

Psychiatric Comorbidity, Continuing Care and Mutual Help as Predictors of Five-Year Remission from Substance Use Disorders*

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ABSTRACT. *Objective:* In a cohort of 2,595 male patients in VA intensive treatment programs for substance use disorders (SUD), we tested whether psychiatric comorbidity, outpatient care and mutual help group attendance during the first two follow-up years predicted remission status at Year 5, controlling for covariates. *Method:* Logistic regression modeling of longitudinal data was used to test the hypotheses. *Results:* Dual diagnosis patients were less likely to be in remission at Year 5 than SUD-only patients. Outpatient care was at best only weakly related to Year 5 remission status. By contrast, mutual help involvement substantially im-

proved the chances of substance use remission at Year 5 for both SUD-only and dual diagnosis patients. Mutual help involvement did not, however, offset the poorer prognosis for dual diagnosis patients. *Conclusions:* Because mutual help groups specifically targeted to individuals with comorbid substance use and psychiatric disorders are currently rare, further research is recommended to investigate whether they are more effective than standard SUD mutual help groups in facilitating the recovery of persons with dual diagnoses. (*J. Stud. Alcohol* 63: 709-715, 2002)

DESPITE THE EFFORTS of treatment providers and patients themselves, only a minority of individuals with substance use disorders (SUDs) are able to achieve lasting remission after intensive treatment (Finney et al., 1999). Given the devastating effects of SUDs on individuals, families and society, it is important to investigate the personal and treatment factors associated with an increased probability of remission. Such information can inform treatment innovations. This task is a challenge because, to date, even the most rigorous efforts to identify particularly effective types of SUD treatment or effective ways to match patients and treatments have been disappointing (Project MATCH Research Group, 1997a,b, 1998; Ritsher et al., 2002).

Three factors have emerged as being somewhat reliable predictors of remission: dual diagnosis status, continuing care and mutual help group involvement—each of which is examined in the present study (Ritsher et al., 2002; Tomasson and Vaglum, 1998, 2000). “Dual diagnosis” (DD) refers here to comorbid SUD and psychiatric diagnoses, including disorders of mood, personality, anxiety or psy-

chosis. “Continuing care” refers to outpatient SUD or psychiatric treatment after discharge from intensive SUD treatment, and “mutual help” refers here to participation in Alcoholics Anonymous or similar mutual aid groups.

The current literature on the effect of comorbid psychiatric disorders on long-term SUD treatment outcome is ambiguous, especially regarding the diagnosis of depression, which is the most common type of mental illness but may be confounded with substance use disorders in many study designs (Brown et al., 1995). An earlier study (Ritsher et al., 2002) of the same cohort examined here showed that patients with psychiatric comorbidities at intake were less likely to be in remission at a 2-year follow-up, although this had not been true at a 1-year follow-up (Ouimette et al., 1999). Dual diagnosis patients thus had more difficulty maintaining their gains from the initial treatment episode and may therefore represent an especially vulnerable subpopulation of SUD patients; and their vulnerability may not be as apparent with most study designs, which are typically not long-term longitudinal naturalistic studies (Tomasson and Vaglum, 1997). The present study also has the advantage of using diagnoses that were rendered by doctoral-level staff at least 4 weeks after detoxification, which is unusual in this body of research (Schuckit and Hesselbrock, 1994). A diagnosis formulated later in SUD treatment is preferable because at intake it is difficult to differentiate the acute effects of intoxication and transitory effects of substance use from more stable, comorbid psychiatric symptoms.

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Another unusual feature of the present study is that data are available for both mutual help and continuing outpatient treatment contemporaneously in the same cohort. The extent to which mutual help and continuing care increase the chances of sustained remission is not well-established (Miller et al., 1999). Some research has found robust relationships of mutual help and continuing care to long-term outcomes, primarily abstinence and remission (Humphreys et al., 1999a; McKay et al., 1994; Moos et al., 2001; Ritsher et al., 2002). The present study adds to this literature by examining an unusually long time frame (5 years).

Our prior work has shown that mutual help during the first follow-up year increases the chances of being in remission at the end of the second follow-up year (Ritsher et al., 2002). Given that 12-step mutual help groups focus more on SUD than on psychiatric issues, and given the increased vulnerability of DD patients, we hypothesize that DD patients need a higher "dose" of mutual help group attendance than do SUD-only patients to achieve the same effect. Because this is a naturalistic cohort study, we were able to explore whether DD and SUD-only patients were equally likely to participate in mutual help and continuing care, and whether any difference in participation might account for differences in outcome between the two groups.

