

Object S1.

PubMed Search String:

(incentiv*[Title/Abstract] OR cash[Title/Abstract] OR money[Title/Abstract] OR token*[Title/Abstract] OR payment*[Title/Abstract] OR voucher*[Title/Abstract] OR contingency management[Title/Abstract] OR prize*[Title/Abstract]) AND (complian*[Title/Abstract] OR adhere*[Title/Abstract] OR attend*[Title/Abstract] OR medication*[Title/Abstract] OR therap*[Title/Abstract] OR appointment*[Title/Abstract]) AND (psychiatr*[Text Word] OR mental health[Text Word] OR mental illness[Text Word] OR substance[Text Word])

Table S1.*Previous Meta-Analyses Examining Financial Incentives/Contingency Management for Treatment Attendance or Medication Adherence*

Meta-Analysis	Outcomes examined	Study Population	Number of Studies Included	Studies Included in Present Meta-Analysis	Relevant Results	Relevant Limitations
Bolívar, H. A., Klemperer, E. M., Coleman, S. R., DeSarno, M., Skelly, J. M., & Higgins, S. T. (2021). Contingency management for patients receiving medication for opioid use disorder: A systematic review and meta-analysis. <i>JAMA psychiatry</i> , 78(10), 1092-1102.	Drug use; cigarette smoking; therapy attendance; medication adherence	Patients receiving medication for opioid use disorder	60	Kidorf et al., 2018; Preston et al., 1999	Incentives improved therapy attendance (Cohen's $d = 0.78$) and medication adherence (Cohen's $d = 0.43$)	Focused on a limited group of patients receiving medication for opioid use disorder; Unable to isolate the effects of targeting attendance and medication adherence versus other outcomes
Dutra, L., Stathopoulou, G., Basden, S. L., Leyro, T. M., Powers, M. B., & Otto, M. W. (2008). A meta-analytic review of psychosocial interventions for substance use disorders. <i>American Journal of Psychiatry</i> , 165(2), 179-187.	Efficacy of all psychosocial treatments for substance use disorders; abstinence; treatment retention	Individuals with substance use disorders	34	Sinha et al., 2003	Drop out prior to treatment completion across all psychosocial treatments was 35.4% compared to 44.6% in control conditions	Drop out was aggregated across multiple psychosocial treatments
Ellis, J. D., Struble, C. A., Fodor, M. C., Cairncross, M., Lundahl, L. H., & Ledgerwood, D. M. (2021). Contingency management for individuals with chronic health conditions: A systematic review and meta-analysis of randomized controlled trials. <i>Behaviour Research and Therapy</i> , 136, 103781.	Weight change; physical activity; medication/device adherence; viral load	Individuals with chronic health conditions	20	None	Incentives improved medication/device adherence (Cohen's $d = 0.66$)	Focus not on mental health treatment; adherence to medications and devices was aggregated
Getty, C. A., Morande, A., Lynskey, M., Weaver, T., & Metrebian, N. (2019). Mobile telephone-delivered contingency management interventions promoting behaviour change in individuals with substance use disorders: A meta-analysis. <i>Addiction</i> , 114(11), 1915-1925.	Abstinence; medication adherence	Individuals with substance use disorders	7	None	Only one study targeted medication adherence so the effect size could not be calculated	Only one study targeted medication adherence; all interventions delivered via mobile technology

Giles, E. L., Robalino, S., McColl, E., Snichotta, F. F., & Adams, J. (2014). The effectiveness of financial incentives for health behaviour change: Systematic review and meta-analysis. <i>PloS one</i> , 9(3), e90347.	Smoking cessation; vaccine/screening attendance; physical activity	Individuals attempting health behavior change	15	None	Incentives increased vaccine/screening attendance (relative risk: 1.92)	Focus not on mental health treatment
Krishnamoorthy, Y., Rehman, T., & Sakthivel, M. (2021). Effectiveness of financial incentives in achieving UNAID fast-track 90-90-90 and 95-95-95 target of HIV care continuum: A systematic review and meta-analysis of randomized controlled trials. <i>AIDS and Behavior</i> , 25(3), 814-825.	HIV testing uptake; antiretroviral (ART) treatment initiation, adherence, and continuity of care; viral suppression	Individuals with HIV	22	None	Incentives significantly increased ART treatment adherence (relative risk = 1.30) and continuity of care (relative risk = 1.24), but not treatment initiation	Focus not on mental health treatment
Lussier, J. P., Heil, S. H., Mongeon, J. A., Badger, G. J., & Higgins, S. T. (2006). A meta-analysis of voucher-based reinforcement therapy for substance use disorders. <i>Addiction</i> , 101(2), 192-203.	Abstinence; treatment attendance; medication adherence	Individuals with substance use disorders	30	Helmus et al., 2003; Preston et al., 1999; Sinha et al., 2003; Svikis et al., 1997	Incentives increased treatment attendance (Pearson's $r = .15$) and medication adherence (Pearson's $r = .32$)	Unable to isolate the effects of targeting treatment attendance and medication adherence versus other outcomes
Petry, N. M., Rash, C. J., Byrne, S., Ashraf, S., & White, W. B. (2012). Financial reinforcers for improving medication adherence: Findings from a meta-analysis. <i>The American Journal of Medicine</i> , 125(9), 888-896.	Medication adherence	Individuals taking medication for any condition	21	Preston et al., 1999	Incentives increased medication adherence (Cohen's $d = 0.77$)	Included both medications for general health and mental health conditions; Unable to isolate the effects of targeting medication adherence versus other outcomes
Pfund, R. A., Ginley, M. K., Rash, C. J., & Zajac, K. (2021). Contingency management for treatment attendance: A meta-analysis. <i>Journal of Substance Abuse Treatment</i> , 108556.	Treatment attendance; Abstinence	Individuals with substance use disorders	10	Carroll et al., 2012; Jones et al., 2001; Kidorf et al., 2013; Petry et al., 2012; Petry et al., 2018	Incentives increased treatment attendance (Cohen's $d = 0.47$)	Unable to isolate the effects of targeting treatment attendance versus other outcomes

