitalization (psychiatric)	Primary	1	-0.210	0.174	0.226	-0.210	0.174	41	n/a	n/a	42
Crime	Primary	1	-0.111	0.173	0.524	-0.111	0.173	41	n/a	n/a	42

Citations Used in the Meta-Analysis

Cusack, K. J., Morrissey, J. P., Cuddeback, G. S., Prins, A., & Williams, D. M. (2010). Criminal justice involvement, behavioral health service use, and costs of forensic assertive community treatment: a randomized trial. *Community Mental Health Journal*, 46(4), 356-363.

Illness Management and Recovery (IMR)

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

Program Description: Illness Management and Recovery (IMR) is a 40-hour curriculum for individuals with severe mental illness which addresses recovery strategies and information about serious mental illness. The evaluations in this analysis include data from programs where IMR was delivered to individuals and programs where IMR was delivered to a group.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$40	Benefit to cost ratio	(\$0.43)
Taxpayers	\$178	Benefits minus costs	(\$4,858)
Other	(\$60)	Probability of a positive net present value	6 %
Other indirect	(\$1,621)		
Total	(\$1,463)		
Costs	(\$3,395)		
Benefits minus cost	(\$4,858)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	(\$42)	(\$106)	(\$21)	(\$169)
Labor market earnings (employment)	\$37	\$16	\$0	\$0	\$52
Health care (psychiatric hospitalization)	\$3	\$204	\$46	\$100	\$353
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,700)	(\$1,700)
Totals	\$40	\$178	(\$60)	(\$1,621)	(\$1,463)

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$3,298	1	2011	Present value of net program costs (in 2013 dollars)	(\$3,395)
Comparison costs	\$0	1	2011	Uncertainty (+ or - %)	10 %

The cost of treatment is the weighted average cost of the individual and group IMR sessions provided in the studies included in the analysis. The group and individual treatment reimbursement rates reported in Mercer (2013) Behavioral Health Data Book for the State of Washington For Rates Effective January 1, 2014 were used to calculate the cost of treatment.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Employment	Primary	2	0.010	0.262	0.969	0.010	0.262	48	n/a	n/a	49
Hospitalization (psychiatric)	Primary	3	-0.095	0.190	0.617	-0.095	0.190	48	n/a	n/a	49
Crime	Primary	1	0.027	0.246	0.914	0.027	0.246	48	n/a	n/a	49
Psychiatric symptoms	Primary	2	-0.517	0.404	0.200	-0.517	0.404	48	n/a	n/a	49
Suicidal ideation	Primary	2	-0.517	0.665	0.437	-0.517	0.665	48	n/a	n/a	49

Citations Used in the Meta-Analysis

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Individual Placement and Support for individuals with serious mental illness

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

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

Program benefits		Summary statistics	
Participants	\$652	Benefit to cost ratio	\$0.75
Taxpayers	\$282	Benefits minus costs	(\$238)
Other	\$1	Probability of a positive net present value	40 %
Other indirect	(\$389)		
Total	\$545		
Costs	(\$783)		
Benefits minus cost	(\$238)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (employment)	\$652	\$278	\$0	\$0	\$929
Health care (psychiatric hospitalization)	\$0	\$4	\$1	\$2	\$8
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$392)	(\$392)
Totals	\$652	\$282	\$1	(\$389)	\$545

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,644	1	2001	Present value of net program costs (in 2013 dollars)	(\$783)
Comparison costs	\$1,027	1	2001	Uncertainty (+ or - %)	60 %

The 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.

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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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Employment	Primary	5	0.358	0.283	0.206	0.358	0.283	40	n/a	n/a	41
Hospitalization (psychiatric)	Primary	2	-0.003	0.288	0.993	-0.003	0.288	40	n/a	n/a	41
Competitive employment	Primary	13	1.075	0.105	0.001	1.075	0.105	40	n/a	n/a	41
Psychiatric symptoms	Primary	1	-0.136	0.164	0.404	-0.136	0.164	40	n/a	n/a	41
Hours worked	Primary	4	0.303	0.196	0.121	0.303	0.196	40	n/a	n/a	41
Earnings	Primary	6	0.385	0.123	0.002	0.385	0.123	40	n/a	n/a	41

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Mental health courts

Literature review updated May 2014.

Program Description: Mental health courts, modeled after other therapeutic courts (e.g., drug courts, DUI courts), divert offenders with mental health issues from incarceration to treatment in the community. These courts utilize mental health assessments, individualized treatment plans, intensive case management, and judicial monitoring to provide participants with the resources needed to avoid criminal behavior while improving public safety. In some courts, charges are dropped with successful completion of the program. Programs can vary in length sometimes up to 24 months.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$0	Benefit to cost ratio	\$7.54
Taxpayers	\$6,128	Benefits minus costs	\$19,629
Other	\$14,956	Probability of a positive net present value	100 %
Other indirect	\$1,552		
Total	\$22,635		
Costs	(\$3,006)		
Benefits minus cost	\$19,629		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$6,128	\$14,956	\$3,053	\$24,137
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,501)	(\$1,501)
Totals	\$0	\$6,128	\$14,956	\$1,552	\$22,635

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$2,656	1	2006	Present value of net program costs (in 2013 dollars)	(\$2,995)
Comparison costs	\$0	1	2006	Uncertainty (+ or - %)	10 %

Ridgley, M.S., Engber, J., Greenberg, M.D., Turner, S., DeMartini, C., & Demobosky, J.W. (2007). *Justice, treatment, and cost: An evaluation of the fiscal impact of Allegheny County Mental Health Court*. Santa Monica, CA: RAND.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Crime	Primary	6	-0.223	0.068	0.001	-0.223	0.068	37	-0.223	0.068	47
Psychiatric symptoms	Primary	2	-0.309	0.337	0.359	-0.309	0.337	37	n/a	n/a	38

Citations Used in the Meta-Analysis

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Mobile crisis response

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

Program Description: Two types of mobile crisis interventions were included in this analysis: an interdisciplinary team who was dispatched after individuals called a mental health hotline and a 911 response team staffed by police and psychiatric nurses.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$4	Benefit to cost ratio	\$0.33
Taxpayers	\$595	Benefits minus costs	(\$775)
Other	\$65	Probability of a positive net present value	11 %
Other indirect	(\$281)		
Total	\$382		
Costs	(\$1,158)		
Benefits minus cost	(\$775)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$309	\$0	\$155	\$464
Health care (psychiatric hospitalization)	\$4	\$287	\$65	\$144	\$499
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$580)	(\$580)
Totals	\$4	\$595	\$65	(\$281)	\$382

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,124	1	2011	Present value of net program costs (in 2013 dollars)	(\$1,158)
Comparison costs	\$0	1	2011	Uncertainty (+ or - %)	10 %

The number of hours that psychiatric nurses staffed the response teams in Scott, 2000 was divided by the number of clients served by the response team. The hourly rate of a psychiatric nurse was estimated using the individual adult treatment rate in the Mercer (2013) Behavioral Health Data Book for the State of Washington For Rates Effective January 1, 2014.
 Scott, R. L. (2000). Evaluation of a mobile crisis program: effectiveness, efficiency, and consumer satisfaction. *Psychiatric Services*, 51(9), 1153-1156.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Hospitalization (psychiatric)	Primary	2	-0.420	0.216	0.052	-0.420	0.216	36	n/a	n/a	37
Crime	Primary	1	-0.662	0.304	0.030	-0.662	0.304	36	n/a	n/a	37

Citations Used in the Meta-Analysis

Guo, S., Biegel, D. E., Johnsen, J. A., & Dyches, H. (2001). Assessing the impact of community-based mobile crisis services on preventing hospitalization. *Psychiatric Services, 52*(2), 223-228.

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Peer support: Addition of a peer specialist to the treatment team

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

Program Description: The programs examined in this analysis compared treatment teams with a peer specialist to treatment teams without a peer specialist. The treatment teams in this analysis provided services to individuals with serious mental illness or individuals receiving VA services for a psychiatric diagnosis.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$765	Benefit to cost ratio	(\$0.16)
Taxpayers	\$372	Benefits minus costs	(\$3,941)
Other	\$10	Probability of a positive net present value	0 %
Other indirect	(\$1,680)		
Total	(\$533)		
Costs	(\$3,409)		
Benefits minus cost	(\$3,941)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (employment)	\$764	\$326	\$0	\$0	\$1,090
Health care (psychiatric hospitalization)	\$1	\$46	\$10	\$23	\$81
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,703)	(\$1,703)
Totals	\$765	\$372	\$10	(\$1,680)	(\$533)

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,842	1.825	2011	Present value of net program costs (in 2013 dollars)	(\$3,409)
Comparison costs	\$0	1.825	2011	Uncertainty (+ or - %)	10 %

The cost of treatment is the weighted average cost of peer services provided in the studies included in this analysis. The average number of service hours estimated from Eisen et al., 2012, Felton et al., 1995, and Sledge et al., 2011 is higher than the average number of encounters with a peer specialist in Washington State as reported in Mercer (2013) Behavioral Health Data Book for the State of Washington For Rates Effective January 1, 2014. The cost per encounter was estimated using the peer specialist reimbursement cost reported in Mercer, 2013.

Felton, C. J., Stastny, P., Shern, D. L., Blanch, A., Donahue, S. A., Knight, E., & Brown, C. (1995). Consumers as peer specialists on intensive case management teams: Impact on client outcomes. *Psychiatric Services*, 46(10), 1037-1044.

Sledge, W. H., Lawless, M., Sells, D., Wieland, M., O'Connell, M. J., & Davidson, L. (2011). Effectiveness of peer support in reducing readmissions of persons with multiple psychiatric hospitalizations. *Psychiatric Services*, 62(5), 541-544.

Eisen, S. V., Schultz, M. R., Mueller, L. N., Degenhart, C., Clark, J. A., Resnick, S. G., Christiansen, C. L., ..., & Sadow, D. (2012). Outcome of a randomized study of a mental health peer education and support group in the VA. *Psychiatric Services*, 63(12), 1243-1246.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Hospitalization (psychiatric)	Primary	7	-0.064	0.123	0.604	-0.064	0.123	46	n/a	n/a	47
Employment	Primary	1	0.386	0.133	0.004	0.386	0.133	46	n/a	n/a	47
Psychiatric Symptoms	Primary	3	0.035	0.093	0.710	0.035	0.093	46	n/a	n/a	47
Crime	Primary	1	0.000	0.243	1.000	0.000	0.243	46	n/a	n/a	47
Homelessness	Primary	1	-0.138	0.243	0.569	-0.138	0.243	46	n/a	n/a	47
Global functioning	Primary	1	0.685	0.135	0.001	0.685	0.135	46	n/a	n/a	47

Citations Used in the Meta-Analysis

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Peer support: Substitution of a peer specialist for a non-peer on the treatment team

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

Program Description: The programs examined in this analysis compared treatment teams with a peer specialist to treatment teams with a non-peer in a similar role. The treatment teams in this analysis provided services to individuals with severe mental illness, major depression, or individuals receiving VA services for a psychiatric diagnosis.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	(\$426)	Benefit to cost ratio	n/e
Taxpayers	(\$136)	Benefits minus costs	(\$466)
Other	\$72	Probability of a positive net present value	24 %
Other indirect	\$25		
Total	(\$466)		
Costs	\$0		
Benefits minus cost	(\$466)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (alcohol abuse/dependence)	(\$437)	(\$187)	\$0	\$0	(\$624)
Health care (alcohol abuse/dependence)	(\$1)	(\$2)	(\$2)	(\$1)	(\$6)
Property loss (alcohol abuse/dependence)	(\$1)	\$0	(\$1)	\$0	(\$1)
Health care (psychiatric hospitalization)	\$0	(\$15)	(\$3)	(\$7)	(\$26)
Health care (emergency department visits)	\$13	\$67	\$78	\$34	\$192
Totals	(\$426)	(\$136)	\$72	\$25	(\$466)

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$0	1	2012	Present value of net program costs (in 2013 dollars)	\$0
Comparison costs	\$0	1	2012	Uncertainty (+ or - %)	10 %

In all studies the peer specialists and non-peer staff had similar roles, therefore, we did not impute a greater or lesser cost to peer support versus other providers.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Hospitalization (psychiatric)	Primary	4	0.022	0.174	0.901	0.022	0.174	44	n/a	n/a	45
Emergency department visits	Primary	1	-0.471	0.244	0.053	-0.471	0.244	44	n/a	n/a	45
Alcohol abuse or dependence	Primary	1	0.169	0.141	0.228	0.169	0.141	44	n/a	n/a	45
Employment	Primary	1	-0.080	0.141	0.569	-0.080	0.141	44	n/a	n/a	45
Psychiatric symptoms	Primary	6	0.050	0.131	0.701	0.050	0.131	44	n/a	n/a	45
Homelessness	Primary	2	0.045	0.122	0.711	0.045	0.122	44	n/a	n/a	45
Crime	Primary	2	0.256	0.221	0.246	0.256	0.221	44	n/a	n/a	45

