

# Prevalence of Psychiatric and Substance Use Disorders Among Single Mothers Nearing Lifetime Welfare Eligibility Limits

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**Context:** In the 1990s, US welfare reform legislation imposed a 5-year lifetime limit on financial support for low-income families with young children (younger than 18 years). With increasing numbers of single mothers and their children reaching the end of their welfare eligibility, there is concern about potentially high rates of untreated psychiatric and substance use disorders in this population.

**Objective:** To determine the prevalence, correlates, and likelihood of treatment for mental and substance use disorders in a population of urban single mothers receiving Temporary Assistance for Needy Families (TANF).

**Design:** In-person diagnostic assessments were conducted from November 1, 2003, to October 31, 2004.

**Setting:** Cook County, Illinois.

**Participants:** Female TANF recipients and residents of Cook County (N=333) who were randomly sampled during the final 24 months of their eligibility for TANF.

**Main Outcome Measure:** Prevalence rates of DSM-IV mental and substance use disorders using the World Health Organization's Composite International Diagnostic Interview.

**Results:** Lifetime prevalence of Composite International Diagnostic Interview disorders was 61.0% (95% confidence interval [CI], 55.7%-66.3%); 12-month prevalence was 46.8% (41.5%-52.2%). Lifetime prevalence of mental disorders was 53.2% (95% CI, 47.8%-58.5%); 12-month prevalence was 44.1% (38.8%-49.5%). Lifetime prevalence of substance use disorders was 29.1% (95% CI, 23.9%-33.8%); 12-month prevalence was 9.0% (6.8%-12.0%). Lifetime prevalence of comorbid mental/substance use disorders was 21.3% (95% CI, 16.9%-25.7%); 12-month prevalence was 6.3% (3.7%-8.9%). Only 21.7% (95% CI, 14.8%-28.5%) of participants with 12-month mental disorders received treatment for mental disorders; 41.4% (22.3%-60.4%) of participants with 12-month substance abuse disorders received treatment for substance use disorders.

**Conclusions:** Despite the high prevalence of psychiatric and substance use disorders in this population, many remain untreated. The consequences of terminating welfare assistance are worthy of further investigation, given the potential for adverse effects on both mothers and their young children.

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**I**N 1996, PASSAGE OF THE PERSONAL RESPONSIBILITY AND WORK OPPORTUNITY RECONCILIATION ACT<sup>1</sup> marked the beginning of a new wave of welfare reform in the United States. Under this act, the Temporary Assistance for Needy Families (TANF) program, formerly known as Aid to Families with Dependent Children (AFDC), was created, significantly altering provisions for cash payments to low-income families. Among other things, the new regulations imposed a federal lifetime limit of up to 5 years on financial support as well as stricter requirements for employment and work-related activities.<sup>2</sup> These changes were intended to enhance self-sufficiency and reduce long-term reliance on public income

support. The Personal Responsibility and Work Opportunity Reconciliation Act was reauthorized under the 2005 Deficit Reduction Act.<sup>3</sup>

One concern about the new legislation arose from findings of prior research on mental health vulnerabilities experienced by female-headed, low-income families.<sup>4</sup> For example, Bassuk and colleagues<sup>5</sup> used the Structured Clinical Interview (SCID) for DSM-III-R<sup>6</sup> to assess 436 single mothers receiving AFDC in Worcester, Massachusetts, in 1992-1995. They found a lifetime prevalence of major depressive disorder (MDD) (43.8%) that was twice that of women in the general population (21.0%), whereas the lifetime prevalence of posttraumatic stress dis-

order (PTSD) (35.3%) was 3 times higher than that of women in the general population (12.0%). In addition, 38.1% had a substance use disorder, significantly higher than the general female population prevalence of 20.3%.

Another study used data from the National Household Survey of Drug Abuse,<sup>7</sup> an annual cross-sectional survey of the civilian, noninstitutionalized population. Among single mothers with children younger than 18 years receiving AFDC in 1994-1995, assessment using the University of Michigan Composite International Diagnostic Interview (CIDI)<sup>8</sup> found a 12% prevalence for MDD, 3% for generalized anxiety disorder (GAD), 5% for agoraphobia, and 5% for panic attacks. Nineteen percent of women met *DSM-III-R* criteria for 1 or more of the 4 disorders assessed, and the prevalence of alcohol dependence was 9%. In a multivariate analysis, the likelihood of MDD was greater among welfare recipients, cigarette users, street drug users, and those with alcohol dependence, among other factors.

These diagnostic studies were followed by similar efforts focused on women receiving TANF under the new welfare-to-work regulations. Many of these studies used symptom measures or screeners, such as the Center for Epidemiologic Studies Depression Scale,<sup>9,10</sup> the Brief Symptom Inventory,<sup>11</sup> or the Kessler 6-item Psychological Distress Scale.<sup>12</sup> However, 4 studies used diagnostic assessment batteries similar to that used in our research. The first of these examined data from the Women's Employment Survey,<sup>13</sup> a probability sample of single mothers receiving TANF during February 1997 in an urban Michigan county. The CIDI Short Form<sup>14</sup> was administered to 503 women during 4 successive interview waves in 1997-2002. Among those completing all 4 waves, prevalence of MDD ranged from 15.5% to 25.1%, prevalence of PTSD was 13.7% to 15.7%, prevalence of GAD was 6.4% to 9.9%, and prevalence of social phobia was 6.8% to 7.6%. Prevalence for 1 or more of these disorders ranged from 28.6% to 34.2%.

A second study used a stratified random sample of 284 women in Utah who had received TANF for at least 36 months in 1997-1998.<sup>15</sup> Using questions from the *DSM-III*<sup>16</sup> to assess "clinical depression" and items from the *DSM-IV*<sup>17</sup> to assess GAD and PTSD, prevalence of clinical depression was 42.3%, prevalence of PTSD was 15.1%, and prevalence of GAD was 6.7%. High rates of drug abuse (19.6%) and alcohol abuse (20.1%) were also reported, along with physical health problems (53.2%) and domestic violence during adulthood (73.6%).

A third study examined 508 young (age range, 18-39 years), unmarried women living with dependent children in rural areas of New Hampshire, Maine, and Vermont.<sup>18</sup> Although only 18% were currently receiving TANF, another 39% reported receiving either TANF or AFDC in the past. Using a shortened version of the CIDI 1.0,<sup>19</sup> this study found a lifetime prevalence of 37% for MDD. In multivariate analysis, lifetime MDD was associated with elevated levels of stress owing to financial constraints, parenting problems, child care concerns, and rural issues.