Note. No previous meta-analyses included treatment goal completion outcomes

Table S2. Study Characteristics for Main Outcomes

Study	Outcome	Age	Proportion Female	Proportion Minority	Disorder Targeted	Met Criteria	Design	Randomized	Study Quality	Sample Size	Effect Size Description	Effect Size Designation	Effect Size Type	Effect Size	Effect Size SE
Acquavita et al., 2013	<u>Attendance</u>	44.0	38.2	85.3	SUD	No	Between	No	Strong	100	Number of treatment contacts during the first 30 days	Not primary	Hedge's g_s	0.51	0.20
										211	% of participants admitted to an outpatient program	Not primary	Hedge's g_s	0.41	0.16
										211	% of participants receiving an outpatient appointment	Not primary	Hedge's g_s	0.85	0.18
										211	% of participants making initial contact with outpatient program	Not primary	Hedge's g_s	0.41	0.17
Barton et al., 2020	<u>Attendance</u>	Msg	16.4	27.4	SUD	No	Between	No	Moderate	73	Mean number of sessions attended	Primary	Hedge's g_s	-0.32	0.24
										73	Maximum number of consecutive sessions attended	Not primary	Hedge's g_s	-0.04	0.23
Carey & Carey, 1990	<u>Attendance</u>	33.2	28.0	13.0	SMI	Yes	Within	No	Strong	53	Number of patients meeting program attendance criterion	Primary	Hedge's g_{woc}	0.44	0.04
Carroll et al., 2012	<u>Attendance</u>	25.7	15.7	81.1	SUD	Yes	Between	Yes	Moderate	68	Number of days in treatment	Primary	Hedge's g_s	0.53	0.25
Carroll et al., 2012	<u>Tx goals</u>	25.7	15.7	81.1	SUD	Yes	Between	Yes	Moderate	68	Average number of homework assignments completed	Primary	Hedge's g_s	0.86	0.25
Corrigan & Bogner, 2007 ^a	<u>Attendance</u>	42.5	38.0	43.0	SUD	Yes	Between	Yes	Strong	48	Average appointments missed	Not primary	Hedge's g_s	0.90	0.28
Corrigan et al., 2005 ^a	<u>Tx goals</u>	36.6	29.2	40.0	SUD	Yes	Between	Yes	Strong	99	Days to sign treatment plan	Not primary	Hedge's g_s	0.64	0.21
										99	Likelihood of signing treatment plan within 30 days	Not primary	Hedge's g_s	0.97	0.26
Fishman et al., 2020	<u>Medication</u>	23.4	34.2	5.3	SUD	Yes	Between	Yes	Strong	38	Number of extended-release naltrexone doses received	Primary	Hedge's g_s	1.95	0.40
Fitzsimons et al., 2015	<u>Attendance</u>	40.2	46.0	61.0	SUD	No	Between	No	Strong	262	Average number of days attended in the first week	Not primary	Hedge's g_s	0.36	0.12
										262	Average number of individual counseling sessions attended in the first week	Not primary	Hedge's g_s	0.54	0.13
										262	Treatment utilization rate for the first week	Primary	Hedge's g_s	0.36	0.12
										262	Whether the participant returned to the clinic on treatment day 1	Not primary	Hedge's g_s	0.45	0.26
Hartzler et al., 2014	<u>Attendance</u>	Msg	Msg	Msg	SUD	No	Between	No	Moderate	217	Duration of consecutive weekly visits	Not primary	Hedge's g_s	0.52	0.14
										217	Mean attendance rate	Primary	Hedge's g_s	0.45	0.01
Helmus et al., 2003	<u>Attendance</u>	43.7	25.0	5.0	SUD	Yes	Within	No	Strong	20	Attendance initiation	Not primary	Hedge's g_s	0.48	0.19
										20	% of on-time group therapy attendance	Primary	Hedge's g_{woc}	0.45	0.11

Study	Outcome	Age	Proportion Female	Proportion Minority	Disorder Targeted	Met Criteria	Design	Randomized	Study Quality	Sample Size	Effect Size Description	Effect Size Designation	Effect Size Type	Effect Size	Effect Size SE
Jones et al., 2001	<u>Attendance</u>	28.0	100.0	76.0	SUD	Yes	Between	Yes	Strong	75	Average full day attendance for the residential stay	Primary	Hedge's g _s	0.51	0.24
Kelly et al., 2014	<u>Attendance</u>	40.2	48.0	32.0	SUD	Yes	Between	No	Moderate	160	Number of days patients attended program	Primary	Hedge's g _s	0.67	0.16
Kidorf et al., 2009 ^b	<u>Attendance</u>	41.0	28.8	75.4	SUD	Yes	Between	Yes	Strong	188	% of motivational enhancement sessions attended	Primary	Hedge's g _s	1.76	0.17
										188	% of treatment readiness sessions attended	Primary	Hedge's g _s	0.89	0.15
Kidorf et al., 2013	<u>Attendance</u>	39.1	53.6	35.2	Any psychiatric disorder	Yes	Between	Yes	Strong	125	Number of individual and group mental health sessions attended (pooled results for months 1-3)	Primary	Hedge's g _s	1.21	0.19
Kidorf et al., 2018	<u>Attendance</u>	39.8	44.8	62.3	SUD	No	Between	Yes	Strong	143	Attendance rate for individual counseling	Not primary	Hedge's g _s	-0.22	0.17
										143	Attendance rate for group counseling	Not primary	Hedge's g _s	0.03	0.17
Kidorf et al., 2018	<u>Medication</u>	39.8	44.8	62.3	SUD	No	Between	Yes	Strong	143	Mean days in treatment	Primary	Hedge's g _s	0.01	0.17
										143	Mean methadone dose	Not primary	Hedge's g _s	0.46	0.17
										143	Mean peak methadone dose	Not primary	Hedge's g _s	0.39	0.17
										143	% reaching target methadone dose	Not primary	Hedge's g _s	0.53	0.17
Kropp et al., 2017	<u>Attendance</u>	Msg	55.0	6.0	SUD	No	Between	No	Strong	533	Proportion of patients attending at least one group (1st month)	Not primary	Hedge's g _s	0.22	0.09
										531	Proportion of patients attending at least one group (12th month)	Not primary	Hedge's g _s	-0.02	0.10
Langhorst, 2004	<u>Attendance</u>	33.0	36.0	27.0	SUD	No	Between	Yes	Strong	183	% participants with perfect attendance (attended 2 intake sessions)	Not primary	Hedge's g _s	-0.18	0.16
										183	% participants attending one session (intake session 1 or 2)	Not primary	Hedge's g _s	0.43	0.21
Ledgerwood et al., 2008	<u>Attendance</u>	35.6	51.0	15.7	SUD	No	Between	No	Strong	51	% of sessions attended	Primary	Hedge's g _s	0.51	0.28
Litt et al., 2007	<u>Tx goals</u>	45.0	42.0	14.0	SUD	Yes	Between	Yes	Strong	141	% of homework assignments completed	Primary	Hedge's g _s	0.26	0.17
Marcus et al., 2020 ^c	<u>Medication</u>	39.7	83.3	58.3	Depression	Yes	Between	Yes	Strong	80	% of antidepressant doses taken	Primary	Hedge's g _s	0.80	0.23
										80	Over 80% adherence	Not primary	Hedge's g _s	1.12	0.32
McKay et al., 2013	<u>Attendance</u>	43.2	24.0	92.5	SUD	Yes	Between	Yes	Strong	166	Average number of continuing care sessions received	Primary	Hedge's g _s	0.78	0.16
										213	Proportion completing orientation session	Not primary	Hedge's g _s	0.34	0.19

