The Course and Treatment of Substance Use Disorder in Persons With Severe Mental Illness

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There is now a widespread acceptance that persons with severe mental illness are at increased risk to develop substance use disorders (alcohol and drug abuse/dependence). Reviews of the prevalence of substance use disorders in clients with schizophrenia (Mueser et al. 1990), bipolar disorder (Goodwin and Jamison 1990), and the young, chronically mentally ill (Safer 1987) indicate a wide range of prevalence estimates, from as low as 10 percent to over 65 percent. Variability in prevalence rates can be attributed to differences across studies in factors such as the setting in which clients are sampled (e.g., community mental health center, acute inpatient, chronic inpatient), methods for assessing psychiatric and substance use disorders (e.g., structured clinical interview, chart review), and the demographic mix of the study sample (e.g., proportion of males) (Galanter et al. 1988; Mueser et al. 1995).

Despite the variability in prevalence estimates, strong evidence indicates that the rate of comorbid substance use disorders in people with severe mental disorders is substantially greater than in the general population. The most compelling evidence supporting this is provided by the Epidemiological Catchment Area (ECA) study (Regier et al. 1990), which assessed psychiatric and substance use disorders in over 20,000 persons living in the community and in various institutional settings. The results of this study indicated that persons with a psychiatric disorder were at increased risk for developing a substance use disorder over their lifetime. Of particular importance, people with severe mental illness were especially vulnerable to substance use disorders. For example, those with schizophrenia were more than four times more likely to have had a substance use disorder during their lifetime than persons in the general population, and those with bipolar disorder were more than five times as likely to have such a diagnosis.

The high rate of substance use disorders among persons with severe mental illness has important clinical implications, because their substance abuse is associated with an array of negative outcomes. Common negative consequences include increased vulnerability to

relapses and rehospitalizations, greater depression and suicidality, violence, housing instability and homelessness, noncompliance with medications and other treatments, increased vulnerability to human immunodeficiency virus (HIV) infection, increased family burden, and higher service utilization and costs (Bartels et al. 1993; Clark 1994; Bartels et al. 1992; Cournos et al. 1991; Drake et al. 1989; Yesavage and Zarcone 1983). However, evidence also suggests that as dual-diagnosis clients attain stable remission, their vulnerability to these negative outcomes lessens (Bartels et al. 1993; Zisook et al. 1992). Thus, interventions that are successful at reducing substance abuse in clients with severe psychiatric disorders may also confer positive benefits in such areas as symptomatology, community functioning, service utilization, and costs of treatment.

In this chapter the authors begin with a discussion of issues in the assessment of substance use disorders in persons with severe psychiatric disorders. Following this, an overview provides a natural history of substance use disorders in both the general population and among the chronically mentally ill. Next, the failure of the parallel treatment system for dually diagnosed clients is briefly reviewed, followed by a description of more recently developed integrated substance abuse and mental health methods. Preliminary data are then presented from a 3-year study by the New Hampshire-Dartmouth Psychiatric Research Center of integrated treatment for dual-diagnosis clients. The implications of research on integrated treatment approaches for policy decisions are discussed in a concluding section, as are future directions for research in this area.

ASSESSMENT

Several common difficulties arise when assessing substance disorders among persons with severe mental illness (Drake et al. 1993*a*; Drake and Mercer-McFadden 1995; Stone et al. 1993). The most common problem is that mental health clinicians often do not obtain a thorough history of substance use (Ananth et al. 1989). Even when interviewed thoroughly, however, persons with dual disorders are subject to the usual problems of denial, distortion, and minimization that attend self-reports of substance use, especially the use of illicit drugs, in the general population (Aiken 1986; Galletly et al. 1993; Stone et al. 1993). Psychiatric clients are also prone to individual distortions arising from the cognitive, emotional, and other aspects of their mental illness (Mueser et al. 1992).

Another important factor that complicates assessment is the fact that the usual dimensions of substance abuse—pattern, consequences, dependence syndrome, and subjective distress—are qualitatively different in substance abusers who have mental illness compared to those who do not (Drake et al. 1990; Lehman et al. 1994; McHugo et al. 1993). Specifically, compared with non-mentally ill substance abusers, those with dual disorders use lower amounts of alcohol and drugs, experience different consequences, are less likely to develop a dependence syndrome, and have less subjective distress. For example, the typical consequences of substance abuse among people with a mental disorder are difficulties with money management, destabilization of illness, unstable housing, and inability to participate in rehabilitation, but not with the items on the Michigan Alcohol Screening Test (Selzer 1971) or the Alcohol Dependence Scale (Skinner and Horn 1984). Standard instruments, such as the Addiction Severity Index (McLellan et al. 1980), are relatively insensitive to clinically important levels of abuse among persons with psychiatric disorders.