A fourth study focused on 180 Welfare to Work participants (98% of whom were women) enrolled in a vocational program in Allegheny County, Pennsylvania, in

1999.<sup>20</sup> Using the SCID for *DSM-IV*,<sup>20</sup> the prevalence of MDD was 7.3%, panic disorder was 7.3%, PTSD was 3.9%, dysthymia was 4.5%, and agoraphobia was 3.9%. Fifteen percent were diagnosed as having a substance use disorder, and 38% were diagnosed as having multiple *DSM-IV* disorders.

Although this research is suggestive, no published studies have administered a full diagnostic battery to a randomly sampled population of single mothers with dependent children on TANF. Moreover, with the exception of the landmark work of Bassuk and colleagues<sup>5</sup> and one later study,<sup>20</sup> psychiatric epidemiological research on AFDC and TANF populations has been largely confined to specific *DSM-IV* diagnoses, most often MDD, PTSD, and GAD. The present study addressed 2 major research questions. First, what is the prevalence of a full range of *DSM-IV* disorders in a cohort of single mothers who are nearing the end of their eligibility for TANF cash benefits? Second, what proportion of those diagnosed as having psychiatric or substance use disorders report receiving treatment for those disorders? The following describes the study methods and procedures used to address these questions.

## METHODS

### PARTICIPANTS

The subject pool consisted of all women with young children residing in Cook County, Illinois (81% of the state's TANF population reside in Cook County), who were receiving cash benefits and were classified by the Illinois Department of Human Services (DHS) as "work eligible" in November 2003. This classification meant that they had not been exempted from the state's work requirement because of factors such as pregnancy, having a child younger than 1 year, being disabled or temporarily incapacitated, caring for a relative with an illness or disability, or being a survivor of domestic violence. Exception from the work requirement was also granted for women enrolled in intensive treatment programs for mental illness, substance abuse, or domestic violence that prevented them from working at least 30 hours per week. Other study inclusion criteria were as follows: single mother, 18 to 59 years of age (because those 60 years or older could be receiving Medicare), with 1 or more children younger than 18, having 24 months or less of lifetime TANF eligibility remaining (the lifetime limit in Illinois is 5 years), a US citizen, and English speaking.

### PROCEDURES

A random sample of 1000 women meeting study inclusion criteria was drawn by DHS from its database in November 2003. These women were sent a letter via US mail from the University of Illinois at Chicago inviting them to participate in the study. Nonrespondents with valid addresses were sent a follow-up mailing. Two additional DHS database runs (March and May 2004) were used to update contact information and identify women no longer eligible for study participation. All nonresponding potential subjects received 10 or more telephone calls and as many as 3 home visits before recruitment ceased.

Of the 1000 women originally sampled by DHS, 378 (37.8%) did not meet the study's eligibility criteria for age, residence, single parenthood, living with young children, receiving cash income, speaking English, or having 24 months or less of re-

maining TANF eligibility. Their sample size of 378 was eliminated from the denominator in calculations of response rate. An additional 167 (16.7%) were not located, 113 (11.3%) refused to participate, 9 (0.9%) began but did not complete the interview, and 333 (33.3%) completed interviews including the CIDI assessment. Thus, the sample response rate was 53.5% and the cooperation rate was 73.2% using criteria recommended by the Institute for Social and Economic Research.<sup>21</sup> To assess sample representativeness, we compared the 333 study respondents with the originally sampled pool and found that respondents did not differ statistically from nonrespondents in terms of age, race/ethnicity, language, geographic region, or number of remaining months of TANF eligibility. We also compared all 6 groups of women (ie, total sampled, ineligible, were not located, refused to participate, did not complete the CIDI interview, and study respondents) on these same characteristics and found that they did not differ significantly. Women were interviewed during a 1-year period from November 1, 2003, through October 31, 2004, and all provided written informed consent in accordance with a protocol approved by the University of Illinois at Chicago Office for the Protection of Human Subjects.

### INTERVIEWER TRAINING AND FIELD QUALITY CONTROL

Professional nonclinician interviewers from the University of Illinois at Chicago Center on Mental Health Services Research and Policy completed 3 days of CIDI training provided through the University of Michigan's World Health Organization-designated CIDI training center. In addition, all interviewers successfully completed 2 practice interviews before beginning work on the study. Interviews were administered via laptop computer-assisted personal interviewing software, including skip programming, error screening, and consistency checks. The computer-assisted personal interviewing format allowed for standardization of administration, and direct entry of data minimized interviewer errors. To maintain quality control, a randomly selected 10% of respondents were contacted via telephone by study managers (L.O.M. and J.A.J.) following the interview to verify the interview process and completion.

### MEASURES

#### Diagnostic Assessment

This study used the CIDI 2.1 Auto Version,<sup>22</sup> a comprehensive, fully standardized battery that assessed mental disorders according to the definitions and criteria of the *DSM-IV*. This was the most recent version of the CIDI available at the time the study was conducted, and it displayed good test-retest reliability in prior research.<sup>23</sup> The modular design of the CIDI allowed us to include diagnoses of interest, including anxiety disorders, mood disorders, mania, schizophrenia spectrum disorders, eating disorders, somatoform disorders, and substance use disorders. Use of a full diagnostic battery provided potentially valuable information regarding the actual number of diagnoses and co-occurrence of specific diagnoses that was not obtainable from abbreviated diagnostic batteries used in prior studies.

#### Service Utilization

Participants were asked about mental health, substance abuse, and other social services they had used in the past 6 months. Service utilization data were available for 326 (97.9%) of 333 study respondents. Services discussed included psychiatric outpatient and inpatient treatment, psychotropic medication, al-

**Table 1. Demographic Characteristics of Study Sample<sup>a</sup>**

Characteristic	Study Sample (N=333)
Age, y	
Mean (SD, minimum-maximum, median)	32.3 (7.2, 21-53, 31)
21-26	25.8
27-31	26.2
32-37	24.0
≥38	24.0
Race/ethnicity	
African American	95.8
Hispanic/Latina	2.4
White	1.5
Other	0.3
Remaining TANF eligibility, mo	
Mean (SD, minimum-maximum, median)	15.4 (6.1, 2-24, 16)
1-6	10.7
7-12	21.3
13-18	30.2
19-24	37.8
No. of children	
Mean (SD, minimum-maximum, median)	4.0 (2.0, 1-12, 4)
1	5.4
2	20.1
3	21.0
≥4	53.5
Education completed, y	
Mean (SD, minimum-maximum, median)	11.5 (1.6, 7-18, 11)
<12	57.4
≥12 (GED not included)	42.6
Currently in school	13.8
Never married	87.4
Cohabiting as married	20.1
Currently employed, full- or part-time	39.6
No. of months employed in the past year,	
Mean (SD, minimum-maximum, median)	3.8 (4.5, 0-12, 2)
0	45.1
1-6	27.6
7-12	27.3

Abbreviations: GED, general equivalency diploma; TANF, Temporary Assistance for Needy Families.