Study	Outcome	Age	Proportion Female	Proportion Minority	Disorder Targeted	Met Criteria	Design	Randomized	Study Quality	Sample Size	Effect Size Description	Effect Size Designation	Effect Size Type	Effect Size	Effect Size SE
Metrebian et al., 2021 ^d	<u>Attendance</u>	38.2	26.8	21.2	SUD	Yes	Between	Yes	Moderate	347	Attendance at the first appointment	Not primary	Hedge's g_s	0.30	0.14
											Attendance at the last appointment	Not primary	Hedge's g_s	0.67	0.15
											Proportion of participants attending all sessions	Not primary	Hedge's g_s	0.59	0.15
											Proportion of participants not attending any sessions	Not primary	Hedge's g_s	0.39	0.24
Morgenstern et al., 2006	<u>Attendance</u>	36.3	100.0	100.0	SUD	Yes	Between	Yes	Strong	302	Odds of dropping out of treatment	Not primary	Hedge's g_s	0.35	0.14
										302	Treatment initiation	Not primary	Hedge's g_s	0.37	0.13
										302	Treatment retention	Not primary	Hedge's g_s	0.59	0.13
Noordraven et al., 2017	<u>Medication</u>	40.7	24.5	62.0	Psychotic disorder	Yes	Between	Yes	Strong	155	Rate of antipsychotic depots received	Primary	Hedge's g_s	0.89	0.17
										155	The longest uninterrupted time during which depots were received (days)	Not primary	Hedge's g_s	0.93	0.17
										154	Time between prescription date and date depot was received (days)	Not primary	Hedge's g_s	0.37	0.16
										155	Total number of days without depot medication (days)	Not primary	Hedge's g_s	0.92	0.17
Petry et al., 2006	<u>Tx goals</u>	37.2	40.0	46.6	SUD	Yes	Between	Yes	Strong	70	Only functional outcome	NA	NA	NA	NA
Petry et al., 2012	<u>Attendance</u>	36.5	52.8	52.5	SUD	Yes	Between	Yes	Strong	215	Weeks retained in treatment	Not primary	Hedge's g_s	-0.16	0.14
										215	Number of sessions attended	Primary	Hedge's g_s	0.80	0.14
Petry et al., 2018	<u>Attendance</u>	38.1	52.2	40.9	SUD	Yes	Between	No	Strong	141	Days attended	Not primary	Hedge's g_s	0.61	0.17
										141	% of days attended	Primary	Hedge's g_s	0.55	0.17
										141	Longest attendance (days)	Not primary	Hedge's g_s	0.58	0.17
Post et al., 2006	<u>Attendance</u>	46.0	85.0	100.0	Depression	No	Within	No	Moderate	50	Proportion of scheduled appointments kept	Primary	Hedge's g_{wvc}	0.05	0.04
Predergast et al., 2015, Admission phase	<u>Attendance</u>	43.4	0.0	87.9	SUD	No	Between	Yes	Strong	60	Admission to the residential treatment program	Primary	Hedge's g_s	-0.10	0.30
Predergast et al., 2015 ^e , Attendance phase	<u>Attendance</u>	43.6	0.0	86.6	SUD	No	Between	Yes	Strong	202	Number of days in attendance at the residential treatment program	Primary	Hedge's g_s	-0.04	0.14
Predergast et al., 2015, Attendance phase										202	% still in treatment at the intervention's end	Not primary	Hedge's g_s	-0.13	0.18
Preston et al., 1999	<u>Medication</u>	33.5	36.1	84.3	SUD	Yes	Between	Yes	Moderate	39	Mean number of naltrexone doses ingested	Primary	Hedge's g_s	1.47	0.36
										39	Maximum number of consecutive naltrexone doses ingested	Not primary	Hedge's g_s	1.61	0.37
Priebe et al., 2013 ^d	<u>Medication</u>	43.7	26.0	40.0	Psychotic disorder	Yes	Between	Yes	Strong	131	% depots received in 12 month period	Primary	Hedge's g_s	0.76	0.21
Schacht et al., 2017	<u>Attendance</u>	37.4	79.0	29.0	PTSD	Yes	Between	Yes	Moderate	58	Mean number of sessions attended	Primary	Hedge's g_s	1.54	0.30

Study	Outcome	Proportion		Disorder Targeted	Met Criteria	Design	Randomized	Study Quality	Sample Size	Effect Size Description	Effect Size Designation	Effect Size Type	Effect Size	Effect Size SE	
		Age	Female												Minority
Sigmon & Stitzer, 2005 ^e , Before vs. after incentives	<u>Attendance</u>	41.0	42.0	61.0	SUD	No	Between	No	Strong	69	% of sessions attended	Primary	Hedge's g_s	0.91	0.28
Sigmon & Stitzer, 2005, Those experiencing incentives vs. not	<u>Attendance</u>	41.0	42.0	61.0	SUD	No	Within	No	Strong	33	% of sessions attended	Primary	Hedge's g_{ave}	0.71	0.06
Sinha et al., 2003	<u>Attendance</u>	20.6	7.8	77.0	SUD	Yes	Between	Yes	Moderate	65	Number of sessions attended	Primary	Hedge's g_s	0.44	0.25
Stanger et al., 2011	<u>Attendance</u>	30.0	100.0	32.0	SUD	Yes	Between	No	Moderate	47	Number of sessions attended	Primary	Hedge's g_s	-0.25	0.30
Stanger et al., 2011	<u>Tx goals</u>	30.0	100.0	32.0	SUD	Yes	Between	No	Moderate	47	Number of assignments completed	Primary	Hedge's g_s	-0.13	0.30
									Moderate	47	% calls made	Primary	Hedge's g_s	0.75	0.31
Svikis et al., 1997 ^f	<u>Attendance</u>	28.4	100.0	84.5	SUD	Yes	Between	Yes	Strong	142	Full day treatment attendance	Primary	Hedge's g_s	0.17	0.19
Svikis et al., 2007	<u>Attendance</u>	30.1	100.0	84.0	SUD	Yes	Between	Yes	Strong	91	Number of days in treatment	Primary	Hedge's g_s	0.57	0.21
											Odds of dropping out of treatment	Not primary	Hedge's g_s	-0.02	0.24
											Consistent attendance	Not primary	Hedge's g_s	0.78	0.28
Walker et al., 2010, Site 1 ^{df}	<u>Attendance</u>	Msg	Msg	13.0	SUD	No	Within	No	Strong	45	Average number of sessions attended	Primary	Hedge's g_{ave}	1.12	0.05
Walker et al., 2010, Site 2 ^f	<u>Attendance</u>	Msg	100.0	48.0	SUD	No	Within	No	Strong	45	Average number of sessions attended	Primary	Hedge's g_{ave}	1.46	0.05
Worden et al., 2017	<u>Tx goals</u>	51.5	64.3	7.1	Hoarding disorder	Yes	Between	No	Strong	20	Reductions in household clutter on the Clutter Image Rating Scale	Not primary	Hedge's g_s	1.26	0.50

SE = Standard Error; Attendance = Treatment attendance; Medication = Medication adherence; Tx goals = Treatment goal completion; Msg = missing; NA = Not Applicable; SUD = Substance use disorder; SMI = Serious Mental Illness; PTSD = Post-traumatic stress disorder. Disorder Targeted = Type of disorder targeted with incentives; Met Criteria = Participants met diagnostic criteria for a mental health disorder.

^aWe excluded groups offering alternative treatments (reduction of logistical barriers; motivational interviewing) because they did not qualify as control groups

^bWe pooled effect sizes for analyses of only primary outcomes (see Table 2) as there were two primary outcomes

^cWe excluded the de-escalating incentive group as this incentive structure differed from all other studies and also did not qualify as a control group

^dEffect size was adjusted based on the Intraclass Correlation Coefficient (ICC) reported

^eEffect size for this sub-study was randomly selected for Models 2 and 3 (see Table 1), which could only accommodate one effect size per study

^fEffect size information was provided by the authors

Table S3.*Studies Excluded Due to Lack of Information Needed to Calculate Effect Sizes*