Citations Used in the Meta-Analysis

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Primary care in behavioral health settings

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

Program Description: These studies evaluated co-location of primary care in behavioral health settings (mental health and substance abuse treatment centers). Of 11 studies, six were conducted in Veterans' Administration health facilities; two were conducted at Kaiser Permanente addiction centers; and three were conducted at other community addiction treatment centers.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$75	Benefit to cost ratio	\$1.22
Taxpayers	\$64	Benefits minus costs	\$47
Other	\$28	Probability of a positive net present value	50 %
Other indirect	\$94		
Total	\$262		
Costs	(\$215)		
Benefits minus cost	\$47		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$1	\$2	\$0	\$3
Property loss (alcohol abuse/dependence)	\$0	\$0	\$0	\$0	\$0
Labor market earnings (illicit drug abuse/dependence)	\$73	\$31	\$0	\$195	\$298
Health care (illicit drug abuse/dependence)	\$1	\$2	\$2	\$1	\$6
Health care (general hospitalization)	\$2	\$31	\$27	\$16	\$76
Health care (psychiatric hospitalization)	\$0	\$2	\$0	(\$8)	(\$6)
Health care (emergency department visits)	(\$1)	(\$3)	(\$3)	(\$1)	(\$8)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$108)	(\$108)
Totals	\$75	\$64	\$28	\$94	\$262

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$217	1	2014	Present value of net program costs (in 2013 dollars)	(\$215)
Comparison costs	\$0	1	2014	Uncertainty (+ or - %)	20 %

According to Saxon, A. J., Malte, C. A., Sloan, K. L., Baer, J. S., Calsyn, D. A., Nichol, P., . . . Kivlahan, D. R. (2006). Randomized Trial of Onsite Versus Referral Primary Medical Care for Veterans in Addictions Treatment. *Medical Care*, 44(4), 334-342, patients in the clinics with co-located at VA centers had an average of 1.1 primary care visits than the comparison group in 12 months; Samet, J. H., Larson, M. J., Horton, N. J., Doyle, K., Winter, M., & Saitz, R. (2003). Linking alcohol- and drug-dependent adults to primary medical care: A randomized controlled trial of a multi-disciplinary health intervention in a detoxification unit. *Addiction*, 98(4), 509-516 found those in community clinic used 1.0 more primary care visits. For this combination location, assume an average of 1.05 visits per patient. We estimate additional cost of the program by multiplying 1.1 visits time the Medicaid enhanced payment rate for the longest primary care visit. See http://www.hca.wa.gov/medicaid/pages/aca_rates.aspx

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Hospitalization (general)	Primary	8	-0.033	0.043	0.659	-0.033	0.043	41	n/a	n/a	42
Hospitalization (psychiatric)	Primary	1	-0.067	4.281	0.987	-0.067	4.281	41	n/a	n/a	42
Emergency department visits	Primary	9	0.009	0.045	0.845	0.009	0.045	41	n/a	n/a	42
Alcohol abuse or dependence	Primary	3	-0.001	0.124	0.995	-0.001	0.124	41	n/a	n/a	42
Illicit drug abuse or dependence	Primary	2	-0.017	0.081	0.845	-0.017	0.081	41	n/a	n/a	42
Primary care visits	Primary	7	0.289	0.172	0.092	0.289	0.172	41	n/a	n/a	42
Blood pressure	Primary	2	-0.064	0.090	0.460	-0.064	0.090	41	n/a	n/a	42
Blood sugar	Primary	2	-0.057	0.091	0.530	-0.057	0.091	41	n/a	n/a	42
Cholesterol	Primary	2	-0.054	0.090	0.550	-0.054	0.090	41	n/a	n/a	42
Death	Primary	2	-0.007	0.160	0.860	-0.007	0.160	41	n/a	n/a	42

Citations Used in the Meta-Analysis

- Druss, B. G., Rohrbaugh, R. M., Levinson, C. M., & Rosenheck, R. A. (2001). Integrated medical care for patients with serious psychiatric illness: a randomized trial. *Archives of General Psychiatry*, 58(9), 861-8.
- Friedmann, P. D., Hendrickson, J. C., Gerstein, D. R., Zhang, Z., & Stein, M. D. (2006). Do Mechanisms That Link Addiction Treatment Patients to Primary Care Influence Subsequent Utilization of Emergency and Hospital Care?. *Medical Care*, 44(1), 8-15.
- Kilbourne, A. M., Pirraglia, P. A., Lai, Z., Bauer, M. S., Charns, M. P., Greenwald, D., . . . Yano, E. M. (2011). Quality of general medical care among patients with serious mental illness: does colocation of services matter?. *Psychiatric Services*, 62(8), 922-928.
- Laine, C., Hauck, W. W., & Turner, B. J. (2005). Availability of Medical Care Services in Drug Treatment Clinics Associated with Lower Repeated Emergency Department Use. *Medical Care*, 43(10), 985-995.
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- Pirraglia, P. A., Kilbourne, A. M., Lai, Z., Friedmann, P. D., & O'Toole, T. P. (2011). Colocated general medical care and preventable hospital admissions for veterans with serious mental illness. *Psychiatric Services*, 62(5), 554-557.
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- Scharf, D.M, Eberhart, N.K., Horvitz-Lennon, M., R. Beckman, Han, B., Lovejoy, S., Pincus, H.A., Burnam, M.A. (2013). *Evaluation of the SAMHSA Primary and Behavioral ehealth Care Integration Program: Final report*. Rand Corporation. <http://aspe.hhs.gov/daltcp/reports/2013/PBHCifr.shtml>
- Umbricht-Schneider, A., Ginn, D. H., Pabst, K. M., & Bigelow, G. E. (1994). Providing medical care to methadone clinic patients: referral vs on-site care. *American Journal of Public Health*, 84(2), 207-210.
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- Willenbring, M. L., & Olson, D. H. (1999). A randomized trial of integrated outpatient treatment for medically ill alcoholic men. *Archives of Internal Medicine*, 159(16), 1946-1952.
- Willenbring, M. L., Olson, D. H., & Bielinski, J. (1995). Integrated Outpatient Treatment for Medically Ill Alcoholic Men: Results from a Quasi-Experimental Study. *Journal of Studies on Alcohol*, 56(3), 337.

Primary care in behavioral health settings (community-based settings)

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

Program Description: Behavioral health settings (mental health and substance abuse treatment centers) provide primary care for patients on site or nearby. This collection of studies was conducted at community-based treatment centers.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	(\$426)	Benefit to cost ratio	(\$2.57)
Taxpayers	(\$150)	Benefits minus costs	(\$947)
Other	\$19	Probability of a positive net present value	19 %
Other indirect	(\$123)		
Total	(\$680)		
Costs	(\$267)		
Benefits minus cost	(\$947)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (smoking)	(\$423)	(\$180)	\$0	(\$4)	(\$607)
Health care (smoking)	(\$3)	(\$4)	(\$4)	(\$2)	(\$12)
Health care (general hospitalization)	\$3	\$53	\$46	\$27	\$128
Health care (emergency department visits)	(\$4)	(\$19)	(\$23)	(\$10)	(\$56)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$134)	(\$134)
Totals	(\$426)	(\$150)	\$19	(\$123)	(\$680)

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$270	1	2014	Present value of net program costs (in 2013 dollars)	(\$267)
Comparison costs	\$0	1	2014	Uncertainty (+ or - %)	20 %

According to Samet, J. H., Larson, M. J., Horton, N. J., Doyle, K., Winter, M., & Saitz, R. (2003). Linking alcohol- and drug-dependent adults to primary medical care: A randomized controlled trial of a multi-disciplinary health intervention in a detoxification unit. *Addiction*, 98(4), 509-516, patients in the treatment group received an average on 1 more primary care visit in 12 months than did those in the comparison group. The average visit cost for primary care visit at Navos in Seattle is \$270 (per email from Paul Tagenfeldt to M. Miller, April 25, 2014).

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Emergency department visits	Primary	6	0.064	0.045	0.157	0.064	0.045	41	n/a	n/a	42
Hospitalization (general)	Primary	4	-0.058	0.150	0.701	-0.058	0.150	41	n/a	n/a	42
Regular smoking	Primary	1	0.116	0.194	0.548	0.116	0.194	41	n/a	n/a	42
Primary care visits	Primary	5	0.177	0.240	0.461	0.177	0.240	41	n/a	n/a	42
Blood pressure	Primary	2	-0.064	0.090	0.480	-0.064	0.090	41	n/a	n/a	42
Blood sugar	Primary	1	-0.015	0.198	0.940	-0.015	0.198	41	n/a	n/a	42
Body mass index (BMI)	Primary	1	-0.002	0.194	0.992	-0.002	0.194	41	n/a	n/a	42
Cholesterol	Primary	1	-0.188	0.196	0.974	-0.188	0.196	41	n/a	n/a	42

Citations Used in the Meta-Analysis

- Friedmann, P. D., Hendrickson, J. C., Gerstein, D. R., Zhang, Z., & Stein, M. D. (2006). Do Mechanisms That Link Addiction Treatment Patients to Primary Care Influence Subsequent Utilization of Emergency and Hospital Care?. *Medical Care*, 44(1), 8-15.
- Laine, C., Hauck, W. W., & Turner, B. J. (2005). Availability of Medical Care Services in Drug Treatment Clinics Associated with Lower Repeated Emergency Department Use. *Medical Care*, 43(10), 985-995.
- Scharf, D.M, Eberhart, N.K., Horvitz-Lennon, M., R. Beckman, Han, B., Lovejoy, S., Pincus, H.A., Burnam, M.A. (2013). *Evaluation of the SAMHSA Primary and Behavioral ealth Care Integration Program: Final report*. Rand Corporation. <http://aspe.hhs.gov/daltcp/reports/2013/PBHCIfr.shtml>
- Umbricht-Schneider, A., Ginn, D. H., Pabst, K. M., & Bigelow, G. E. (1994). Providing medical care to methadone clinic patients: referral vs on-site care. *American Journal of Public Health*, 84(2), 207-210.

Primary care in behavioral health settings (integrated care settings)

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

Program Description: Behavioral health settings (mental health and substance abuse treatment centers) provide primary care for patients on site or nearby. This collection of studies was conducted at Veterans Administration facilities or facilities of Kaiser Permanente where patients might have more ready access to primary care than community-based treatment centers.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$81	Benefit to cost ratio	\$1.53
Taxpayers	\$89	Benefits minus costs	\$115
Other	\$60	Probability of a positive net present value	51 %
Other indirect	\$111		
Total	\$340		
Costs	(\$225)		
Benefits minus cost	\$115		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$1	\$1	\$0	\$2
Property loss (alcohol abuse/dependence)	\$0	\$0	\$0	\$0	\$0
Labor market earnings (illicit drug abuse/dependence)	\$73	\$31	\$0	\$196	\$300
Health care (illicit drug abuse/dependence)	\$1	\$2	\$2	\$1	\$6
Health care (general hospitalization)	\$2	\$29	\$25	\$15	\$71
Health care (psychiatric hospitalization)	\$0	(\$1)	\$0	(\$1)	(\$2)
Health care (emergency department visits)	\$5	\$27	\$31	\$14	\$77
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$114)	(\$114)
Totals	\$81	\$89	\$60	\$111	\$340

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$228	1	2014	Present value of net program costs (in 2013 dollars)	(\$225)
Comparison costs	\$0	1	2014	Uncertainty (+ or - %)	20 %

According to Saxon, A. J., Malte, C. A., Sloan, K. L., Baer, J. S., Calsyn, D. A., Nichol, P., . . . Kivlahan, D. R. (2006). Randomized Trial of Onsite Versus Referral Primary Medical Care for Veterans in Addictions Treatment. *Medical Care*, 44(4), 334-342. patients in the clinics with co-located had an average of 1.1 primary care visits than the comparison group in 12 months. We estimate additional cost of the program by multiplying 1.1 visits time the Medicaid enhanced payment rate for the longest primary care visit. See http://www.hca.wa.gov/medicaid/pages/aca_rates.aspx

