

Severe Mental Illness and Substance Use Disorders Among Former Supplemental Security Income Beneficiaries for Drug Addiction and Alcoholism

James A. Swartz, PhD; Arthur J. Lurigio, PhD; Paul Goldstein, PhD

Background: Recently enacted federal legislation targeted at curbing perceived abuses of cash benefits for former Supplemental Security Income beneficiaries for drug addiction and/or alcoholism (DA&A) may be creating a residual population that is too seriously impaired to work owing to psychiatric and substance use disorders.

Method: Data in this report were derived from 1-year follow-up interviews of 204 randomly selected DA&A beneficiaries in Chicago who were initially interviewed between January 1997 and March 1997, immediately following their termination in the Supplemental Security Income DA&A program. Information on subjects' work and benefits status were collected along with DSM-III-R psychiatric and substance use disorder diagnostic information. Urine specimens were also collected and tested for recent use of marijuana, cocaine, opiates, phencyclidine, amphetamines, and methadone.

Results: Twenty-six percent had a past-year severe men-

tal illness while 34% met the DSM-III-R criteria for drug dependence. Illegal drug use was also prevalent with about 50% of the sample testing positive for marijuana, cocaine, or opiates. Compared with those working and earning at least \$500 a month, unemployed or underemployed subjects who had lost all federal benefits had a much greater likelihood of being dependent on drugs (odds ratio, 5.0; $P < .005$; 95% confidence interval, 1.6-15.7) and of having 2 or more comorbid psychiatric disorders (odds ratio, 6.9; $P < .005$; 95% confidence interval, 1.9-24.7).

Conclusions: Those who have lost DA&A disability benefits and who continue to be unemployed or underemployed have elevated rates of drug dependence and psychiatric comorbidities; consequently, helping these cases make the transition from government assistance to sustained employment is increasingly difficult.

Arch Gen Psychiatry. 2000;57:701-707

RECENT CHANGES in federal law¹ reduced and then eliminated² Supplemental Security Income (SSI) disability benefits for persons whose drug abuse and/or alcoholism (DA&A) were material to their claim of being work disabled.³ Beginning January 1, 1997, persons who were receiving cash benefits for addiction-related disabilities lost all such benefits; many also lost Medicaid coverage.⁴ Although welfare experts expected that 70% of DA&A cases would requalify for federal benefits under different impairment categories, only about 35% have done so with minimal prospects for a considerable increase in this proportion.³

A few studies and well-publicized press reports suggested that federal disability payments to DA&A beneficiaries supported and encouraged drug use by inadvertently providing income for purchasing alcohol and other drugs.⁵⁻⁹ As a result, the legislation ending disability benefits for DA&A cases was largely intended to discourage drug use and perceived abuses of the system.

However, another intent of the Contract With America Advancement Act² and of similar federal legislation referred to collectively as "welfare reform" was to encourage higher levels of employment and financial independence among those formerly receiving government assistance. Although early studies reported initial success in helping some people make the transition from welfare to work, the generalizability and validity of these studies were hampered by methodological problems such as nonrandom samples, extremely low response rates, or an exclusive reliance on self-reported information about socially sanctioned behaviors such as drug use.¹⁰

More recent studies of former welfare recipients employing sounder methodological strategies have found that substance dependence and psychiatric illness are among the most notable barriers to gaining and maintaining employment.¹¹⁻¹³ Similarly, anecdotal data have suggested that the initial pool of persons who lost their DA&A benefits but were able to find and maintain steady employ-

From *Illinois Treatment Alternatives for Safe Communities Inc* (Dr Swartz), Department of Criminal Justice, Loyola University (Dr Lurigio), and the School of Public Health/Great Cities Institute, University of Illinois, Chicago (Dr Goldstein).

SUBJECTS AND METHODS

Data were collected as part of a federally funded, multisite, 2-year prospective study to examine the social, medical, legal, and psychological consequences of terminating DA&A benefits. The study was conducted in 9 sites, including Los Angeles, San Francisco, Portland, Seattle, Detroit, Chicago, and 3 northern California counties. The results are based on the psychiatric and substance use disorder diagnostic data and urinalysis data obtained solely at the Chicago site. Although not representative of the national population of SSI DA&A recipients, at the time of program termination, Illinois had the second largest SSI DA&A population in the country (12% of all cases), second to California, and the highest national prevalence rate of SSI DA&A beneficiaries (328 per 100 000 people).³ According to 1996 Social Security Administration (SSA) data, approximately 70% of Illinois SSI DA&A cases were living in Chicago.