<sup>a</sup>Data are given as the percentage of respondents unless otherwise indicated.

cohol treatment, drug treatment, self-help/peer support, and crisis hotlines. Each service was described using a sentence to clarify meaning.

### STATISTICAL ANALYSIS

Frequency distributions and cross-tabulations were used to calculate prevalence, comorbidity, reoccurrence, age at onset, and treatment. Bivariate odds ratios were used to examine sociodemographic correlates of *DSM-IV* diagnostic categories and treatment. Logistic regression analysis<sup>24</sup> was used to examine multivariate associations between prevalence and treatment and women's diagnostic and demographic variables.

## RESULTS

### PREVALENCE OF DISORDERS

Background characteristics of study respondents are shown in **Table 1**. The prevalence of *DSM-IV* disorders was 61.0% (95% confidence interval [CI], 55.7%-

**Table 2. Prevalence of Lifetime and 12-Month DSM-IV Diagnoses in Study Sample<sup>a</sup>**

DSM-IV Diagnostic Category	Lifetime	12-Month
Any DSM-IV diagnosis	61.0 (55.7-66.3)	46.8 (41.5-52.2)
Any mental health disorder	53.2 (47.8-58.5)	44.1 (38.8-49.5)
Mood disorders	28.8 (23.8-33.6)	20.1 (15.9-24.6)
Major depressive disorder	24.9 (20.4-29.8)	17.4 (13.4-21.6)
Bipolar disorder	2.7 (1.0-4.5)	2.7 (1.0-4.5)
Dysthymia	2.4 (0.6-3.7)	0.9 (0.0-1.9)
Anxiety disorders	47.1 (41.7-52.5)	39.0 (33.7-44.2)
Posttraumatic stress disorder	19.5 (15.3-23.9)	9.3 (6.2-12.5)
Obsessive-compulsive disorder	1.8 (0.4-3.3)	1.5 (0.2-2.8)
Generalized anxiety disorder	8.7 (5.7-11.8)	7.5 (4.7-10.4)
Panic disorder	0.6 (0.0-1.4)	0.6 (0.0-1.4)
Social phobia	9.0 (5.9-12.1)	7.8 (4.9-10.8)
Agoraphobia without panic	2.7 (1.0-4.4)	2.1 (0.6-3.6)
Specific phobia (natural environment, situational, animal, or blood)	24.6 (20.0-29.3)	21.9 (17.4-26.4)
Somatoform disorders	1.5 (0.0-2.4)	1.5 (0.0-2.4)
Any substance use disorder	29.1 (23.9-33.8)	9.0 (6.8-12.0)
Drug abuse	10.8 (7.5-14.2)	1.2 (0.0-2.4)
Drug dependence	13.5 (9.9-17.3)	4.2 (2.0-6.4)
Alcohol use	18.6 (14.5-23.0)	5.1 (2.8-7.5)
Alcohol abuse	11.7 (8.3-15.3)	2.4 (0.8-4.4)
Alcohol dependence	6.9 (4.2-9.7)	2.7 (1.0-4.5)
Co-occurring mental health and substance use disorder	21.3 (16.9-25.7)	6.3 (3.7-8.9)
No. of DSM-IV diagnoses, mean (SD, minimum-maximum, median) [95% confidence interval]	1.7 (2.0, 0-11, 1) [1.5-1.9]	1.0 (1.4, 0-10, 0) [0.8-1.1]
No. of DSM-IV mental health diagnoses, mean (SD, minimum-maximum, median) [95% confidence interval]	1.2 (1.4, 0-6, 1) [1.0-1.3]	0.9 (1.2, 0-5, 0) [0.7-1.0]
No. of DSM-IV substance use diagnoses, mean (SD, minimum-maximum, median) [95% confidence interval]	0.5 (1.1, 0-7, 0) [0.4-0.7]	0.1 (0.5, 0-7, 0) [0.1-0.2]

<sup>a</sup>n=333. Data are given as prevalence (95% confidence interval) unless otherwise indicated.

66.3%) for lifetime and 46.8% (41.5%-52.2%) for the 12 months preceding the interview (**Table 2**). Lifetime prevalence of mental disorders was 53.2% (95% CI, 47.8%-58.5%); and 12-month prevalence was 44.1% (38.8%-49.5%). The most common mental health conditions were anxiety disorders (lifetime prevalence, 47.1%; 12-month prevalence, 39.0%), especially PTSD (lifetime, 19.5%; 12-month, 9.3%), and specific phobias (lifetime, 24.6%; 12-month, 21.9%). The latter included natural environment-type phobia (lifetime prevalence, 14.7%; 12-month prevalence, 13.5%), animal-type (lifetime, 9.0%; 12-month, 7.5%), situational-type (lifetime, 9.0%; 12-month, 7.2%), and blood injection injury-type (lifetime, 8.7%; 12-month, 6.6%). Also common were mood disorders (lifetime prevalence, 28.8%; 12-month prevalence, 20.1%), especially major depression (lifetime, 24.9%; 12-month, 17.4%). Lifetime prevalence of substance use disorders was 29.1% (95% CI, 23.9%-33.8%); 12-month prevalence was 9% (6.8%-12.0%). Prevalence was higher for drug dependence (lifetime prevalence, 13.5%; 12-month prevalence, 4.2%) than for alcohol dependence (lifetime, 6.9%; 12-month, 2.7%). Finally, lifetime prevalence for co-occurrence of mental health and substance use disorders was 21.3% (95% CI, 16.9%-25.7%); 12-month prevalence was 6.3% (3.7%-8.9%).

The CIDI is designed to screen for schizophrenia spectrum disorders rather than provide a definitive diagnosis as it does for other mental disorders. Following CIDI protocol, the verbatim comments of the 12 respondents who screened positive were reviewed by a qualified psy-

chiatrist who determined that none of the cases warranted a diagnosis of schizophrenia spectrum disorder.

## RECURRENCE

Most of the 12-month disorders were recurrent rather than onset cases, meaning that the disorder had occurred 1 or more times before its occurrence in the past 12 months.<sup>25</sup> Recurrence was especially high (>75%) for 12-month alcohol abuse (100.0%), social phobia (96.1%), alcohol dependence (88.9%), drug dependence (86.0%), bipolar disorder (88.6%), agoraphobia (86.3%), GAD (84.1%), PTSD (80.9%), and obsessive-compulsive disorder (80.4%).

## AGE AT ONSET

Descriptive statistics (data not shown) regarding distributions of age at onset for each DSM-IV diagnosis were compared. Median age at onset ranged from 12 years for specific phobia to 31 years for somatoform disorder. In addition to specific phobia, median age at onset occurred during the teenage years for social phobia (14 years), alcohol use (16 years), bipolar disorder (18 years), PTSD (18 years), and agoraphobia (18 years). For all other disorders, median age at onset was 20 years or older.