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Emergency department visits	Primary	3	-0.090	0.105	0.388	-0.090	0.105	41	n/a	n/a	42
Hospitalization (general)	Primary	5	-0.030	0.053	0.557	-0.030	0.053	41	n/a	n/a	42
Hospitalization (psychiatric)	Primary	1	-0.067	4.280	0.987	-0.067	4.280	41	n/a	n/a	42
Alcohol abuse or dependence	Primary	3	-0.001	0.124	0.995	-0.001	0.124	41	n/a	n/a	42
Illicit drug abuse or dependence	Primary	2	-0.016	0.081	0.845	-0.016	0.081	41	n/a	n/a	42
Primary care visits	Primary	2	0.531	0.188	0.005	0.531	0.188	41	n/a	n/a	42
Blood pressure	Primary	1	-0.075	0.102	0.460	-0.075	0.102	41	n/a	n/a	42
Blood sugar	Primary	1	-0.068	0.102	0.504	-0.068	0.102	41	n/a	n/a	42
Cholesterol	Primary	1	-0.018	0.102	0.860	-0.018	0.102	41	n/a	n/a	42
Death	Primary	2	-0.077	0.160	0.632	-0.077	0.160	41	n/a	n/a	42

Citations Used in the Meta-Analysis

- Druss, B. G., Rohrbaugh, R. M., Levinson, C. M., & Rosenheck, R. A. (2001). Integrated medical care for patients with serious psychiatric illness: a randomized trial. *Archives of General Psychiatry*, 58(9), 861-8.
- Kilbourne, A. M., Pirraglia, P. A., Lai, Z., Bauer, M. S., Charns, M. P., Greenwald, D., . . . Yano, E. M. (2011). Quality of general medical care among patients with serious mental illness: does colocation of services matter?. *Psychiatric Services*, 62(8), 922-928.
- Parthasarathy, S., Mertens, J., Moore, C., & Weisner, C. (March 01, 2003). Utilization and Cost Impact of Integrating Substance Abuse Treatment and Primary Care. *Medical Care*, 41(3), 357-367.
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- Saxon, A. J., Malte, C. A., Sloan, K. L., Baer, J. S., Calsyn, D. A., Nichol, P., . . . Kivlahan, D. R. (2006). Randomized Trial of Onsite Versus Referral Primary Medical Care for Veterans in Addictions Treatment. *Medical Care*, 44(4), 334-342.
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PTSD prevention following trauma

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

Program Description: The studies in this review provide CBT treatment to persons in the first weeks and months following trauma, before a diagnosis of PTSD could be made. Treatments in the studies in this review involved five to ten hours of individual therapy that combined education on effects of trauma, relaxation, and exposure.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$1,886	Benefit to cost ratio	\$3.70
Taxpayers	\$1,058	Benefits minus costs	\$2,216
Other	\$364	Probability of a positive net present value	98 %
Other indirect	(\$267)		
Total	\$3,042		
Costs	(\$826)		
Benefits minus cost	\$2,216		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (PTSD)	\$1,791	\$764	\$0	\$0	\$2,555
Health care (PTSD)	\$96	\$294	\$364	\$147	\$901
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$414)	(\$414)
Totals	\$1,886	\$1,058	\$364	(\$267)	\$3,042

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$772	1	2008	Present value of net program costs (in 2013 dollars)	(\$826)
Comparison costs	\$0	1	2008	Uncertainty (+ or - %)	15 %

Cost of treatment by modality (group/individual) weighted for TX N for individual therapy and TX N for group therapy in the studies. Cost per session: \$33.63/session for group, \$96.63 for individual therapy, based on actuarial tables reported in Mercer (2013) Behavioral Health Data Book for the State of Washington For Rates Effective January 1, 2014.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Post-traumatic stress	Primary	11	-0.655	0.106	0.000	-0.331	0.106	36	-0.331	0.106	37

Citations Used in the Meta-Analysis

- Blanchard, E.B., Hickling, E.J., Devineni, T., Veazey, C.H., Galovski, T.E., & Mundy, E. (2003). A controlled evaluation of cognitive behavioral therapy for posttraumatic stress in motor vehicle accident survivors. *Behavior Research and Therapy*, 41(1), 79-96.
- Bryant, R. A., Moulds, M. L., Guthrie, R. M., & Nixon, R. D. V. (2005). The additive benefit of hypnosis and cognitive- behavioral therapy in treating acute stress disorder. *Journal of Consulting and Clinical Psychology*, 73(2), 334-340.
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- Davis, J. L., Rhudy, J. L., Pruiksma, K. E., Byrd, P., Williams, A. E., McCabe, K. M., & Bartley, E. J. (2011). Physiological predictors of response to exposure, relaxation, and rescripting therapy for chronic nightmares in a randomized clinical trial. *Journal of Clinical Sleep Medicine*, 7(6), 622-631.
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Supported housing for chronically homeless adults

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

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., 2010). 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. (2010). *The benefits and costs of the section 8 housing subsidy program: a framework and first-year estimates* (Discussion Paper no. 1380-10). Madison, WI: University of Wisconsin-Madison, Institute for Research on Poverty.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$313	Benefit to cost ratio	(\$0.44)
Taxpayers	\$322	Benefits minus costs	(\$21,490)
Other	\$230	Probability of a positive net present value	0 %
Other indirect	(\$7,393)		
Total	(\$6,528)		
Costs	(\$14,962)		
Benefits minus cost	(\$21,490)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$55	\$129	\$28	\$212
Labor market earnings (employment)	\$306	\$130	\$0	\$0	\$436
Health care (alcohol abuse/dependence)	\$1	\$1	\$1	\$1	\$3
Property loss (alcohol abuse/dependence)	\$0	\$0	\$0	\$0	\$1
Labor market earnings (illicit drug abuse/dependence)	(\$4)	(\$2)	\$0	\$0	(\$5)
Health care (illicit drug abuse/dependence)	\$0	\$0	\$0	\$0	(\$1)
Health care (general hospitalization)	\$4	\$67	\$58	\$34	\$163
Health care (psychiatric hospitalization)	\$1	\$42	\$10	\$21	\$74
Health care (emergency department visits)	\$5	\$28	\$32	\$14	\$79
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$7,491)	(\$7,491)
Totals	\$313	\$322	\$230	(\$7,393)	(\$6,528)

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$13,950	1	2009	Present value of net program costs (in 2013 dollars)	(\$14,962)
Comparison costs	\$0	1	2009	Uncertainty (+ or - %)	10 %

Based annual cost of a program in Seattle described in 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. Analysis of supported housing in New York indicated the average length of stay was 9 months, so we multiply the annual cost of the Seattle program by 0.75 [Culhane, DP, Metraux, S, & Hadley, T.(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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Hospitalization (psychiatric)	Primary	4	-0.057	0.028	0.047	-0.057	0.028	40	n/a	n/a	41
Emergency department visits	Primary	3	-0.179	0.070	0.010	-0.179	0.070	40	n/a	n/a	41
Hospitalization (general)	Primary	5	-0.141	0.069	0.041	-0.141	0.069	40	n/a	n/a	41
Illicit drug abuse or dependence	Primary	1	0.073	0.180	0.684	0.073	0.180	40	n/a	n/a	41
Alcohol abuse or dependence	Primary	2	-0.087	0.144	0.423	-0.087	0.144	40	n/a	n/a	41
Employment	Primary	2	0.161	0.201	0.424	0.161	0.201	40	n/a	n/a	41
Crime	Primary	6	-0.103	0.058	0.078	-0.103	0.058	40	n/a	n/a	41
Primary care visits	Primary	3	0.157	0.052	0.003	0.157	0.052	40	n/a	n/a	41
Homelessness	Primary	8	-0.503	0.023	0.000	-0.503	0.023	40	n/a	n/a	41

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12-Step Facilitation Therapy

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

Program Description: 12-Step Facilitation (TSF) Therapy is a stand-alone program that encourages patients' active participation in 12-step programs such as Alcoholics Anonymous or Narcotics Anonymous. The intervention involves a brief, structured, and manual-driven approach, typically delivered in 12 to 15 individual sessions.

For more information on this intervention see:

<http://lib.adai.washington.edu/pubs/matchmonograph1.htm>

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$3,765	Benefit to cost ratio	n/e
Taxpayers	\$1,692	Benefits minus costs	\$6,642
Other	\$198	Probability of a positive net present value	63 %
Other indirect	\$669		
Total	\$6,323		
Costs	\$319		
Benefits minus cost	\$6,642		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$60	\$140	\$30	\$231
Labor market earnings (alcohol abuse/dependence)	\$3,729	\$1,591	\$0	\$457	\$5,777
Property loss (alcohol abuse/dependence)	\$7	\$0	\$13	\$0	\$19
Health care (illicit drug abuse/dependence)	\$29	\$41	\$45	\$21	\$136
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$161	\$161
Totals	\$3,765	\$1,692	\$198	\$669	\$6,323

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$407	1	1993	Present value of net program costs (in 2013 dollars)	\$319
Comparison costs	\$924	1	2014	Uncertainty (+ or - %)	10 %

TSF costs based on Cisler, R., Holder, H. D., Longabaugh, R., Stout, R. L., & Zweben, A. et al., 1998. Actual and estimated replication costs for alcohol treatment modalities: Case study from Project MATCH. *Journal of Studies on Alcohol*, 59(5), 503-12. Comparison group in largest studies received 12 individual hour-long sessions. DBHR medicaid reimbursement rate for individual tx is \$19.26 per 15 minutes.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Alcohol abuse or dependence	Primary	6	-0.330	0.132	0.013	-0.330	0.132	39	0.000	0.187	42
Illicit drug abuse or dependence	Primary	5	-0.374	0.121	0.002	-0.374	0.121	39	0.000	0.187	42

Citations Used in the Meta-Analysis

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Adolescent Community Reinforcement

Literature review updated June 2013.

Program Description: This outpatient program targets youth 12 to 22 years old with DSM-IV cannabis, alcohol, and/or other substance use disorders. The intervention seeks to replace environmental contingencies that have supported alcohol or drug use with prosocial activities and behaviors that support recovery.

Meta-Analysis of Program Effects											
Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Substance abuse	Primary	1	-0.393	0.185	0.033	-0.393	0.185	20	-0.393	0.185	30
Major depressive disorder	Primary	1	-0.405	0.185	0.028	-0.405	0.185	20	-0.204	0.078	25
Crime	Primary	1	-0.274	0.185	0.137	-0.274	0.185	20	-0.274	0.185	30

Citations Used in the Meta-Analysis

Slesnick, N., Prestopnik, J. L., Meyers, R. J., & Glassman, M. (2007). Treatment outcome for street-living, homeless youth. *Addictive Behaviors*, 32(6), 1237-1251.

Behavioral Self-Control Training

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

Program Description: Behavioral Self-Control Training is a standalone treatment approach often used to pursue a goal of moderate or non-problematic drinking rather than complete abstinence, although abstinence goals are also permissible. This approach teaches self-monitoring, managing drinking speed and duration, identifying high-risk situations, goal setting, rewards for goal attainment, and coping skills. When used with a goal of moderate or controlled drinking, Behavioral Self-Control Training is contra-indicated for pregnant women, women trying to become pregnant, clients with medical or psychological problems worsened by drinking, clients who are mandated to remain abstinent, or in other situations where there is strong pressure for abstinence.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	(\$7,485)	Benefit to cost ratio	(\$83.17)
Taxpayers	(\$3,272)	Benefits minus costs	(\$12,900)
Other	(\$156)	Probability of a positive net present value	25 %
Other indirect	(\$1,833)		
Total	(\$12,747)		
Costs	(\$154)		
Benefits minus cost	(\$12,900)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$0	\$4	\$0	\$5
Labor market earnings (alcohol abuse/dependence)	(\$7,410)	(\$3,161)	\$0	(\$1,701)	(\$12,272)
Health care (alcohol abuse/dependence)	(\$56)	(\$112)	(\$124)	(\$56)	(\$347)
Property loss (alcohol abuse/dependence)	(\$19)	\$0	(\$36)	\$0	(\$55)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$77)	(\$77)
Totals	(\$7,485)	(\$3,272)	(\$156)	(\$1,833)	(\$12,747)

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$957	1	2013	Present value of net program costs (in 2013 dollars)	(\$154)
Comparison costs	\$804	1	2013	Uncertainty (+ or - %)	10 %

The cost of treatment is the weighted average cost for studies included in the analysis. We calculate this average cost using Washington's Medicaid hourly reimbursement rates for individual or group therapy times the weighted average of total hours of these therapies across the studies. Comparison group costs are computed in a similar manner based on treatment received in the studies (individual or group treatment as usual or no treatment).