One last but critical problem is that dual-disordered clients are typically in a premotivational state regarding their substance abuse, even if they are well engaged in mental health treatment (Drake et al. 1990). To be useful for treatment planning and monitoring, assessment instruments must be sensitive to stages of motivation and to changes that occur prior to attaining abstinence. The authors and others, thus, recommend the use of multiple tests (Carey, this volume; Drake et al. 1990), multimodal testing (Stone et al. 1993), and an explicit assessment of the stage of treatment (McHugo et al. 1995). Furthermore, there is a need to develop new instruments sensitive to the presence of substance use disorders in the population of persons with severe psychiatric disorders (Drake et al. 1993*a*; Lehman et al. 1993*b*).

NATURAL HISTORY OF SUBSTANCE USE DISORDERS

As a backdrop to understanding the longitudinal course of psychiatric and substance use disorders, it is helpful to review what is known about the course of primary alcohol and drug use disorders. Vaillant's (1983) seminal work on the natural history of alcoholism provides compelling evidence that for most clients the disorder is lifelong and is associated with a substantial risk for early mortality. Despite the overall negative (and often progressively negative) long-term outlook for alcoholics, a cumulative proportion of individuals

achieve abstinence, even in the absence of professional treatment. Vaillant (1983) estimated that approximately 3 percent of alcoholics become abstinent each year without the benefit of formal treatment programs, and between 1 and 2 percent of abstinent alcoholics resume social drinking. Although the efficacy of treatment for alcoholism continues to be debated, Vaillant (1983) estimated that treatment of alcoholics increases their recovery rate to approximately 6 percent yearly.

Fewer data are available on the longitudinal course of primary drug use disorders, although in general the findings are compatible with those reported by Vaillant (1983) for alcoholism (Vaillant 1973, 1988; Simpson et al. 1986). In one of the largest and longest longitudinal studies published to date, Hser and associates (1993) reported 24-year outcomes for 581 narcotics addicts who had been admitted to the California Civil Addict Program between 1962 and 1964. Data on the long-term outcome of these patients' drug use disorders revealed high mortality rates and a rate of spontaneous remission in the absence of treatment that was somewhat lower than that reported by Vaillant (1983) for alcoholics. At the end of the followup period, 28 percent of the sample were dead, and only 19 percent had attained stable abstinence, which was defined as not using drugs for the prior 3 years.

Interpretation of the negative long-term outcome for the Hser and colleagues' (1993) study should to be tempered by recognition that the sample probably represented a more severely ill group of drug abusers than the alcoholics studied by Vaillant (1983). For example, the narcotics addicts studied by Hser and associates (1993) met criteria for a drug use disorder at an early age and were involved the legal system. Despite differences across longitudinal studies in sample characteristics, research on the natural course of primary alcohol and drug use disorders indicates that these disorders are usually chronic over a lifetime. There is considerable variation in clients' substance use behavior over time, but relatively few spontaneously attain stable abstinence, and clients are at increased risk of early mortality. Although the available evidence indicates that substance use disorders are relatively chronic over the lifetime, illicit drug use is not. Recent epidemiological surveys indicate that most people in the United States cease using illicit drugs by the age of 30 and that heavy drinking declines at around the same age range (Chen and Kandel 1995). It appears that substance use disorders tend to be chronic over long periods of time, but that alcohol and drug use behavior in the nonabusing population tends to decline with age over time.

Very little research has examined the natural history of substance use disorders in people with severe mental illnesses. However, the available data suggest that the outcome of dually diagnosed persons who receive services from the traditional parallel treatment system is bleak. Several prospective studies have shown increased rates of hospitalization over 1 year for psychiatric clients with a substance use disorder (Drake et al. 1989; Osher et al. 1994). Furthermore, in one study even minimal levels of drinking, not considered abuse by clinicians, predicted rehospitalizations (Drake et al. 1989). One-year followup studies also show little remission of substance use disorder (Drake et al. 1996). In line with the evidence indicating that substance abuse frequently precipitates disruptive behavior, symptom exacerbations, and rehospitalizations, researchers in the McKinney demonstration project on homeless mentally ill adults concluded that sub-stance use disorders were the single most important factor contributing to housing instability in this population (Center for Mental Health Services 1994).