## COMORBIDITY

Comorbidity in this group was high (**Table 3**). Of those with lifetime or 12-month mood disorder, more than three-quarters also met criteria for lifetime or 12-month

**Table 3. Comorbidity Among Lifetime and 12-Month DSM-IV Diagnostic Categories<sup>a</sup>**

Comorbid Disorder	Prevalence (95% Confidence Interval), % <sup>b</sup>					
	Mood Disorders		Anxiety Disorders		Substance Use Disorders	
	Lifetime	12-mo	Lifetime	12-mo	Lifetime	12-mo
Mood disorders						
Lifetime	NA	100 (94.6-100)	51.6 (43.8-59.3)	56.2 (47.6-64.4)	49.5 (39.8-59.3)	56.7 (39.2-72.6)
12-mo	69.8 (60.0-78.1)	NA	38.2 (31.0-46.0)	42.3 (34.2-50.9)	35.0 (26.3-45.0)	50.0 (33.2-66.8)
Anxiety disorders						
Lifetime	84.4 (75.8-90.3)	89.6 (80.0-94.8)	NA	100 (97.1-100)	64.9 (55.0-73.7)	76.7 (59.1-88.2)
12-mo	76.0 (66.6-83.5)	82.1 (71.2-89.4)	82.8 (76.1-87.9)	NA	51.5 (41.7-61.2)	60.0 (42.3-75.4)
Substance use disorders						
Lifetime	50.0 (40.2-59.8)	50.7 (39.1-62.4)	40.1 (32.8-47.9)	38.5 (30.5-47.0)	NA	100 (88.6-100)
12-mo	17.7 (11.4-26.5)	22.4 (14.1-33.7)	14.6 (10.0-21.0)	13.8 (8.9-20.8)	30.9 (22.6-40.7)	NA

Abbreviation: NA, not applicable.

<sup>a</sup>n=333.<sup>b</sup>Two-tailed  $\chi^2$  test;  $P < .01$  for all comparisons.

anxiety disorder, whereas half met criteria for lifetime substance use disorder. Those with lifetime anxiety disorder showed a similar pattern of high rate of co-occurrence (>50%) with lifetime mood disorder as well as lower but still noteworthy co-occurrence (more than a third) with lifetime substance use disorder. Finally, among those with lifetime and 12-month substance use disorder, more than a third had co-occurring lifetime or 12-month mood disorder, and more than half had lifetime or 12-month anxiety disorder.

#### SOCIODEMOGRAPHIC CORRELATES

Bivariate analyses (**Table 4**) showed that lifetime substance use disorder was meaningfully elevated ( $P < .05$ ; odds ratios  $\geq 1.5$ ) among respondents in the 27 to 31, 32 to 37, and 38 years or older age groups compared with those aged 21 to 26 years. Both lifetime substance use disorder and lifetime anxiety disorder were meaningfully elevated among women with 4 or more children. Lifetime anxiety disorder was meaningfully reduced among women with 12 or more years of education. Mood disorder was meaningfully lower among those who were currently cohabiting, and mood and anxiety disorders were elevated among the ever married.

Twelve-month substance use disorder was elevated among women aged 38 and older, while 12-month anxiety disorder was elevated among those in the 27- to 31-year age range.

Both anxiety and mood disorders were lower among those who were currently cohabiting and elevated among the ever married. Mood disorder was meaningfully elevated among those who had been working for 7 to 12 months, compared to those working fewer months or not at all.

In multivariate analyses (**Table 5**), controlling for all other variables, lifetime mood disorder remained meaningfully lower among those who were currently cohabiting and higher among the ever married. Lifetime anxiety disorder was elevated among the ever married and reduced among those with 12 or more years of education. Lifetime substance use disorder was elevated for those in the 27 to 31, 32 to 37, and 38 years or older age groups.

Twelve-month mood and anxiety disorders were elevated among the ever married, whereas anxiety disorders were reduced among those currently cohabiting. Twelve-month substance use disorder was elevated among those 38 years or older.

#### SIX-MONTH TREATMENT

Among women diagnosed by the CIDI with any type of 12-month DSM-IV disorder, only a third (33.6%) reported receiving some form of behavioral health treatment in the 6 months before the interview (**Table 6**). Among women with a 12-month DSM-IV disorder, 20.4% reported receiving mental health treatment, 21.2% reported nontraditional services such as participation in a support group or hotline, and 17.8% reported substance abuse treatment. Among those with a CIDI diagnosis of psychiatric disorder, only 21.7% reported receiving any type of mental health treatment; most commonly this consisted of outpatient treatment/counseling (19.6%) or psychiatric medication (14.8%). Among women with a 12-month substance use diagnosis, a higher proportion (41.4%) reported receiving some type of substance abuse treatment: 34.5% for drug and 27.6% for alcohol use. Nontraditional services were reported for a larger proportion of women with 12-month substance use disorders (34.5%) than 12-month mental disorders (20.4%). Whereas more than half of women with a 12-month substance use disorder (58.6%) received some type of service, this was true for only 32.9% of women with 12-month mental disorders. In fact, with 1 exception, higher proportions of women with substance use disorders received every type of service, including mental health treatment, than did women with mental health disorders. Women with 12-month substance use disorders reported receiving a mean (SD) of 2 different types of services (2.2), whereas those with 12-month mental health disorders reported receiving a mean of 1 service type (1.7).

At the bivariate level (**Table 7**), among those with a 12-month DSM-IV disorder, receipt of any type of treatment was more likely among those who were older (32-37 years and  $\geq 38$  years). Treatment was less likely among those who had been employed for 7 or more months in