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Alcohol abuse or dependence	Primary	12	-0.393	0.161	0.001	-0.393	0.161	41	0.165	0.181	42
Drinking and driving	Primary	1	-1.048	0.337	0.001	-1.048	0.337	41	n/a	n/a	42

Citations Used in the Meta-Analysis

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Brief Alcohol Screening and Intervention of College Students (BASICS)

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

Program Description: College students recruited or referred are screened for hazardous drinking (not alcohol dependence). Those reporting high rates of consumption receive one to two brief motivational sessions that include comparison of the students' alcohol consumption relative to their peers. Interventions are typically delivered by graduate students or counselors.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$2,061	Benefit to cost ratio	\$52.04
Taxpayers	\$969	Benefits minus costs	\$3,626
Other	\$187	Probability of a positive net present value	75 %
Other indirect	\$481		
Total	\$3,698		
Costs	(\$71)		
Benefits minus cost	\$3,626		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$54	\$125	\$27	\$205
Labor market earnings (problem alcohol use)	\$2,032	\$867	\$0	\$466	\$3,364
Property loss (problem alcohol use)	\$5	\$0	\$9	\$0	\$14
Health care (problem alcohol use)	\$24	\$48	\$53	\$24	\$150
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$36)	(\$36)
Totals	\$2,061	\$969	\$187	\$481	\$3,698

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$72	1	2014	Present value of net program costs (in 2013 dollars)	(\$71)
Comparison costs	\$0	1	2014	Uncertainty (+ or - %)	20 %

The average duration of the intervention in these studies was 1.5 hours. Assume 1) that 36% of screened students are eligible and agree to the intervention (per Carey et al., 2006); 2) that screening takes 30 minutes to administer the screen, score, and identify those with hazardous drinking. Graduate students receive \$25 per hour.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Problem alcohol use	Primary	19	-0.167	0.032	0.000	-0.167	0.032	19	-0.023	0.048	22
Regular smoking	Primary	1	0.000	0.025	1.000	0.000	0.025	19	n/a	n/a	22
Cannabis use	Primary	1	0.000	0.025	1.000	0.000	0.025	19	n/a	n/a	22

Citations Used in the Meta-Analysis

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Brief Cognitive Behavioral Intervention for Amphetamine Users

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

Program Description: Brief Cognitive Behavioral Interventions for Amphetamine Users is a manualized, standalone treatment that consists of two to four individual weekly sessions of cognitive-behavioral therapy. Key approaches included in this intervention include motivational interviewing, coping skills, controlling thoughts, and relapse prevention. While the manual focuses on a four-session model, the developer indicates that practitioners may use a two-session model according to client needs.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$1,565	Benefit to cost ratio	\$40.01
Taxpayers	\$808	Benefits minus costs	\$7,964
Other	\$241	Probability of a positive net present value	71 %
Other indirect	\$5,554		
Total	\$8,168		
Costs	(\$205)		
Benefits minus cost	\$7,964		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$32	\$73	\$16	\$120
Labor market earnings (illicit drug abuse/dependence)	\$1,457	\$622	\$0	\$5,563	\$7,642
Health care (illicit drug abuse/dependence)	\$107	\$155	\$168	\$78	\$508
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$102)	(\$102)
Totals	\$1,565	\$808	\$241	\$5,554	\$8,168

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$204	1	2013	Present value of net program costs (in 2013 dollars)	(\$205)
Comparison costs	\$0	1	2013	Uncertainty (+ or - %)	10 %

The cost of treatment is the weighted average cost for studies included in the analysis. We calculate this average cost using Washington's Medicaid hourly reimbursement rates for individual outpatient therapy times the weighted average of total hours of outpatient individual therapy across the studies. Treatment group therapy costs are in addition to the costs of a self-help book provided to both the comparison and treated groups.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	2	-0.703	0.193	0.000	-0.703	0.193	30	0.000	0.187	33

Citations Used in the Meta-Analysis

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Brief Intervention in primary care

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

Program Description: Patients in primary care are screened for "hazardous" alcohol use (not alcohol dependence.) Those screening positive receive a brief intervention. The intervention, commonly delivered by the primary care provider, includes feedback on the patients' consumption compared to their peers and motivational interview to encourage reduction in consumption. Patients typically receive a single intervention lasting 15 minutes to one hour.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$4,006	Benefit to cost ratio	\$24.25
Taxpayers	\$1,783	Benefits minus costs	\$6,133
Other	\$163	Probability of a positive net present value	94 %
Other indirect	\$446		
Total	\$6,397		
Costs	(\$264)		
Benefits minus cost	\$6,133		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$47	\$109	\$24	\$180
Labor market earnings (problem alcohol use)	\$3,980	\$1,698	\$0	\$535	\$6,213
Property loss (problem alcohol use)	\$7	\$0	\$12	\$0	\$19
Health care (problem alcohol use)	\$19	\$38	\$42	\$19	\$117
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$132)	(\$132)
Totals	\$4,006	\$1,783	\$163	\$446	\$6,397

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$205	1	2000	Present value of net program costs (in 2013 dollars)	(\$264)
Comparison costs	\$0	1	2000	Uncertainty (+ or - %)	10 %

Fleming, M.F., Mundt, M.P., French, M.T., Manwell, L.B., Stauffacher, E.A. & Barry, K.L. (2002). Brief physician advice for problem drinkers: Long-term efficacy and benefit-cost analysis. *Alcoholism: Clinical and Experimental Research*, 26(1), 36-43.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	4	-0.232	0.135	0.085	-0.232	0.135	39	n/a	n/a	41
Hospitalization (general)	Primary	2	-0.261	0.332	0.432	-0.261	0.332	39	n/a	n/a	41
Problem alcohol use	Primary	45	-0.195	0.025	0.000	-0.195	0.025	39	-0.027	0.038	41
Drinking and driving	Primary	3	-0.175	0.123	0.157	-0.175	0.123	39	n/a	n/a	41

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Brief Intervention in a medical hospital

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

Program Description: Inpatients in medical hospitals are screened for "hazardous" alcohol use (not alcohol dependence). Those screening positive receive a brief intervention, delivered by health care staff or other professional. The intervention includes feedback on the patients' consumption compared to their peers and motivational interview to encourage reduction in consumption. Patients typically receive a single intervention lasting 15 minutes to one hour.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$3,114	Benefit to cost ratio	\$32.47
Taxpayers	\$1,385	Benefits minus costs	\$4,878
Other	\$127	Probability of a positive net present value	73 %
Other indirect	\$407		
Total	\$5,033		
Costs	(\$156)		
Benefits minus cost	\$4,878		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$36	\$84	\$18	\$138
Labor market earnings (problem alcohol use)	\$3,094	\$1,320	\$0	\$452	\$4,865
Property loss (problem alcohol use)	\$6	\$0	\$10	\$0	\$16
Health care (problem alcohol use)	\$15	\$29	\$32	\$15	\$91
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$77)	(\$77)
Totals	\$3,114	\$1,385	\$127	\$407	\$5,033

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$151	1	2011	Present value of net program costs (in 2013 dollars)	(\$156)
Comparison costs	\$0	1	2011	Uncertainty (+ or - %)	15 %

The average duration of intervention in these studies was .65 hours. Assume 15 minutes to screen patients and 20% of screened patients meet eligibility requirements. Assume nurses conduct screens and intervention, use information from BLS for registered nurses in surgical medical hospitals in 2011.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Problem alcohol use	Primary	13	-0.156	0.055	0.004	-0.156	0.055	40	-0.021	0.083	42
Death	Primary	1	-0.045	0.701	0.949	-0.045	0.701	40	n/a	n/a	41

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Brief Intervention in emergency department (SBIRT)

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

Program Description: Patients in emergency departments are screened for "hazardous" alcohol use (not alcohol dependence). Those screening positive receive a brief intervention, delivered by health care staff or other professional. The intervention includes feedback on the patients' consumption compared to their peers and motivational interview to encourage reduction in consumption. Patients typically receive a single intervention lasting 15 minutes to one hour. Patients meeting diagnostic criteria would be referred to chemical dependency treatment.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$2,723	Benefit to cost ratio	\$10.59
Taxpayers	\$1,211	Benefits minus costs	\$4,020
Other	\$108	Probability of a positive net present value	78 %
Other indirect	\$399		
Total	\$4,440		
Costs	(\$420)		
Benefits minus cost	\$4,020		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$30	\$70	\$15	\$116
Labor market earnings (problem alcohol use)	\$2,705	\$1,154	\$0	\$582	\$4,440
Property loss (problem alcohol use)	\$4	\$0	\$7	\$0	\$11
Health care (problem alcohol use)	\$14	\$27	\$30	\$14	\$85
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$212)	(\$212)
Totals	\$2,723	\$1,211	\$108	\$399	\$4,440

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$362	1	2005	Present value of net program costs (in 2013 dollars)	(\$420)
Comparison costs	\$0	1	2005	Uncertainty (+ or - %)	10 %

According to multisite US study, of 7751 patients screened, 1132 were eligible and consented. [Academic ED SBIRT Research Collaborative. (2007). The impact of screening, brief intervention, and referral for treatment on emergency department patients' alcohol use. *Annals of Emergency Medicine*, 50(6), 699-710] In Washington State, cost estimates from 2005 indicate \$53 per patient screened.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Problem alcohol use	Primary	21	-0.121	0.030	0.000	-0.121	0.030	34	-0.017	0.045	36
Emergency department visits	Primary	1	-0.317	0.321	0.322	-0.317	0.321	34	n/a	n/a	36
Drinking and driving	Primary	4	-0.158	0.080	0.048	-0.158	0.080	34	n/a	n/a	35
Injuries	Primary	1	-0.266	0.127	0.037	-0.266	0.127	34	n/a	n/a	35

Citations Used in the Meta-Analysis

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Brief Marijuana Dependence Counseling

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

Program Description: Brief Marijuana Dependence Counseling is a standalone treatment that combines motivational enhancement therapy (usually two sessions) and cognitive-behavioral therapy (usually seven sessions) as well as case management. Sessions are generally individual in nature and focus on motivations and readiness for change; building cognitive, behavioral, and emotional skills; and assisting the client with access to additional support services.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$3,927	Benefit to cost ratio	\$10.08
Taxpayers	\$1,718	Benefits minus costs	\$4,915
Other	\$59	Probability of a positive net present value	90 %
Other indirect	(\$248)		
Total	\$5,456		
Costs	(\$542)		
Benefits minus cost	\$4,915		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (cannabis abuse/dependence)	\$3,913	\$1,669	\$0	\$0	\$5,582
Health care (cannabis abuse/dependence)	\$14	\$49	\$59	\$25	\$146
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$272)	(\$272)
Totals	\$3,927	\$1,718	\$59	(\$248)	\$5,456

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$822	1	2013	Present value of net program costs (in 2013 dollars)	(\$542)
Comparison costs	\$280	1	2013	Uncertainty (+ or - %)	10 %

The cost of treatment is the weighted average cost for studies included in the analysis. We calculate this average cost using Washington's Medicaid hourly reimbursement rates for individual and/or group outpatient therapy times the weighted average of total hours of outpatient individual and/or group therapy across the studies. Comparison group costs are computed in a similar manner based on treatment received in the studies (individual or group treatment as usual or no treatment).

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Cannabis abuse or dependence	Primary	8	-0.364	0.138	0.009	-0.364	0.138	32	-0.323	0.226	33

Citations Used in the Meta-Analysis

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Buprenorphine/Buprenorphine-Naloxone treatment

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

Program Description: Buprenorphine/Buprenorphine-Naloxone is an opiate substitution treatment used to treat opioid dependence. It is generally provided in addition to counseling therapies. Buprenorphine/Buprenorphine-Naloxone is a partial agonist that suppresses withdrawal symptoms and blocks the effects of opioids. Two versions of buprenorphine are used in the treatment of opioid dependence. Subutex consists of buprenorphine only while Suboxone is version of buprenorphine that combines buprenorphine and naloxone. The addition of naloxone reduces the probability of overdose and reduces misuse by producing severe withdrawal effects if taken any way except sublingually. Suboxone is generally given during the maintenance phase and many clinics will only provide take-home doses of Suboxone. Buprenorphine and Buprenorphine/Naloxone are alternatives to methadone treatments and, unlike methadone, can be prescribed in office-based settings by physicians that have completed a special training.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$1,823	Benefit to cost ratio	\$1.92
Taxpayers	\$969	Benefits minus costs	\$4,004
Other	\$345	Probability of a positive net present value	86 %
Other indirect	\$5,346		
Total	\$8,484		
Costs	(\$4,480)		
Benefits minus cost	\$4,004		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$56	\$142	\$28	\$225
Labor market earnings (opioid drug abuse/dependence)	\$1,716	\$732	\$0	\$7,472	\$9,920
Health care (opioid drug abuse/dependence)	\$107	\$181	\$203	\$91	\$583
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$2,245)	(\$2,245)
Totals	\$1,823	\$969	\$345	\$5,346	\$8,484

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$4,431	1	2012	Present value of net program costs (in 2013 dollars)	(\$4,480)
Comparison costs	\$0	1	2013	Uncertainty (+ or - %)	30 %

We estimate the costs of providing buprenorphine/buprenorphine-naloxone in addition to standard substance abuse treatment. Costs reflect the average of costs reported in numerous cost-effectiveness studies (Polsky et al., 2010; Rosenheck and Kosten, 2001; Schackman et al., 2012). Costs included vary by study but generally include costs of medication, dispensing, toxicology screens, and when available, costs of medical care related to methadone treatment, equipment, administration, and clinic space.