In perhaps the longest longitudinal study of dually diagnosed persons, Bartels and colleagues (1995) conducted followup assessments 7 years after an initial evaluation on 148 out of 170 (86 percent) severely mentally ill clients. At baseline, 24 percent of the sample had an alcohol use disorder, and at followup 21 percent had such a disorder, a nonsignificant difference. Similarly, the rate of drug use disorder also did not change significantly from baseline (20 percent) to followup (17 percent). Despite these essentially negative findings, some clients were successful in becoming abstinent from substance use. Over the 7 years, 25 percent of the clients with an alcohol use disorder and 35 percent clients with a drug use disorder at initial evaluation achieved abstinence. Furthermore, clients with substance abuse diagnoses were more likely to attain abstinence than those with substance dependence diagnoses.

The lack of change in the overall rate of substance use disorders across the two assessments of the Bartels and colleagues (1995) study reflects the fact that some clients who did not meet criteria for a substance disorder at the baseline assessment met the criteria at followup. Indeed, in two separate samples, Drake and Wallach (1993) found that clients with severe mental illness but who appeared to be moderate, nonabusive drinkers were likely to develop alcoholism over several years. This finding is also consistent with Cuffel and Chase's (1994) analysis of the stability of substance use disorders over 1 year in persons with schizophrenia. Thus, dual-diagnosis clients tended to

recover from substance use disorders at very slow rates, although there is considerable fluctuation in and out of the disorder among those who are moderate users and those with abuse rather than dependence.

In summary, most clients with a primary alcohol or drug use disorder have a chronic course of illness, with the actual substance use behavior varying greatly over time and a small percentage of people attaining stable abstinence each year (i.e., less than 5 percent per year). In addition to the financial and psychosocial consequences associated with substance use disorders, these clients are also at increased risk for early mortality. The small amount of information currently available about the natural history of dually disordered clients suggests a similar picture, complicated by an increased risk for disruptive behavior, hospitalizations, and psycho-social problems.

INTEGRATED TREATMENT

By the late 1980's it had become increasingly clear that the traditional approach of treating dually diagnosed clients through separate mental health and substance abuse service systems was inadequate for persons with severe psychiatric disorders. A wide range of problems occurred with the parallel and sequential approach to treating comorbid psychiatric and substance use disorders (Minkoff and Drake 1991; Polcin 1992; Ridgely et al. 1987, 1990). For example, parallel treatment approaches tended to breed mistrust between those professionals whose primary focus was on mental illness and those working mainly with substance use disorders, with comorbid clients falling between the cracks of the system (Sellman 1989). Furthermore, because professionals were unaware of how to combine psychiatric and substance abuse services effectively, the burden of integrating the disparate messages of the two systems fell entirely on clients, who were ill-equipped to handle such a task. Finally, a wealth of evidence documents that traditional methods for treating primary substance use disorders are ineffective at meeting the needs of clients with heterogeneous psychiatric disorders (Baekeland et al. 1973; LaPorte et al. 1981; McLellan et al. 1983; Rounsaville et al. 1987; Woody et al. 1990). Thus, the poor outcome of these clients appears to stem from barriers within the traditional service system in which mental health and substance abuse services have separate and parallel programs, staff training, models of treatment and recovery, and funding streams (Ridgely et al. 1990).

In light of the poor outcome for dually diagnosed persons treated in parallel or sequential treatment systems, programs serving the severely mentally ill have moved towards integrating substance abuse and mental health treatment into comprehensive programs (Carey 1989; Drake et al. 1993*c*; Nikkel and Coiner 1991; Minkoff 1989; Ziedonis and Fisher 1994). Several different integrated treatment models have been developed (reviewed in Lehman and Dixon 1995; Minkoff and Drake 1991), and, despite differences across programs, all integrated treatment approaches share some common principles.

