

Dual Diagnosis Subtypes in Urban Substance Abuse and Mental Health Clinics

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Objectives: This study sought to determine rates of dual disorders (psychiatric and substance use disorders) in a population of low-income inner-city outpatients, to compare the rates in outpatient mental health and substance abuse treatment settings, and to examine the clinical usefulness of classifying patients with dual disorders into three subtypes. **Methods:** A total of 57 low-income urban residents receiving mental health treatment and 73 receiving substance abuse treatment were given semistructured clinical interviews to ascertain lifetime and concurrent *DSM-III-R* axis I disorders. Patients with dual disorders were classified into subtypes depending on whether their psychiatric or substance use disorder was caused by the comorbid disorder or whether both disorders existed independently. **Results:** Eighty-three patients had a lifetime history of dual disorders: 34 patients (60 percent) in the mental health settings and 49 (67 percent) in substance abuse treatment. Among the 83 with dual disorders, more than half had experienced symptoms of both disorders within the past year. Each of the disorders was considered primary (that is, no indication was found that one was caused by the other) for 24 patients in the mental health settings (71 percent) and 31 in the substance abuse treatment settings (63 percent). **Conclusions:** In each type of treatment setting, nearly two-thirds of the patients met criteria for a lifetime diagnosis of a dual disorder. This high rate of comorbidity did not appear to be attributable to substance use causing psychiatric symptoms, or vice versa. The high rate suggests the need for greater integration of mental health and substance abuse treatment, regardless of setting. (*Psychiatric Services* 48:1058–1063, 1997)

One important finding of national psychiatric epidemiology studies of community samples (1,2) has been the high prevalence rates of lifetime comorbid psychiatric and substance abuse disorders. These rates range from 29 per-

cent to 53 percent depending on the diagnosis. Reports of comorbidity rates in clinical samples are consistently even higher, ranging from 40 to 68 percent (3,4).

Perhaps because of the well-established inverse correlation between

DSM-III-R axis I disorders and socioeconomic status (5), the rates of dual disorders among low-income urban populations have been documented to be as high as 79 percent for patients with psychiatric disorders and 84 percent for those with substance use disorders (6).

Comparisons between persons with single and dual disorders have revealed significant differences in the clinical course of symptoms and prognosis and have consistently indicated poorer outcomes for those with dual disorders (3,7–10). Findings such as these underscore the importance of systematic assessment before assignment to treatment (10) and suggest the need for treatment services to integrate a sophisticated understanding of addictive disorders in relation to psychiatric symptoms (4,11–14).

Although the epidemiology of dual disorders and research findings may indicate the necessity of integrated treatment, in clinical practice these goals may not be as easy to achieve for many reasons, ranging from ideological differences to shrinkages in health care resources. As a first step in examining the clinical practice of dual diagnosis treatment in a large urban psychiatry department, in a previous pilot study we examined differences between the prevalence rates of dual diagnoses as made by clinicians and by researchers (12). Specifically, we compared patients presenting for treatment in substance abuse treatment settings with those in mental

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health treatment settings. A sample of 77 patients (34 in substance abuse treatment settings and 43 in mental health settings) were assessed using the Structured Clinical Interview for DSM-III-R (SCID); diagnoses were made independent of chart review.

Case records were then reviewed to determine whether the diagnosis based on the SCID corresponded to the treating clinician's diagnosis and whether the charts documented cases of dual diagnosis. We found that 56 percent of the patients received a SCID dual diagnosis, whereas only 37 percent were dually diagnosed by clinicians. Compared with patients in the mental health settings, a higher percentage of patients in the substance abuse treatment settings were accurately diagnosed by the clinicians, but this difference was not statistically significant.

We were interested in further investigating the comparatively low rate of diagnosis of dual disorders by clinicians compared with the findings of epidemiologic studies and other research. Because accurate diagnostic assessment of persons with dual disorders is so important to good clinical care (3,7), we were particularly interested in conducting a systematic diagnostic assessment of dual disorders and determining whether prevalence rates varied by type of clinical setting—that is, by substance abuse treatment or mental health setting.