Polsky, D., Glick, H. A., Yang, J., Subramaniam, G. A., Poole, S. A., & Woody, G. E. (2010). Cost-effectiveness of extended buprenorphine-naloxone treatment for opioid-dependent youth: data from a randomized trial. *Addiction*, 105(9), 1616-1624.

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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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Opioid drug abuse or dependence	Primary	12	-0.575	0.210	0.009	-0.580	0.210	35	n/a	n/a	36
Psychiatric symptoms	Primary	1	-0.156	0.201	0.437	-0.156	0.201	35	n/a	n/a	36
Emergency department visits	Primary	1	-0.026	0.264	0.921	-0.026	0.264	35	n/a	n/a	36

Citations Used in the Meta-Analysis

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Ling, W., Charuvastra, C., et al. (1998). Buprenorphine maintenance treatment of opiate dependence: A multicenter, randomized clinical trial. *Addiction*, 93(4), 475-486.

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Lucas, G. M., Chaudhry, A., Hsu, J., Woodson, T., Lau, B., Olsen, Y., Keruly, J. C., ... Moore, R. D. (2010). Clinic-based treatment of opioid-dependent HIV-infected patients versus referral to an opioid treatment program: A randomized trial. *Annals of Internal Medicine*, 152(11), 704-711.

Sigmon, S. C., Wong, C. J., Chausmer, A. L., Liebson, I. A., & Bigelow, G. E. (2004). Evaluation of an injection depot formulation of buprenorphine: placebo comparison. *Addiction*, 99(11), 1439-1449.

Cognitive Behavior Coping Skills Therapy

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

Program Description: Cognitive-Behavioral Coping-Skills Therapy is a manualized, standalone treatment used to treat alcohol and/or drug abuse or dependence. This intervention emphasizes identifying high-risk situation that could lead to relapse such as social situations, depression, etc. and developing skills to cope those situations. Clients engage in problem solving, role, playing, and homework practice. The intervention is often provided in an individual therapy format but can be conducted in group formats as well.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$3,184	Benefit to cost ratio	\$127.67
Taxpayers	\$1,522	Benefits minus costs	\$32,640
Other	\$285	Probability of a positive net present value	99 %
Other indirect	\$27,908		
Total	\$32,898		
Costs	(\$258)		
Benefits minus cost	\$32,640		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$22	\$51	\$11	\$84
Property loss (alcohol abuse/dependence)	\$5	\$0	\$10	\$0	\$16
Labor market earnings (illicit drug abuse/dependence)	\$3,036	\$1,295	\$0	\$27,923	\$32,254
Health care (illicit drug abuse/dependence)	\$142	\$205	\$223	\$103	\$674
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$129)	(\$129)
Totals	\$3,184	\$1,522	\$285	\$27,908	\$32,898

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$842	1	2013	Present value of net program costs (in 2013 dollars)	(\$258)
Comparison costs	\$584	1	2013	Uncertainty (+ or - %)	10 %

The cost of treatment is the weighted average cost for studies included in the analysis. We calculate this average cost using Washington's Medicaid hourly reimbursement rates for individual and group outpatient therapy times the weighted average of total hours of outpatient individual and group therapy across the studies. Comparison group costs are computed in a similar manner based on treatment received in the studies (individual or group treatment as usual or no treatment).

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	6	-0.218	0.095	0.021	-0.218	0.095	44	-0.494	0.223	45
Alcohol abuse or dependence	Primary	7	-0.229	0.122	0.060	-0.229	0.122	44	0.000	0.187	47
Post-traumatic stress	Primary	1	-0.269	0.247	0.276	-0.269	0.247	44	n/a	n/a	47
Employment	Primary	2	0.363	0.291	0.673	0.363	0.291	44	n/a	n/a	45

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Community Reinforcement Approach with Vouchers

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

Program Description: This intervention combines the Community Reinforcement Approach with contingency management. The Community Reinforcement Approach to therapy that is relatively intensive therapy that consists of four main topics: (1) minimizing contact with known antecedents to substance use and recognizing consequences of use, (2) counseling to find alternative activities, (3) employment counseling (if needed), and (4) reciprocal relationship counseling if partner was not involved in substance use. Counseling generally occurs twice-weekly for first three months and once weekly for next three months. The contingency management portion of the intervention rewards clients with vouchers if they have negative urinalysis exams. These vouchers can be exchanged for prizes that range in value.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$1,351	Benefit to cost ratio	\$5.67
Taxpayers	\$696	Benefits minus costs	\$5,397
Other	\$207	Probability of a positive net present value	65 %
Other indirect	\$4,312		
Total	\$6,565		
Costs	(\$1,168)		
Benefits minus cost	\$5,397		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other	Other indirect	
From primary participant					
Crime	\$0	\$27	\$62	\$13	\$102
Labor market earnings (illicit drug abuse/dependence)	\$1,260	\$537	\$0	\$4,814	\$6,611
Health care (illicit drug abuse/dependence)	\$92	\$133	\$145	\$67	\$437
Labor market earnings (major depression)	(\$1)	(\$1)	\$0	\$0	(\$2)
Health care (major depression)	\$0	\$0	\$0	\$0	(\$1)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$582)	(\$582)
Totals	\$1,351	\$696	\$207	\$4,312	\$6,565

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$2,602	1	2013	Present value of net program costs (in 2013 dollars)	(\$1,168)
Comparison costs	\$1,432	1	2013	Uncertainty (+ or - %)	20 %

The cost of treatment is the weighted average cost for studies included in the analysis. We calculate this average cost using Washington's Medicaid hourly reimbursement rates for individual or group outpatient therapy times the weighted average of total hours of outpatient individual or group therapy across the studies. Treatment group costs also include the cost of the vouchers. These costs are estimated from the studies included in the analysis. We used the average voucher received when available and the maximum possible voucher when an average was not reported. Comparison group costs are computed in a similar manner based on treatment received in the studies (individual or group treatment as usual or no treatment).

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	8	-0.580	0.129	0.000	-0.580	0.129	30	0.000	0.187	33
Anxiety disorder	Primary	1	-0.641	0.470	0.173	-0.641	0.470	30	n/a	n/a	33
Major depressive disorder	Primary	1	0.002	0.472	0.996	0.002	0.472	30	n/a	n/a	33

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Contingency management (higher-cost) for marijuana use

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

Program Description: Contingency management is a supplement to counseling treatment that rewards participants for attending treatment and/or abstaining from substance use. The intervention reviewed here focused on those with drug and/or alcohol abuse or dependence (excluding those with a primary diagnosis of marijuana dependence) where contingencies were provided for remaining abstinent. Two methods of contingency management were reviewed: (1) A voucher system where abstinence earned vouchers that were exchangeable for goods provided by the clinic or counseling center, and (2) a prize or raffle system where clients who remained abstinent could earn the opportunity to draw from a prize bowl. Higher-cost contingency management was determined by maximum voucher or maximum expected value of prizes possible. Based on statistical analysis of contingency management studies, we determined that programs with a maximum value of vouchers or prizes greater than \$500 (in 2012 dollars) represent higher-cost contingency management.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$4,738	Benefit to cost ratio	\$12.09
Taxpayers	\$2,080	Benefits minus costs	\$6,101
Other	\$81	Probability of a positive net present value	78 %
Other indirect	(\$244)		
Total	\$6,656		
Costs	(\$554)		
Benefits minus cost	\$6,101		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (cannabis abuse/dependence)	\$4,719	\$2,013	\$0	\$0	\$6,732
Health care (cannabis abuse/dependence)	\$19	\$67	\$81	\$34	\$201
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$277)	(\$277)
Totals	\$4,738	\$2,080	\$81	(\$244)	\$6,656

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$548	1	2012	Present value of net program costs (in 2013 dollars)	(\$554)
Comparison costs	\$0	1	2012	Uncertainty (+ or - %)	20 %

We calculated the weighted average of the variable treatment and comparison group costs across studies estimating the cost-effectiveness of an incentive program with an average cost of greater than \$500 in 2012 (Olmstead & Petry, 2009; Olmstead, Sindelar, & Petry, 2007; Olmstead et al., 2007). Costs of administering the incentive program include staff costs to inventory, shop, and restock prizes; material cost of items; counseling session costs; and toxicology screens. All staff costs include salary, benefits, and overhead. All costs are calculated from the clinic perspective. Note that because treatment group participants have higher retention rates than the control group, costs also reflect the increased number of counseling sessions attended and urinalysis tests performed for the treated group.

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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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Cannabis abuse or dependence	Primary	4	-0.354	0.154	0.021	-0.354	0.154	26	-0.325	0.412	27

Citations Used in the Meta-Analysis

Carroll, K. M., Easton, C. J., Nich, C., Hunkele, K. A., Neavins, T. M., Sinha, R., . . . Rounsaville, B. J. (2006). The use of contingency management and motivational/skills-building therapy to treat young adults with marijuana dependence. *Journal of Consulting and Clinical Psychology*, 74(5), 955-966.

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Contingency management (higher-cost) for substance abuse

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

Program Description: Contingency management is a supplement to counseling treatment that rewards participants for attending treatment and/or abstaining from substance use. The intervention reviewed here focused on those with drug and/or alcohol abuse or dependence (excluding marijuana dependence) where contingencies were provided for remaining abstinent. Two methods of contingency management were reviewed: (1) A voucher system where abstinence earned vouchers that were exchangeable for goods provided by the clinic or counseling center, and (2) a prize or raffle system where clients who remained abstinent could earn the opportunity to draw from a prize bowl. Higher-cost contingency management was determined by maximum voucher or maximum expected value of prizes possible. Based on a statistical analysis of contingency management studies, we determined that programs with a maximum value of vouchers or prizes greater than \$500 (in 2012 dollars) represent higher-cost contingency management.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$1,726	Benefit to cost ratio	\$25.64
Taxpayers	\$843	Benefits minus costs	\$13,560
Other	\$185	Probability of a positive net present value	79 %
Other indirect	\$11,360		
Total	\$14,114		
Costs	(\$554)		
Benefits minus cost	\$13,560		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other	Other indirect	
From primary participant					
Crime	\$0	\$23	\$53	\$11	\$87
Property loss (alcohol abuse/dependence)	\$1	\$0	\$1	\$0	\$2
Labor market earnings (illicit drug abuse/dependence)	\$1,642	\$700	\$0	\$11,564	\$13,906
Health care (illicit drug abuse/dependence)	\$83	\$120	\$131	\$60	\$394
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$275)	(\$275)
Totals	\$1,726	\$843	\$185	\$11,360	\$14,114

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$548	1	2012	Present value of net program costs (in 2013 dollars)	(\$554)
Comparison costs	\$0	1	2012	Uncertainty (+ or - %)	20 %

We calculated the weighted average of the variable treatment and comparison group costs across studies estimating the cost-effectiveness of an incentive program with an average cost of greater than \$500 in 2012 (Olmstead & Petry, 2009; Olmstead, Sindelar, & Petry, 2007; Olmstead et al., 2007). Costs of administering the incentive program include staff costs to inventory, shop, and restock prizes; material cost of items; counseling session costs; and toxicology screens. All staff costs include salary, benefits, and overhead. All costs are calculated from the clinic perspective. Note that because treatment group participants have higher retention rates than the control group, costs also reflect the increased number of counseling sessions attended and urinalysis tests performed for the treated group.

Olmstead, T. A., & Petry, N. M. (2009). The cost-effectiveness of prize-based and voucher-based contingency management in a population of cocaine- or opioid-dependent outpatients. *Drug and Alcohol Dependence*, 102(1), 108-115.

Olmstead, T. A., Sindelar, J. L., & Petry, N. M. (2007). Cost-effectiveness of prize-based incentives for stimulant abusers in outpatient psychosocial treatment programs. *Drug and Alcohol Dependence*, 87(2), 175-182.

Olmstead, T. A., Sindelar, J. L., Easton, C. J., & Carroll, K. M. (2007). The cost-effectiveness of four treatments for marijuana dependence. *Addiction*, 102(9), 1443-1453.

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 uncertainty range is used in Monte Carlo risk analysis, described in our technical manual.