At the most basic level, integrated treatment means that both mental health and substance abuse treatments are simultaneously (not sequentially) provided by the same person, team, or organization. In addition, most models include case management, group interventions (e.g., persuasion groups, social skills training), assertive outreach to engage people in treatment and to address pressing social or clinical needs, education about substance abuse and mental illness, focus on the motivational aspect of treatment (e.g., persuading clients to address alcohol- or drug abuse-related issues by identifying personal goals that are incompatible with continued substance use), and endorsement of a long-term perspective (rather than time-limited treatment). Furthermore, many, but not all, approaches utilize behavioral strategies for helping clients cope with urges to use substances and resist social overtures to use drugs or alcohol, work closely with patients' families and other members of their social network, and employ "stage-wise" treatment to ensure optimal timing of clinical interventions. For example, the New Hampshire integrated treatment model (Drake et al. 1993*c*) posits that recovery from substance use disorders progresses through four different stages, each with different goals and interventions: engagement (establishing a therapeutic relationship with the patient), persuasion (motivating the patient to address substance abuse), active treatment (working directly to reduce substance use behavior), and relapse prevention (developing strategies to reduce vulnerability to relapses). Table 1 summarizes the common ingredients of many integrated treatment programs and the function of each ingredient.

RESEARCH ON INTEGRATED TREATMENT

Studies of integrated treatment programs have been limited by small sample sizes, brief followup periods, measurement problems (e.g., failure

TABLE 1. *Common ingredients of integrated mental health and substance abuse treatment programs.*

Ingredient	Function
The same professionals provide mental health and substance abuse treatment	Coordinating mental health and substance abuse treatments; avoiding sending "mixed messages" or failing to treat relevant problem areas
Case management	Attending to the range of clinical, housing, social, and other needs that may be affected by either substance abuse or mental health problems
Assertive outreach	Providing services directly in the community to engage patients, address pressing needs, followup and reengage relapsing patients
Group interventions	Providing peer support, persuading patients to address substance use behavior, promoting sharing of coping strategies for managing urges to use substances and for social situations
Education about substance abuse and mental illness	Informing patients about the nature of their psychiatric disorders and the effects of substance abuse to highlight negative effects of drugs and alcohol
Motivational techniques	Engaging patients in working towards substance use reduction and abstinence by identifying personally relevant goals that become a focus of treatment

TABLE 1. *Common ingredients of integrated mental health and substance abuse treatment programs (continued).*

Ingredient	Function
Behavioral strategies	Using techniques such as social skills training, training in coping skills to manage symptoms and high risk situations, and relapse prevention to reduce substance use and vulnerability to relapses
Family/social network factors	Working with members of patient's social networks to reduce factors that may maintain substance use behavior, help patients progress towards personal goals, and bolster resistance to relapses
Stage-wise treatment	Providing specific interventions based on the patient's specific stage of recovery: engagement, persuasion, active treatment, or relapse prevention
Long-term perspective	Recognizing that dual disorders are chronic conditions that require long-term, not time-limited, intervention

to employ standardized instruments to assess diagnosis or substance abuse), and lack of experimental design. While a comprehensive survey of the integrated treatment research is beyond the scope of this chapter (for a review, see Drake et al., in press), a brief synopsis of progress in this area can be provided.

Early uncontrolled studies of integrated treatment showed decreased hospital use and substance abuse among clients who remained in treatment. Hellerstein and Meehan (1987) found that 10 men with

substance use disorders and schizophrenia who participated in a weekly outpatient group had decreased hospital use over 1 year compared to such use before treatment. Kofoed and associates (1986) treated 32 dually diagnosed clients in outpatient groups with a focus on substance abuse. The 21 clients who continued to abuse drugs or alcohol dropped out of treatment, whereas the 11 clients who remained in the program for at least 1 year reduced their substance use and had lower rates of hospital utilization. Ries and Elingson (1989) found that 12 of 17 dual-diagnosed clients who attended integrated treatment groups as inpatients reported they were abstinent 1 month after discharge.

Bond (1989) reported that 56 severely mentally ill persons with co-occurring substance abuse had decreased hospital use during 1 year of intensive case management that addressed both substance abuse and mental health issues. More recently, Durell and colleagues (1993) reported on the outcomes of 84 severely mentally ill clients, of whom 43 (51 percent) were also substance abusers, followed in intensive case management for at least 18 months. For all clients, 76 percent showed increased community tenure and increased use of formal and informal community resources, and two-thirds of the dually diagnosed clients had reduced substance abuse at followup.