**Table 4. Bivariate Sociodemographic Correlates of Lifetime and 12-Month *DSM-IV* Diagnostic Categories**

Sociodemographic Correlates	Odds Ratios (95% Confidence Interval)											
	Lifetime						12-mo					
	Mood Disorder	$\chi^2$ Test	Anxiety Disorder	$\chi^2$ Test	Substance Use Disorder	$\chi^2$ Test	Mood Disorder	$\chi^2$ Test	Anxiety Disorder	$\chi^2$ Test	Substance Use Disorder	$\chi^2$ Test
Age, y												
21-26	1 [Reference]	0.21 <sup>a</sup>	1 [Reference]	2.99 <sup>a</sup>	1 [Reference]	18.16 <sup>a,b</sup>	1 [Reference]	3.14 <sup>a</sup>	1 [Reference]	4.73 <sup>a</sup>	1 [Reference]	5.72 <sup>a</sup>
27-31	1.0 (0.5-1.9)		1.6 (0.9-3.0)		2.7 (1.2-6.0) <sup>c</sup>		1.8 (0.8-4.0)		2.0 (1.1-3.7) <sup>b</sup>		2.1 (0.6-7.2)	
32-37	1.1 (0.6-2.2)		1.4 (0.8-2.7)		3.7 (1.7-8.0) <sup>b</sup>		1.9 (0.9-4.3)		1.6 (0.8-3.1)		1.7 (0.4-6.1)	
≥38	1.1 (0.6-2.2)		1.2 (0.6-2.2)		4.8 (2.2-10.4) <sup>b</sup>		1.5 (0.7-3.5)		1.5 (0.8-2.8)		3.6 (1.1-11.7) <sup>d</sup>	
Median age, y												
<31	1 [Reference]	0.10 <sup>e</sup>	1 [Reference]	0.26 <sup>e</sup>	1 [Reference]	14.48 <sup>b,e</sup>	1 [Reference]	0.67 <sup>e</sup>	1 [Reference]	0.46 <sup>e</sup>	1 [Reference]	2.09 <sup>e</sup>
≥31	1.1 (0.7-1.7)		1.1 (0.7-1.7)		2.6 (1.6-4.2)		1.2 (0.7-2.1)		1.2 (0.7-1.8)		1.8 (0.8-3.8)	
Race/ethnicity												
African American	1 [Reference]	0.34 <sup>e</sup>	1 [Reference]	0.11 <sup>e</sup>	1 [Reference]	0.31 <sup>e</sup>	1 [Reference]	0.02 <sup>e</sup>	1 [Reference]	0.07 <sup>e</sup>	1 [Reference]	1.45 <sup>e</sup>
All other	0.7 (0.2-2.2)		1.2 (0.4-3.5)		0.7 (0.2-2.2)		0.9 (0.2-3.4)		1.2 (0.4-3.5)		...	
Remaining TANF eligibility, mo												
1-6	1 [Reference]	1.35 <sup>a</sup>	1 [Reference]	0.83 <sup>a</sup>	1 [Reference]	2.89 <sup>a</sup>	1 [Reference]	2.40 <sup>a</sup>	1 [Reference]	0.90 <sup>a</sup>	1 [Reference]	2.73 <sup>a</sup>
7-12	0.8 (0.3-2.0)		1.1 (0.5-2.5)		0.8 (0.3-2.2)		1.1 (0.4-3.2)		1.0 (0.4-2.3)		0.5 (0.1-2.5)	
13-18	1.0 (0.4-2.4)		1.4 (0.6-3.0)		1.2 (0.5-3.0)		1.6 (0.6-4.4)		1.1 (0.5-2.4)		1.3 (0.3-5.1)	
19-24	0.8 (0.3-1.7)		1.1 (0.5-2.4)		1.5 (0.6-3.4)		1.0 (0.4-2.8)		0.8 (0.4-1.8)		1.2 (0.3-4.6)	
Remaining time on TANF, mo												
1-12	1 [Reference]	0.00 <sup>e</sup>	1 [Reference]	0.30 <sup>e</sup>	1 [Reference]	2.46 <sup>e</sup>	1 [Reference]	0.40 <sup>e</sup>	1 [Reference]	0.03 <sup>e</sup>	1 [Reference]	2.19 <sup>e</sup>
13-24	1.0 (0.6-1.7)		1.1 (0.7-1.8)		1.5 (0.9-2.6)		1.2 (0.7-2.2)		1.0 (0.6-1.5)		2.0 (0.8-5.0)	
No. of children												
1-3	1 [Reference]	3.47 <sup>e,f</sup>	1 [Reference]	5.60 <sup>d,e</sup>	1 [Reference]	4.90 <sup>d,e</sup>	1 [Reference]	0.76 <sup>e</sup>	1 [Reference]	1.54 <sup>e</sup>	1 [Reference]	0.57 <sup>e</sup>
≥4	1.6 (1.0-2.6)		1.7 (1.1-2.6)		1.7 (1.1-2.8)		1.3 (0.7-2.2)		1.3 (0.8-2.1)		1.3 (0.6-2.9)	
Education completed, y												
<12	1 [Reference]	0.07 <sup>e</sup>	1 [Reference]	7.04 <sup>c,e</sup>	1 [Reference]	1.13 <sup>e</sup>	1 [Reference]	0.16 <sup>e</sup>	1 [Reference]	2.14 <sup>e</sup>	1 [Reference]	0.48 <sup>e</sup>
≥12 (GED not included)	1.1 (0.7-1.7)		0.6 (0.4-0.8)		0.8 (0.5-1.2)		1.1 (0.6-1.9)		0.7 (0.4-1.1)		0.8 (0.3-1.6)	
Current education												
Not in school	1 [Reference]	0.07 <sup>e</sup>	1 [Reference]	0.05 <sup>e</sup>	1 [Reference]	0.83 <sup>e</sup>	1 [Reference]	0.25 <sup>e</sup>	1 [Reference]	0.10 <sup>e</sup>	1 [Reference]	0.01 <sup>e</sup>
In school	1.1 (0.6-2.2)		0.9 (0.5-1.7)		1.4 (0.7-2.6)		0.8 (0.4-1.8)		0.9 (0.5-1.7)		1.0 (0.3-2.9)	
Marital status												
Never married	1 [Reference]	4.61 <sup>d,e</sup>	1 [Reference]	7.35 <sup>c,e</sup>	1 [Reference]	1.01 <sup>e</sup>	1 [Reference]	5.22 <sup>d,e</sup>	1 [Reference]	4.99 <sup>d,e</sup>	1 [Reference]	1.63 <sup>e</sup>
Ever married	2.0 (1.1-4.0)		2.5 (1.3-5.0)		1.4 (0.7-2.8)		2.2 (1.1-4.6) <sup>d</sup>		2.1 (1.1-4.0) <sup>d</sup>		0.5 (0.2-1.2)	
Cohabiting as married												
No	1 [Reference]	6.30 <sup>d,e</sup>	1 [Reference]	2.30 <sup>e</sup>	1 [Reference]	1.12 <sup>e</sup>	1 [Reference]	4.88 <sup>d,e</sup>	1 [Reference]	6.58 <sup>d,e</sup>	1 [Reference]	0.24 <sup>e</sup>
Yes	0.4 (0.2-0.8)		0.6 (0.4-1.1)		0.7 (0.4-1.3)		0.4 (0.2-0.9) <sup>d</sup>		0.5 (0.2-0.8) <sup>c</sup>		0.8 (0.3-2.1)	
Work status												
Not working	1 [Reference]	0.95 <sup>e</sup>	1 [Reference]	0.01 <sup>e</sup>	1 [Reference]	0.36 <sup>e</sup>	1 [Reference]	0.46 <sup>e</sup>	1 [Reference]	0.01 <sup>e</sup>	1 [Reference]	2.32 <sup>e</sup>
Working, full- or part-time	1.3 (0.8-2.1)		1.0 (0.7-1.6)		0.9 (0.5-1.4)		1.2 (0.7-2.1)		1.0 (0.6-1.6)		0.5 (0.2-1.2)	
No. of months employed in the past year												
0	1 [Reference]	1.36 <sup>g</sup>	1 [Reference]	0.06 <sup>g</sup>	1 [Reference]	0.72 <sup>g</sup>	1 [Reference]	7.26 <sup>d,g</sup>	1 [Reference]	0.47 <sup>g</sup>	1 [Reference]	0.90 <sup>g</sup>
1-6	1.2 (0.7-2.1)		1.0 (0.6-1.6)		0.9 (0.5-1.5)		0.8 (0.4-1.7)		1.1 (0.6-1.8)		1.0 (0.4-2.3)	
7-12	1.4 (0.8-2.5)		1.0 (0.6-1.7)		0.8 (0.4-1.4)		2.0 (1.1-3.7) <sup>d</sup>		1.2 (0.7-2.0)		0.6 (0.2-1.7)	

Abbreviations: ellipses, no observed cases, therefore not calculable (cases with missing sociodemographic data are omitted); GED, general equivalency diploma; TANF, Temporary Assistance for Needy Families.