SUBJECTS

Baseline data were collected between January 1997 and March 1997 using the SPSS SAMPLE procedure (SPSS Inc, Cary, NC). Five hundred twenty-five individuals were randomly selected from a sampling frame that consisted of 13 996 individuals aged 21 to 59 years identified in an SSA electronic database as residing in Chicago and receiving SSI DA&A disability benefits as of June 30, 1996. Staff then attempted to contact individuals sequentially on a randomly ordered list until they recruited and interviewed approximately 275 subjects, the baseline sample target established by the multisite advisory committee to attain prevalence estimates of various conditions (eg, the proportion losing disability benefits and the proportion developing a serious medical illness) with a precision level of about $\pm 5\%$, assuming a 20% attrition rate during the course of the 2-year study (ie, ending with 220 cases).

The subject recruitment rate at baseline was 56% (276 completed interviews of 496 attempted contacts). The primary reason for nonrecruitment (176 individuals [80%]) was the inability to establish any contact because of invalid, usually outdated addresses in the SSA electronic file. Of those who could be contacted, only 6% declined to participate, and only 6% failed to appear for an interview. The remaining subjects with valid addresses were not interviewed because their age was outside the eligibility range (3.0%), they did not speak English (2.0%), or they had died (1.5%).

At the 1-year follow-up interview, conducted between January 1998 and March 1998, staff re-located and reinterviewed 251 (91%) of 276 subjects interviewed at baseline.

Of these 251 subjects, 204 (74% of baseline) consented to provide a urine specimen for drug testing and underwent a psychiatric diagnostic interview. Thirty subjects did not undergo the psychiatric diagnostic interview because of an administrative delay in adding the test to the study protocol, while 17 subjects declined to provide a urine specimen. The analysis sample consisted of 204 subjects with complete 1-year follow-up data (ie, psychiatric diagnostic data and a urine specimen).

The average respondent was male (70%), African American (82%), between age 30 and 49 years (mean [SD], 42 [8] years), and receiving an average monthly federal SSI payment of \$456 (\$115). Almost all subjects (84%) reported having no work-related income in March 1996 and that they had been receiving SSI disability benefits for 5 years or less. Bivariate comparisons of these and other characteristics (eg, time receiving SSI and the presence of multiple impairments) with the entire Chicago SSI DA&A population yielded no significant differences. (Detailed results of these analyses are available from J.A.S.)

ASSESSMENTS

SSI Status

Information on SSI disability status and related data were collected at baseline and at the 1-year follow-up interview using a questionnaire developed for the study. At both times, subjects were asked a series of detailed questions about their current SSI disability status, whether they had attempted to reapply for benefits under another impairment category, and if so, the results of their reapplication attempts. They were also asked about income from other sources concurrent with or in lieu of SSI disability cash benefits, including full- or part-time employment, spousal support, panhandling, food stamps, and illegal activities, and about their average monthly income during the preceding 6 months.

Drug Dependence and SMI

The Quick Diagnostic Interview Survey (QDIS) was used to obtain lifetime and past-year psychiatric diagnoses, including substance dependence, according to *DSM-III-R* diagnostic criteria.¹⁶ The QDIS is a computerized, shortened version of the Diagnostic Interview Schedule and was specifically designed for administration by lay interviewers.^{17,18} A validation study comparing the QDIS with the Diagnostic Interview Schedule yielded acceptable levels of diagnostic sensitivity (0.88-1.00) and specificity (0.67-1.00) for the following: schizophrenia, bipolar disorder,

ment were among the least impaired psychiatrically.³ Thus, continuing efforts to help DA&A beneficiaries make the transition from dependence on federal assistance to full employment may become increasingly difficult if the prevalence and impact of these conditions are not adequately assessed and treated. However, because the rules and evidence used to determine eligibility for DA&A disability vary widely from state to state, there are no reliable estimates of the extent of these impairments among former DA&A beneficiaries.^{3,14} Moreover, few studies have examined the prevalence of severe mental illnesses (SMI)

such as schizophrenia or bipolar disorder or the rates of psychiatric comorbidities in this population. In addition, there are few accurate estimates of drug use by former DA&A beneficiaries because of reliance on self-reported data that are limited because of the likely extensive underreporting of substance use by surveyed participants or because the data analyzed were originally collected on the general population and were not specific to those receiving federal disability benefits.^{10,15}