A significant step forward occurred with the Community Support Program (CSP) demonstration project. This project involved 13 exploratory studies funded by the National Institute of Mental Health that were conducted between 1987 and 1990. These programs targeted several high-risk groups with dual disorders, including inner-city residents, minorities, women with children, and migrant farmworkers. The studies were limited by the relatively brief followup period (12 to 18 months) and the fact that only two programs had control groups (Bond et al. 1991; Lehman et al. 1993*a*).

The outcomes from the 13 projects were recently reviewed by Mercer-McFadden and Drake (1995). The general findings can be summarized as follows: (1) all programs were successful in engaging clients in outpatient dual-diagnosis services; (2) engagement in outpatient-based services generally led to decreased utilization of inpatient and institutional services; and (3) there was minimal reduction in substance abuse over 1 year, although the interpretation of results was complicated by measurement difficulties (e.g., failure to employ instruments sufficiently sensitive to changes in substance use in the mentally ill population). Despite the limitations of these pilot studies, they provide initial encouragement and support for the notion

that integrated mental health and substance abuse services are required for clients with dual disorders.

Jerrell and Ridgely (1995) have recently reported results similar to those found in the CSP demonstration projects. They followed 147 dually diagnosed clients receiving one of three forms of integrated treatment (case management, cognitive-behavior therapy, or a modified 12-step approach) over a 12- to 18-month period. Interviewer ratings indicated modest improvements in the areas of work, independent living, immediate and extended social relationships, self-reported satisfaction with work and family relationships, and psychiatric symptoms. Other areas of social adjustment did not change (e.g., work or family adjustment), and neither did the overall rate of alcohol symptoms, alcohol use, or drug use. Furthermore, there was no change in number of days hospitalized, although there was a decrease in emergency visits that accompanied an increase in medication and outpatient visits.

The potential benefits of integrated treatment are also supported by a study in Washington, D.C., that was recently completed by the New Hampshire-Dartmouth Psychiatric Research Center (Drake et al. 1993*d*). In this study, 172 homeless persons with major mental illness plus substance disorder were randomly assigned to one of two forms of intensive case management: cognitive-behavioral case management, which focused on training skills that would enable clients to cope with urges to use substances and skills for resisting use in social situations, or social network case management, which focused on working with clients' social networks to enhance their ability to support abstinence as a therapeutic goal for the client. A matched comparison group of 67 homeless dually diagnosed persons received usual community services. Both experimental groups showed positive results in terms of decreased hospitalizations and homelessness, increased stable community housing, and decreased substance abuse over 18 months. Results favored the experimental groups over the matched comparison group, but marked differences did not appear to distinguish the two experimental groups (Drake et al., under review).

A common limitation of much of the research on integrated treatment has been relatively brief followup periods (i.e., 18 months or less). One descriptive study found benefits for integrated treatment when it was provided over a significantly longer time interval (Drake et al. 1993*e*). Eighteen persons with schizophrenia and alcoholism received integrated treatment over 4 years in a program that included case management and dual-diagnosis groups. By the end of the followup

period, 11 clients (61 percent) had achieved stable abstinence (i.e., had not abused for 6 months). These results underscore the importance of providing integrated treatments that extend over relatively long periods of time (e.g., Durrell et al. 1993).

Despite the lack of controlled studies, the weight of the evidence on the effects of integrated treatment from some 30 studies is overwhelmingly positive (Drake et al., in press). However, there is still a need for systematic, longer-term studies to quantify the effects of integrated treatments provided over several years. The preliminary results of one such study conducted by the New Hampshire-Dartmouth Psychiatric Research Center are described below.

THE NEW HAMPSHIRE DUAL DISORDERS STUDY

This study compared the effects of two different case management methods for providing integrated treatment to clients with dual disorders: intensive case management teams based on the Assertive Community Treatment model (Stein and Test 1985) with clinician caseload ratios of 1 to 10 versus regular case management teams with ratios of 1 to 30. Both models included outreach, team orientation, integrated dual-diagnosis treatment, a longitudinal approach, and supportive housing. A total of 240 clients were recruited into the study, with followup data available for 215. At entry to the study all clients met criteria for major mental illness (schizophrenia, schizoaffective disorder, or bipolar disorder) plus recent substance use disorder (within the past 6 months). Clients were randomly assigned to one of the two integrated treatment programs in which they received treatment and were routinely assessed over 3 years. The characteristics of the sample are summarized in table 2.