<sup>a</sup> *df*, 3.

<sup>b</sup> Significant at the .001 level; 2-sided test.

<sup>c</sup> Significant at the .01 level; 2-sided test.

<sup>d</sup> Significant at the .05 level; 2-sided test.

<sup>e</sup> *df*, 1.

<sup>f</sup> Significant at the .10 level; 2-sided test.

<sup>g</sup> *df*, 2.

the previous year compared with those employed 6 months or less. These relationships remained significant in multivariate analyses (Table 7). Controlling for all sociodemographic predictors, treatment was more likely among those who were older and those who were employed for fewer months during the past year.

**COMMENT**

In an urban cohort of single mothers with a mean of 15 months of lifetime TANF eligibility remaining, the 12-month prevalence of mental health and substance use disorders was notably higher than that found in the general US population of women. For example, the 12-month prevalence of major depression in our sample

(17.4%) was more than twice as high as that found in the National Comorbidity Study Replication among US women in the general population (8.6%),<sup>26</sup> and the prevalence of anxiety disorders (39.0%) was 60% higher than the US female population prevalence (23.4%). Particularly striking were the estimates for substance use disorders, which were 5 times higher for drug abuse and dependence (5.4% vs 0.7%) and almost 3 times higher for alcohol abuse and dependence (5.1% vs 1.8%).<sup>26</sup> These results confirm what has long been suspected on the basis of earlier research, namely, mothers of young children remaining on TANF near the end of their lifetime eligibility face significant behavioral health challenges within the context of poverty, single parenthood, and low human capital in the way of formal education and job skills.

**Table 5. Multivariate Sociodemographic Correlates of Lifetime and 12-Month *DSM-IV* Diagnostic Categories**

Sociodemographic Correlates	Odds Ratio (95% Confidence Interval)					
	Lifetime			12-mo		
	Mood Disorder	Anxiety Disorder	Substance Use Disorder	Mood Disorder	Anxiety Disorder	Substance Use Disorder
Age, y						
21-26	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
27-31	0.8 (0.4-1.6)	1.4 (0.7-2.7)	3.2 (1.4-7.2) <sup>a</sup>	1.6 (0.6-3.5)	1.8 (0.9-3.5) <sup>b</sup>	2.4 (0.6-8.6)
32-37	0.6 (0.3-1.5)	1.2 (0.6-2.4)	4.6 (1.9-11.2) <sup>a</sup>	1.2 (0.5-3.0)	1.3 (0.6-2.7)	2.0 (0.5-8.4)
≥38	0.7 (0.3-1.5)	0.9 (0.4-1.8)	6.8 (2.8-16.3) <sup>c</sup>	1.0 (0.4-2.5)	1.1 (0.5-2.3)	4.9 (1.3-18.2) <sup>d</sup>
Race/ethnicity						
African American	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
All other	1.4 (0.4-4.4)	0.9 (0.3-2.9)	1.3 (0.4-4.2)	1.2 (0.3-4.9)	1.0 (0.3-3.1)	...
Remaining TANF eligibility, mo						
1-6	1 [Reference]	1 [Reference]	1 [Reference] <sup>b</sup>	1 [Reference]	1 [Reference]	1 [Reference]
7-12	0.9 (0.4-2.3)	1.2 (0.5-2.8)	0.8 (0.3-2.1)	1.1 (0.4-3.4)	1.0 (0.4-2.4)	0.4 (0.1-2.0)
13-18	1.0 (0.4-2.4)	1.3 (0.6-2.9)	1.4 (0.6-3.5)	1.6 (0.6-4.6)	1.0 (0.4-2.3)	1.3 (0.3-5.2)
19-24	0.7 (0.3-1.7)	1.2 (0.5-2.6)	1.9 (0.8-4.7)	1.0 (0.3-2.8)	0.8 (0.4-1.8)	1.4 (0.4-5.3)
No. of children						
1-3	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
≥4	1.8 (1.0-3.1) <sup>b</sup>	1.6 (0.9-2.6) <sup>b</sup>	1.2 (0.7-2.1)	1.2 (0.6-2.2)	1.2 (0.7-2.0)	1.0 (0.4-2.5)
Education completed, y						
<12	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
≥12 (GED not included)	1.2 (0.7-2.0)	0.6 (0.4-0.9) <sup>d</sup>	0.6 (0.4-1.0) <sup>b</sup>	1.2 (0.6-2.1)	0.7 (0.4-1.2)	0.7 (0.3-1.6)
Current education						
Not in school	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
In school	1.0 (0.5-2.2)	0.9 (0.5-1.8)	1.9 (0.9-4.2) <sup>b</sup>	0.8 (0.3-1.8)	0.9 (0.5-1.9)	1.2 (0.4-3.9)
Marital status						
Never married	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
Ever married	2.2 (1.1-4.5) <sup>d</sup>	2.8 (1.4-5.8) <sup>a</sup>	1.0 (0.5-2.2)	2.2 (1.1-4.8) <sup>d</sup>	2.3 (1.1-4.6) <sup>d</sup>	1.4 (0.5-4.0)
Cohabiting as married						
No	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
Yes	0.4 (0.2-0.8) <sup>a</sup>	0.6 (0.3-1.1)	0.8 (0.4-1.6)	0.4 (0.2-1.0) <sup>b</sup>	0.4 (0.2-0.8) <sup>d</sup>	0.8 (0.3-2.4)
No. of months employed in the past year						
0	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
1-6	1.2 (0.6-2.2)	0.9 (0.5-1.6)	0.9 (0.4-1.9)	0.8 (0.4-1.8)	1.2 (0.7-2.1)	1.0 (0.4-2.5)
7-12	1.2 (0.7-2.2)	0.8 (0.5-1.4)	0.6 (0.2-1.4)	1.7 (0.9-3.2)	1.0 (0.6-1.8)	0.6 (0.2-1.5)

Abbreviations: ellipses, no observed cases, therefore not calculable (cases with missing sociodemographic data are omitted); GED, general equivalency diploma; TANF, Temporary Assistance for Needy Families.