Moreover, techniques for the reliable assessment of comorbidity are now available (15,16). However, elucidating the specific and differential relationships between comorbid mental and substance use disorders continues to challenge clinicians and researchers. In general three main subtypes, which we refer to as types I, II, and III, have been identified in the literature.

Type I refers to individuals with a primary psychiatric disorder and an associated substance use problem, which may or may not meet diagnostic criteria for abuse or dependence. This type has been characterized as a "self-medication model" (17) because the substance use is thought to result from the patient's attempts to treat the symptoms of the psychiatric disorder, and it is believed that the sub-

Table 1

Descriptions and examples of dual diagnosis subtypes (types I, II, and III) from the Dual Diagnosis Subtypes Scale—Lifetime Version

Type I.	<p>Primary psychiatric disorder</p> <p>Psychiatric disorder clearly began before regular substance use disorder, and there is a distinct relationship between the psychiatric disorder and substance use such that the course of active substance abuse or dependence is contingent upon clear fluctuations in the psychiatric disorder (Note: Substance use may have been present before onset of psychiatric disorder but cannot meet criteria for abuse or dependence.)</p> <p>Example: Person binge drinks during clearly delineated episodes of major depression and does not drink when depression remits.</p>
Type II.	<p>Primary substance use disorder</p> <p>Substance use disorder clearly existed before onset of psychiatric disorder, and there is a distinct relationship between the course of substance abuse or dependence and episodes of psychiatric disorder such that psychiatric symptoms are present only during active phases of substance abuse or within three weeks of sobriety.</p> <p>Example: Person meets criteria for major depressive episode while alcohol dependent, but does not have symptoms of major depression during periods of sobriety lasting more than three weeks.</p>
Type III.	<p>Dual primary disorders</p> <p>A. Both psychiatric and substance use disorders are present and never coincide with one another in onset and course.</p> <p>Example: A person with a history of alcohol dependence who has maintained sobriety for ten years develops a delusional disorder, but never returns to drinking.</p> <p>B. Both psychiatric and substance use disorders are chronic and severe, with indistinct onsets and overlapping courses.</p> <p>Example: A person with opiate dependence reports a history of multiple episodes of major depression with suicide attempts, but is unable to specify when the episodes first began in relation to his or her opiate addiction.</p> <p>C. Psychiatric disorder clearly began before substance use disorder, but the two have independent courses such that neither one appears to consistently affect the course of the other.</p> <p>Example: A person diagnosed with schizophrenia at age 17 begins drinking alcohol heavily and persistently during his or her early twenties, regardless of the phase of schizophrenic illness.</p> <p>D. Substance use disorder clearly began before psychiatric disorder, but the two have independent courses such that neither one appears to consistently affect the course of the other.</p> <p>Example: A person with hallucinogen dependence for two years in early adulthood develops symptoms of schizophrenia that are chronic and persistent, even in periods of abstinence from any alcohol or drugs lasting for six months or more.</p>

stance use would not persist in the absence of the psychiatric disorder. For example, an individual with severe depression might begin binge drinking only when experiencing symptoms of major depression to alleviate symptoms such as dysphoria, social withdrawal, or insomnia. With such individuals, treatment of the depression should eliminate the substance abuse.

Type II refers to individuals with a primary substance use disorder whose associated psychiatric symptoms are direct sequelae of an intoxication or withdrawal syndrome. In these cases the psychiatric symptoms are substance induced and should subside with abstinence. For exam-

ple, an individual with severe alcohol dependence might develop depressive symptoms such as dysphoria, insomnia, loss of appetite, loss of energy, and social withdrawal, which are the direct physiologic effects of alcohol use, intoxication, or withdrawal. In these cases the substance abuse always precedes the psychiatric symptoms, and the substance use disorder should be the focus of treatment.