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	37	-0.519	0.060	0.000	-0.519	0.060	39	-0.154	0.238	40
Cannabis use	Primary	1	-0.301	0.312	0.334	-0.301	0.312	39	0.000	0.125	40
Alcohol abuse or dependence	Primary	1	-0.096	0.310	0.758	-0.096	0.310	39	0.000	0.125	40

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Contingency management (lower-cost) for marijuana use

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

Program Description: Contingency management is a supplement to counseling treatment that rewards participants for attending treatment and/or abstaining from substance use. The intervention reviewed here focused on those with marijuana abuse or dependence where contingencies were provided for remaining abstinent. Two methods of contingency management were reviewed: (1) A voucher system where abstinence earned vouchers that were exchangeable for goods provided by the clinic or counseling center, and (2) a prize or raffle system where clients who remained abstinent could earn the opportunity to draw from a prize bowl. Lower-cost contingency management was determined by maximum voucher or maximum expected value of prizes possible. Based on a statistical analysis of contingency management studies, we determined that programs with a maximum value of vouchers or prizes less than or equal to \$500 (in 2012 dollars) represent lower-cost contingency management.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$154	Benefit to cost ratio	\$0.46
Taxpayers	\$67	Benefits minus costs	(\$139)
Other	\$2	Probability of a positive net present value	49 %
Other indirect	(\$120)		
Total	\$104		
Costs	(\$243)		
Benefits minus cost	(\$139)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other	Other indirect	
From primary participant					
Labor market earnings (cannabis abuse/dependence)	\$153	\$65	\$0	\$0	\$219
Health care (cannabis abuse/dependence)	\$1	\$2	\$2	\$1	\$6
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$121)	(\$121)
Totals	\$154	\$67	\$2	(\$120)	\$104

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$240	1	2012	Present value of net program costs (in 2013 dollars)	(\$243)
Comparison costs	\$0	1	2012	Uncertainty (+ or - %)	40 %

We calculated the weighted average of the variable treatment and comparison group costs across studies estimating the cost-effectiveness of an incentive program with an average cost of less than \$500 in 2012 (Sindelar, Olmstead, & Peirce, 2007; Sindelar, Elbel, & Petry, 2006; Hartz et al., 1999). Costs of administering the incentive program include staff costs to inventory, shop, and restock prizes; material cost of items; counseling session costs; and toxicology screens. All staff costs include salary, benefits, and overhead. All costs are calculated from the clinic perspective. Note that because treatment group participants have higher retention rates than the control group, costs also reflect the increased number of counseling sessions attended and urinalysis tests performed for the treated group.

Hartz, D. T., Meek, P., Piotrowski, N. A., Tusel, D. J., Henke, C. J., Delucchi, K., Sees, K., Hall, S. M. (1999). A cost-effectiveness and cost-benefit analysis of contingency contracting-enhanced methadone detoxification treatment. *The American Journal of Drug and Alcohol Abuse*, 25(2), 207-218.

Sindelar, J., Elbel, B., & Petry, N. M. (2007). What do we get for our money? Cost-effectiveness of adding contingency management. *Addiction*, 102(2), 309-316.

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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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Cannabis abuse or dependence	Primary	3	-0.086	0.191	0.673	-0.086	0.191	32	-0.007	0.259	33

Citations Used in the Meta-Analysis

Carroll, K. M., Nich, C., Lapaglia, D. M., Peters, E. N., Easton, C. J., & Petry, N. M. (2012). Combining cognitive behavioral therapy and contingency management to enhance their effects in treating cannabis dependence: less can be more, more or less. *Addiction*, 107(9), 1650-1659.

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Contingency management (lower-cost) for substance abuse

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

Program Description: Contingency management is a supplement to counseling treatment that rewards participants for attending treatment and/or abstaining from substance use. The intervention reviewed here focused on those with drug and/or alcohol abuse or dependence (excluding those with a primary diagnosis of marijuana dependence) where contingencies were provided for remaining abstinent. Two methods of contingency management were reviewed: (1) A voucher system where abstinence earned vouchers that were exchangeable for goods provided by the clinic or counseling center, and (2) a prize or raffle system where clients who remained abstinent could earn the opportunity to draw from a prize bowl. Lower-cost contingency management was determined by maximum voucher or maximum expected value of prizes possible. Based on a statistical analysis of contingency management studies, we determined that programs with a maximum value of vouchers or prizes less than or equal to \$500 (in 2012 dollars) represent lower-cost contingency management.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$282	Benefit to cost ratio	\$7.03
Taxpayers	\$141	Benefits minus costs	\$1,425
Other	\$40	Probability of a positive net present value	61 %
Other indirect	\$1,205		
Total	\$1,668		
Costs	(\$243)		
Benefits minus cost	\$1,425		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$8	\$18	\$4	\$29
Property loss (alcohol abuse/dependence)	\$1	\$0	\$1	\$0	\$2
Labor market earnings (illicit drug abuse/dependence)	\$268	\$114	\$0	\$1,313	\$1,696
Health care (illicit drug abuse/dependence)	\$13	\$19	\$21	\$9	\$62
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$121)	(\$121)
Totals	\$282	\$141	\$40	\$1,205	\$1,668

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$240	1	2012	Present value of net program costs (in 2013 dollars)	(\$243)
Comparison costs	\$0	1	2012	Uncertainty (+ or - %)	40 %

We calculated the weighted average of the variable treatment and comparison group costs across studies estimating the cost-effectiveness of an incentive program with an average cost of less than \$500 in 2012 (Sindelar, Olmstead, & Peirce, 2007; Sindelar, Elbel, & Petry, 2006; Hartz et al., 1999). Costs of administering the incentive program include staff costs to inventory, shop, and restock prizes; material cost of items; counseling session costs; and toxicology screens. All staff costs include salary, benefits, and overhead. All costs are calculated from the clinic perspective. Note that because treatment group participants have higher retention rates than the control group, costs also reflect the increased number of counseling sessions attended and urinalysis tests performed for the treated group.

Hartz, D. T., Meek, P., Piotrowski, N. A., Tusel, D. J., Henke, C. J., Delucchi, K., Sees, K., Hall, S. M. (1999). A cost-effectiveness and cost-benefit analysis of contingency contracting-enhanced methadone detoxification treatment. *The American Journal of Drug and Alcohol Abuse*, 25(2), 207-218.

Sindelar, J., Elbel, B., & Petry, N. M. (2007). What do we get for our money? Cost-effectiveness of adding contingency management. *Addiction*, 102(2), 309-316.

Sindelar, J. L., Olmstead, T. A., & Peirce, J. M. (2007). Cost-effectiveness of prize-based contingency management in methadone maintenance treatment programs. *Addiction*, 102(9), 1463-1471.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	29	-0.278	0.049	0.000	-0.278	0.049	37	0.000	0.075	38
Cannabis use	Primary	3	-0.049	0.118	0.676	-0.049	0.118	37	0.000	0.075	38
Alcohol abuse or dependence	Primary	7	-0.290	0.076	0.001	-0.290	0.076	37	0.000	0.075	38

Citations Used in the Meta-Analysis

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Day treatment with abstinence contingencies and vouchers

Literature review updated May 2014.

Program Description: Day treatment with abstinence contingencies or vouchers is a standalone treatment that combines day treatment interventions with contingency management. This intervention was originally developed to treat homeless drug users. Day treatment consists of approximately 5 hours of primarily group activities including counseling, recreational activities, skills building, etc. as well as lunch. Contingencies were provided dependent on negative urinalysis results. These contingencies included housing and minimum wage employment. Other programs might also offer subsidies for utilities or vouchers for items such as personal hygiene products.

Meta-Analysis of Program Effects											
Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	1	-0.231	0.213	0.279	-0.231	0.213	36	0.000	0.187	39

Citations Used in the Meta-Analysis

Milby, J.B., Schumacher, J.E., Raczynski, J.M., Caldwell, E., Engle, M., Michael, M., Carr, J. (1996). Sufficient Conditions for Effective Treatment of Substance Abusing Homeless Persons. *Drug and Alcohol Dependence*, 43(1), 39-47.

Dialectical Behavior Therapy (DBT) for co-morbid substance abuse and serious mental illness

Literature review updated May 2014.

Program Description: Dialectical Behavior Therapy is a cognitive-behavioral treatment originally developed by Marsha Linehan at the University of Washington to treat those with severe mental disorders including chronically suicidal individuals often suffering from borderline personality disorder. DBT for Substance Abusers was developed by Dr. Linehan and colleagues to treat individuals with co-occurring substance use disorders and borderline personality disorder. DBT for Substance Abusers focuses on the following five main objectives: (1) motivating patients to change dysfunctional behaviors, (2) enhancing patient skills, (3) ensuring the new skills are used in daily life, (4) structuring the client's environment, and (5) training and consultation to improve the counselor's skills. For substance abusers, the primary target of the intervention is the substance abuse and specific goals include reducing abuse, alleviating withdrawal symptoms, reducing cravings, avoiding opportunities and triggers for substance abuse, creating a healthy environment and community.

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	2	-0.024	0.348	0.946	-0.024	0.348	34	n/a	n/a	35
Psychiatric symptoms	Primary	1	-0.596	0.270	0.027	-0.596	0.270	34	n/a	n/a	35
Cannabis use	Primary	1	-0.090	0.263	0.732	-0.090	0.263	34	n/a	n/a	35
Alcohol abuse or dependence	Primary	1	0.149	0.264	0.573	0.149	0.264	34	n/a	n/a	35

Citations Used in the Meta-Analysis

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- van den Bosch, L.M.C., Verheul, R., Schippers, G.M., & van den Brink, W. (2002). Dialectical Behavior Therapy of Borderline Patients With and Without Substance Use Problems: Implementation and Long-Term Effects. *Addictive Behaviors*, 27(6), 911-923.

Family Behavior Therapy

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

Program Description: Family Behavior Therapy is a standalone behavioral treatment based on the Community Reinforcement Approach aimed at reducing substance use. Participants attend sessions with at least one family member, typically a parent or cohabitating partner. The treatment consists of several parts including behavioral contracting, skills to reduce interaction with individuals and situations related to drug use, impulse and urge control, communication skills, and vocational or educational training. Our findings reflect only adults treated in the program and exclude results for adolescents.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$2,132	Benefit to cost ratio	\$5.60
Taxpayers	\$1,100	Benefits minus costs	\$8,470
Other	\$328	Probability of a positive net present value	72 %
Other indirect	\$6,757		
Total	\$10,317		
Costs	(\$1,847)		
Benefits minus cost	\$8,470		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$43	\$100	\$22	\$165
Labor market earnings (illicit drug abuse/dependence)	\$1,987	\$848	\$0	\$7,558	\$10,393
Health care (illicit drug abuse/dependence)	\$145	\$209	\$228	\$106	\$687
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$928)	(\$928)
Totals	\$2,132	\$1,100	\$328	\$6,757	\$10,317

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$3,698	1	2013	Present value of net program costs (in 2013 dollars)	(\$1,847)
Comparison costs	\$1,851	1	2013	Uncertainty (+ or - %)	10 %

The cost of treatment is based on this single study and includes one-hour of weekly individual counseling for 12 months estimated using Washington's current Medicaid hourly reimbursement rate for individual treatment. Comparison group costs incurred in this single study included the cost of a two-hour weekly group session for 12 months estimated using Washington's current Medicaid hourly reimbursement rate for group treatment.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	1	-0.670	0.251	0.008	-0.670	0.251	31	0.000	0.187	34

Citations Used in the Meta-Analysis

Azrin, N.H., McMahon, P.T., Donahue, B., Besalel, V., Lapinski, K.J., Kogan, E.S., Acierno, R.E., & Galloway, E. (1994). Behavior Therapy for Drug Abuse: A Controlled Treatment Outcome Study. *Behavioral Research and Therapy*, 32(8), 857-866.

Holistic Harm Reduction Program

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

Program Description: The Holistic Harm Reduction Program (HHRP+), also called Holistic Health Recovery Program, is a manualized treatment for those with drug abuse or dependence who are HIV positive. The primary goals of HHRP+ are harm reduction, health promotion, and improving quality of life. These goals are achieved by providing the knowledge, motivation, and skills necessary to make choices that reduce harm to oneself and others. HHRP+ also addresses medical, emotional, social, and spiritual problems that can impede harm reduction. The treatment is generally provided in 12 group sessions. In the reviewed studies, HHRP+ was provided in addition to methadone treatment and standard counseling.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$584	Benefit to cost ratio	\$4.94
Taxpayers	\$286	Benefits minus costs	\$3,061
Other	\$68	Probability of a positive net present value	59 %
Other indirect	\$2,912		
Total	\$3,850		
Costs	(\$789)		
Benefits minus cost	\$3,061		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$13	\$31	\$7	\$50
Labor market earnings (illicit drug abuse/dependence)	\$560	\$239	\$0	\$3,283	\$4,082
Health care (illicit drug abuse/dependence)	\$24	\$35	\$38	\$17	\$114
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$396)	(\$396)
Totals	\$584	\$286	\$68	\$2,912	\$3,850

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$789	1	2013	Present value of net program costs (in 2013 dollars)	(\$789)
Comparison costs	\$0	1	2013	Uncertainty (+ or - %)	25 %

The cost of treatment is the weighted average cost of the additional group therapy sessions provided in the studies included in the analysis. We calculate this average cost using Washington's Medicaid hourly reimbursement rate for outpatient group therapy times the weighted average of total hours of outpatient group therapy across the studies. The costs of the intervention are in addition to the costs of methadone treatment and standard counseling provided to both the treated and comparison groups in the reviewed studies.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	2	-0.311	0.144	0.031	-0.311	0.144	39	0.000	0.187	42
STD risky behavior	Primary	2	-0.260	0.134	0.053	-0.260	0.134	39	n/a	n/a	40

Citations Used in the Meta-Analysis

Avants, S.K., Margolin, A., Usubiaga, M.H. & Doebrick, C. (2004). Targeting HIV-Related Outcomes With Intravenous Drug Users Maintained on Methadone: A Randomized Clinical Trial of a Harm Reduction Group Therapy. *Journal of Substance Abuse Treatment*, 26(2), 67-78.