<sup>a</sup>Significant at the .01 level; 2-sided test.

<sup>b</sup>Significant at the .10 level; 2-sided test.

<sup>c</sup>Significant at the .001 level; 2-sided test.

<sup>d</sup>Significant at the .05 level; 2-sided test.

Compared with the 2003 national population of TANF recipients,<sup>27</sup> our sample had higher proportions of urban, older, African American, and never-married women, as well as a lower proportion with 12 or more years of education. We chose to focus on women who were approaching their federal lifetime limit because of prior studies showing that those remaining on or returning to the welfare rolls after 2001 are generally considered to be more disadvantaged and therefore harder to serve.<sup>28,29</sup> We found these discrepancies in Illinois as well where, compared with prior studies of the state's total TANF population, our cohort had a higher prevalence of psychiatric disorder. For example, Lewis and colleagues<sup>9</sup> selected a random sample of 1225 Illinois TANF recipients in 1999-2000 and found that 22.6% had clinically significant levels of depressive symptoms assessed using the Center for Epidemiologic Studies-Depression Scale. Similarly, Hauan and Douglas<sup>30</sup> studied a stratified random sample of 416 Illinois single-parent TANF recipients in 2001 and found that 25%

had significant levels of mental health problems, defined as meeting CIDI criteria for major depression and/or exceeding the clinical cutoff on the Kessler 6-item Psychological Distress Scale. In contrast, 44.1% of our cohort had a 12-month mental disorder as assessed by the CIDI.

Also noteworthy was the multivariate finding that women who were currently cohabiting with an intimate partner had a significantly lower prevalence of mood and anxiety disorders than those not cohabiting. Our finding echoes that of a study of rural single mothers, which found that living with a partner was associated with significantly lower depressive symptoms in a multivariate analysis.<sup>18</sup> This may reflect the difficulty that women with mental health problems encounter in establishing and maintaining intimate partner relationships. It could also indicate the protective power of intimate relationships against the life stressors that lead to development of mental health disorders among women who are single parents. Because cohabitation is in direct violation of Illi-

**Table 6. Types of Specialty Treatment in Past 6 Months by 12-Month DSM-IV Diagnostic Category<sup>a</sup>**

Treatment Type	Total Sample (N=333)	12-Month DSM-IV Diagnoses		
		Any Diagnosis (n=156)	Mental Health Diagnosis (n=147)	Substance Use or Dependence Diagnosis (n=30)
Mental health	11.7	20.4 <sup>b</sup>	21.7 <sup>b</sup>	34.5 <sup>c</sup>
Psychiatric inpatient hospitalization/counseling	1.5	3.3 <sup>d</sup>	3.5 <sup>d</sup>	6.9
Psychiatric or mental health outpatient/counseling	10.4	18.4 <sup>b</sup>	19.6 <sup>b</sup>	34.5 <sup>b</sup>
Prescribed psychiatric medications	7.1	13.9 <sup>b</sup>	14.8 <sup>b</sup>	31.0 <sup>b</sup>
Substance abuse	10.1	17.8 <sup>b</sup>	16.1 <sup>c</sup>	41.4 <sup>b</sup>
Alcohol rehabilitation	5.8	10.5 <sup>c</sup>	10.5 <sup>c</sup>	27.6 <sup>b</sup>
Drug rehabilitation	8.6	15.8 <sup>b</sup>	14.0 <sup>c</sup>	34.5 <sup>b</sup>
Nontraditional	13.9	21.2 <sup>c</sup>	20.4 <sup>c</sup>	34.5 <sup>c</sup>
Peer support group	12.7	19.2 <sup>c</sup>	18.3 <sup>d</sup>	34.5 <sup>c</sup>
Crisis hotline	1.9	3.3	3.5	3.4
Any type of service	21.8	33.6 <sup>b</sup>	32.9 <sup>b</sup>	58.6 <sup>b</sup>
No. of services, mean (SD, minimum-maximum) <sup>e</sup>	0.6 (1.3, 0-7)	1.0 <sup>b</sup> (1.7, 0-7)	1.0 <sup>b</sup> (1.7, 0-7)	2.0 <sup>b</sup> (2.2, 0-6)

<sup>a</sup>Data are given as the percentage of participants unless otherwise indicated. A  $\chi^2$  test was used to determine significant differences between those with a diagnosis and those without.

<sup>b</sup> $P < .001$ .

<sup>c</sup> $P < .01$ .

<sup>d</sup> $P < .05$ .

<sup>e</sup>One-way analysis of variance ( $df, 1$ ) for significant differences in means between those with a diagnosis and those without.

nois DHS rules, women's emotional safety net may be threatened by this and similar policies. The fact that higher levels of formal education were also associated with lower prevalence of mental health disorders suggests that psychoeducational approaches<sup>31</sup> may benefit this population. Women who are educated about the causes and available treatments for symptoms of anxiety and other disorders may be better able to recognize their symptoms and more likely to seek help.

In addition to high prevalence rates, a full two-thirds of women with DSM-IV disorders diagnosed by the CIDI remained untreated. Among women with psychiatric disorders, only one-fifth reported mental health treatment, and fewer than half of those with substance use disorders reported drug or alcohol treatment. The fact that such low proportions received treatment seems to augur poorly for the success of attempts to help these women return to the labor force. Of particular concern is the finding that, controlling for all other factors, women with DSM-IV disorders who were employed a greater number of months in the past year were only a third as likely to receive any type of behavioral health services as those working fewer months or not at all. This may mean that these women are prioritizing their employment over their mental health, that they face unique employment-related barriers to treatment, or that they are unaware of their diagnosis and need for treatment, all of which could have negative consequences for women and their families in the long run. It may also be that, compared with nonworking single mothers, employed women's well-being is more strongly affected by ongoing financial stressors, as was found in the study of rural single mothers cited earlier.<sup>18</sup> Unfortunately, we lack the data necessary to examine these and other competing hypotheses.

It is interesting to note that a higher proportion of women with substance use disorders received treatment than did women with mental health disorders. It may be that re-

ceipt of TANF with its accompanying eligibility for Medicaid coverage serves as a pathway into substance abuse treatment and other services, as was found in one study of low-income mothers receiving welfare.<sup>32</sup> In addition to increasing the likelihood of employment and exit from the welfare rolls, there may be ancillary benefits to states that provide mental health and substance abuse treatment, such as reductions in other costs. For example, a study of welfare clients in Washington state found that those who received substance abuse treatment had significantly lower medical expenditures than those who needed but did not receive treatment.<sup>33</sup> In fact, this estimated savings was found to equal the cost of treatment, and it represented only 35% of the annual Medicaid expenses incurred by clients with drug and alcohol problems.