The present study has 3 goals: first, to determine the rates of past-year and lifetime substance depen-

major depressive disorder, antisocial personality disorder, and dependence on alcohol, marijuana, cocaine, and opiates.¹⁸

Urinalysis Results

Urine testing was conducted using the enzyme multiplied immunoassay technique, which has high sensitivity and specificity (>.90) for the 6 drugs tested: marijuana, cocaine, opiates, phencyclidine, amphetamines, and methadone.¹⁹ All urine specimens that tested positive for opiates were further tested to discriminate between codeine and morphine derivatives such as heroin.

PROCEDURES

Potential subjects were notified of the study by mail. Because there was no address information for about 40% of the cases in the SSA database, letters were sent to their representative payees (ie, the person or agency designated by the SSA to handle their SSI monthly payments¹). The recruitment letter advised subjects of the purpose of the study, that they would be paid a stipend for their participation, and provided a toll-free number and address for contacting staff to schedule interviews. Follow-up recruitment attempts included mailing second letters to those who did not respond to the first but who had a valid address, and up to 15 phone calls for those who did not respond to either letter but for whom current phone listings were available. Letters were sent to approximately 100 potential recruits at a time to stagger the interviews, which were usually scheduled within a week of receiving a response.

Most subjects (80%) were interviewed at the study offices with the remainder interviewed in their communities. Before all interviews, subjects read and signed informed consent papers that told them the purpose of the study, that their information would remain anonymous and confidential, and that their participation was voluntary. At the 1-year follow-up interview, subjects were also told during the consent procedure that they would be asked separately for a urine specimen for drug testing following the interview. At both baseline and follow-up, subjects were paid \$40 after the interview. At follow-up, they were paid an additional \$5 if they agreed to provide a urine specimen.

STATISTICAL ANALYSIS

Simple prevalence estimates were calculated for each measure with SEs based on sampling without replacement and a finite population correction factor. Descriptive comparisons between subgroups of subjects were conducted

using χ^2 analyses for categorical data and 1-way analyses of variance for interval level data.

To assess the relationship between psychiatric diagnoses and current employment or benefit status, subjects were classified into 3 groups based on their SSI or government assistance status and work-related income at the 1-year follow-up interview. One group was composed of 69 subjects (34%) who reported requalifying for some form of government assistance, primarily SSI disability benefits for a medical or psychiatric impairment or, in a few cases, cash benefits under Temporary Assistance to Needy Families. The second group consisted of 28 subjects (14%) who reported that they had been able to find employment and earn at least \$500 per month. This income level was selected as a cutoff point because it reflects the amount needed to replace lost DA&A benefits and is also the amount recognized by the SSA as indicating "substantial gainful activity".²⁰ The remaining 107 subjects (52%) comprised our unemployed or underemployed group. They had not replaced their lost SSI benefits through another government assistance program and were either unemployed or underemployed, defined as earning less than \$500 per month.

Bivariate comparisons on demographic characteristics of these 3 groups yielded no significant differences regarding age, sex, or education. However, there was a significant difference regarding ethnicity ($\chi^2_{4[N=204]}=415.2$) ($P<.01$). About 94% of those unemployed or underemployed and not receiving government assistance were African American compared with 90% of those receiving some form of government assistance and 82% of those earning at least \$500 per month. The 3 groups were also significantly different regarding monthly legal income ($F_{2,201}=7.3$) ($P=.001$). Employed subjects reported an average monthly income of \$1321. Subjects who continued to receive government financial assistance reported an income of \$696 per month. Those not working or receiving government benefits reported an average monthly income of \$413 (primarily from a variety of sources, including spouses, part-time work, food stamps, public assistance, and panhandling).