Study	Reason Excluded
1. Jones, H. E., Haug, N. A., Stitzer, M. L., & Svikis, D. S. (2000). Improving treatment outcomes for pregnant drug-dependent women using low-magnitude voucher incentives. <i>Addictive Behaviors, 25</i> (2), 263-267.	Paper did not report standard deviations (only means were included). Authors were unable to provide additional information.
2. Petry, N. M., Martin, B., & Finocche, C. (2001). Contingency management in group treatment: A demonstration project in an HIV drop-in center. <i>Journal of Substance Abuse Treatment, 21</i> (2), 89-96.	Paper did not report standard deviations (only means were included) and we could not accurately interpret effect size data from the figure. Authors were unable to provide additional information.
3. Rhodes, G. L., Saules, K. K., Helmus, T. C., Roll, J., BeShears, R. S., Ledgerwood, D. M., & Schuster, C. R. (2003). Improving on-time counseling attendance in a methadone treatment program: A contingency management approach. <i>The American Journal of Drug and Alcohol Abuse, 29</i> (4), 759-773.	Paper did not report standard deviations (only means were included) and we could not use t-test data to calculate the effect size for a within-subjects study. Authors were unable to provide additional information.
4. Iguchi, M. Y., Belding, M. A., Morral, A. R., Lamb, R. J., & Husband, S. D. (1997). Reinforcing operants other than abstinence in drug abuse treatment: An effective alternative for reducing drug use. <i>Journal of Consulting and Clinical Psychology, 65</i> (3), 421-428.	Completion of treatment goals was not measured in the control group.
5. McKay, J. R., Van Horn, D., Ivey, M., Drapkin, M. L., Rennert, L., & Lynch, K. G. (2013). Enhanced continuing care provided in parallel to intensive outpatient treatment does not improve outcomes for patients with cocaine dependence. <i>Journal of Studies on Alcohol and Drugs, 74</i> (4), 642-651.	The control group was not offered the opportunity to attend the treatment that was incentivized for the intervention group (continuing care appointments).
6. Ondersma, S. J., Svikis, D. S., & Schuster, C. R. (2007). Computer-based brief intervention: A randomized trial with postpartum women. <i>American Journal of Preventive Medicine, 32</i> (3), 231-238.	Participants could receive a financial incentive to attend a treatment intake session, but no participants in the intervention condition attended the intake session and received this incentive.
7. Strecher, V. J., Becker, M. H., Kirscht, J. P., Eraker, S. A., & Graham-Tomasi, R. P. (1985). Evaluation of a minimal-contact smoking cessation program in a health care setting. <i>Patient Education and Counseling, 7</i> (4), 395-407.	Completion of treatment goals was not measured in the control group.
8. Villano, C. L., Rosenblum, A., Magura, S., & Fong, C. (2002). Improving treatment engagement and outcomes for cocaine-using methadone patients. <i>The American Journal of Drug and Alcohol Abuse, 28</i> (2), 213-230. Full RCT reported in: Magura, S., Rosenblum, A., Fong, C., Villano, C., & Richman, B. (2002). Treating cocaine-using methadone patients: Predictors of outcomes in a psychosocial clinical trial. <i>Substance Use & Misuse, 37</i> (14), 1927-1955.	Completion of treatment goals was not measured in the control group.

Table S4.*Study Characteristics for Self-reported or Clinical-rated Symptom and Functional Outcomes*

Study	Outcome	Sample Size	Effect Size Description	Effect Size Type	Effect Size	Effect Size SE
Kidorf et al., 2018 ^a	Attendance & Medication	143	Addiction Severity Index (ASI), Drug	Hedge's g_s	0.08	0.17
		143	Addiction Severity Index (ASI), Alcohol	Hedge's g_s	-0.03	0.17
Litt et al., 2007 ^a	Tx Goals	130	The Drinker Inventory of Consequences (DRInC)	Hedge's g_s	0.12	0.18
Marcus et al., 2020	Medication	80	Patient Health Questionnaire 9 items - response	Hedge's g_s	0.56	0.26
		80	Patient Health Questionnaire 9 items - remission	Hedge's g_s	1.03	0.38
Metrebian et al., 2021 ^{ab}	Attendance	347	Alcohol Use Disorders Identification Test (AUDIT)	Hedge's g_s	-0.03	0.15
		347	Opiate Treatment Index (OTI), Social Functioning	Hedge's g_s	0.01	0.15
		347	Short Form Survey (SF-36), Mental wellbeing	Hedge's g_s	0.23	0.15
		347	Short Form Survey (SF-36), Physical wellbeing	Hedge's g_s	0.06	0.15
		347	Hospital Anxiety and Depression Scale (HADS), Depression	Hedge's g_s	0.15	0.15
		347	Hospital Anxiety and Depression Scale (HADS), Anxiety	Hedge's g_s	0.15	0.15
		347	Hospital Anxiety and Depression Scale (HADS), Depression	Hedge's g_s	0.15	0.15
Noordraven et al., 2017	Medication	131	Manchester Short Assessment of Quality of Life (MANSA)	Hedge's g_s	-0.22	0.18
		131	Positive and Negative Syndrome Scale (PANSS)	Hedge's g_s	-0.28	0.18
		133	Health of the Nation Outcomes Scale (HoNOS)	Hedge's g_s	-0.32	0.17
		134	Addiction Severity Index (ASI), Alcohol	Hedge's g_s	-0.18	0.17
		134	Addiction Severity Index (ASI), Drug	Hedge's g_s	-0.07	0.17
Petry et al., 2006	Tx Goals	70	Addiction Severity Index (ASI), Medical	Hedge's g_s	-0.20	0.24
		70	Addiction Severity Index (ASI), Employment	Hedge's g_s	-0.11	0.24
		70	Addiction Severity Index (ASI), Alcohol	Hedge's g_s	-0.08	0.24
		70	Addiction Severity Index (ASI), Drug	Hedge's g_s	-0.35	0.24
		70	Addiction Severity Index (ASI), Cocaine	Hedge's g_s	-0.39	0.24
		70	Addiction Severity Index (ASI), Legal	Hedge's g_s	0.22	0.24
		70	Addiction Severity Index (ASI), Gambling	Hedge's g_s	0.60	0.25
		70	Addiction Severity Index (ASI), Family	Hedge's g_s	-0.33	0.24
		70	Addiction Severity Index (ASI), Psychiatric	Hedge's g_s	-0.04	0.24
		50	Patient Health Questionnaire 9 items	Hedge's g_{ave}	0.28	0.04
Priebe et al., 2013	Medication	88	DIALOG (subjective quality of life)	Hedge's g_s	0.34	0.22
Schacht et al., 2017	Attendance	50	Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES) Short	Hedge's g_s	0.23	0.28
		50	The Clinician-Administered PTSD Scale for DSM-IV (CAPS)	Hedge's g_s	0.42	0.29
		50	The Symptom Checklist 90-Revised (SCL-90), Global Severity Index	Hedge's g_s	0.14	0.28
Sinha et al., 2003	Attendance	65	Addiction Severity Index (ASI), Marijuana	Hedge's g_s	-0.18	0.25
		65	Addiction Severity Index (ASI), Legal	Hedge's g_s	0.31	0.25

Stanger et al., 2011	Attendance & Tx Goals	37	Adult Self Report, Maternal Internalizing	Hedge's g_s	0.10	0.35
		37	Adult Self Report, Maternal Externalizing	Hedge's g_s	-0.11	0.35
Worden et al., 2017	Tx Goals	20	Saving Inventory Revised (SI-R)	Hedge's g_s	0.42	0.45
		20	Clinical Global Impression (Hoarding Disorder) Scales (CGI), clinician rated	Hedge's g_s	0.24	0.45

Note. SE = Standard Error; Attendance = Treatment attendance; Medication = Medication adherence; Tx goals = Treatment goal completion

^aEffect size information was provided by authors

^bEffect size was adjusted based on the Intraclass Correlation Coefficient (ICC) reported