Type III refers to persons with both a primary psychiatric disorder and a primary substance use disorder. In these instances the two disorders occur independently over time and presumably have different etiologies. However, at any given time the existence of one disorder might trigger

Table 2

Semistructured questions added to the Structured Clinical Interview for DSM-III-R, Substance Abuse Comorbidity Version, for assessment of dual diagnosis subtypes

How old were you when you started to experience [list major symptoms of the identified psychiatric disorder]?

How old were you when you started to experience [list symptoms of the substance use disorder]?

Does your [psychiatric disorder] seem to effect your [substance use disorder]? How? Did you start using [substance] because it made you feel less symptomatic? Or, did taking [substance] make you feel worse?

Does your [substance use disorder] seem to effect your [psychiatric disorder]? How?

Have there been times when you have been abstinent or sober for more than a few days? If yes, how long did these abstinent periods last? What happened to your [psychiatric symptoms] during these periods?

Identify any periods of remission of psychiatric disorder (Note: for remission of schizophrenia remission means lifting of all positive and negative symptoms). If yes, how long did these periods of remission last? What happened to [substance use symptoms] during these periods?

the occurrence or exacerbation of an episode of the other disorder.

DSM-IV similarly distinguishes between primary and secondary disorders but does not provide an operational definition of the distinction (18). In this study we distinguished between primary and secondary disorders by collecting historical information using a semistructured interview, based on a formal definition of the subtypes (see Tables 1 and 2).

Despite the ever-increasing interest in dual disorders research and the obvious treatment implications of the three dual diagnosis subtypes (6,17, 19–21), few studies have systematically investigated whether rates of dual disorders and their possible subtypes differ by the type of treatment setting where the patient presents. In this study we asked three questions about the rates of dual disorders in an urban outpatient population of mental health and substance abuse patients: What are the rates of dual disorders among a population of low-in-

come inner-city patients, and do they differ by treatment setting? What is the distribution of the three subtypes of dual disorders, and does the distribution differ by treatment setting? Do other important demographic or clinical characteristics of patients with dual disorders differ by treatment setting?

Methods

Subjects

Subjects were 130 outpatients receiving either substance abuse or mental health treatment at a New York City hospital that serves the Upper West Side of Manhattan. The treatment programs serve a community primarily composed of ethnic and racial minorities. About 80 percent of the patients at each setting are from either African-American or Latino groups. The patients in this study live in an area in which 75 percent of the residents are below the poverty level.

The substance abuse and mental health treatment settings for patient recruitment were selected for comparability in length of treatment and the modalities of treatment available to patients; that is, both kinds of settings offered short- and longer-term outpatient treatment. The mental health treatment settings included a general outpatient psychiatric clinic where patients are evaluated and treated with relatively short-term pharmacologic and psychological therapies. Thirty patients were recruited from this setting. Twenty-seven patients were recruited from a psychiatric day program where longer-term treatment is provided for patients with diagnoses of severe mental disorders (chronic psychotic disorders) that impair functioning. A total of 23 patients were recruited from an outpatient substance abuse treatment clinic, 30 from a longer-term intensive day treatment program for alcohol and drug dependence, and 20 from a methadone program.

Procedures

Subjects were recruited for the study by two general methods. At both the mental health and the substance abuse treatment settings consecutively admitted patients and their primary clinicians were informed of the on-

going evaluation study and asked to participate. Although the study was naturalistic, we took a systematic approach so that we would obtain high rates of participation and guard against selection bias. Therefore, all patients in active treatment were also told that they could participate in a formal diagnostic evaluation study, and efforts were made to recruit all who were potentially eligible.

Although patients received no money for participation, they were given a voucher for five dollars' worth of food. Informed consent was obtained after the procedure was fully explained. Overall, rates of refusal were quite low (5 to 10 percent) regardless of the setting type.