Logistic regression models were used to assess the relationship between the dependent variables (ie, psychiatric diagnoses, drug dependence, and drug use) and the independent variable (ie, employment and benefit status at the 1-year follow-up interview). In each model, sex, age, ethnicity (coded as African American vs other) and educational classification (coded as less than a high school degree vs high school degree or higher) were entered first as covariates, followed by the variable jointly representing government assistance and employment status. All statistical tests were 2 tailed. Only results significant at $P<.01$ are reported to maintain the experiment α error rate below .05.²¹

dence, SMI, and psychiatric comorbidities among former DA&A beneficiaries using a standardized diagnostic instrument. Second, to assess their degree of drug use using urine tests, a more objective measure than self-reported information. Third, to examine the rates of drug dependence, drug use, SMI, and psychiatric comorbidities among subjects who were unemployed or underemployed or among subjects who requalified for federal assistance under another impairment category or other source, such as Temporary Assistance to Needy Families (TANF), compared with the rates of these same con-

ditions among employed subjects earning enough money to replace their lost cash benefits.

RESULTS

SMI, DRUG DEPENDENCE, AND COMORBIDITY RATES

The overall rate (mean [SE]) of SMI was 29.0% (6.2%) for lifetime and 26.0% (6.0%) for past-year diagnoses (**Table 1**). Nearly one fourth of the sample had expe-

Table 1. DSM-III-R Lifetime and Past-Year Diagnoses and Psychiatric Comorbidities in 204 Cases*

Diagnosis	Lifetime	Past Year
Axis I, nonsubstance		
Major depressive episode	26.5 (6.0)	24.5 (5.9)
Manic episode	3.9 (2.6)	2.9 (2.3)
Schizophrenia/schizophreniform	10.3 (4.2)	7.8 (3.7)
Any severe mental illness	29.4 (6.2)	26.0 (6.0)
Substance dependence		
Alcohol	57.8 (6.7)	20.6 (5.5)
Marijuana	23.2 (5.8)	5.9 (3.2)
Cocaine	37.9 (6.6)	16.3 (5.0)
Heroin/opiates	22.7 (5.7)	8.9 (3.9)
Polysubstance dependence	37.9 (6.6)	12.3 (4.5)
Any substance dependence	75.5 (5.9)	34.0 (6.5)
Axis II		
Antisocial personality disorder	33.0 (6.4)	...
Psychiatric comorbidities		
Severe mental illness (2+)	8.8 (3.9)	7.4 (3.6)
SMI with substance dependence	24.5 (5.9)	12.8 (4.6)
Antisocial personality with substance dependence	32.0 (6.4)	...

* Severe mental illness (SMI) includes schizophrenia/schizophreniform, manic episode, and major depressive episode; major depressive episode could include bipolar and unipolar subjects. Values are given as percentages, mean (SE). Ellipses indicate not applicable.

rienced a major depressive episode within the preceding year (24.5% [5.9%]). Both the lifetime (10.0% [4.2%]) and past-year (8.0% [3.7%]) diagnoses prevalence rates for schizophrenia were significantly higher than recently published general population rates.²² There was also a high degree of overlap between schizophrenia and bipolar disorder and major depressive episode. About 76% of the subjects having a DSM-III-R lifetime diagnosis for schizophrenia and about 88% of those with a DSM-III-R lifetime diagnosis for bipolar disorder also met the DSM-III-R criteria for a lifetime diagnosis of major depressive episode.

The rates of drug dependence among former SSI DA&A beneficiaries were also extremely high relative to published general population rates, but perhaps not quite as high as expected given that drug addiction was a presumed defining characteristic of this population. A large proportion of the sample (75.0% [5.9%]) met the DSM-III-R criteria for lifetime drug dependence, although only 34.0% (6.5%) met past-year dependence criteria. Consistent with other reports concerning the pattern of drug dependence among various populations of federal aid recipients, the highest lifetime dependency rate was for alcohol (58.0% [6.7%]), followed by dependency on cocaine (38.0% [3.0%]), marijuana (23.0% [5.8%]), and opiates (23.0% [5.7%]).^{23,24} Finally, 38.0% (6.6%) of the sample met the DSM-III-R lifetime criteria for drug dependence for more than 1 drug (ie, they were polydrug dependent). Past-year dependence rates for individual drugs were substantially lower but were in the same sequence of prevalence as the lifetime rates, except for the relative order of opiates (confirmation testing showed it to be a morphine derivative, most likely heroin).