Margolin, A., Avants, S.K., Warburton, L.A., Hawkins, K.A. & Shi, J. (2003). A Randomized Clinical Trial of a Manual-Guided Risk Reduction Intervention for HIV-Positive Injection Drug Users. *Health Psychology*, 22(2), 223-228.

Individual Drug Counseling Approach for Treatment of Cocaine Addiction

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

Program Description: Individual drug counseling for the treatment of cocaine addiction is a manualized treatment that can be provided as a component of comprehensive outpatient therapy or as a standalone treatment. The manualized version was developed for use in the Collaborative Cocaine Treatment Study, where the individual counseling was provided in addition to group counseling. The individual drug counseling approach follows a 12-step philosophy and addresses the physical, emotional, spiritual, and interpersonal needs of the client. The model is generally applied in 36 individual sessions over six months with booster sessions as needed.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$235	Benefit to cost ratio	\$0.99
Taxpayers	\$112	Benefits minus costs	(\$30)
Other	\$19	Probability of a positive net present value	50 %
Other indirect	\$1,914		
Total	\$2,281		
Costs	(\$2,311)		
Benefits minus cost	(\$30)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Labor market earnings (illicit drug abuse/dependence)	\$422	\$180	\$0	\$3,071	\$3,672
Health care (illicit drug abuse/dependence)	\$15	\$21	\$23	\$10	\$69
Labor market earnings (anxiety disorder)	(\$201)	(\$86)	\$0	\$0	(\$286)
Health care (anxiety disorder)	(\$1)	(\$3)	(\$4)	(\$1)	(\$9)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,166)	(\$1,166)
Totals	\$235	\$112	\$19	\$1,914	\$2,281

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$2,311	1	2013	Present value of net program costs (in 2013 dollars)	(\$2,311)
Comparison costs	\$0	1	2013	Uncertainty (+ or - %)	10 %

The cost of treatment is based on the single study in the analysis and includes 36 individual 50-minute sessions estimated using Washington's current Medicaid hourly reimbursement rate for individual treatment. The costs of this intervention are in addition to group therapy provided to both the treated and comparison groups.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	1	-0.307	0.167	0.066	-0.307	0.167	45	0.000	0.187	48
Anxiety disorder	Primary	1	0.044	0.168	0.793	0.044	0.168	45	n/a	n/a	48
Major depressive disorder	Primary	1	-0.093	0.169	0.579	-0.093	0.169	45	n/a	n/a	48
Alcohol use	Primary	1	0.208	0.169	0.218	0.208	0.169	45	n/a	n/a	46
Psychiatric symptoms	Primary	1	-0.274	0.169	0.105	-0.274	0.169	45	n/a	n/a	46

Citations Used in the Meta-Analysis

- Crits-Christoph, P., Siqueland, L., McCalmont, E., Frank, A., Blaine, J., Weiss, R.D., ..., Thase, M.E. (2001). Impact of Psychosocial Treatments on Associated Problems of Cocaine-Dependent Patients. *Journal of Consulting and Clinical Psychology*, 69(5), 825-830.
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Matrix Intensive Outpatient Model for the Treatment of Stimulant Abuse

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

Program Description: The Matrix Intensive Outpatient Model (Matrix Model) is a manualized, standalone outpatient program for treating individuals with stimulant use disorders. The program includes individual, group, and family sessions and covers topics including skills training, relapse prevention, drug education, social support, and self-help groups. Treatment generally lasts four to six months and includes multiple individual and group sessions per week.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$678	Benefit to cost ratio	\$4.82
Taxpayers	\$328	Benefits minus costs	\$4,695
Other	\$69	Probability of a positive net present value	61 %
Other indirect	\$4,866		
Total	\$5,940		
Costs	(\$1,245)		
Benefits minus cost	\$4,695		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$13	\$31	\$7	\$51
Labor market earnings (alcohol abuse/dependence)	(\$167)	(\$71)	\$0	\$0	(\$239)
Health care (alcohol abuse/dependence)	(\$1)	(\$2)	(\$2)	(\$1)	(\$5)
Property loss (alcohol abuse/dependence)	\$0	\$0	(\$1)	\$0	(\$1)
Labor market earnings (illicit drug abuse/dependence)	\$820	\$350	\$0	\$5,462	\$6,632
Health care (illicit drug abuse/dependence)	\$26	\$38	\$41	\$19	\$124
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$621)	(\$621)
Totals	\$678	\$328	\$69	\$4,866	\$5,940

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$2,602	1	2013	Present value of net program costs (in 2013 dollars)	(\$1,245)
Comparison costs	\$1,358	1	2013	Uncertainty (+ or - %)	20 %

The cost of treatment is the weighted average cost of the individual and group therapy sessions provided in the studies included in the analysis. We calculate this average cost using Washington's Medicaid hourly reimbursement rate for outpatient individual and group therapy times the weighted average of the total hours of these therapies across the studies. Comparison group costs are computed in a similar manner based on treatment received in the studies (standard intensive outpatient treatment, standard group therapy, or no treatment).

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	4	-0.235	0.156	0.132	-0.235	0.156	34	0.000	0.187	37
Alcohol abuse or dependence	Primary	1	0.060	0.241	0.803	0.060	0.241	34	n/a	n/a	37
Employment	Primary	1	-0.146	0.382	0.703	-0.146	0.382	34	n/a	n/a	37
Homelessness	Primary	1	-0.071	0.457	0.877	-0.071	0.457	34	n/a	n/a	37

Citations Used in the Meta-Analysis

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Methadone maintenance treatment

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

Program Description: Methadone is an opiate substitution treatment used to treat opioid dependence. It is a synthetic opioid that blocks the effects of opiates, reduces withdrawal symptoms, and relieves cravings. Methadone is dispensed in outpatient clinics that specialize in methadone treatment and is often used in conjunction with behavioral counseling approaches.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$2,331	Benefit to cost ratio	\$3.48
Taxpayers	\$1,425	Benefits minus costs	\$8,995
Other	\$915	Probability of a positive net present value	99 %
Other indirect	\$7,977		
Total	\$12,648		
Costs	(\$3,654)		
Benefits minus cost	\$8,995		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$257	\$656	\$128	\$1,041
Labor market earnings (opioid drug abuse/dependence)	\$2,195	\$936	\$0	\$9,554	\$12,685
Health care (opioid drug abuse/dependence)	\$137	\$232	\$259	\$115	\$743
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,821)	(\$1,821)
Totals	\$2,331	\$1,425	\$915	\$7,977	\$12,648

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$3,613	1	2012	Present value of net program costs (in 2013 dollars)	(\$3,654)
Comparison costs	\$0	1	2013	Uncertainty (+ or - %)	20 %

We estimate the costs of providing methadone in addition to standard substance abuse treatment. Costs reflect the average of costs reported in numerous cost-effectiveness studies (Rosenhack and Kosten, 2001; Jones et al., 2009; Nordlund et al., 2004; Masson et al., 2004). Costs included vary by study but generally include costs of medication, dispensing, toxicology screens, medical care related to methadone treatment, and when available, costs of equipment, administration, and clinic space.

Jones, E. S., Moore, B. A., Sindelar, J. L., O'Connor, P. G., Schottenfeld, R. S., & Fiellin, D. A. (2009). Cost analysis of clinic and office-based treatment of opioid dependence: Results with methadone and buprenorphine in clinically stable patients. *Drug and Alcohol Dependence*, 99(1), 132-140.

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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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Opioid drug abuse or dependence	Primary	10	-0.785	0.254	0.001	-0.785	0.254	35	n/a	n/a	36
Hospitalization (general)	Primary	3	0.242	0.464	0.602	0.242	0.464	35	n/a	n/a	36
Crime	Primary	2	-0.505	0.153	0.001	-0.505	0.153	35	n/a	n/a	36
Alcohol use	Primary	2	-0.281	0.250	0.095	-0.281	0.250	35	n/a	n/a	36
Death	Primary	4	-0.258	0.176	0.142	-0.258	0.176	35	n/a	n/a	36
Cannabis use	Primary	1	-0.690	0.514	0.180	-0.690	0.514	35	n/a	n/a	36
Employment	Primary	1	-0.334	0.174	0.054	-0.334	0.174	35	n/a	n/a	36
STD risky behavior	Primary	3	-0.560	0.243	0.000	-0.560	0.243	35	n/a	n/a	36

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Motivational Enhancement Therapy (Project MATCH model)

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

Program Description: Motivational Enhancement Therapy was designed for Project MATCH as a stand-alone intervention, delivered in four individual sessions, to build motivation to change, strengthen commitment to change, develop a plan for change, and review progress and motivation. <http://lib.adai.washington.edu/pubs/matchmonograph2.htm>.

A review of motivational interviewing and motivational enhancement therapy to engage clients in treatment will be completed later in 2014.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$4,932	Benefit to cost ratio	\$23.79
Taxpayers	\$2,211	Benefits minus costs	\$7,502
Other	\$242	Probability of a positive net present value	63 %
Other indirect	\$448		
Total	\$7,833		
Costs	(\$330)		
Benefits minus cost	\$7,502		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$75	\$176	\$37	\$289
Labor market earnings (alcohol abuse/dependence)	\$4,901	\$2,091	\$0	\$553	\$7,545
Health care (alcohol abuse/dependence)	\$22	\$44	\$49	\$22	\$138
Property loss (alcohol abuse/dependence)	\$9	\$0	\$16	\$0	\$25
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$164)	(\$164)
Totals	\$4,932	\$2,211	\$242	\$448	\$7,833

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$226	1	1993	Present value of net program costs (in 2013 dollars)	(\$330)
Comparison costs	\$0	1	1993	Uncertainty (+ or - %)	10 %

Costs based on Cisler, R., Holder, H. D., Longabaugh, R., Stout, R. L., & Zweben, A., 1998. Actual and estimated replication costs for alcohol treatment modalities: Case study from Project MATCH. *Journal of Studies on Alcohol*, 59(5), 503-12. In the single study used here, the comparison group received no treatment.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Alcohol abuse or dependence	Primary	1	-0.449	0.353	0.203	-0.449	0.353	38	0.000	0.187	41

Citations Used in the Meta-Analysis

Sellman, J. D., Sullivan, P. F., Dore, G. M., Adamson, S. J., & MacEwan, I. (2001). A randomized controlled trial of motivational enhancement therapy (MET) for mild to moderate alcohol dependence. *Journal of Studies on Alcohol*, 62(3), 389-396.

Node-Link Mapping

Literature review updated May 2014.

Program Description: Node-link mapping is a manualized supplement or tool that can be used during counseling sessions. "Maps" are used as a means of visually representing a client's needs, problems, and solutions and act as a communication tool that provides an alternative way to facilitate discussion between client and counselor. These maps can also directly illustrate cause-and-effect patterns of drug use to facilitate problem solving.

Meta-Analysis of Program Effects											
Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	1	-0.078	0.140	0.579	-0.078	0.140	38	0.000	0.187	41

Citations Used in the Meta-Analysis

Dansereau, D. F., Joe, G. W., & Simpson, D. D. (1995). Attentional difficulties and the effectiveness of a visual representation strategy for counseling drug-addicted clients. *The International Journal of the Addictions*, 30(4), 371-386.

Parent-Child Assistance Program

Literature review updated May 2014.

Program Description: The Parent-Child Assistance Program provides home visits to new mothers of drug or alcohol-exposed infants. Visitors are paraprofessional client advocates with similar adverse life experiences as the mothers. Visits are weekly for the first six weeks after birth, then bi-weekly or more frequently as needed for up to three years.