Regarding continuing care, our prior work showed that it was associated with better outcomes (Ouimette et al., 1998; Ritsher et al., 2002). We hypothesize that dual diagnosis patients need more continuing care visits than SUD-only patients to achieve the same likelihood of SUD remission. Our prior research on shorter term outcomes with this and other samples (Moos et al., 2001; Ouimette et al., 1998; Ritsher et al., 2002) consistently suggests that the duration of continuing care (the period over which it is received) is more important than the total number of sessions, so we examine that issue here as well.

Objectives. The present study examines the 5-year remission status of SUD patients with and without psychiatric co-morbidity. First, we test whether SUD remission is more likely in the SUD-only group and compare the background characteristics of the two groups. Next, we test whether mutual help group attendance increases the likelihood of SUD remission for both groups. Similarly, we test the effect of continuing care—both overall and when broken down into SUD clinic visits versus psychiatric clinic visits. We also compare the predictive power of the sheer number of outpatient visits versus their duration. Finally, we examine which of the effects of mutual help and continuing care are independent of one another when they are included in a single predictive model.

Method

Participants

All male patients at 15 VA intensive substance use disorder inpatient treatment programs who were sufficiently

detoxified were invited to participate in an evaluation of treatment effectiveness. Intensive SUD treatment refers here to 21- or 28-day standard inpatient SUD treatment in one of 15 VA programs (described further in Finney et al., 1998; Ouimette et al., 1997). Programs were chosen on the basis of a consistently large patient pool, geographic dispersion across the U.S. and a 12-step cognitive-behavioral or eclectic treatment orientation according to information from central VA records, telephone interviews, program literature and site visits (Moos et al., 1999).

Of the 3,698 patients in the intake sample, 92 died during Year 1 and 3,018 (84% of those remaining) participated in the 1-year follow-up. By the end of Year 2, an additional 110 had died, leaving 3,496 individuals from the original cohort, of whom 2,805 (80%) participated in the 2-year follow-up. Of these, 2,529 had also participated in the 1-year follow-up.

By Year 5, an additional 238 patients had died, leaving 3,258 members of the original cohort. Of these remaining participants, 2,595 (80%) participated in the 5-year follow-up, of whom 2,025 had also provided data at both the 1- and 2-year follow-ups. For this group ($N = 2,595$) at intake, the mean (SD) age was 42.32 (9.08), the mean years of education was 12.74 (1.74), 18.5% were currently married, 44.4% identified themselves as white, and 40.2% had been in inpatient substance use disorder treatment in the past 2 years. At the 5-year follow-up, 2,564 participants provided enough information to classify their remission status, and VA diagnostic and treatment data were available for 2,555 of these patients.

Measures

An Intake Information Form (IIF) and a Follow-up Information Form (FIF) assessed demographics, substance use disorder and related variables, psychiatric symptoms and psychosocial functioning at treatment entry or each of the follow-ups. The IIF and FIF are self-report questionnaires that contained the scales described below and in prior articles (e.g., Ouimette et al., 1999; Ritsher et al., 2002). Diagnostic data and treatment information for the 5-year follow-up were compiled from a national VA database (the VA National Patient Care Database [NPCD]).

Remission. Consistent with previous articles (Ouimette et al., 2000; Ritsher et al., 2002), "remission" reflects abstinence from illicit drug use and either abstinence from, or nonproblem use of, alcohol. Some patients did not have alcohol use disorders and alcohol is a legal substance, so we allowed for a limited amount of alcohol use as long as it was not associated with any substance-use-related problems. In order to be categorized as remitted, a patient must have (1) abstained from all 13 drugs investigated, (2) had no problems related to drug or alcohol use, and (3) con-

sumed 3 ounces or less of alcohol per day on maximum drinking days in the past 3 months. Freedom from problems related to substance use was reflected by a response of "never" to each of 15 problems in the areas of health, work, legal situation and finances.