Table S5.*Study Characteristics for Substance Use Outcomes Measured with Urine Toxicology Screens (Treatment Attendance Studies Only)*

Study	Sample Size	Drug	Effect size description	Effect size type	Effect Size	Effect Size SE
Carroll et al., 2012	68	Cannabis	Percent positive samples	Hedge's g_s	-0.0154	0.243
	68	Cannabis	Max consecutive negative samples	Hedge's g_s	-0.0319	0.243
	68	Cannabis	Max consecutive days abstinent	Hedge's g_s	-0.012	0.243
McKay et al., 2013 ^a	155	Cocaine	Proportion with a positive sample	Hedge's g_s	-0.186	0.8225
Schacht et al., 2017	38	Multiple	Percent positive samples	Hedge's g_s	0.0684	0.3287
Petry et al., 2018	141	Multiple	Longest period of abstinence	Hedge's g_s	0.3638	0.1714
	141	Multiple	Percent negative for all substances	Hedge's g_s	0.5045	0.1726
Petry et al., 2012	215	Multiple	Longest period of abstinence	Hedge's g_s	0.3511	0.1375
	215	Multiple	Percent negative for all substances	Hedge's g_s	0.2774	0.1371
Metrebian et al., 2021 ^b	347	Heroin	Odds of having a negative sample	Hedge's g_s	0.4312598	0.4219

Note. SE = Standard Error.

^aEffect size was pooled across months 3, 6, 9, and 12

^bEffect size converted from odds ratio that was adjusted for clustering

Table S6.*Results of Moderation Analyses for All Studies Incentivizing Treatment Attendance (k = 30)*

Categorical Moderators		F	p
Incentivizing substance use or other disorder	Substance use = 26; Other disorder = 4	2.37	.129
Meets criteria for psychiatric disorder	Yes = 18; No = 12	3.60	.063
Randomized vs. non-randomized design	Randomized = 14; Non-randomized = 16	0.21	.650
Between vs. within-subjects design	Between = 26; Within = 4	0.01	.909
Type of control group	Active = 23; Not active = 3 (No control group = 4)	0.12	.731
Control group received contingent rewards	Yes = 4; No = 22 (No control group = 4)	1.51	.224
Community study	No = 20; Yes = 10	0.52	.473
Type of incentive	Vouchers = 20; Lottery = 10	0.09	.760
Schedule of reinforcement	Fixed = 13; Escalating = 15 (1-time intervention = 2)	0.00	.953
Coupons vs. gift cards	Coupons = 16; Gift cards = 14	0.00	.958
Immediate vs. delayed reinforcement	Immediate = 9; Delayed = 9 (Missing = 12)	0.04	.843
Overall study quality	Strong = 21; Moderate = 9	0.32	.573
Information received from authors	Yes = 2; No = 28	0.60	.440
Continuous Moderators			
Publication year	Missing = 0	0.23	.635
Mean age	Missing = 4	0.53	.468
Sex (proportion female)	Missing = 1	0.30	.589
Race/Ethnicity (proportion minority)	Missing = 1	0.00	.954
Length of treatment (weeks)	Missing = 1	0.02	.886
Number of incentivized sessions	Missing = 6	0.06	.811
Total value of money or prizes	Missing = 6	0.79	.378
Average value of money or prizes	Missing = 12	0.28	.601

Note. See Table 1 for more detailed descriptions of moderators. Moderators were tested using mixed effect models. Continuous moderators were mean centered prior to analysis. Studies included in parentheses were excluded from analyses.

Table S7.

Quality of Included Studies

Study	Selection Bias	Study Design	Confounders	Blinding	Data Collection	Withdrawals and Dropouts	Global Rating
Acquavita et al., 2013	Green	Green	Green	Yellow	Green	Yellow	Strong
Barton et al., 2020	Red	Yellow	Green	Green	Green	Yellow	Moderate
Carey & Carey, 1990	Green	Yellow	Green	Yellow	Green	Yellow	Strong
Carroll et al., 2012	Red	Green	Green	Green	Green	Yellow	Moderate
Corrigan & Bogner, 2007	Yellow	Green	Green	Green	Green	Yellow	Strong
Corrigan et al., 2005	Yellow	Green	Green	Green	Green	Yellow	Strong
Fishman et al., 2020	Green	Green	Green	Green	Green	Yellow	Strong
Fitzsimons et al., 2015	Green	Yellow	Green	Green	Green	Yellow	Strong
Hartzler et al., 2014	Green	Yellow	Red	Green	Green	Yellow	Moderate
Helmus et al., 2003	Green	Yellow	Green	Green	Green	Yellow	Strong
Jones et al., 2001	Green	Green	Green	Green	Green	Yellow	Strong
Kelly et al., 2014	Green	Yellow	Green	Green	Red	Yellow	Moderate
Kidorf et al., 2009	Yellow	Green	Green	Green	Green	Yellow	Strong
Kidorf et al., 2013	Yellow	Green	Green	Green	Green	Yellow	Strong
Kidorf et al., 2018	Yellow	Green	Green	Green	Green	Yellow	Strong
Kropp et al., 2017	Green	Yellow	Green	Green	Green	Yellow	Strong
Langhorst, 2004	Yellow	Green	Green	Green	Green	Yellow	Strong
Ledgerwood et al., 2008	Yellow	Yellow	Green	Green	Green	Yellow	Strong
Litt et al., 2007	Yellow	Green	Green	Green	Green	Yellow	Strong
Marcus et al., 2020	Yellow	Green	Green	Green	Green	Yellow	Strong
McKay et al., 2013	Yellow	Green	Green	Green	Green	Yellow	Strong
Metrebian et al., 2021	Yellow	Green	Red	Green	Green	Yellow	Moderate
Morgenstern et al., 2006	Green	Green	Green	Green	Green	Yellow	Strong
Noordraven et al., 2017	Yellow	Green	Green	Green	Green	Yellow	Strong
Petry et al., 2006	Yellow	Green	Green	Green	Green	Yellow	Strong
Petry et al., 2012	Yellow	Green	Green	Green	Green	Yellow	Strong
Petry et al., 2018	Yellow	Green	Green	Green	Green	Yellow	Strong
Post et al., 2006	Yellow	Yellow	Green	Green	Red	Yellow	Moderate
Predergast et al., 2015	Yellow	Green	Green	Green	Green	Yellow	Strong

Preston et al., 1999	Yellow	Green	Green	Yellow	Green	Red	Moderate
Priebe et al., 2013	Green	Green	Green	Green	Green	Green	Strong
Schacht et al., 2017	Red	Green	Green	Yellow	Green	Green	Moderate
Sigmon & Stitzer, 2005	Green	Yellow	Green	Green	Green	Yellow	Strong
Sinha et al., 2003	Yellow	Green	Red	Yellow	Green	Green	Moderate
Stanger et al., 2011	Red	Green	Green	Yellow	Green	Green	Moderate
Svikis et al., 1997	Green	Green	Green	Green	Green	Yellow	Strong
Svikis et al., 2007	Green	Green	Green	Yellow	Green	Yellow	Strong
Walker et al., 2010	Green	Yellow	Green	Green	Green	Yellow	Strong
Worden et al., 2017	Yellow	Yellow	Green	Yellow	Green	Yellow	Strong

Note. Green = strong rating; Yellow = moderate rating; Red = weak rating. Two authors rated each study using the Quality Assessment Tool for Quantitative Studies.