The urinalysis results showed extensive current use of illegal drugs among subjects, higher than would be predicted by the past-year dependence rates. About half of the subjects were using at least 1 illegal drug 3 days to a few weeks before the interview. More than one third tested positive for recent cocaine use (34% [3%]) followed by heroin/opiate use (18% [2%]) and marijuana use (15% [2%]). Nine percent also tested positive for methadone, though this is a drug that can be legally obtained if the respondent is in a methadone treatment program. Few specimens tested positive for phencyclidine (1.5%) or amphetamines (0.5%). Confirmation testing of the opiate results demonstrated that all but 1 of the positive test results could be attributed to a morphine derivative rather than to codeine, indicating that most of those testing positive for opiates were likely using heroin. Moreover, the confirmation testing also revealed that about half of the specimens testing positive for opiates included both morphine and codeine. Thus, although it was unusual to find a respondent using only codeine, among those using heroin, codeine use was also common.

PSYCHIATRIC STATUS, DRUG USE, AND EMPLOYMENT/DISABILITY STATUS

The next set of analyses examined the relationship between employment and benefits status and past-year psychiatric diagnoses, including substance dependence or active drug use. Because of the small number of subjects meeting the criteria for past-year schizophrenia or bipolar disorder, these diagnoses were collapsed along with major depressive episode into a single category representing any SMI. Those who reported earning at least \$500 per month through legal employment were designated as the reference group for each logistic regression model (Table 2). Hence, significant odds ratios (ORs) reflect either an increase (>1.0) or decrease (<1.0) in the odds of having each of the conditions listed relative to this group compared with (1) subjects who reported that they continued to receive some form of government assistance 1 year following the termination of the SSI DA&A program or (2) subjects who reported that they were not receiving any form of government assistance and were not earning at least \$500 per month from work-related income.

Although most of the results indicated a higher degree of psychiatric disorder among both groups compared with those who were working (ORs >1.0), only the ORs for any substance dependence and 2 or more comorbid conditions for the unemployed or underemployed group reached significance at P<.01. These subjects had nearly 5 times the likelihood of being drug dependent compared with those who were working and nearly 7 times the chance of having 2 or more past-year psychiatric disorders, including a substance dependence. Among the DSM-III-R diagnoses for drug dependence, the ORs for cocaine dependence could not be estimated because none of the working subjects met the criteria for this diagnosis. Thus, past-year dependence

Table 2. Odds Ratios for DSM-III-R Past-Year Psychiatric Disorders, Substance Use Disorders, Current Drug Use, and Psychiatric Comorbidity*

	OR (95% CI)	
	Government Assistance (SSI, TANF, Other Disability) (n = 69)	Unemployed and/or Underemployed, No Government Assistance (n = 107)
Axis I, nonsubstance		
Any severe mental illness	4.7 (0.98-22.1)	6.0 (1.4-28.1)
Substance dependence		
Alcohol	2.9 (0.59-14.3)	5.0 (1.1-23.1)
Marijuana	0.3 (0.03-2.5)	0.3 (0.07-1.7)
Cocaine	NE†	NE†
Heroin/opiates	1.2 (0.22-7.3)	1.8 (0.37-8.8)
Any substance dependence	2.7 (0.81-9.1)	5.0‡ (1.6-15.7)
Current substance use		
Marijuana	0.5 (0.14-1.9)	1.0 (0.33-3.0)
Cocaine	1.6 (0.58-4.6)	2.2 (0.86-5.9)
Opiates	1.0 (0.33-3.0)	0.9 (0.32-2.5)
Positive for any substance	1.1 (0.43-2.7)	1.4 (0.58-3.2)
Axis II		
Antisocial personality disorder	0.6 (0.23-1.6)	0.6 (0.23-1.4)
Psychiatric comorbidities		
Psychiatric disorders (2+)	4.1 (1.1-15.5)	6.9‡ (1.9-24.7)