A number of caveats to our findings are in order. First, our sample is not representative of all women receiving TANF in their final years of eligibility because we studied urban women from a single state who resided in one of the nation's largest metropolitan areas. Second, our sample was limited to women in their final 24 months of TANF eligibility and may not be representative of recipients approaching lifetime limits in states that set the threshold considerably lower than 60 months, such as states allowing only 3 years. Third, we were unable to verify the women's reports of behavioral health service use, and these may be overestimates or underestimates, depending on respondent recall problems or response bias. Fourth, those women who refused participation or were not located may have experienced higher levels of symptoms, resulting in an underestimation of prevalence reported in this study. Fifth, because these data provide a point-in-time look at recipients' status, we cannot address the extent to which the reported symptoms persisted longitudinally. Finally, because this version of the CIDI did not assess symptom severity and related functional impairment, we are unable to report the extent to



which these disorders interfered with the performance of adult life roles.

Given evidence that a significant proportion of TANF recipients have untreated mental health and substance abuse difficulties, there is reason to believe that they require innovative service approaches and supports. Our finding of high rates of recurrence of many disorders suggests that improving treatment quality, access, and acceptability is an important policy goal.<sup>34</sup> Moreover, our results regarding the high rate of co-occurrence of mood, anxiety, and substance use disorders also have important policy implications regarding the need for concurrent mental health and addiction treatment.<sup>35</sup> Thus, our results underscore the need for policies supporting: (1) confidential, voluntary, and culturally sensitive screening and referral to programs offering both mental health and substance use services<sup>28</sup>; (2) easier access to behavioral health services, particularly for employed women with greater work effort<sup>36</sup>; and (3) psychoeducational interventions to reduce stigma and inform women about causes and treatments of these disorders.<sup>37</sup> Our finding regarding early onset of many disorders during the teenage years points to the need for primary prevention efforts directed toward women and their children.<sup>34</sup> These include home visiting programs for pregnant teens and new parents; crisis nurseries and respite child care; parenting classes for new mothers; preschool and after-school programs; and parent mutual support and self-help.<sup>38,39</sup> Finally, our results suggest the need for treatment models shown to be effective for those experiencing multiple episodes of disorder over the life course. For example, effective treatments for recurring mood disorders include involvement of patients' primary care physicians, long-term management of antidepressants and mood stabilizers, and use of maintenance forms of interpersonal therapy in tandem with psychopharmacological approaches.<sup>40,41</sup>

Given the work-first policies promoted by welfare reform, available TANF services may be ill matched to some recipients' levels of need.<sup>28</sup> Beneficial to this population may be vocational approaches shown to be effective in developing and maintaining jobs for individuals with psychiatric disorders, such as the evidence-based practice of supported employment<sup>42</sup> and postsecondary supported education.<sup>43</sup> Finally, studies have shown that families suffer significant material hardship from full or partial loss of welfare benefits due to the mother's inability to meet program rules and requirements, a practice known as "sanctioning."<sup>44</sup> Research also indicates that women in sanctioned families have higher rates of mental health disorders than in nonsanctioned families.<sup>45</sup> Therefore, further research could help determine whether untreated psychiatric and substance use disorders are associated with an inability to work or meet program rules, leading to grant reduction or termination, and potential exacerbation of underlying mental health and substance use disorders.

Our study is the first to conduct a comprehensive diagnostic assessment of lifetime behavioral health in a sampled population of long-stay TANF recipients. Results illustrate the complex and interrelated needs of a significant proportion of these women due to the consequences of early onset, recurrence, and comorbidity of

**Table 7. Bivariate and Multivariate Sociodemographic and Diagnostic Predictors of Any 6-Month Treatment Among Women With Any 12-Month *DSM-IV* Diagnosis<sup>a</sup>**

Correlate	Bivariate OR (95% CI)	Multivariate OR (95% CI)
Age, y		
21-26	1 [Reference]	1 [Reference]
27-31	1.3 (0.4-3.9)	1.9 (0.6-6.6)
32-37	3.6 (1.3-10.1) <sup>b</sup>	6.8 (1.9-24.2) <sup>c</sup>
≥38	4.4 (1.6-12.6) <sup>c</sup>	8.4 (2.3-31.4) <sup>c</sup>
Race/ethnicity		
African American	1 [Reference]	1 [Reference]
All other	0.5 (0.1-4.4)	0.3 (0.0-3.0)
Remaining TANF eligibility, mo		
1-6	1 [Reference]	1 [Reference]
7-12	2.1 (0.6-7.5)	1.9 (0.5-7.4)
13-18	2.0 (0.6-6.4)	2.1 (0.6-7.9)
19-24	0.7 (0.2-2.3)	0.7 (0.2-2.8)
No. of children		
1-3	1 [Reference]	1 [Reference]
≥4	1.2 (0.6-2.5)	0.7 (0.3-1.7)
Education completed, y		
<12	1 [Reference]	1 [Reference]
≥12 (GED not included)	0.7 (0.3-1.4)	0.5 (0.2-1.3)
Current education		
Not in school	1 [Reference]	1 [Reference]
In school	0.7 (0.2-1.9)	1.1 (0.3-3.4)
Marital status		
Never married	1 [Reference]	1 [Reference]
Ever married	0.8 (0.3-2.0)	0.6 (0.2-1.6)
Cohabiting as married		
No	1 [Reference]	1 [Reference]
Yes	0.8 (0.3-2.3)	0.7 (0.2-2.3)
Current work status		
Unemployed	1 [Reference]	...
Working, full- or part-time	0.6 (0.3-1.2)	...
No. of months employed in the past year		
0	1 [Reference]	1 [Reference]
1-6	0.6 (0.3-1.4)	0.8 (0.3-2.1)
7-12	0.4 (0.2-0.9) <sup>b</sup>	0.3 (0.1-0.8) <sup>b</sup>

Abbreviation: CI, confidence interval; GED, general equivalency diploma; ellipses, current work status was too highly correlated with months employed in the past year to include in model; OR, odds ratios.

<sup>a</sup>n = 156. Cases with missing sociodemographic data are omitted.

<sup>b</sup>Significant at the .05 level; 2-sided test.

<sup>c</sup>Significant at the .01 level; 2-sided test.

behavioral health disorders. As summarized in the report of the US Surgeon General on mental health,<sup>46</sup> the long-term effects of these disorders include lost productivity, unsuccessful relationships, significant distress and dysfunction, deleterious and continuing effects on coresident children, unemployment, suicide, and poverty. The context of welfare reform thus offers both opportunities and challenges in multiple fields, including education, vocational rehabilitation, housing, behavioral health, and medical care, requiring the development of new models that successfully integrate treatment, rehabilitation, and support.<sup>47,48</sup>

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