Measures and scoring

Diagnostic assessment. DSM-III-R axis I psychiatric and substance use disorders were assessed using the Structured Clinical Interview for DSM-III-R, Substance Abuse Comorbidity Version (SCID-SAC) (15, 18). The modules of the SCID-SAC used in the study reported here were mood, anxiety, psychotic, alcohol, and psychoactive substance use disorders. SCID-SAC establishes a reliable procedure for detecting the time of onset of substance abuse in relation to other axis I nonpsychotic psychiatric disorders. Our group developed comparable modifications of the SCID-SAC for the assessment of psychotic disorders, including evaluation of specific periods of substance use during both current and first episodes of psychotic symptoms.

The term "dual disorders" was defined as the presence of a lifetime history of an axis I disorder meeting full diagnostic criteria for a mood, anxiety, or psychotic disorder, as well as a lifetime history of a psychoactive substance use disorder meeting diagnostic criteria for abuse or dependence. The only exception to the criteria was in rating a manic mood when the individual was actively using cocaine. Unless evidence was found of a more prominent mania existing before or after active use of cocaine, manic episodes were not coded.

Demographic and clinical correlates. Information was also gathered from patients about basic demographic

characteristics, treatment history for both psychiatric and substance use disorders, history of suicidal and criminal behavior, and family history of psychiatric or substance abuse problems.

Interrater reliability. All interviewers were predoctoral clinical psychology candidates with significant experience in conducting diagnostic clinical interviews. All received training in the administration of the SCID-SAC and attended an ongoing reliability and training seminar in which group ratings were obtained and all discrepancies were discussed. In addition, interviewers received weekly individual supervision.

Classification of dual diagnosis subtypes. The Dual Diagnosis Subtypes Scale—Lifetime Version (DDSS-L) (Hien D, First M, Zimberg S, et al., unpublished manuscript, 1993) was used to determine primary-secondary relationships between diagnoses for patients who had multiple axis I diagnoses. The DDSS-L was used to classify all subjects into one of six categories. Table 1 presents a complete description of the categories, with examples of each category, and Table 2 lists the semistructured questions that were added to the SCID-SAC in order to determine each patient's subtype.

Interrater reliability testing on the DDSS-L was conducted using pairwise ratings based on information documented in the SCID-SAC. The two raters with the most clinical experience with dual diagnosis patients independently reviewed and rated all 130 patients in the sample based on all the information documented in each subject's protocol. Comparison of these ratings revealed moderate to high interrater reliability; the kappa coefficients were .83, .89, and .72 for types I, II, and III, respectively.

Data analyses. Data were analyzed with the SPSS-PC program using standard univariate tests (chi square and t tests) for categorical and continuous data. A significance level of $p < .01$ was chosen to correct for type I error.

Results

Patients' characteristics

Demographic data by setting. Significant differences were found between the mental health and substance

Table 3

DSM-III-R psychiatric, substance use, and dual diagnoses among 130 patients, by the treatment setting where the patient presented

Diagnosis	Type of setting					
	Mental health (N=57)		Substance abuse (N=73)		Total sample (N=130)	
	N	%	N	%	N	%
Lifetime psychiatric diagnosis only	17	30	0	—	17	13
Lifetime substance use only	4	7	24	33	28	22
Lifetime and current (past-year) dual diagnosis	34	60	49	67	83	64
Dual diagnosis in past year	16	47	34	69	50	60
Lifetime dual diagnosis (not in past year)	18	53	15	31	33	40

¹ Two patients in the mental health settings had only a diagnosis of personality disorder and were not included in any diagnostic grouping.

abuse treatment settings in patients' demographic characteristics. In the mental health settings, a greater proportion of patients were female (54 percent, compared with 26 percent; $\chi^2=10.9$, $df=1$, $p < .001$) and of higher socioeconomic status (62 percent, compared with 25 percent; $\chi^2=21.9$, $df=4$, $p < .001$), and a greater percentage were living on their own (87 percent, compared with 50 percent; $\chi^2=5.8$, $df=7$, $p < .001$).