Patient characteristics at intake. Table 1 shows patient characteristics at intake, broken down by dual diagnosis status. Covariates for the regression models were intake characteristics chosen on the basis of having been used as covariates in prior articles, and on the basis of literature suggesting that they would be predictors of remission in their own right (e.g., Ritsher et al., 2002). They were age, years of education, marital status, motivation as assessed at intake by items from the Determination and Action subscales of the Stages of Change Readiness and Treatment Eagerness Scale (Miller and Tonigan, 1997), and inpatient substance use disorder treatment in the past 2 years (yes/no). Severity of substance use at intake was assessed by (1) the frequency with which alcohol and drugs were used (total days per month for the past 3 months; Hubbard et al., 1989), (2) the number of substances used and (3) problems related to substance use (SU), as reflected by the 15 items regarding health, work, legal and financial problems (Ouimette et al., 1997). Severity of psychiatric symptoms at intake was assessed using 22 items from the depression, anxiety, paranoid ideation and psychotic symptoms subscales of the Brief Symptom Inventory (BSI, possible score 0-88; Derogatis, 1993). In addition, the presence or absence of a formal International Classification of Diseases (ICD-9) psychiatric diagnosis (not a substance use disorder) was determined from the nationwide VA Patient Treatment File. All psychiatric and SUD diagnoses were rendered by doctoral-level VA staff using the ICD-9 classification system as part of their routine clinical duties and thereby recorded in the NPCD system at discharge.

Continuing care. Using the nationwide VA NPCD, we identified all psychiatric or substance use disorder outpatient visits by sample members during each year of the follow-up period. To temper the skewed distribution, we divided the number of visits into quintiles roughly corresponding to quarterly, monthly, biweekly, and weekly treatment (0, 1-4, 5-12, 13-24, or 25+ visits per year). We had the data to calculate the duration of treatment and the total number of sessions for the first two follow-up years, but only the total number of sessions for the last three follow-up years. The overall duration of treatment was indexed by the total number of months (0-12) in which there were at least two outpatient visits within each of the first 2 follow-up years.

Mutual help. A self-report item from the FIF at the 1-year and 2-year follow-ups inquired about the level of attendance at mutual help meetings (0, 1-9, 10-19, 20-29, or 30+ sessions in the past 3 months, creating approximate quintiles).

Analyses

For analyses of continuing care and mutual help, a covariate set was composed of the eight intake variables described earlier. Four of them were associated (at $p < .05$) with both 5-year remission and with either continuing care (frequency or duration) or mutual help group attendance during the second follow-up year. These were age, inpatient treatment in the past year, number of substances used and number of substance use-related problems. Education, marital status, motivation and frequency of substance use were also retained to be consistent with prior articles (e.g., Ritsher et al., 2002). To minimize Type I error, the alpha level for all of the analyses reported below is $p < .01$.

In separate sets of hierarchical regression models, we tested the degree to which each of the main predictor variables (indicators of psychiatric comorbidity, continuing care, or mutual help) predicted Year 5 remission status, with the covariates controlled. Lastly, we included all the predictors in a single model in order to estimate their independent predictive value, after controlling for all other predictors.

Results

Psychiatric comorbidity

Dual diagnosis patients were less likely to be in remission at Year 5 than SUD-only patients (27% vs 32%; $\chi^2 = 7.01$, 1 df, $p < .01$; odds ratio [OR] = .79, $p < .01$). Moreover, patients with more comorbid psychiatric symptoms (total BSI score [range: 0-88, mean = 34.3]) at intake were less likely to be in remission at Year 5 ($t = -3.45$, 2,563 df, $p < .005$). As expected, dual diagnosis patients reported significantly higher levels of psychiatric symptoms at intake than did SUD-only patients (mean [SD] = 39.8 [19.2] vs mean [SD] = 31.3 [18.0], $t = -11.1$, 2,553 df, $p < .001$).

As shown in Table 1, the dual diagnosis patients did not have more serious SUDs at intake than the SUD-only patients. There were no statistically significant differences in the number of substances used, the number of substance-use-related problems or the frequency of substance use. However, dual diagnosis patients were more likely to have received inpatient SUD care within the 2 years prior to the index admission (Table 1).

To assess whether dual diagnosis patients were less motivated than SUD-only patients to participate in SU treatment, we compared the two groups on an indicator compiled from items in the Determination and Action subscales of the Stages of Change measure. Dual diagnosis patients had statistically significant lower motivation scores at intake, but this difference was of a trivial magnitude (28.3 vs 28.8, Table 1) and motivation was not related to remission outcome ($p > .01$).