Meta-Analysis of Program Effects											
Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Repeat birth	Primary	1	0.000	0.331	0.331	0.000	0.331	30	n/a	n/a	31
Well-child visits	Secondary	1	0.186	0.573	0.746	0.046	0.573	3	n/a	n/a	4
Substance abuse	Primary	1	-0.128	0.329	0.698	-0.032	0.329	30	n/a	n/a	31
Out-of-home placement	Secondary	1	0.371	0.310	0.231	0.093	0.310	3	n/a	n/a	4
Test scores	Secondary	1	-0.091	0.290	0.753	-0.023	0.290	3	n/a	n/a	4

Citations Used in the Meta-Analysis

- 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.
- Kartin, D., Grant, T. M., Streissguth, A. P., Sampson, P. D., & Ernst, C. C. (2002). Three-year developmental outcomes in children with prenatal alcohol and drug exposure. *Pediatric Physical Therapy : the Official Publication of the Section on Pediatrics of the American Physical Therapy Association*, 14(3), 145-53.

Peer support

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

Program Description: This analysis examined interventions provided by a peer specialist to individuals with substance abuse disorders. One study was included in this analysis. This study examined the impact of a brief motivational intervention provided by a peer specialist for individuals using heroin and cocaine. The study participants were screened and identified at walk-in general health clinics.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$649	Benefit to cost ratio	\$1.11
Taxpayers	\$321	Benefits minus costs	\$274
Other	\$81	Probability of a positive net present value	50 %
Other indirect	\$1,951		
Total	\$3,002		
Costs	(\$2,728)		
Benefits minus cost	\$274		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$16	\$36	\$8	\$59
Labor market earnings (illicit drug abuse/dependence)	\$620	\$264	\$0	\$3,296	\$4,180
Health care (illicit drug abuse/dependence)	\$29	\$41	\$45	\$20	\$135
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$1,373)	(\$1,373)
Totals	\$649	\$321	\$81	\$1,951	\$3,002

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$2,650	1	2011	Present value of net program costs (in 2013 dollars)	(\$2,728)
Comparison costs	\$0	1	2011	Uncertainty (+ or - %)	20 %

The cost was estimated using the peer specialist reimbursement rate reported in Mercer (2013) Behavioral Health Data Book for the State of Washington For Rates Effective January 1, 2014 and included both the cost to provide the intervention to participants in the treatment arm and the cost to screen patients at the walk-in clinics.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	1	-0.245	0.122	0.041	-0.245	0.122	39	0.000	0.187	42

Citations Used in the Meta-Analysis

Bernstein, J., Bernstein, E., Tassiopoulos, K., Heeren, T., Levenson, S., & Hingson, R. (2005). Brief motivational intervention at a clinic visit reduces cocaine and heroin use. *Drug and Alcohol Dependence*, 77(1), 49-59.

Relapse Prevention Therapy

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

Program Description: This intervention, developed by Marlatt and Gordon, uses a cognitive-behavioral approach to help patients anticipate problems and identify strategies to avoid using alcohol and drugs.

For more information on this treatment model see:

<http://www.bhrm.org/guidelines/RPT%20guideline.pdf>

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$3,007	Benefit to cost ratio	n/e
Taxpayers	\$1,344	Benefits minus costs	\$4,936
Other	\$141	Probability of a positive net present value	60 %
Other indirect	\$443		
Total	\$4,936		
Costs	\$0		
Benefits minus cost	\$4,936		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$45	\$105	\$22	\$173
Labor market earnings (alcohol abuse/dependence)	\$2,989	\$1,275	\$0	\$409	\$4,673
Health care (alcohol abuse/dependence)	\$12	\$24	\$27	\$12	\$75
Property loss (alcohol abuse/dependence)	\$5	\$0	\$10	\$0	\$15
Totals	\$3,007	\$1,344	\$141	\$443	\$4,936

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,050	1	2014	Present value of net program costs (in 2013 dollars)	\$0
Comparison costs	\$1,050	1	2014	Uncertainty (+ or - %)	15 %

This is the weighted average cost of interventions reviewed for this meta-analysis, based on hours of individual and group counseling, reimbursed at Washington's 2014 Medicaid rates.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Alcohol abuse or dependence	Primary	4	-0.234	0.153	0.123	-0.234	0.153	41	-0.003	0.178	42
Illicit drug abuse or dependence	Primary	3	-0.217	0.287	0.451	-0.217	0.287	41	-0.003	0.178	42

Citations Used in the Meta-Analysis

- Carroll, K., Nich, C., Ball, S., Mccance, E., & Rounsavile, B. (1998). Treatment of cocaine and alcohol dependence with psychotherapy and disulfiram. *Addiction*, 93(5), 713-727.
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- Kahler, C. W., Read, J. P., Ramsey, S. E., Stuart, G. L., McCrady, B. S., & Brown, R. A. (2004). Motivational enhancement for 12-step involvement among patients undergoing alcohol detoxification. *Journal of Consulting and Clinical Psychology*, 72(4), 736-741.
- Kaskutas, L.A., Subbaraman, M., Witbrodt, J., Zemore, S.E. (2009) Effectiveness of Making Alcoholics Anonymous Easier (MAAEZ), a group format 12-step facilitation program. *Journal of Substance Abuse Treatment*, 37(3), 228-239.
- Timko, C., DeBenedetti, A., & Billow, R. (May 01, 2006). Intensive referral to 12-Step self-help groups and 6-month substance use disorder outcomes. *Addiction*, 101(5), 678-688.
- Walitzer, K. S., Dermen, K. H., & Barrick, C. (2009). Facilitating involvement in Alcoholics Anonymous during out-patient treatment: a randomized clinical trial. *Addiction*, 104(3), 391-401.

Seeking Safety: A Psychotherapy for Trauma/PTSD and Substance Abuse

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

Program Description: Seeking Safety is a manualized, standalone therapy designed to treat comorbid trauma/PTSD and substance use disorders. Seeking Safety covers 25 topics, each independent of the others, and allows for flexible use (mixed settings, fewer topics, etc.). The five main principles of Seeking Safety are (1) safety in relationships, thinking, behavior, and emotions; (2) treating trauma/PTSD and substance abuse at the same time; (3) a focus on ideals; (4) four content areas: cognitive, behavioral, interpersonal, and case management; and (5) attention to clinician processes (e.g. clinician self-care).

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$581	Benefit to cost ratio	\$18.06
Taxpayers	\$207	Benefits minus costs	\$6,555
Other	(\$51)	Probability of a positive net present value	68 %
Other indirect	\$6,204		
Total	\$6,940		
Costs	(\$385)		
Benefits minus cost	\$6,555		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other	Other indirect	Total benefits
From primary participant					
Crime	\$0	\$6	\$13	\$3	\$21
Property loss (alcohol abuse/dependence)	\$0	\$0	\$0	\$0	\$0
Labor market earnings (illicit drug abuse/dependence)	\$787	\$336	\$0	\$6,415	\$7,538
Health care (illicit drug abuse/dependence)	\$37	\$53	\$58	\$27	\$175
Labor market earnings (PTSD)	(\$211)	(\$90)	\$0	\$0	(\$301)
Health care (PTSD)	(\$32)	(\$98)	(\$121)	(\$48)	(\$300)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$193)	(\$193)
Totals	\$581	\$207	(\$51)	\$6,204	\$6,940

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$526	1	2013	Present value of net program costs (in 2013 dollars)	(\$385)
Comparison costs	\$141	1	2013	Uncertainty (+ or - %)	10 %

The cost of treatment is the weighted average cost of the individual or group therapy sessions provided in the studies included in the analysis. We calculate this average cost using Washington's Medicaid hourly reimbursement rate for outpatient individual and group therapy times the weighted average of the total hours of these therapies across the studies. Comparison group costs are computed in a similar manner based on treatment received in the studies (no treatment or standard group treatment).

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	5	-0.058	0.093	0.535	-0.058	0.093	41	-0.098	0.131	42
Post-traumatic stress	Primary	6	-0.211	0.102	0.039	-0.211	0.102	41	0.020	0.106	42
Alcohol abuse or dependence	Primary	2	0.009	0.175	0.957	0.009	0.175	41	0.000	0.187	44
Psychiatric symptoms	Primary	2	0.057	0.305	0.852	0.057	0.305	41	n/a	n/a	42

Citations Used in the Meta-Analysis

- Boden, M. T., Kimerling, R., Jacobs-Lentz, J., Bowman, D., Weaver, C., Carney, D., Walser, R., ... Trafton, J. A. (2012). Seeking Safety treatment for male veterans with a substance use disorder and post-traumatic stress disorder symptomatology. *Addiction, 107*(3), 578-586.
- Desai, R. A., Harpaz-Rotem, I., Najavits, L. M., & Rosenheck, R. A. (2008). Impact of the Seeking Safety Program on Clinical Outcomes Among Homeless Female Veterans With Psychiatric Disorders. *Psychiatric Services, 59*(9), 996-1003.
- Hien, D.A., Cohen, L.R., Miele, G.M., Litt, L.C., Capstick, C. 2004. Promising treatments for women with comorbid PTSD and substance use disorders. *American Journal of Psychiatry, 161*(8), 1426-1432.
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- Lynch, S., Heath, N., Mathews, K., & Cepeda, G. (2012). Seeking Safety: An Intervention for Trauma-Exposed Incarcerated Women?. *Journal of Trauma & Dissociation, 13*(1), 88-101.
- Zlotnick, C., Johnson, J., & Najavits, L. M. (2009). Randomized controlled pilot study of cognitive-behavioral therapy in a sample of incarcerated women with substance use disorder and PTSD. *Behavior Therapy, 40*(4), 325-336.

Supportive-Expressive Psychotherapy

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

Program Description: Supportive-Expressive Psychotherapy (SEP) is a manualized, time-limited psychotherapy originally developed for treating psychiatric disorders that has been adapted for use with individuals with heroin and cocaine addictions. In the studies reviewed for this analysis, clients also had co-morbid psychiatric disorders. SEP is generally provided in an individual format and includes two components: supportive techniques to allow patients to feel comfortable discussing experiences and an expressive component to help patients understand problematic relationship patterns.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$593	Benefit to cost ratio	(\$1.02)
Taxpayers	\$73	Benefits minus costs	(\$3,991)
Other	(\$409)	Probability of a positive net present value	40 %
Other indirect	(\$2,270)		
Total	(\$2,013)		
Costs	(\$1,978)		
Benefits minus cost	(\$3,991)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical manual](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other	Other indirect	
From primary participant					
Crime	\$0	(\$168)	(\$391)	(\$85)	(\$644)
Labor market earnings (employment)	\$1,210	\$516	\$0	\$0	\$1,726
Property loss (alcohol abuse/dependence)	\$0	\$0	\$1	\$0	\$1
Labor market earnings (illicit drug abuse/dependence)	(\$604)	(\$257)	\$0	(\$1,189)	(\$2,050)
Health care (illicit drug abuse/dependence)	(\$15)	(\$22)	(\$24)	(\$11)	(\$73)
Health care (major depression)	\$2	\$5	\$6	\$2	\$14
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$987)	(\$987)
Totals	\$593	\$73	(\$409)	(\$2,270)	(\$2,013)

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,979	1	2013	Present value of net program costs (in 2013 dollars)	(\$1,978)
Comparison costs	\$0	1	2013	Uncertainty (+ or - %)	20 %

The cost of treatment is the weighted average cost of the individual sessions provided in the studies included in the analysis. We calculate this average cost using Washington's Medicaid hourly reimbursement rate for outpatient individual therapy times the weighted average of the total hours of therapy across the studies. The costs of this intervention are in addition to the individual drug counseling and methadone treatment provided to both the treated and comparison groups in the reviewed studies.

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 uncertainty range is used in Monte Carlo risk analysis, described in our [technical manual](#).

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)			Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Illicit drug abuse or dependence	Primary	3	0.161	0.150	0.211	0.161	0.150	36	0.000	0.187	39
Alcohol abuse or dependence	Primary	3	-0.057	0.126	0.652	-0.057	0.126	36	n/a	n/a	39
Anxiety disorder	Primary	2	0.120	0.143	0.401	0.120	0.143	36	n/a	n/a	39
Major depressive disorder	Primary	3	-0.056	0.242	0.953	-0.056	0.242	36	n/a	n/a	39
Employment	Primary	2	0.364	0.245	0.138	0.364	0.245	36	n/a	n/a	39
Crime	Primary	2	0.157	0.309	0.611	0.157	0.309	36	n/a	n/a	39
Psychiatric symptoms	Primary	3	-0.146	0.215	0.497	-0.146	0.215	36	n/a	n/a	37

Citations Used in the Meta-Analysis

- Crits-Christoph, P., Siqueland, L., McCalmont, E., Frank, A., Blaine, J., Weiss, R.D., ..., Thase, M.E. (2001). Impact of Psychosocial Treatments on Associated Problems of Cocaine-Dependent Patients. *Journal of Consulting and Clinical Psychology*, 69(5), 825-830.
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