Figure S1. Attendance: Primary Outcomes

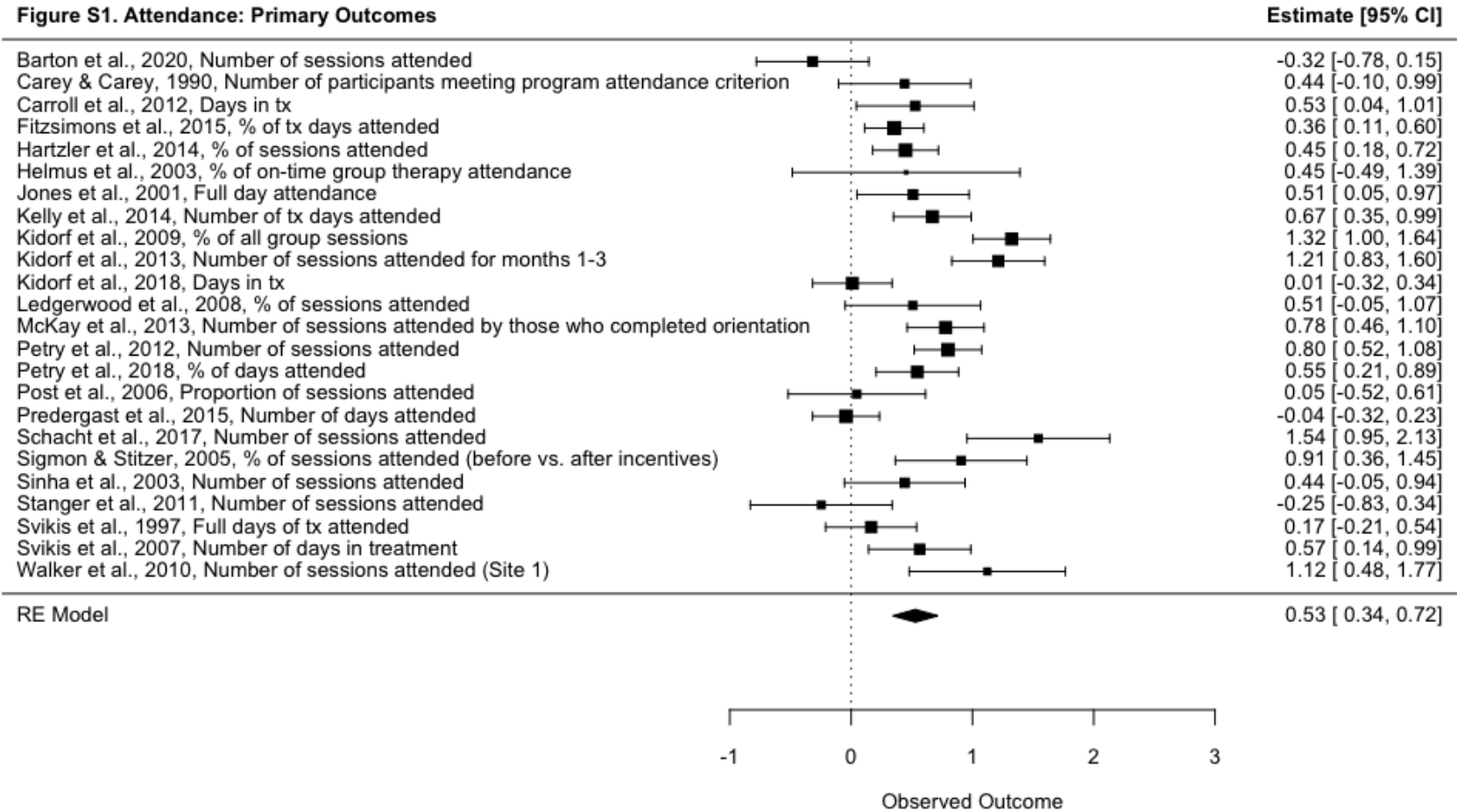


Figure S2. Medication: Primary Outcomes

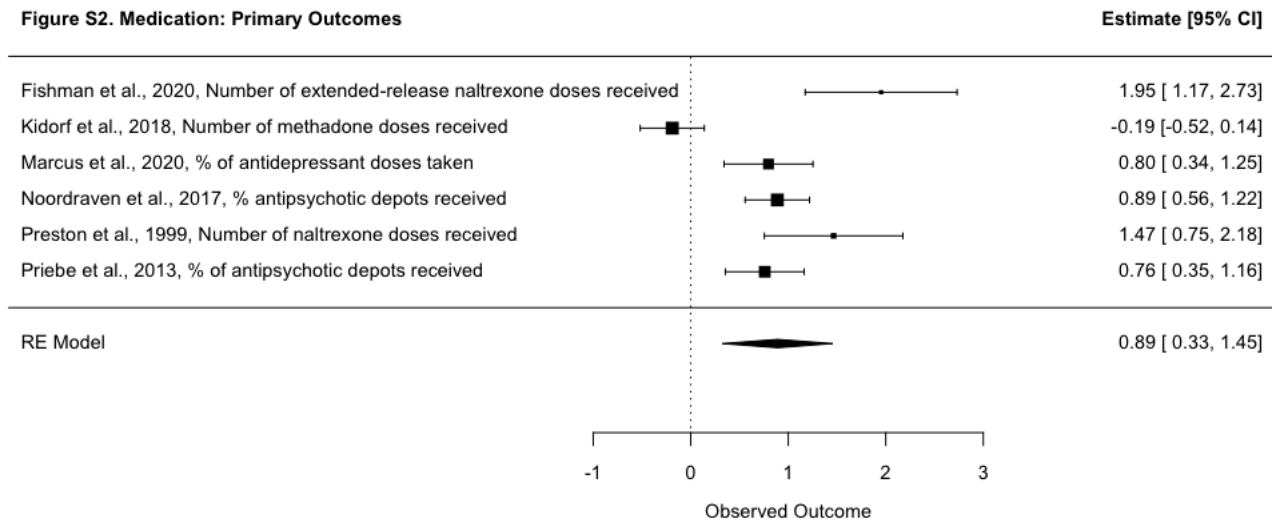


Figure S3.

Funnel plot of Studies Incentivizing Attendance, Primary Outcomes (Model 3)