A comprehensive array of assessments was conducted at regular intervals of clients in both programs, including substance use behavior, symptoms, quality of life, and service utilization. The results of selected outcome measures are presented here. Alcohol and drug use disorders were rated by research staff using clinician rating scales (Drake et al. 1990) in which a 1 corresponds to no substance use, 2 refers to substance use but not abuse, 3 is substance abuse, and 4 and 5 are substance dependence.

TABLE 2. *Demographic and diagnostic characteristics of patients.*

Characteristic	Mean	(SD)
Age	35.6	(8.5)
	Number	(%)
Sex		
Male		(75)
Female		(25)
Race		
White		(95)
Black		(2)
Native American		(2)
Asian		(0.5)
Hispanic		(0.5)
Marital status		
Never married		(63)
Married		(7)
Separated		(4)
Divorced		(25)
Widowed		(1)
Employment status		
Unemployed		(85)
Sheltered employment		(8)
Competitive employment		(7)
Psychiatric diagnosis		
Schizophrenia		(50)
Schizoaffective		(23)
Bipolar		(24)
Delusional disorder		(3)
Current substance use disorder		
Alcohol abuse/dependence		(45)
Drug abuse/dependence		(13)
Alcohol and drug abuse/dependence		(27)
Alcohol or drug abuse/dependence in remission		(15)

Stage of treatment was rated with the Stage of Treatment Scale (McHugo et al. 1995). For this scale, 1 and 2 correspond to the engagement phase, 3 and 4 are the persuasion phase, 5 and 6 are the active treatment phase, and 7 and 8 are the relapse prevention phase. Days of drug use and days of drinking to intoxication in the past 6 months were assessed using the timeline followback method (Sobell et al. 1988).

Global adaptive functioning was assessed with the Global Adjustment Scale (GAS) (Endicott et al. 1976), which ranges between 0 and 100 with higher numbers indicating better functioning. Symptoms were rated using the expanded version of the Brief Psychiatric Rating Scale (Lukoff et al. 1986). For the data presented here, the number of symptoms rated greater than 4 (moderate severity) was summed to form an overall index of symptom severity. Overall life functioning (OLF) was rated on a 5-point scale (1 to 5) developed for the project, and the OLF ratings were based on changes from baseline in living situation (e.g., time in the hospital, jail, homeless), symptom severity, participation in activities in the community (e.g., school or work), and social contacts (e.g., visits or telephone calls with family members or friends). Each client began with a 3 rating at baseline, with lower ratings at subsequent assessments reflecting a worsening in OLF and higher ratings reflecting improvements in OLF. Satisfactory levels of interrater reliability were established for all measures.

Preliminary analyses indicate that both programs were effective in ameliorating or decreasing substance abuse and in improving other outcomes, and the differences between the two programs are currently being examined. The changes in the outcome measures described above and days in the hospital during the 3 years are depicted in figures 1 and 2 for the combined treatment groups, including clients who dropped out of treatment but were followed for 3 years.

Inspection of the figures suggests that the integrated treatments resulted in significant reductions in hospitalization in the first year of the study and that global improvements were evident throughout the 3 years in both substance abuse and other areas of functioning. As evident from the Stage of Treatment Scale, most of the clients moved steadily through motivational stages of treatment. In fact, by the end of the 3-year followup, approximately half of the clients had attained some degree of abstinence, a substantially higher proportion than would be expected from studies of