Dual diagnoses by setting. Table 3 presents data about the prevalence of lifetime and current (past-year) dual disorders by treatment setting. In both types of setting, the majority of patients had dual disorders. In the mental health settings, 60 percent of the patients had a dual disorder, and in the substance abuse treatment set-

tings, the rate was 67 percent. This difference was not statistically significant. In each type of treatment setting, nearly two-thirds of the patients met criteria for lifetime dual disorders.

Slightly less than half of the patients in the mental health treatment settings who met lifetime criteria for dual disorders reported symptoms meeting diagnostic criteria for both disorders during the past year. Likewise, in the substance abuse treatment settings, more than two-thirds of those with lifetime dual disorders also reported symptoms of both disorders during the past year.

Substance use by setting. Not surprisingly, compared with patients in mental health programs, a significantly greater proportion of those in sub-

Table 4

Patients with dual disorders in three dual diagnosis subtypes, by treatment setting

Subtype ¹	Mental health (N=34)		Substance abuse (N=49)		Total sample (N=83)	
	N	%	N	%	N	%
Type I ²	7	21	0	—	7	8
Type II ³	3	9	18	37	21	25
Type III	24	71	31	63	55	66
A	4	17	2	7	6	11
B	8	33	8	26	16	29
C ⁴	8	33	6	19	14	26
D ⁵	4	17	15	48	19	35

¹ See Table 1 for a description of the subtypes.

² $\chi^2=19.75$, $df=2$, $p < .001$, for difference between settings

³ $\chi^2=16.43$, $df=2$, $p < .001$, for difference between settings

⁴ $\chi^2=26.61$, $df=5$, $p < .001$, for difference between settings

⁵ $\chi^2=26.61$, $df=5$, $p < .001$, for difference between settings

stance abuse treatment reported a history of alcohol dependence (84 percent, compared with 37 percent; $\chi^2=34.03$, $df=4$, $p<.001$) and opioid dependence (38 percent, compared with 12 percent; $\chi^2=11.60$, $df=3$, $p<.01$).

Psychopathology by setting. Compared with patients in the mental health settings, a greater proportion of those in substance abuse treatment had major depressive disorders (43 percent, compared with 19 percent; $\chi^2=0.5$, $df=1$, $p<.01$). In the mental health settings, a greater proportion met criteria for a psychotic disorder (42 percent, compared with 12 percent; $\chi^2=5.7$, $df=1$, $p<.01$). All patients with schizophrenia ($N=18$) were in the mental health treatment settings ($\chi^2=26.9$, $df=1$, $p<.001$).

Dual diagnosis subtypes

Table 4 presents data on the number of patients in each of the three dual diagnosis subtypes by treatment setting. In both types of setting, the largest percentage of those with dual disorders were in the type III category—those with both a primary psychiatric disorder and a primary substance use disorder. The percentage of patients in this subtype did not differ significantly by setting.

Patients with dual disorders who had only one primary disorder tended to be grouped by treatment setting. As Table 4 shows, patients in the type I category—those with a primary psychiatric disorder—were found only in the mental health settings, whereas a greater proportion of patients in the type II subtype—those with a primary substance use disorder—were in the substance abuse treatment settings.

Discussion and conclusions

First, our findings confirm the high overall frequency of lifetime dual disorders in an urban population of individuals seeking outpatient treatment in either mental health or substance abuse treatment settings. We identified dual disorders in 60 percent of patients being treated for psychiatric disorders and in 67 percent of patients being treated for substance use disorders. These rates are consistent with data reported in other studies of

dual disorders in urban clinical populations (3,4,19,22).