Next, we examined the differences in the amounts of assistance received by each group during the follow-up

TABLE 1. Key variables by dual diagnosis status

Variable	Dual diagnosis (<i>n</i> = 913) Mean (SD) or %	SUD-only (<i>n</i> = 1,642) Mean (SD) or %	<i>t</i> test or χ^2 <i>p</i> value
Remission status			
Year 5 remission status	26.7	31.7	<.01
Psychiatric symptoms			
BSI total score at intake	39.8 (19.2)	31.3 (18.0)	<.01
Severity of substance use disorder			
No. of substances used	2.3 (1.6)	2.3 (1.5)	.73
No. of SUD-related problems	8.1 (3.9)	7.8 (3.8)	.09
Frequency of substance use	1.6 (1.2)	1.6 (1.1)	.49
Inpatient treatment, past 2 years	46.0	37.3	<.01
Characteristics at intake			
Age	42.9 (8.3)	41.9 (9.5)	.02
Education	12.8 (1.8)	12.7 (1.7)	.06
Married	16.6	18.1	.24
Motivation at intake	28.3 (4.2)	28.8 (3.7)	<.01
Continuing care/mutual help			
Substance use disorder outpt. visits			
No. months w/ SUD visits Y1	2.3 (3.2)	1.9 (2.9)	<.01
No. months w/ SUD visits Y2	1.1 (2.5)	0.9 (2.3)	.10
SUD visits Year 1 (0-4 scale)	1.5 (1.5)	1.4 (1.5)	.03
SUD visits Year 2 (0-4 scale)	0.8 (1.2)	0.7 (1.2)	.04
SUD visits Year 3 (0-4 scale)	0.6 (1.1)	0.6 (1.1)	.71
SUD visits Year 4 (0-4 scale)	0.6 (1.2)	0.6 (1.4)	.13
SUD visits Year 5 (0-4 scale)	0.7 (1.3)	0.6 (1.3)	.45
Psychiatric outpatient visits			
No. months w/ psych. visits Y1	1.7 (2.7)	0.9 (1.9)	<.01
No. months w/ psych. visits Y2	1.2 (2.4)	0.7 (1.8)	<.01
Psych. visits Year 1 (0-4 scale)	1.0 (1.2)	0.5 (0.9)	<.01
Psych. visits Year 2 (0-4 scale)	0.8 (1.1)	0.4 (0.9)	<.01
Psych. visits Year 3 (0-4 scale)	0.8 (1.1)	0.4 (0.9)	<.01
Psych. visits Year 4 (0-4 scale)	0.8 (1.2)	0.4 (0.9)	<.01
Psych. visits Year 5 (0-4 scale)	0.8 (1.2)	0.5 (1.0)	<.01
Mutual help attendance (past 3 mo.)			
12-step meetings Year 1 (scale)	1.3 (1.5)	1.3 (1.5)	.44
12-step meetings Year 2 (scale)	1.1 (1.4)	1.2 (1.5)	.18
12-step meetings Year 5 (scale)	0.9 (1.4)	0.9 (1.4)	.97

period, and whether the amount of assistance influenced the probability of relapse.

Continuing care

VA records showed that the DD patients in our cohort had significantly more mental health outpatient visits than the SUD-only group throughout the 5-year follow-up period, despite the fact that the DD patients were less likely to be in remission at the 5-year follow-up. DD patients also had more months in which they had at least two mental health visits (i.e., duration of continuing care) during the first 2 follow-up years. When these mental health outpatient visits were divided into psychiatric- and SUD-focused, it became clear that this difference was primarily due to the fact that DD patients had significantly more psychiatric visits (Table 1). During the first follow-up year, DD patients also tended to have more months with at least two SUD visits (Table 1). Otherwise, DD patients and SUD-only patients received about the same amount of SUD-focused outpatient care during the 5-year follow-up period (Table 1).

Next, we tested whether continuing care predicted Year 5 remission and whether it did so for each group. For both the DD and SUD-only groups, the number of mental health outpatient visits was *not* associated with Year 5 remission, whether this number included visits during Year 1, 2, 3 or 4 in either bivariate or covariate-controlled analyses (logistic regression models, $p > .01$, details not shown). Contrary to prediction, the results were the same when SUD visits and psychiatric visits were analyzed separately. However, for the SUD-only group, those with longer continuing care durations (number of months in which there were at least two mental health sessions) in Year 1 (but not Year 2) were more likely to be in remission at Year 5 (covariate-adjusted OR [95% CI] per month = 1.05 [1.01-1.09], $p < .005$). When mental health sessions were divided into SUD visits and psychiatric visits, only the duration of SUD visits in Year 1 were significantly related to remission at Year 5 (adjusted OR = 1.06 [1.01-1.11], $p < .005$) for the SUD-only group. For the dual diagnosis group, the duration of continuing care was not associated with SUD remission, whether measured in Year 1 or 2, and whether operationalized as number of visits or duration, or as mental health, SUD or psychiatric visits (in every case, $p > .05$).