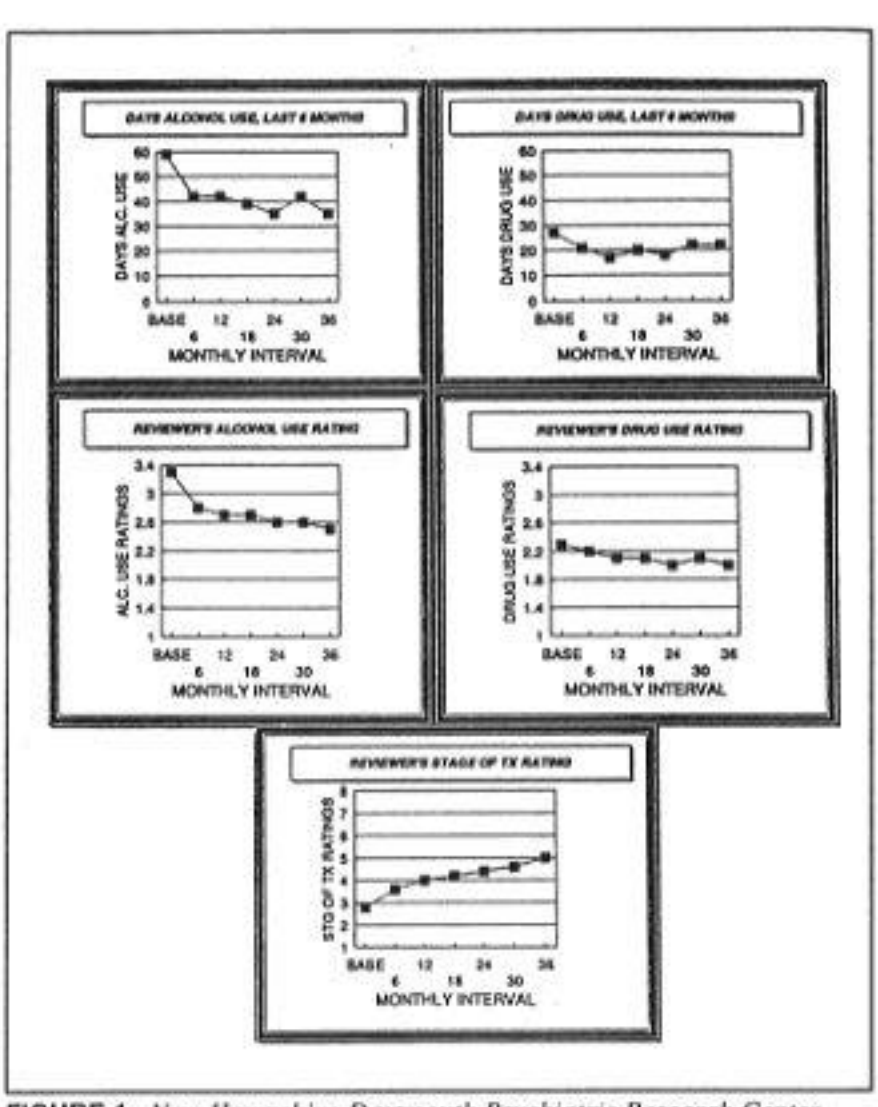

FIGURE 1. *New Hampshire-Dartmouth Psychiatric Research Center dual diagnosis study: Alcohol and drug use (N = 215).*

