Navigating the Disability Process: Persons with Mental Disorders Applying for and Receiving Disability Benefits

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The Social Security Disability benefit programs (SSDI and SSI) constitute an essential safety net for individuals unable to work because of disability. Eligibility for SSDI is based on work history and is viewed as an entitlement for individuals who meet disability criteria. SSI eligibility, however, depends on means testing and, although it is administered as a Social Security program, is seen more as income support for persons with disabilities who have not worked and cannot work. Ideally, such programs seek to provide assistance to those who most need it without encouraging those who can work to leave the workforce or to stop looking for work. The search for balance among meeting need, encouraging work, and containing public expenditures is a source of underlying tension that typifies such safety net programs. Outcomes depend on both the administration of the eligibility process and the processes by which persons and their associates become aware of the disability program, decide to apply, negotiate the application process, and succeed or fail in their attempts.

Important insights into this disability process come from a number of studies of selected samples, but to date no analysis has been reported of the determinants of application and outcomes in a national sample of the population of the United States. This article explores those characteristics

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of persons with mental disorders and their families that are associated with application for Social Security disability benefits and the factors that differentiate those applicants who receive benefits from those who do not. The National Health Interview Survey on Disability (NHIS-D) provides a nationally representative sample that includes enough persons with mental disorders to allow estimates of multivariate models of both application and receipt.

Some Background

Persons with mental disorders, excluding mental retardation, constitute a large and growing proportion of SSDI/SSI recipients. In December 1999, 27 percent of persons receiving SSDI and 34 percent receiving SSI were eligible because of a mental disorder. Between 1985 and 1991 the number of persons enrolled in these programs because of a mental disorder increased by almost 63 percent (Kennedy and Manderscheid 1992), and between 1991 and 1999 the number of people who received benefits because of a mental disorder grew by more than 100 percent for SSI and 75 percent for SSDI (McAlpine and Warner 2001). Explanations for the trend remain uncertain, but important factors include the continuing deinstitutionalization of persons with mental disorders, the focus on care in the community instead of in institutions, and the efforts made by mental health programs to help clients gain eligibility.

Conceptual Issues

Applying for and receiving disability benefits involves a multistage selective process that depends on both help-seeking among potential enrollees and bureaucratic discretion in administering Social Security regulations (Wunderlich, Rice, and Amado 2002). People apply for disability-related Social Security benefits in accordance with their perceived need, perceived eligibility, attitudes toward seeking public assistance, access to information, and formal and informal help and encouragement from others, including family members and health professionals. The SSA administers the disability programs through some 1,300 local offices managed by the states, and the wide variations in bureaucratic decision making have been extensively analyzed (Mashaw 1983). Persons apply for benefits through their local Social Security district office, and their

eligibility for SSDI and SSI is determined by state Disability Determination Service (DDS) agencies (Mashaw and Reno 1996b). Many claims are initially denied (57 percent in 1992), and although many claimants drop out at this point and at subsequent stages, there are several levels of appeal and reconsideration.

If a claimant requests a reconsideration, DDS personnel other than those responsible for the initial review conduct a second review. In 1992, 17 percent of reconsiderations were allowed (Mashaw and Reno 1996b). If they are denied a second time, claimants can appeal to an administrative law judge (ALJ), often with better results. In 1992, for example, there were 318,000 hearings before ALJs, and 69 percent of the claims were approved. Over the years there has been considerable tension between the Social Security Administration and ALJs over the high success rate of appeals (Mashaw 1983). Further appeals can be made to the Appeals Council and to federal courts.

The process of seeking disability-related benefits can thus be seen as following a path through a series of help-seeking sieves, with selection occurring at each of several points based on both the impairments of the applicants and their attitudes, knowledge, persistence, financial need, access to sophisticated medical and legal assistance, and the somewhat variable application of eligibility criteria from locality to locality (Mashaw 1983). Although we start with no firm theory, we believe that application for benefits and persistence through the time-consuming and demanding process of gaining eligibility is guided by the extent of a person's disability, financial need, and access to information and assistance. We also expect that success in gaining benefits depends on the extent of a person's impairments and on access to sophisticated help in navigating the application and adjudication process. No national survey data have been reported that examine this application process, but a number of smaller studies do offer some understanding of the pathways to application and receipt of benefits.

When claimants file for disability-based benefits, they may not be aware of the complex criteria used to determine eligibility or of the different criteria used for the SSDI and SSI programs. Initially, there is likely to be little differentiation between applicants to the two programs, and eligibility for either or both will be established through the disability determination system. The ultimate policy question is how successful these programs are in providing a needed safety net for disabled persons who cannot work.

Relevant Literature: Application for Benefits

The few studies that have specifically examined the application process among persons with a mental disorder point to the importance of three sets of factors: need, social attachments, and linkage to the SSDI/SSI programs. Need reflects the extent of disability as well as low income and few resources. Social attachments are important in two contrasting ways. Studies report that those who are isolated and lack social supports are more likely to apply for benefits. However, family members may play a role in inducing a person with a mental disorder to apply. Involvement in mental health programs and efforts by programs assisting persons in the application process also are important links to benefits. Next we briefly review the literature on each of these points.

Estroff, Zimmer, and their colleagues (1997) followed a cohort of 169 persons early in their course of psychiatric disorders and likely to be "eligible" for benefits (based on work history, income, and symptoms) for six waves over two and a half years to identify predictors of application. Among the most important predictors were perceived financial status and a measure of "submissiveness" (to a reference person, usually the person's mother). Other significant predictors were financial dependence on family, problems with daily living, and number of days spent in the hospital during the study. The authors concluded that financial privation and an inadequate social network were among the most important factors inducing people to apply for benefits. Work status and demographic variables were not helpful in predicting application.