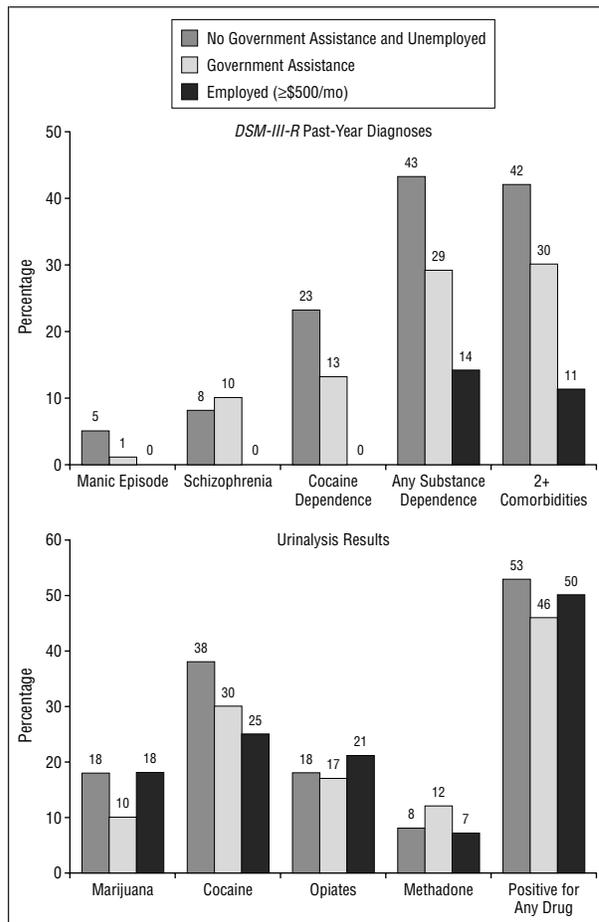
*All odds ratios (ORs) expressed relative to the odds for the group of subjects (n = 28) earning at least \$500 per month for the previous 6 months and not receiving government benefits. Any severe mental illness includes schizophrenia, bipolar disorder, and major depressive episode; 2+ psychiatric disorders indicates the co-occurrence of any 2 disorders listed in the table. SSI indicates Supplemental Security Income; TANF, Temporary Assistance to Needy Families.

†NE indicates that the ORs could not be estimated because no subjects in the working reference group had the condition.

‡P < .01.

on cocaine was strongly associated with subjects' work status. Despite the apparent relationship between dependence and employment status, however, none of the measures of current illegal drug use, including cocaine use, yielded statistically significant results, indicating that current illegal drug use was equally prevalent for all 3 groups of subjects.

Because some of the intended independent measures could not be assessed in a multivariate context, we examined them using bivariate statistics (Figure). The bivariate diagnostic data (top) generally show a clear pattern: higher proportions of those receiving no government assistance and not working had diagnosable psychiatric impairments (excepting schizophrenia), especially substance dependence, compared with subjects in the other 2 categories. Those who made the transition from receiving disability payments to working were the least psychiatrically impaired, whereas those continuing to receive governmental assistance seemed to have an intermediate degree of psychiatric impairment and substance dependence. Although none of the bivariate analyses of the urinalysis results reached statistical significance (bottom), the trend in the data for cocaine use mirrored the dependence results. Those not receiving government assistance had the highest rate of cocaine use



Prevalence rates for selected past-year DSM-III-R psychiatric and substance use disorders and current drug use, by government assistance and employment status (no government assistance and unemployed, n = 107; government assistance, n = 69; employed and earning ≥\$500 per month, n = 28). Statistical results at or near significance were obtained for the following past-year diagnoses: cocaine dependence ($\chi^2=9.1$) (P = .01); any substance dependence ($\chi^2=9.0$) (P = .01); and 2+ comorbidities ($\chi^2=10.3$) (P < .01).

(38%), followed by those receiving government assistance (33%), and those working (30%). However, there was no comparable pattern in the data for use of any of the other drugs.

COMMENT

The study results reveal that as a group, former SSI DA&A recipients have elevated rates of SMI and drug dependence. Some of these conditions, especially psychiatric comorbidity and cocaine dependence, seem to be strongly related to subjects' abilities to find and sustain employment. Only a small proportion of our sample, those with the lowest rates of psychiatric impairment, had been able to gain even marginal employment 1 year following the termination of their disability benefits. A much larger group of subjects, about half of those interviewed, had no apparent means of support other than possibly family, friends, or illegal activities. These individuals were among the most psychiatrically impaired and consequently will have considerable difficulty attaining and sustaining substantial

gainful activity in the future, at least without substantial improvements in the social and psychological support systems presently available to them. Subjects who were able to retain some form of disability benefits seemed to be intermediate in terms of their level of psychiatric impairment. Thus, these results support the anecdotal assertion by SSA field officers and client advocates that "those most in need of disability benefits are also those least able to complete the reapplication (or initial application) process."³ The results are also consistent with those of recent studies of welfare populations affected by similar reform legislation that has forced them to make the transition from dependence on government subsidies to sustained employment. These studies have also found that psychiatric illness and substance dependence are among the most formidable impediments to attaining and sustaining stable employment and that individuals with multiple problems have the greatest degree of difficulty.^{11,12} This latter finding is echoed in our study in that psychiatric comorbidity was strongly associated with being unemployed.