Mutual help

Dual diagnosis patients reported attending about the same number of mutual help meetings as did the SUD-only patients (measured at the 1-, 2- and 5-year follow-ups, see Table 1). For both the DD and SUD-only groups, mutual help attendance during Year 1 and Year 2 had a robust relationship with remission at Year 5, both in bivariate and covariate-adjusted models ($p < .001$ for each model). The strength of association was about the same for each group (for example, at the Year 2 follow-up, the covariate-adjusted OR for each level of mutual help attendance = 1.23 [1.07-1.43], $n = 913$ for the DD group; and OR = 1.21 [1.09-1.34], $n = 1,642$ for the SUD-only group).

Omnibus model: Independent effects of psychiatric comorbidity, continuing care and mutual help

When psychiatric comorbidity, mutual help and continuing care were all included in a single covariate-adjusted model, only psychiatric comorbidity and mutual help were significantly related ($p < .01$) to SUD remission status at Year 5 (see Table 2). The duration of SUD outpatient continuing care visits during the first follow-up year was a marginally significant predictor of remission ($p < .05$, but not $p < .01$). Note that psychiatric diagnosis was still a significant predictor in this omnibus model.

Discussion

The most striking differences between the DD and SUD-only groups were that the dual diagnosis patients were in more distress at intake, and that 5 years later, they were less likely to be in remission of their SUD. The differences in SUD remission between the dual diagnosis and SUD-

only patients are probably not attributable to demographic differences, since the two groups did not differ significantly in age, education or marital status (Table 1). Further, patients with a dual diagnosis did not have more serious SUD at intake to the index treatment episode, nor did they score meaningfully lower than patients with SUD-only diagnoses on a measure of motivation. Moreover, the poorer SUD prognosis of the dual diagnosis group is not explained by any of the other factors in the omnibus model. This is consistent with remission findings at the 2-year follow-up (Ritsher et al., 2002).

Dual diagnosis patients had significantly more SUD and psychiatric outpatient visits than did patients with a SUD-only diagnosis throughout the 5-year follow-up period. As expected in accordance with our prior work (Moos et al., 2001; Ouimette et al., 1998; Ritsher et al., 2002), the duration of care in Year 1 was positively related to SUD remission for SUD-only patients, but its effect was weak and partly explained by other predictors when they were all included in the full model. Contrary to expectations, continuing care among dual diagnosis patients was not associated with SUD remission—whether continuing care was measured in Year 1 or Year 2, operationalized as number of visits or duration, or separated into SUD and psychiatric visits. Although dual diagnosis patients did receive more continuing care during the follow-up period, this additional care did not offset their poorer prognosis.

The finding that continuing care in the dual diagnosis group was not related to 5-year SUD remission was unanticipated, especially given that we had nationwide day-by-day VA data for SUD-specific care for the entire follow-up period, and given the relationship that had been found between the duration of continuing care during Year 1 and remission status at the 2-year follow-up (Ritsher et al., 2002). One explanation for this finding at the 5-year follow-up is that our data reflect only whether or not a given patient attended an appointment; they do not reflect what issues were addressed in treatment sessions. It is conceivable, for example, that even outpatient SUD sessions for dual diagnosis patients may have focused primarily on the patient's psychiatric symptoms. The current findings suggest that the relationship between continuing care and SUD remission for dual diagnosis patients may be complex. For example, some patients may be severely and persistently ill and receive a great deal of treatment, whereas others with milder disorders may have positive results with just a few sessions. Because pre-existing coping skills and mutual help attendance may be intertwined, these additional factors should be examined in future studies.