In another study of applicants, Okpaku (1985) examined case reports for a sample of 248 persons seeking SSDI/SSI benefits because of a psychiatric impairment. Most of the sample had psychotic or affective disorders, and more than half also had a medical condition. Slightly more than a third were receiving some type of psychiatric care. Social isolation was common, and the applicants tended to be male and relatively young and to have had little education.

Two other studies exploring the issue of application for SSDI/SSI benefits evaluated interventions intended to persuade eligible persons to apply. In a study of homeless mentally ill veterans, Rosenheck, Frisman, and Kasprow (1999) reported that a program that located Social Security administrators and disability determination analysts alongside the program's clinical teams increased client applications for disability benefits. A similar study found that community mental health center clients who

were potentially eligible for SSI benefits were more likely to apply when provided with a "linkage worker" to help them with the application and the needed documentation (Dow and Boaz 1994).

Relevant Literature: Receipt of Benefits

Using data from the Epidemiological Catchment Area Study (ECA), Kouzis and Eaton (2000) examined predictors of SSDI/SSI receipt. They found that persons who were already receiving benefits at baseline and those who began receiving benefits in the following year had less education and household income than did nonrecipients and were more likely to be male, unmarried, and middle aged (45 to 64). Several clinical measures were associated with greater odds of both receiving benefits at baseline and starting to receive benefits during the study: panic disorder, schizophrenia, obsessive-compulsive disorder, and the presence of two or more disorders. In contrast, Rosenheck, Dausey, Frisman, and Kasprow (2000) did not find differences between clinical variables in homeless mentally ill veterans who were and were not awarded SSDI/SSI benefits.

Segal and Choi (1991) looked at differences among three groups of sheltered care residents with a serious mental illness: SSI recipients, nonrecipients believed to be eligible for benefits based on their income, and nonrecipients believed to be ineligible. Results indicated that the income-eligible nonrecipients were younger and had had more education than had the other two groups. The SSI recipients were less likely to be married than were those in the two nonrecipient groups, and they also had fewer hours of recent contact with family and friends.

In a follow-up to their study of SSDI/SSI application, Estroff, Patrick, and colleagues (1997) tried to identify variables that predicted the receipt of benefits among applicants. Some variables that predicted application in the earlier study also predicted receipt of benefits in the later study: financial and psychological dependence. Other predictors of receipt, but not of application, were the degree of psychological impairment, being African American, and not living with a spouse. By focusing exclusively on applicants, this study was able to disentangle the predictors of receipt from the predictors of application and show that the variables associated with the receipt of benefits might differ from those influencing the application. The analyses we report here seek to do this with a large, nationally representative sample.

Method

Data Sources

The data used in the analyses that we are reporting came from the 1994 and 1995 National Health Interview Survey on Disability (NHIS-D), from the Core NHIS 1994 and 1995 data sets (Person, Doctor Visit, and Hospital files), and from the 1994 and 1995 NHIS Family Resources Income and Assets Supplements. The Disability Supplement was the most important source for our article and is described below. The Core NHIS data sets and the Family Resources Income and Assets Supplements are described in U.S. Department of Health and Human Services, National Center for Health Statistics (1994a, 1994b, 1995a, 1995b).

Because the key dependent variables in our article concern disability benefits for persons who report a limitation in, or an inability to, work, our analysis of the data was limited to persons aged 18 to 65.

The 1994, 1995 NHIS on Disability

The 1994, 1995 NHIS on Disability (NHIS-D; U.S. Dept. of Health and Human Services 1994c, 1995c) was designed to collect data on the prevalence and correlates of disability in the U.S. noninstitutionalized civilian population. The data were collected in two phases as part of the overall National Health Interview Survey (NHIS) for 1994 and 1995. Phase I of the NHIS-D data collection was conducted at the same time as the 1994 and 1995 Core NHIS interviews. In Phase I, any available adult respondent provided information for all members of the household. Data were collected on such topics as activity and work limitations, mental health, and use of services and benefits. Ninety-four percent of eligible households provided data for the NHIS Core, and 93 percent of the Core households completed the NHIS-D interview. The overall NHIS-D Phase I sample of 78,783 households provided the 120,216 persons aged 18 to 65 whose data were analyzed in this study.

Variables

The available national data set (the NHIS-D) is more limited than is ideal, but many measures are available to help us understand the issues

of interest. First, by differentiating among types of mental disorders, we were able to determine how the character of the disorder affected application and receipt. For example, while 6 percent of the national sample and 37 percent of the sample with a mental disorder of any kind applied for benefits, 78 percent of persons with schizophrenia applied. Similarly, persons with schizophrenia who applied for benefits were more likely to receive them (83 percent) than were those in the population of applicants with any mental disorder (70 percent).

We included a number of sociodemographic variables in our analyses: gender, race, age, education, household income, living situation, and family size. A number of these variables are of interest beyond demographics because the applicant's age, education, and work history are taken into account in the disability determination process when the reviewer attempts to assess the applicant's capacity for work in the national economy. Older persons and those with less education are more readily seen as unable to work than are better educated and younger applicants. Household arrangements were especially important to our analysis because we believe that they significantly affect economic status and possible inducements to seek eligibility. Finally, we included variables addressing persons' disability status and use of treatment services.