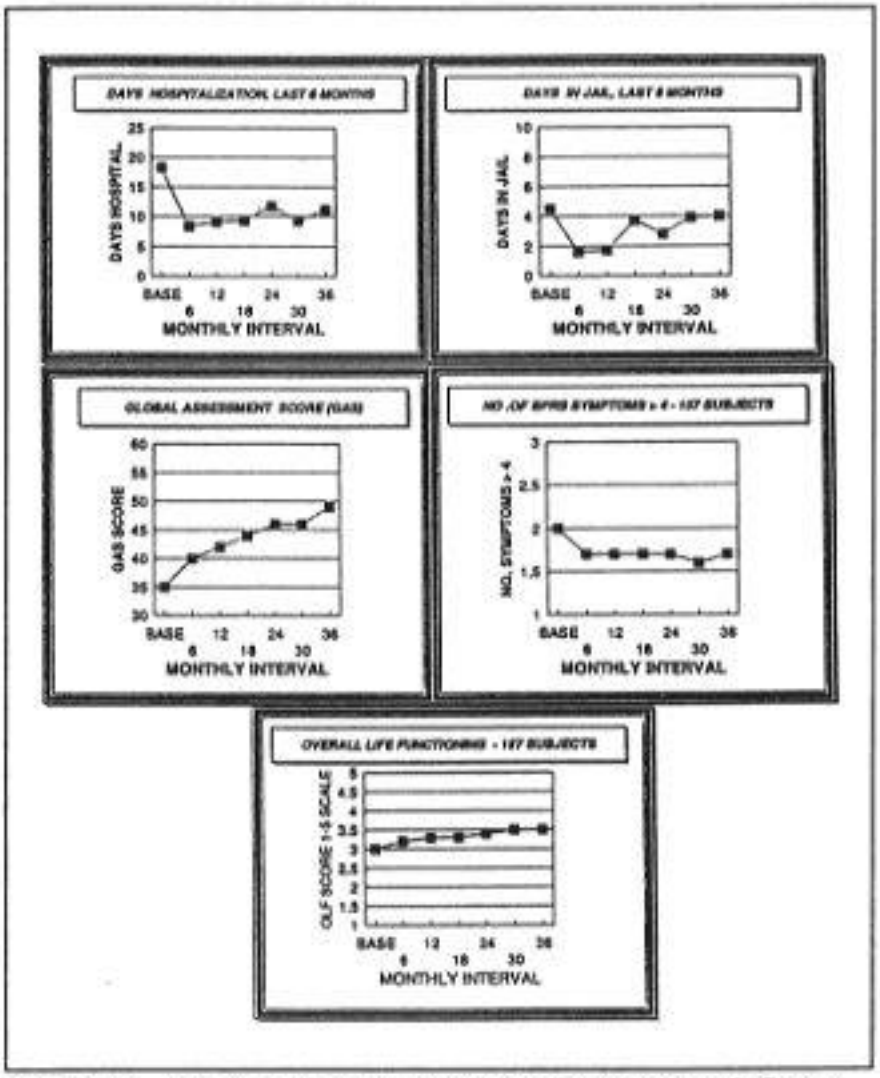

FIGURE 2. *New Hampshire-Dartmouth Psychiatric Research Center dual diagnosis study: Clinical and service utilization measures (N = 215).*

the natural course of dually disordered clients (Bartels et al. 1995). These generally very positive results, while preliminary, provide additional support for the beneficial effects of integrating substance abuse and mental health treatments for the population of severely ill psychiatric clients.

DISCUSSION AND CONCLUSIONS

The profoundly negative impact of substance abuse on the course of severe psychiatric disorders has become a major focus of attention, and a concerted effort over the past decade to improve the outcomes of these clients has already begun to pay off. Longitudinal research on the course of dual disorders in clients who received treatment from the traditional parallel service system indicated a very slow rate of recovery, with usually less than 5 percent becoming abstinent each year. Growing discontentment with the parallel treatment approach rapidly led to the development of a different, broad-based model that seeks to improve outcomes by integrating mental health and substance abuse treatments. Preliminary studies employing a range of different integrated treatment models have yielded promising results that suggest better outcomes than those traditionally produced by the parallel service system.

Despite the hopeful findings of these studies, many questions remain unanswered about integrated treatment. One thorny issue has been the difficulty of comparing parallel and integrated treatment programs. Most of the evidence supporting integrated treatment programs is derived from either noncontrolled studies that followed the progress of a group of clients who received integrated treatment, or controlled studies comparing the efficacy of different models of integrated treatment. Direct comparisons of integrated and parallel treatment approaches have proved impossible to study because of treatment drift; as soon as clinicians providing parallel treatment become aware that mental health and substance abuse inter-ventions can be integrated, they begin to do so, thereby compromising their fidelity to the parallel services model. For this reason, it is not clear whether controlled research will ever be conducted that definitively demonstrates the superiority of integrated treatments over parallel ones, although integrated treatment is rapidly becoming the status quo.

Another question concerns the effects of group interventions for dually diagnosed clients. A number of different group interventions have been described, with foci ranging from persuasion (Noordsy and Fox 1991), problemsolving (Carey et al. 1990), and social skills training (Nikkel 1994) to broad-base supportive/education/skills building (Hellerstein and

Meehan 1987). Although group treatment is a common ingredient in many integrated programs, no consensus exists as to the optimal format, content, or goals of these groups. Research is needed to evaluate the benefits of different approaches to group treatment for dually diagnosed clients and to explore whether certain clients are likely to gain more from a particular group format.

A final question concerns the comparative efficacy of different integrated treatment models. Thus far, the evidence suggests that different approaches to providing integrated treatment for dually diagnosed clients result in similar rates of improvement (Jerrell and Ridgeley 1995; Drake et al., under review). These results, if supported by other ongoing research, could have important policy implications. If different treatment programs result in comparable benefits, then the adoption and dissemination of integrated treatments should perhaps be determined by ease of implementation and cost. Of related importance, the determination of which clients benefit from which programs (or program components) could also have implications for tailoring treatment to best suit the needs of individual clients.

There have been tremendous strides in the past 10 years in the development of effective interventions for persons with dual disorders. The results of research conducted thus far provide grounds for cautious optimism. At the same time, there is still much work to be done to help clients recover from the double handicap of mental illness and substance use disorder. The significant advances made in the past decade by professionals, working in collaboration with clients and their families, auger well for improving the long-term outlook of dually diagnosed persons.

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Click here to go to page 110