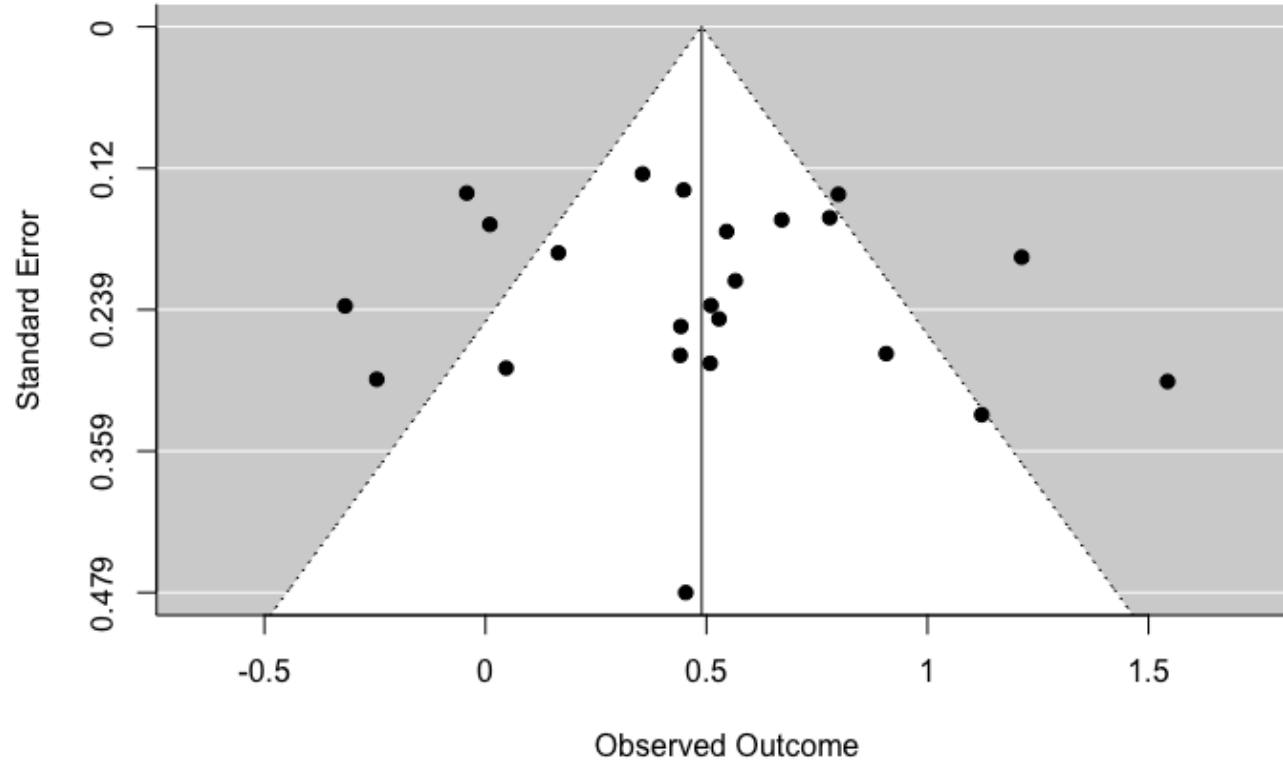


Figure S4. Attendance: Symptom and Functional Outcomes

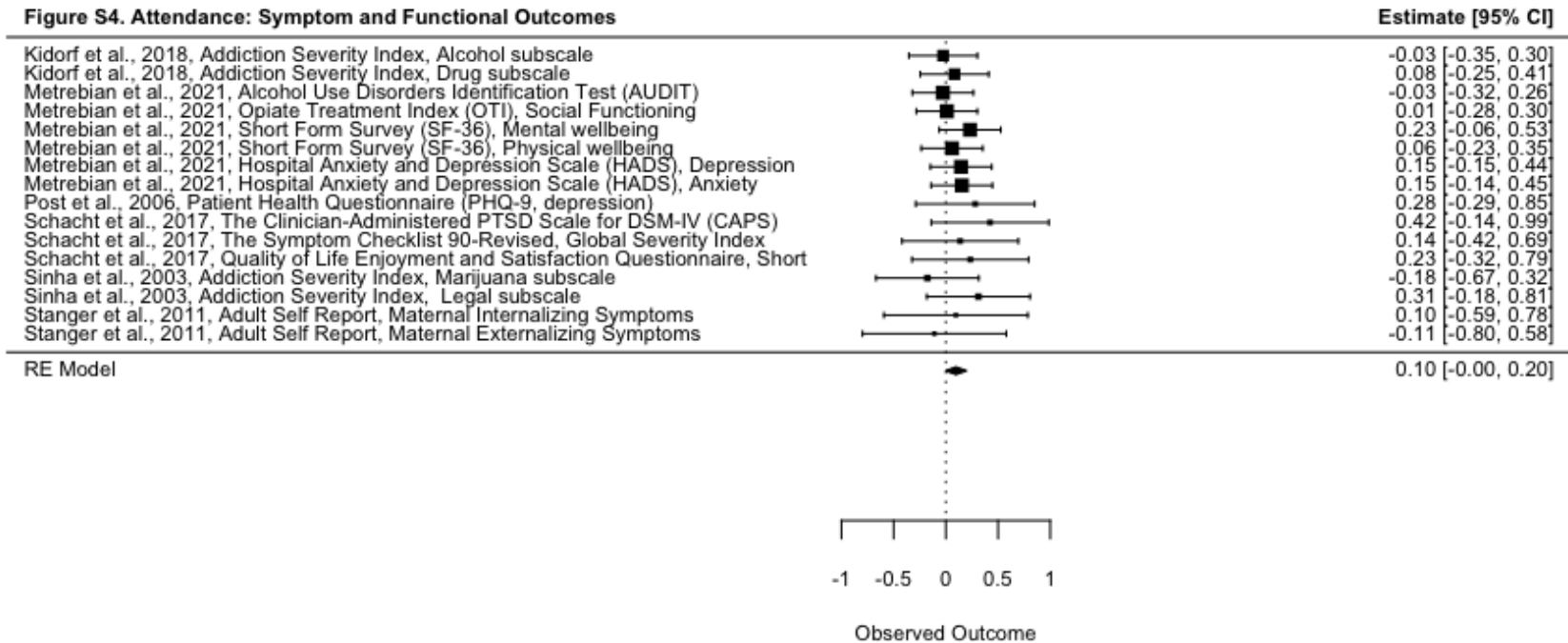


Figure S5. Attendance: Symptom and Functional Outcomes Excluding Substance Use Symptoms