Mental Disorders and Physical Conditions

We used two self-reported criteria to determine the presence of mental disorders. The first criterion was an affirmative response to one of several questions about the presence of specific mental disorders (e.g., schizophrenia, major depression) or "OTHER mental or emotional disorders" in the past 12 months. The questions were presented as checklists in the 1994 and 1995 NHIS-D interviews.

The second criterion was based on the reporting of a medical condition, coded by ICD-9 categories (see U.S. Dept. of Health and Human Services 1995d), that fell within the range of codes used for mental illness (ICD-9 codes 290.0 through 319.99). Data on conditions were available from both the 1994 and 1995 NHIS-D and Core data sets.

We considered an affirmative answer to one or more of the mental disorder checklist items or the mention of a condition within the specified range of ICD-9 codes as indicating the presence of a mental disorder. Mental retardation, mental disorders with an organic origin, and

childhood-specific mental disorders were excluded from this definition. We incorporated substance abuse conditions, along with checklist items regarding alcohol and drug abuse disorders, into a separate substance abuse variable.

We defined serious mental illness (SMI) as the presence of one of more of the following: schizophrenia, paranoid states, mood disorders, other nonorganic psychoses, and psychoses with origins specific to childhood. We excluded other conditions often classified as serious mental illness, such as panic disorder and obsessive-compulsive disorder, because their presence could not be distinguished from other, less serious conditions. The variable indicating depressive symptoms was based on an affirmative response to a single checklist item ("Major depression? Major depression is a depressed mood and loss of interest in almost all activities FOR AT LEAST TWO WEEKS") or a condition having one of the following ICD-9 codes: 300.4 (Neurotic depression), 311 (Depressive disorder, not elsewhere classified). It did not include the depressive conditions classified as mood disorders (ICD-9 codes 296.2 and 296.3). The substance abuse variable was based on checklist items for "Alcohol abuse disorder" and "Drug abuse disorder" as well as on several categories of reported conditions: Alcoholic psychoses, Drug psychoses, Alcohol dependence syndrome, Drug dependence, and Nondependent abuse of drugs (ICD-9 codes 291.0 to 292.9 and 303.0 to 305.9, excluding 305.1: tobacco use disorder).

We identified those persons with reported conditions that fell outside ICD-9 codes 290.0 through 319.99 (e.g., asthma, hypertension, arthritis) as having a physical condition.

Efforts to develop estimates of mental disorders in community populations have developed over several decades (Mechanic 1999), but debates continue over the meaningfulness of such estimates and the extent to which they are overly inclusive. In a recently studied national sample, Kessler and his colleagues (1996), using a criterion based on the presence of a disorder in a diagnostic interview and on associated functional limitations, estimated that 5.4 percent of the community adult population had a serious mental illness and that an additional 18.1 percent had a nonserious mental disorder. A more recent effort that applied a "clinical significance" criterion to the estimation of disorder reduced the number by about a third (Narrow et al. 2002), but important questions remain about the clinical significance of adjustments and the validity of estimates (Wakefield and Spitzer 2002).

The self-report–based definitions in this analysis are extremely conservative, since they often exclude persons, included in diagnostic surveys, who may not be aware of their mental disorder, who have never been told they have such a disorder, or who withhold such information because of its stigma. Although the estimates derived from self-report and diagnostic interview methods are based on different assumptions and measures, we made a rough comparison. Using the NHIS-D we estimated the number of people aged 18 and older with one or more mental disorders in the past 12 months who also reported limitation in a major life activity. This yielded an estimate of 2.4 million, considerably fewer than the 10 million persons estimated by Kessler and his colleagues (1996) using the National Comorbidity Survey (NCS; Kessler et al. 1994). From the perspective of the disability process, more conservative estimates are warranted. That is, only those persons unable to work are eligible for SSDI/SSI, and Kessler and his colleagues' estimates (1996) clearly include people whose impairments do not preclude their working (Mechanic, Bilder, and McAlpine 2002).

Social/Psychological Functioning, Health, and Disability

We created a summary variable for individuals from the 1994, 1995 NHIS-D data to indicate the presence of one or more of six problems in social or psychological functioning: "a lot of trouble making or keeping friendships," "a lot of trouble getting along with other people in social or recreational settings," "a lot of trouble concentrating long enough to complete everyday tasks," "serious difficulty coping with day-to-day stresses," "frequently confused, disoriented, or forgetful," and "have phobias or unreasonably strong fears." The six items concerning social/psychological functioning exhibited satisfactory internal consistency (Cronbach's alpha. 71).

We coded self- (or proxy-) assessed health as "good" or better versus "fair" or "poor." Work disability was indicated by reported limitations in kind or amount of work or inability to work. Variables indicating difficulties with activities of daily living (ADLs) and instrumental activities of daily living (IADLs) were based on reported problems with one or more specific activities. Days of restricted activity in the past two weeks represented days of missed work or school, days spent in bed, and other days of reduced activity due to illness or injury.