We also found that former SSI DA&A beneficiaries have high rates of illegal drug use, especially cocaine use, and that these rates of use were higher than would be expected from the prevalence rates for drug dependence. The discrepancy in the rates of use compared with past-year dependency rates suggests there might be considerable underreporting of drug use and of symptoms related to use and dependence by this population. However, the trend in the data on cocaine use, with the rate being highest for those not receiving any government assistance and lowest for those working, lends some credence to the findings on cocaine dependence. Although unlike cocaine dependence, it does not seem that cocaine use per se is strongly related to work or requalification status. In this respect, our study supports the contentions of other authors that drug use in this population is not primarily driven by the receipt of federal cash benefits.^{25,26} It may be that work is not affected by lower to moderate levels of cocaine use, which only becomes a clear impediment at higher levels of use marked by compulsion and dependence. It is also possible that drug dependence symptoms were more frequently underreported by subjects who were working or receiving government benefits because they were more concerned about revealing illegal activities and losing their jobs or benefits.

In addition to this potential problem with the self-reported drug use data, the current study had several other limitations. The study sample was derived solely from Chicago and is not representative of all former DA&A beneficiaries. The modest social safety net in Illinois, for instance, might have resulted in lower proportions of our sample returning to work or requalifying for disability benefits compared with other states that have more generous benefits and programs. Another limitation is that subjects might have underreported their psychiatric symptoms as well as their drug use. For this reason, the estimates of SMI and drug dependence, in particular past-year dependence, are most certainly lower-bound estimates. Finally, the finding that none of the subjects who were working had lifetime diagnoses of

schizophrenia, bipolar disorder, or cocaine dependence might be attributable in part to the small number of subjects in this group. Still, it is likely that even with a larger sample of employed subjects, the odds of their having one of these debilitating conditions would be quite low.

In conclusion, this study reveals that former DA&A beneficiaries, though substantially impaired psychiatrically, are also heterogeneous. Although a small proportion of DA&A cases have attained or will attain and sustain employment (albeit mostly at modest to low-paying jobs), many more will not, and many have debilitating psychiatric conditions such as SMI or dependence on cocaine that will impede any attempts by them to make a transition from dependence on government assistance to work. It is not clear that present policies adequately recognize this heterogeneity or that they provide the necessary social and psychiatric support systems for addressing the high rates of SMI or substance dependence among those affected by recently enacted disability (and welfare) reform legislation. Our findings further suggest that those who have not been able to make the transition from disability assistance to work are more severely disabled than those who already have made the transition. Additional longitudinal research is necessary to learn more about the extent and nature of the psychiatric conditions impeding the transition to employment in this residual population, to understand the full impact and limitations of current policies, and to better inform and shape future legislation and public policy discussion.

Accepted for publication March 15, 2000.

This work was supported by grant 5-U95-TI00664-05 from the Center for Substance Abuse Treatment, Rockville, Md (Dr Goldstein), and by grant 031602 from the Robert Wood Johnson Foundation, Princeton, NJ.

The authors would like to thank Tim Johnson, PhD, and Beth Severns of the Survey Research Laboratory of the University of Illinois at Chicago for their substantial contributions to the sample design and data collection aspects of this study.

Corresponding author: James A. Swartz, PhD, Treatment Alternatives for Safe Communities Inc, 1500 N Halsted St, Chicago, IL 60622 (e-mail: jswartz@interaccess.com).