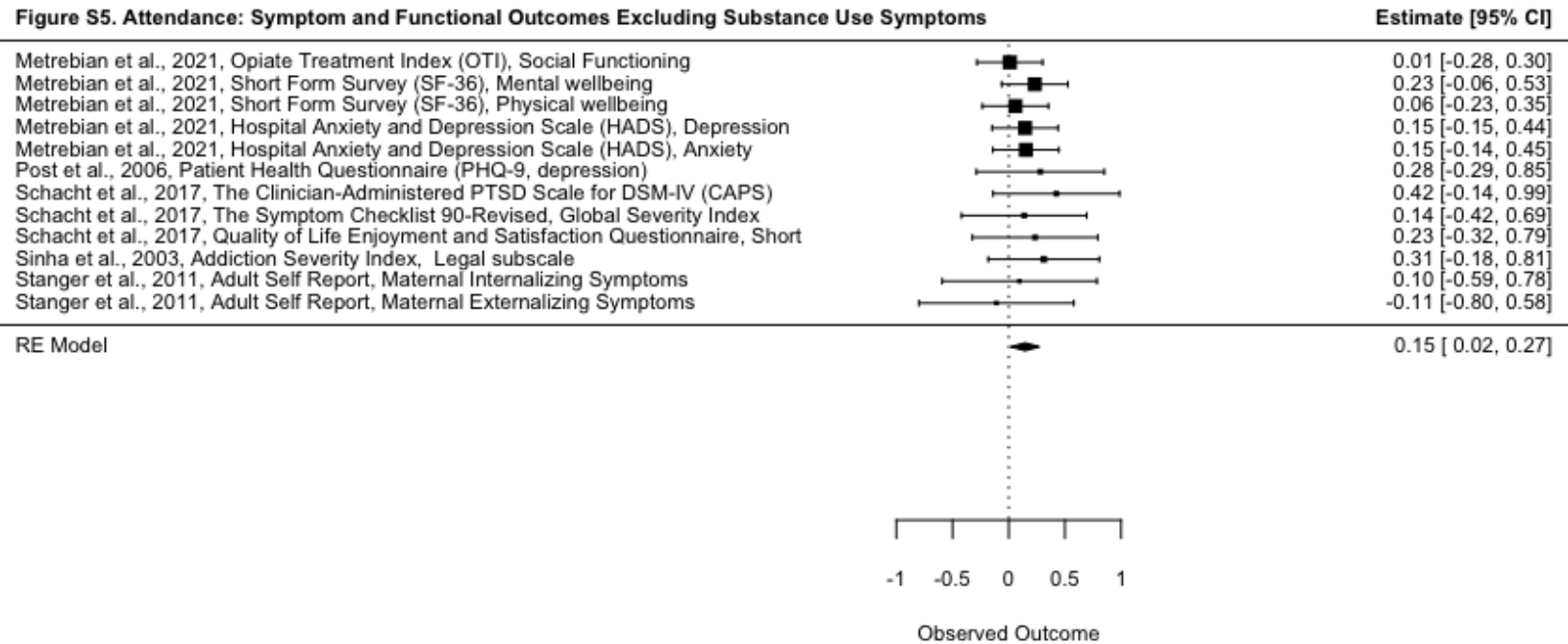


Figure S6. Attendance: Urinary Toxicology Screens

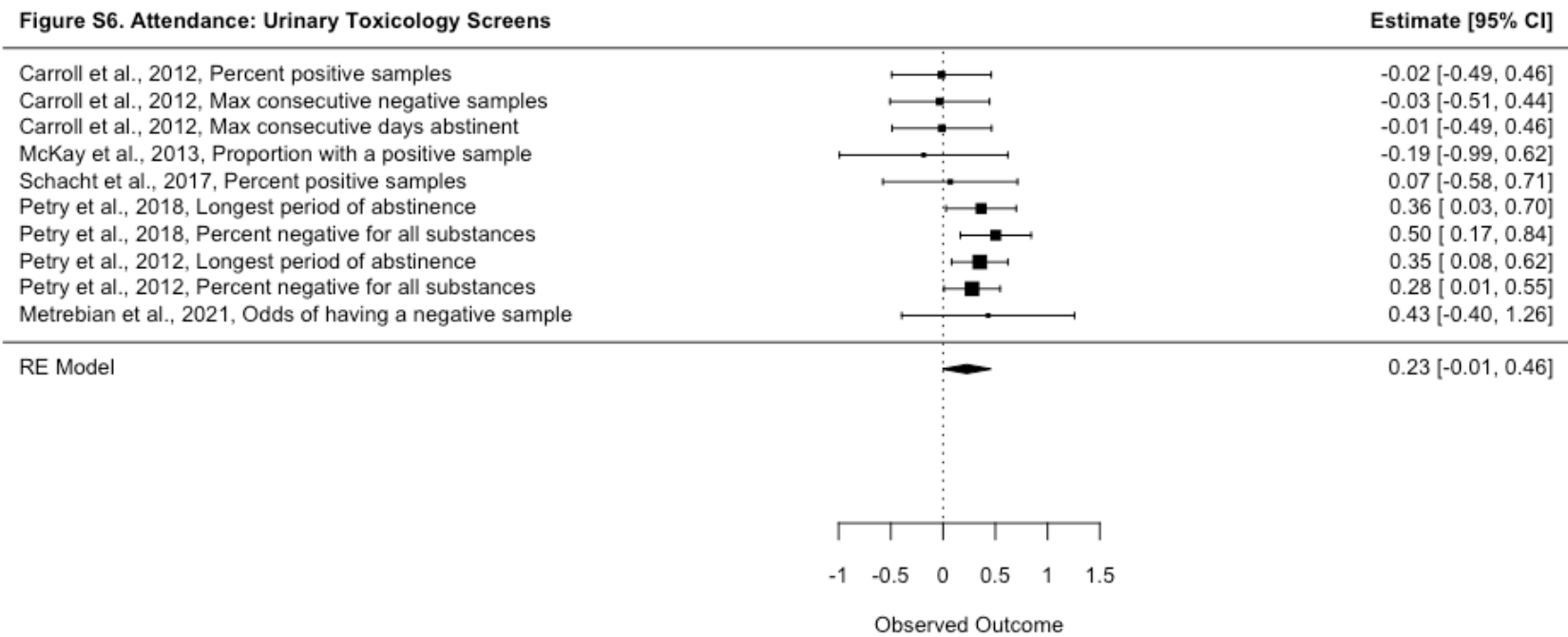


Figure S7. Medication Adherence: Symptom and Functional Outcomes

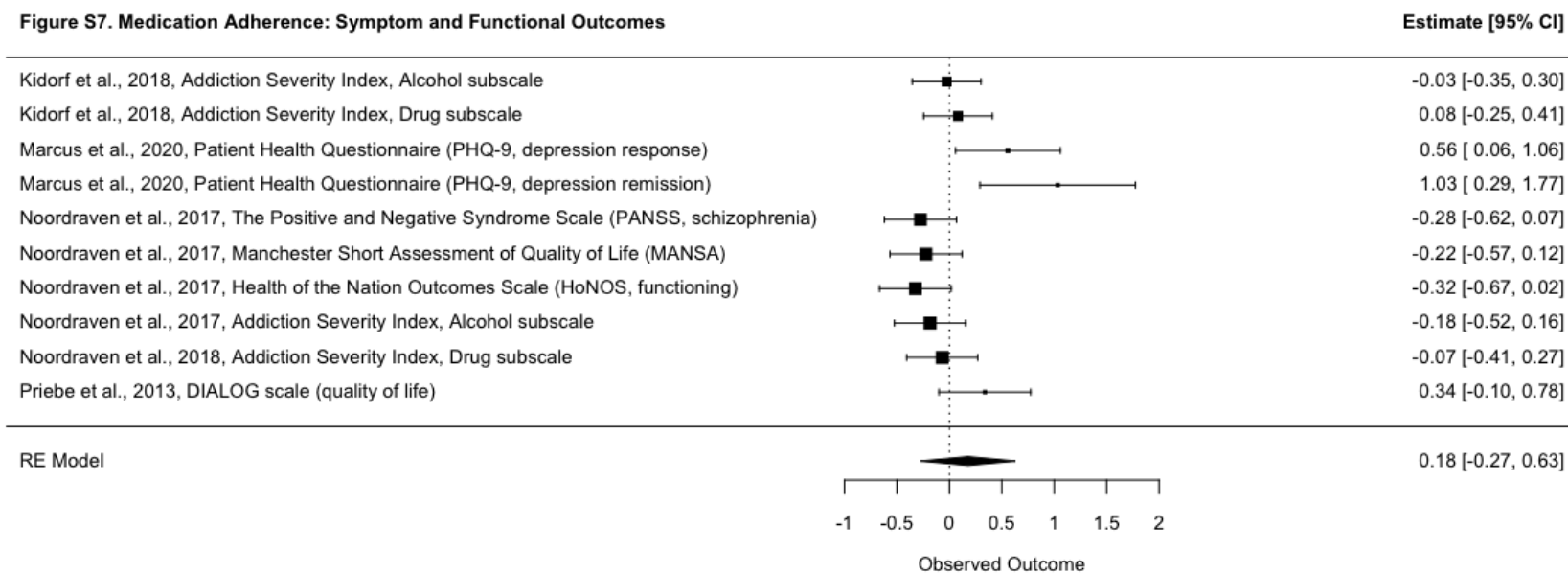


Figure S8. Treatment Goal Completion: Symptom and Functional Outcomes