SSDI/SSI and Employment

We used reports of applying for and receiving Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) to create an SSDI/SSI status variable with three categories: "Applied for and Received SSDI and/or SSI," "Applied for SSDI and/or SSI: Didn't Receive Either," and "Didn't Apply for SSDI or SSI." We extracted the SSDI- and SSI-related variables from the 1994 and 1995 NHIS Family Resources Income and Assets Supplements. Only those persons who applied for or received SSI because of their disabilities were coded as SSI applicants/recipients. Because of missing data, these files contained some imputed data values based on responses to other items in the questionnaire. Among the variables affected were those indicating receipt of SSDI and application for SSDI and for SSI. Our results varied only slightly as a result of excluding or including these imputed values. When we excluded these values from the logistic regression models predicting receipt, sex and the presence of one or more social or psychological problems were no longer statistically significant. The exclusion of these imputed data had no effect on the results of the models predicting application. The number of cases lost when the imputed data were excluded was small (e.g., 4.6 percent of persons with any mental disorder and 5.9 percent of persons with an SMI). Therefore, the analyses we report were based on the data without the imputed values.

Persons were identified as being employed in the past two weeks if they had worked in the past two weeks or if they had not worked but had a job and were not laid off. The group of employed persons who were not working at the time of the NHIS-D interview represented 1.3 percent of the sample (1.8 percent of the employed sample). Persons working 35 hours or more per week were considered to be working full time. Based on these definitions, 75 percent of the entire sample were employed, and 61 percent were employed full time. The corresponding rates for persons with any mental disorder were 48 percent and 34 percent. Data on the number of hours worked per week were based on the 1994 and 1995 NHIS Family Resources Income and Assets Supplements.

Data Analysis

Because the NHIS data collection procedures employed a complex, multistage, sampling design, we used the SUDAAN software package (Shah,

Barnwell, and Bieler 1997) for all our analyses in order to correct for design effects. The data were weighted in order to yield nationally representative point estimates, but the sample sizes reported in the tables remained unweighted in order to provide some information about the relative power of the analyses. Analyses involving the combined SSDI/SSI application and receipt variables were repeated for SSDI and SSI separately as well.

Limitations

A number of limitations should be kept in mind when considering the results presented next, including the fact that all data used in the analyses were based on self- (or proxy) reports. Although not every mention of a variable in the text is accompanied by a "self-reported" qualifier, its presence should be assumed.

The cross-sectional nature of the data requires caution when considering many of the relationships between the predictor and the outcome variables. For example, a self-reported work disability may be both a cause and a consequence of the decision to apply for, and the receipt of, benefits. Similarly, other people in an applicant's household may have received their benefits after, rather than before, the applicant did. Statements that imply causal relationships must be considered educated guesses representing only the most plausible of alternative interpretations.

The NHIS collects data on the civilian, noninstitutionalized population of the United States. Therefore, we could not include in the analyses reported here those persons who were homeless or living in institutions. These excluded groups are particularly likely to have one or more mental disorders and to be subject to the economic privation and disability characteristic of SSDI/SSI applicants (Fischer and Breakey 1991; Robertson and Cousineau 1986; Wright 1989). Moreover, unless identified and supported by outreach programs, such persons may be particularly unlikely to be aware of and seek disability-related income supports. Many questions remain about how people in these populations seek and get help.

We also had to keep in mind the potential bias associated with proxy responses. Some or all of the information about approximately 37 percent of our sample of persons aged 18 to 65 was reported by a proxy respondent. The rate of proxy responses was lower for persons with any mental

disorder (23 percent), presumably because such persons were more likely to be home for the NHIS interviews. Some variables are more susceptible to proxy-related bias than others, and reports of disability are among those affected (Todorov and Kirchner 2000). However, when we reanalyzed the data with the proxy respondents excluded, the results were the same for the model predicting application. Differences in the model predicting receipt were minor: the presence of a physical condition and household income of "40 k or More/Year" were now associated with lower odds of receipt, and days of restricted activity was no longer a significant predictor. These differences were only in the magnitude, not the direction, of the estimates.

Results

Table 1 presents the rates of employment and work disability for several diagnostic groups (Mechanic, Bilder, and McAlpine 2002). Fewer than half the persons with any mental disorder were employed. Thirty-seven

TABLE 1
Employment and Reported Work Disability by Diagnostic Category

Diagnostic Category	n	Percentage Employed (95% CIs)	Percentage Employed Full-Time (95% CIs)	Percentage Reporting Inability to Work (95% CIs)
No Mental Disorder	115,997	76.4 (76-77)	62.4 (62-63)	4.8 (4.6-5.0)
Any Mental Disorder	4,219	48.1 (47-50)	33.7 (32-35)	37.4 (36-39)
Serious Mental Illness (SMI)	1,114	36.8 (33-41)	24.0 (21-27)	51.5 (48-55)
Schizophrenia	320	22.5 (18-27)	12.0 (8-16)	65.3 (60-71)
Non-SMI Mental Disorder	3,105	52.1 (50-54)	37.1 (35-39)	32.4 (31-34)
Depressive Symptoms	2,345	46.0 (44-48)	31.5 (30-34)	38.4 (36-41)
Substance Abuse Disorder	926	54.1 (50-58)	39.9 (36-43)	28.9 (25-33)
Other Mental Disorder	2,099	48.0 (46-50)	33.4 (31-35)	39.7 (37-41)
Physical Condition	50,907	69.5 (69-70)	55.4 (55-56)	13.6 (13-14)
All Persons	**120,216**	**75.4 (75-76)**	**61.4 (61-62)**	**6.0 (5.8-6.2)**

Sources: NHIS-D, 1994, 1995, and other NHIS 1994, 1995 data sets.

percent with a serious mental illness (SMI) were employed, and the rate for the schizophrenia subcategory was 23 percent. Fifty-two percent of persons with a mental disorder not classified as an SMI were employed. All these rates are significantly lower than the 75 percent employment rate for the entire sample. In order to create diagnostic categories of substantive interest, some of the categories constructed for tables 1 and 2 had to overlap; that is, some persons were included in more than one category.