In addition, our assessment provided a basis for classifying dual disorders into primary and secondary subtypes, and this classification revealed two additional findings. First, most of the patients with dual disorders had lifetime dual primary disorders—that is, each disorder occurred independently at some time in the patient's life. Second, and more important for treatment planning, most patients with lifetime dual disorders met criteria for both disorders in the past year. Thus in the substance abuse treatment settings nearly 70 percent of the patients with dual disorders had experienced psychiatric symptoms during the past year and met diagnostic criteria for a *DSM-III-R* axis I non-substance-use diagnosis. Similarly, nearly half of the patients with dual disorders in the mental health settings met criteria in the past year for a substance use disorder.

We were also particularly interested in examining whether a further classification of dual disorder subtypes based on the theorized primary-secondary distinctions might prove clinically useful. The study provided two kinds of results related to subtypes. First, we found evidence of the reliability of the three dual disorder subtypes. Using subtype criteria similar to ours, Nunes and colleagues (15) also found high test-retest reliability for dual disorder subtypes among substance abusers. Our findings also support the idea that by using strict criteria, even among patients with short periods of sobriety (one to four weeks), subtypes can be reliably determined from self-reports of psychiatric and substance use history (3). Such an approach for making primary-secondary distinctions has also been adopted by *DSM-IV* (18), which suggests that four weeks is an adequate period of sobriety for distinguishing between primary and secondary disorders.

Our study has several important limitations. Because there is a strong association between psychopathology and socioeconomic status, both substance abuse and mental health problems in our patient population are likely more severe (and the range of

problems potentially more restricted) than in other populations. Caution should be exercised in generalizing these findings to populations that are not economically and ethnically similar. The same cautions apply to interpretation of our findings about subtypes. In addition, the validity of our subtype classifications must be further assessed.

However, the overall findings of this study have both clinical and research implications. From a treatment perspective, the important finding is that in some large patient groups such as the group in this study, most patients seeking either mental health or substance abuse treatment will have had both a psychiatric and a substance use disorder during their lifetime. Moreover, within this dual disorder group, most patients will have two (or more) primary disorders. One clinical implication is that routine clinical assessments must address both substance use diagnoses and psychiatric diagnoses with equal thoroughness and rigor. The erroneously low prevalence of dual disorders as documented by clinicians in our retrospective pilot study is a case in point (12,23).

Another clinical implication is that treatment strategies for this and similar populations must address both substance abuse and other psychiatric disorders. Nonintegrated therapeutic approaches are not likely to be adequate in the face of two active and different disorders requiring very different treatment models (7–11,22,24,25). Integrated treatment must be made more routinely available. In practice, this goal involves devoting resources to train substance abuse clinicians to recognize psychiatric disorders and to integrate treatment approaches for psychiatric symptoms with those for addictions. Conversely, psychiatric practitioners must learn to recognize addictive disorders and to integrate addictions services into psychiatric treatments.

From a research perspective, failure to include patients with dual disorders in clinical studies, which is often the practice, is unreasonable when the presence of dual disorders is so common. Such a strategy may lead to a patient selection bias that

unwittingly may severely limit the general applicability of treatment outcome data. ♦

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Institute on Psychiatric Services to Be Held in Washington in October

The Institute on Psychiatric Services—the American Psychiatric Association's annual conference on clinical care and service delivery issues—will be held October 24-28 at the Omni Shoreham Hotel in Washington, D.C. Institute registrants will be offered a wide range of program options, including full- and half-day sessions, discussion groups, invited lectures, and exhibits. Two debates—on physician-assisted suicide and on whether ethical psychiatrists can work under managed care—are planned. Twenty-one continuing education courses will be held. The deadline for advance registration at substantial discounts below regular fees is September 12.

A preliminary program was published in the July issue of *Psychiatric Services*. For more information, contact Jill Gruber, Coordinator, Institute on Psychiatric Services, American Psychiatric Association, 1400 K Street, N.W., Washington, D.C. 20005; telephone, 202-682-6314.