Mutual help group attendance was equally common in the DD and SUD-only groups, and it appeared to help individuals in both groups. Mutual help during Year 1 and Year 2 had a robust relationship with Year 5 SUD remission for both groups. This finding is encouraging because

TABLE 2. Omnibus model logistic regression results: Predicting remission at Year 5

Variable	Full sample ($N = 1,947$)	
	beta	p value
Psychiatric comorbidity		
BSI total score	-.003	
Psychiatric diagnosis (binary)	-.30	<.01
Mutual help		
12-step meetings Year 1	.11	<.01
12-step meetings Year 2	.14	<.01
Continuing care		
No. months w/ SUD visits in Y1	.04	<.05
No. months w/ SUD visits in Y2	-.03	
No. months w/ psych. visits in Y1	.002	
No. months w/ psych. visits in Y2	.02	

Notes: Adjusted for age, education, marital status, motivation, inpatient SUD treatment in the past 2 years, number of substances used, number of SUD-related problems and frequency of substance use. The N is reduced here because of listwise deletion of any case with missing data on any of the 16 variables in this model.

people experiencing more psychiatric disturbance tend to have poorer outcomes. Persuading them to participate in more mutual help opportunities may be one way to offset their poorer prognoses. People who have both SUD and psychiatric problems are especially stigmatized, so the support of their peers may be particularly helpful to them. Further research should investigate whether mutual help specifically targeted to DD patients further improves their chances of long-term remission. Mutual help groups targeting both addiction and mental illness, or focusing on mental illness alone, are much less common than mutual help groups for addiction, but they are increasingly available (Herman et al., 2000).

The current study suggests that mutual help attendance, unlike continuing care, is equally effective for patients, whether or not they have a comorbid psychiatric diagnosis. The current study does not, however, examine the specific mechanisms involved in mutual help groups' success. Previous research suggests the relationship between mutual help and positive SUD outcomes is mediated by such factors as increased active coping, improved social support for abstinence and improved self-efficacy (Finney, 1995; Humphreys et al., 1999b; Mankowski et al., 2001; Morgenstern et al., 1997). Previous studies, however, have not distinguished between patients with and without psychiatric comorbidity. Future studies might compare those factors that have been found to mediate the relationship between mutual help group attendance and positive outcomes in SUD samples with and without a concomitant psychiatric diagnosis. An additional way mutual help may be beneficial that has not been the focus of previous studies is by helping individuals with their SUD disorder in a less stigmatizing manner. This factor could be particularly helpful for dual diagnosis patients because such individuals may feel doubly stigmatized. An interesting question for future research is whether mutual help groups specifically tailored to dually diagnosed individuals (i.e., Dual Recovery Anonymous, Double Trouble) are even more efficacious than general mutual help meetings for this population.

Although the differences are significant, the similarities between the DD and SUD-only groups are striking. Most individuals in both groups were not in remission from their SUD at the 5-year follow-up, and most of them had received very little continuing care. The short- and long-term remission potential of individuals receiving full doses of optimal continuing care has yet to be determined. Our data suggest that investigators addressing this question should focus on the overall duration of outpatient treatment and on the potential effective ingredients of continuing care that may be independent of the total elapsed hours of clinical contact, such as consistency, the therapeutic alliance and continuing hope of success despite setbacks.

Several limitations of this study deserve comment. First, the absence of women from the sample limits the

generalizability of findings; there may be significant gender differences in how mutual help and SUD interact (Moos et al., 1990). Second, because individuals were not randomly assigned to attend mutual help groups, one could argue that the apparently positive relationship between mutual help attendance and positive outcomes are due to self-selection. We attempted to account for this problem statistically by adjusting for pretreatment levels of motivation, drinking severity, marital status, education, problems/consequences of SUD and diagnosed psychopathology. However, the possibility of influence by unmeasured variables still exists. Finally, the levels of substance use and mutual help attendance were determined by self-report and may therefore be fallible, although recent studies have supported the validity of self-reports of substance use (Babor et al., 2000; Del Boca and Noll, 2000; also Ouimette et al., 1997). Similarly, the present study did not have data to analyze medications study participants may have been taking that may have been related to overall outcomes. Moreover, "dual diagnosis" is an all-encompassing term, and more study is needed to determine in which subpopulations the present findings hold or vary.

The current data suggest that mutual help attendance contributes to 5-Year SUD remission for patients with or without psychiatric comorbidity. Outpatient SUD-focused care following intensive treatment also appears to be related to positive long-term SUD outcomes among SUD-only patients, but this relationship may be more complex for dual diagnosis patients. Future studies focusing on the long-term outcomes of patients with dual disorders should move beyond the question of *whether* mutual help attendance is beneficial to the question of *why* it is beneficial. With regard to outpatient continuing care of patients with dual diagnosis disorders, more attention should be focused on what occurs during treatment sessions with these complex patients and on what combinations of SUD and psychiatric treatment are most beneficial in promoting the process of recovery.

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