It is full-time employment that is most likely to provide a sustainable income to persons with a mental disorder. Full-time employment rates, like the overall rates, were lowest for persons with an SMI (24 percent), especially persons with schizophrenia (12 percent). Fewer than two-thirds of employed persons with an SMI and only half the employed persons with schizophrenia were working full time. This was in contrast to employed persons with no mental disorder, more than 80 percent of whom were working full time.

The results for the self-reported inability to work were consistent with the employment rates. Persons with schizophrenia and persons with an SMI were the most likely to report that they could not work (65 percent and 52 percent). Although these numbers are high, they indicate that almost one-half to one-third of the persons with the most serious mental disorders (or their proxy respondents) believed that they could work in some capacity. The percentages of work disability for the other mental disorder categories ranged from 29 percent (substance abuse) to 40 percent (other mental disorder).

We assigned people to one of three groups based on self- (or proxy) reports of whether they had ever applied for or received SSDI or SSI benefits: "Applied for and Received SSDI and/or SSI," "Applied for SSDI and/or SSI: Didn't Receive Either," and "Didn't Apply for SSDI or SSI." Table 2 presents the distributions among these three groups by diagnostic category. Forty percent of persons with an SMI were in the "Applied for and Received . . . " group, and almost two-thirds of those with schizophrenia were in this group. Slightly more than a quarter of those with any mental disorder reported receiving SSDI/SSI benefits.

The last two columns of table 2 show the application and receipt rates. The application rates were highest for persons with an SMI (54 percent), especially for those with schizophrenia (78 percent). The rates for the other mental disorder categories varied from 29 percent (substance abuse) to 37 percent (any mental disorder, other mental

TABLE 2
SSDI and SSI Application/Receipt by Diagnostic Category

Diagnostic Category	n	Application/Receipt Category: Applied for and Received SSDI and/or SSI (95% CIs)	Application/Receipt Category: Applied for SSDI and/or SSI: Didn't Receive Either (95% CIs)	Application/Receipt Category: Didn't Apply for SSDI or SSI (95% CIs)	Application Rate (%)	Receipt Rate (%)
No Mental Disorder	109,831	2.8 (2.7-2.9)	2.0 (1.9-2.0)	95.3 (95.1-95.4)	5	59
Any Mental Disorder	4,023	25.8 (24-27)	10.9 (10-12)	63.3 (62-65)	37	70
Serious Mental Illness (SMI)	1,048	40.0 (37-43)	14.2 (12-16)	45.7 (42-49)	54	74
Schizophrenia	301	65.0 (59-71)	13.2 (9-17)	21.8 (17-27)	78	83
Non-SMI Mental Disorder	2,975	20.8 (19-22)	9.7 (9-11)	69.5 (68-71)	31	68
Depressive Symptoms	2,339	23.5 (22-25)	12.4 (11-14)	64.1 (62-66)	36	65
Substance Abuse Disorder	882	18.0 (15-21)	10.8 (9-13)	71.2 (67-75)	29	63
Other Mental Disorder	2,009	26.4 (24-29)	10.6 (9-12)	63.0 (61-65)	37	71
Physical Condition	48,386	7.6 (7-8)	4.5 (4-5)	88.0 (87.6-88.3)	12	63
All Persons	**113,854**	**3.6 (3-4)**	**2.3 (2.2-2.4)**	**94.1 (93.9-94.3)**	**6**	**61**

Note: Ns for diagnostic categories are smaller than those in table 1 due to missing data on SSDI/SSI application and receipt variables.
Sources: NHIS-D, 1994, 1995, and other NHIS 1994, 1995 data sets.

disorder). It is evident that those with the most serious mental disorders are most likely to apply for benefits.

The Receipt Rate column in table 2 is instructive, but it must be viewed with caution. Those persons who were in the middle of the application and/or adjudication process when the interviews were conducted were counted as nonrecipients in the table. However, unless the length of the process varied widely by diagnostic group, the numbers in the Receipt Rate column may be viewed as relative indicators of the likelihood of those who applied receiving benefits. The results were similar to those found in the Application column: those persons with an SMI (74 percent) or schizophrenia (83 percent) were the most likely to receive benefits. As indicators of the overall level of acceptance, the values in the table are probably conservative, including, as they do, some persons whose claims were still being processed at the time of the interview and possibly others whose disability or employment status had improved since their application.

Table 3 describes the social-demographic characteristics of persons with any mental disorder in the three SSDI/SSI application and receipt categories. As noted previously in table 2, approximately 26 percent of these people were recipients; 11 percent had applied but were not recipients; and 63 percent had never applied. Chi-square tests were used for two sets of comparisons: (1) both types of applicants (those who received benefits and those who did not) versus nonapplicants and (2) applicants who received benefits versus applicants who did not receive them.

Compared with persons who did not apply, those who applied for benefits were more likely to be male and nonwhite, older, and living alone and not with a spouse and to have had less education. They also were more likely to be from households with lower incomes. Of those who applied for benefits, recipients were more likely than nonrecipients to be male and living alone and without a spouse and to have had less education and have a lower household income than applicants who did not receive benefits. These results suggest that persons with the fewest resources are the most likely to apply for and receive benefits. This is consistent with both the results of other investigations that examined social-demographic variables and the intentions of the SSDI and SSI programs.