REFERENCES

1. Social Security Independence and Program Improvements Act, Pub L No. 103-296, §201, 108 Stat 1464 (1994).
2. Contract with America Advancement Act, Pub L No. 104-121, §105, 110 Stat 847 (1996).
3. Lewin Group Inc. *Policy Evaluation of the Effect of Legislation Prohibiting the Payment of Disability Benefits to Individuals Whose Disability Is Based on Drug Addiction or Alcoholism*. Fairfax, Va: Lewin Group; 1998.
4. Roan-Gresenz CR, Watkins K, Podus D. Supplemental Security Income (SSI), disability insurance (DI), and substance abusers. *Community Ment Health J*. 1998; 34:337-350.
5. Shaner A, Eckman TA, Roberts LJ, Wilkins JN, Tucker DE, Tsuang JW, Mintz J. Disability income, cocaine use, and repeated hospitalization among schizophrenic cocaine abusers: a government-sponsored revolving door. *N Engl J Med*. 1995;333:777-783.

6. Phillips DP, Christenfeld N, Ryan NM. An increase in the number of deaths in the United States in the first week of the month: an association with substance abuse and other causes of death. *N Engl J Med.* 1999;341:93-98.
7. Cohen WS. *Tax Dollars Aiding and Abetting Addiction: Social Security Disability Insurance and Supplemental Security Income Cash Benefits to Drug Addicts and Alcoholics: Report of the Senate Special Committee on Aging.* Washington DC: US Government Printing Office; 1994.
8. Satel SL. Hooked: it's time to get addicts off welfare. *New Republic.* 1994;210:18-20.
9. Sennot C, Murphy S. SSI checks often used for drink, drugs. *Boston Globe.* February 26, 1994:19.
10. Fagnoni CM. *Welfare Reform: States' Implementation Progress and Information on Former Recipients.* Washington, DC: US General Accounting Office; May 1999. Report GAO/T-HEHS-99-116.
11. Danziger SK, Corcoran M, Danziger S, Heflin C, Kalil A, Lebibe J, Rosen D, Seefeldt K, Siefert K, Tolman R. Barriers to employment of welfare recipients. In: Cherry R, Rodgers WM III, eds. *Prosperity for All? The Economic Boom and African Americans.* New York, NY: Russell Sage Foundation; 2000.
12. Jayakody R, Danziger S, Pollack H. Welfare reform, substance use, and mental health. *J Health Polit Policy Law.* In press.
13. Schmidt L, Weisner C, Wiley J. Substance abuse and the course of welfare dependency. *Am J Public Health.* 1998;88:1616-1622.
14. McKay JR, McLellan AT, Durell J, Ruetsch C, Alterman AI. Characteristics of recipients of Supplemental Security Income (SSI) benefits for drug addicts and alcoholics. *J Nerv Ment Dis.* 1998;186:290-298.
15. Gilson SF, Chilcoat HD, Stapleton JM. Illicit drug use by persons with disabilities: insights from the national household survey on drug abuse. *Am J Public Health.* 1996;86:1613-1615.
16. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition.* Washington, DC: American Psychiatric Association; 1987.
17. Robins LN, Helzer JE, Croughan J, Ratcliff KS. National Institute of Mental Health Diagnostic Interview Schedule: its history, characteristics, and validity. *Arch Gen Psychiatry.* 1981;38:381-389.
18. Bucholz KK, Marion SL, Shayka JJ, Marcus SC, Robins LN. A short computer interview for obtaining psychiatric diagnoses. *Psychiatr Serv.* 1996;47:293-297.
19. Visher C, McFadden K. *A Comparison of Urinalysis Technologies for Drug Testing in Criminal Justice.* Washington, DC: US National Institute of Justice; 1991.
20. Supplemental Security Income for the aged, blind, and disabled, 60 *Federal Register* 16373 (1995).
21. Tabachnik BG, Fidell LS. *Using Multivariate Statistics, 2nd ed.* New York, NY: HarperCollins Publications Inc; 1989.
22. Kessler RC, McGonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S, Wittchen HU, Kendler KS. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: results from the National Comorbidity Survey. *Arch Gen Psychiatry.* 1994;51:8-19.
23. Grant BF, Dawson DA. Alcohol and drug use, abuse, and dependence among welfare recipients. *Am J Public Health.* 1996;86:1450-1454.
24. Schmidt L, Weisner C, Wiley J. Substance abuse and the course of welfare dependency. *Am J Public Health.* 1998;88:1616-1622.
25. Rosenheck R, Frisman L. Do public support payments encourage substance abuse? *Health Aff.* 1996;15:192-200.
26. Frisman LK, Rosenheck R. The relationship of public support payments to substance abuse among homeless veterans with mental illness. *Psychiatr Serv.* 1997;48:792-795.