Individuals who receive SSDI and those who receive SSI represent different populations: those in the SSDI program have a significant work

TABLE 3
Social-Demographic Variables by Application/Receipt (Persons with Any Mental Disorder)

		Application/Receipt Category			
	All Persons with a Mental Disorder (95% CIs), n = 4,023	Applied for and Received SSDI and/or SSI (95% CIs), n = 1,071	Applied for SSDI and/or SSI: Didn't Receive Either (95% CIs), n = 445	Didn't Apply for SSDI or SSI (95% CIs), n = 2,507	Comparisons*
Sex					a,b
Female	62.0 (60-64)	52.8 (50-56)	60.0 (55-65)	66.1 (64-68)	
Male	38.0 (36-40)	47.3 (44-50)	40.0 (35-45)	33.9 (32-36)	
Nonwhite vs. White					a
Nonwhite	17.4 (16-19)	25.2 (22-28)	21.5 (17-26)	13.6 (12-15)	
White	82.6 (81-84)	74.9 (72-78)	78.5 (74-83)	86.4 (85-88)	
Age					a
Age 18-24	10.7 (10-12)	7.3 (5-9)	6.3 (4-9)	12.8 (11-14)	
Age 25-44	55.0 (53-56)	46.3 (43-50)	52.8 (48-57)	58.8 (57-61)	
Age 45-64	34.4 (33-36)	46.3 (43-50)	41.0 (36-46)	28.4 (27-30)	
Living Situation					a,b
Living Alone	23.0 (21-25)	30.0 (27-33)	24.7 (20-29)	19.8 (18-22)	
Living with Spouse	44.9 (43-47)	32.0 (29-35)	39.8 (35-44)	51.1 (49-53)	
Living with Other Person	32.1 (30-34)	38.0 (35-41)	35.5 (31-40)	29.1 (27-31)	

Education					a,b
Less than High School	23.7 (22-25)	40.4 (37-44)	28.6 (24-33)	16.1 (15-18)	
Education					
High School Graduate	35.4 (34-37)	35.0 (32-38)	35.1 (30-40)	35.6 (34-38)	
Attended College	33.2 (33-35)	21.5 (19-24)	30.5 (26-35)	38.4 (36-40)	
Post-College	7.7 (7-9)	3.2 (2-4)	5.8 (3-8)	9.9 (9-11)	
Household Income					a,b
Less than 20 k/Year	39.7 (38-42)	58.8 (55-62)	54.6 (49-60)	29.4 (27-31)	
20 to 29.9 k/Year	15.3 (14-17)	11.8 (9-14)	15.2 (11-19)	16.7 (15-18)	
30 to 39.9 k/Year	10.8 (10-12)	6.8 (5-8)	8.0 (5-11)	13.0 (11-14)	
40 k or More/Year	23.0 (22-24)	6.9 (5-8)	12.8 (9-16)	31.3 (29-33)	
Unknown	11.2 (10-12)	15.7 (13-18)	9.4 (7-12)	9.7 (8-11)	

Notes:
*a = $p < .05$ for difference between applicants (both applicant groups) and nonapplicants; b = $p < .05$ for difference between recipients and applicants.
Ns for the Application/Receipt categories may be smaller than reported for some variables due to missing data.
Sources: NHIS-D, 1994, 1995, and other NHIS 1994, 1995 data sets.

history, whereas SSI recipients have had less regular employment or have not worked at all. In addition, there are sociodemographic differences between these populations, as well as differences in some aspects of their illnesses and impairments. For example, compared with the SSDI recipients, the SSI recipients were more likely in the NHIS-D samples to be female, nonwhite, younger, and not married. They were also less likely to have attended college and were more likely to have come from a household with an annual income of less than $20,000. But the SSI recipients tended to be less impaired than the SSDI recipients; they were less likely to have problems with daily activities; and they reported being in better health.

Although our discussions with an SSA representative and others indicated that applicants for SSDI/SSI usually do not seek enrollment specifically in one or the other program, we repeated our analyses separately for the application and receipt of SSDI and of SSI. While we found some differences between these models and our combined SSDI/SSI model, most were in the significance of the predictors rather than in the direction of the effects. Some of these differences may have been a result of the lower statistical power of the separate analyses. We note these differences later in this article and on request will make available the complete tables for the separate analyses.

We estimated two sets of logistic regression models: one for application and one for receipt. In each set we examined three models. The first included social-demographic variables; the second added variables describing illness (SMI, comorbid substance abuse and physical conditions), health, and disability; and the third added variables addressing work disability, service usage, social/psychological functioning, and household experience with the SSDI/SSI programs. For both outcome variables, the addition of predictors in the second and third models significantly increased the models' overall predictive value ($p < .05$). For each outcome variable, only the third model, which contains all the predictors, is presented here. As a result of missing data among the predictor variables, not all cases were included in the models described. Seven percent of the cases had to be excluded from the application model, and 8 percent were excluded from the receipt model. Those persons who were excluded from the models were more likely to be nonwhite, to have had less education, to have a lower household income, and to have one or more problems with activities of daily living (ADLs). They also were less likely to have a substance abuse disorder.

Modeling Application

Table 4 presents the results for the application versus nonapplication outcome variable. The R-squared for the model was .42. The social-demographic variables that distinguished applicants from nonapplicants in table 3 remained significant in the presence of the other explanatory variables. Being both male and older was associated with higher odds of having applied for SSDI/SSI benefits. Higher educational attainment and higher household income were associated with lower odds of application.

Of the illness and disability variables, the presence of a serious mental illness increased the odds of application, as did fair or poor self- or proxy-reported health. Those persons who reported one or more problems with ADLs or IADLs had two or more times the odds of applying than did those without such problems. Notably, those who had both a mental disorder and a substance abuse disorder or a physical condition were not more likely to apply than were those who had only a mental disorder. However, the bivariate relationships between these variables and the outcome, not presented here, were significant: applicants were more likely than nonapplicants to have comorbid physical and/or substance abuse conditions.

Self-reported limitations in work and a self-reported inability to work were associated with higher odds of application. Those who reported being unable to work were more than nine times as likely to have applied for benefits than were persons with no work limitations. The results for service usage variables were mixed. Persons who had received services for social or psychological problems from a mental health community support program were more likely to have applied, although the presence of such problems did not predict application. This is not surprising, as helping clients obtain benefits is an important objective of these programs. Recent psychiatric hospitalization and recent visits to a psychiatrist, psychologist, or social worker were not significant predictors, although a variable indicating the number of doctor visits in the past 12 months had a significant positive association with application.

Individuals who lived in a household in which another person received SSDI/SSI benefits were three times as likely to have applied for benefits themselves. As with all variables in a cross-sectional analysis, care must be taken when considering cause-and-effect relationships. There is no way of knowing whether another household member's receipt preceded or followed the person's application. However, regardless of the timing,

TABLE 4
SSDI/SSI - Predicting Application and Receipt (Persons with Any Mental Disorder)

	Predicting Application (Odds Ratio)	Predicting Receipt among Applicants (Odds Ratio)
R-Squared for Model	.422 (30 df)	.124 (30 df)
N for Model	3,729	1,393
Social-Demographic Variables		
Male	1.53**	1.30
Nonwhite	1.39*	1.05
Age		
18 through 24	1.00	1.00
25 through 44	1.71**	0.89
45 through 64	2.16**	1.14
Education		
Not High School Graduate	1.00	1.00
High School Graduate	0.68**	0.80
Some College or College Graduate	0.53**	0.58**
Post-College	0.38**	0.47*
Household Income		
Less than 20 k/Year	1.00	1.00
20 to 29.9 k/Year	0.56**	0.88
30 to 39.9 k/Year	0.49**	1.05
40 k or More/Year	0.41**	0.73
Unknown	0.69*	1.43
Living Situation		
Living with Spouse	0.59**	0.84
Living Alone	1.02	1.29
Living with Other Relative or Nonrelative	1.00	1.00
Number of People in Family	0.87**	0.89
Illness and Disability-related Variables		
Have a Serious Mental Illness	1.94**	1.21
Have a Substance Abuse Disorder	0.77	0.78
Have a Physical Condition	0.97	0.65
Fair or Poor Health	1.46**	0.93
Any Problems with ADLs	2.02**	1.29
Any Problems with IADLs	2.14**	1.44*
Restricted Activity Days, Past 2 Weeks	0.98	0.96**

TABLE 4—*Continued*

	Predicting Application (Odds Ratio)	Predicting Receipt among Applicants (Odds Ratio)
Work Disability, Health Care, Benefits, Social/Psychological Problems		
Level of Work Disability		
Limited in Kind/Amount of Work	1.95**	1.04
Unable to Work	9.19**	2.84**
Number of Doctor Visits, Past 12 Months (Log-Transformed)	1.12*	1.06
Any Psychiatric Hospitalization, Past 12 Months	1.38	2.25
Visited Psychiatrist, Psychologist, or Social Worker, Past 12 Months	1.09	1.09
Received Services from Mental Health Community Support Program (Due to Social/ Psychological Problems), Past 12 Months	2.00**	1.26
Household Members' Experience with SSDI/SSI		
SSDI/SSI Applicant (Nonrecipient) in Household	1.59	1.12
SSDI/SSI Recipient in Household	3.13**	2.73**
One or More Social/Psychological Problems	1.09	0.75

*$p < .05$ **$p < .01$
Sources: NHIS-D, 1994, 1995, and other NHIS 1994, 1995 data sets.

it seems clear that when one person in a household has had experience with the SSDI/SSI programs, the odds of another household member's having had experience are increased.

We found some differences when we looked at SSDI and SSI applications in separate models. Compared with the model predicting combined SSDI/SSI application, the following predictors were no longer significant when SSDI application alone was predicted: nonwhite, education, living with spouse, and number of people in family. Moreover, the presence of an SSDI and/or SSI recipient in the household was no longer associated with higher odds of application, but the presence of an SSDI-only applicant in the household was. The presence of one or more social/psychological problems was associated with higher odds of applying for SSDI, but not in the SSI or combined models.

With respect to the SSI application model, being male and older were no longer associated with an increased likelihood of applying. Other variables that were not significant predictors in the SSI-only model were number of people in family, limitations in kind and/or amount of work, and number of doctor visits in the past 12 months. Having an SSDI/SSI or SSI-only recipient or applicant in the household was associated with higher odds of applying for SSI. This is in contrast to the combined model in which having a recipient, but not simply having an applicant, in the household emerged as significant. Days of restricted activity in the past two weeks was associated with lower odds of application in the SSI model, but not in the SSDI or combined models.

Those variables that were helpful in predicting application for benefits were used in an additional bivariate analysis intended to understand the differences between applicants and nonapplicants in an important subgroup: persons with an SMI reporting that they were unable to work. It is these people who are likely to have the greatest need for SSDI/SSI. The subsample consisted of 555 people, only 20 percent of whom had not applied for benefits. The data for applicants and nonapplicants are summarized in table 5.

Most of the variables that predicted application in the larger sample of persons with any mental disorder also distinguished applicants from nonapplicants in the subsample. Nonapplicants were more likely to be living with a spouse and to have a larger family and a higher household income. They were less likely to report problems with ADLs and IADLs and to have received community mental health services or to be in a household with an SSDI/SSI recipient. The difference in the mean number of doctor visits in the past 12 months was significant, and the median number of visits was 20 percent higher for applicants. Some people in this subsample were better off than others in terms of social and financial resources, disability, and use of services. But other analyses (not shown) indicated that compared with the general population and those with any mental disorder, this group was significantly disadvantaged economically, medically, psychologically, and in terms of disability and employment.

The pattern described in the regression models and in the analysis of the subgroup with work disability and SMI also appeared in an examination of a contrasting subgroup: persons with a mental disorder (but not an SMI) who did not report limitations in the work they could do. Only 8 percent of this group had applied for SSDI/SSI benefits, but the applicants differed from the nonapplicants in the ways just described.

TABLE 5
Persons with a Serious Mental Illness and Reported Inability to Work: Differences between Applicants and Nonapplicants

	Applied for SSI and/or SSDI (95% CIs), n = 444	Didn't Apply for SSI or SSDI (95% CIs), n = 111
Living Situation		
Living Alone	29.4 (24-35)	8.2 (3-13)
Living with Spouse	29.3 (25-34)	61.0 (51-71)
Living with Other Person	41.3 (36-46)	30.8 (21-41)
Household Income		
Less than 20 k/Year	61.1 (56-66)	40.9 (31-51)
20 to 29.9 k/Year	11.96 (8-15)	18.8 (11-27)
30 to 39.9 k/Year	8.6 (5-12)	8.5 (3-14)
40 k or More/Year	7.1 (5-10)	21.0 (13-29)
Unknown	11.3 (8-14)	10.8 (4-17)
Any Problems with ADLs	23.6 (19-28)	12.7 (6-20)
Any Problems with IADLs	57.5 (52-63)	44.2 (34-54)
Received Services from Mental Health Community Support Program (Due to Social/Psychological Problems), Past 12 Months	51.1 (46-56)	30.7 (22-40)
Household Members' Experience with SSDI/SSI		
SSDI/SSI Applicant (Nonrecipient) in Household	6.7 (4-9)	8.7 (4-14)
SSDI/SSI Recipient in Household	18.7 (15-23)	9.8 (4-15)
Mean Number of People in Family	2.4 (2.3-2.6)	3.2 (2.9-3.5)
Median Number of Doctor Visits, Past 12 Months*	12	10

Notes: $p < .05$ for all differences between applicants and nonapplicants.
*$p < .05$ for difference between natural log of means.
*N*s for the Application categories may be smaller than reported for some variables due to missing data.
Sources: NHIS-D, 1994, 1995, and other NHIS 1994, 1995 data sets.

These results suggest that describing oneself as having a mental disorder, or being described as such by a proxy, is not sufficient for a person to begin the application process. Rather, it is the disability and deprivation experienced by *some* persons with a mental disorder that are the most influential.

Modeling Receipt

The variables that predicted application for benefits were less successful at predicting who among the applicants actually received benefits. The R-squared for the full model shown in table 4 was .12. With only one exception, the variables that emerged as significant in this model represented a subset of the significant predictors in the application model. Persons with more education were less likely to receive benefits. Gender, white/nonwhite background, household income, age, and living situation (e.g., alone, with spouse, with another person) did not predict receipt.

Of the illness and disability variables, problems with IADLs, but not with ADLs, were associated with higher odds of receipt. As was the case in the application model, those who reported being unable to work and those whose households had another SSDI/SSI recipient were more likely to receive benefits. Days of restricted activity, which did not predict application, was associated with lower odds of receipt.

When the receipt of SSDI and of SSI were analyzed separately, the results differed only slightly from the results of the combined SSDI/SSI analysis described in table 4, and most of the differences that emerged were in the magnitude, rather than in the direction, of effects. Being male was associated with higher odds of receiving SSDI, but education and days of restricted activity were no longer significant predictors of SSDI receipt. Living with a spouse was associated with lower odds of receiving SSI, as was the presence of a physical condition. Problems with IADLs and restricted activity days were not significant predictors of SSI receipt, and inability to work was only borderline significant ($p = .054$). In addition, in contrast to the SSDI and SSDI/SSI models, the presence of one or more social/psychological problems was associated with lower odds of SSI receipt. Finally, unknown/unreported household income was associated with higher odds of receipt in the SSDI- and SSI-only models, but not in the combined SSDI/SSI model.

Discussion

Individuals with mental disorders have lower rates of employment than does the general population, and they represent the largest diagnostic group receiving SSDI and/or SSI benefits. Many persons with such disorders would like to work. In a survey of families belonging to the

National Alliance for the Mentally Ill (NAMI), Uttaro and Mechanic (1994) found that 61 percent of consumers reported a need for help finding or keeping a job. Fewer than half the consumers reported receiving help in this area, and nearly 20 percent wanted more help than they were currently receiving.

The first step in securing benefits for those who need them is to begin the application process. Many people do not seek benefits despite an evident need for them. Making sure that those who need SSDI and/or SSI know that they are probably entitled to benefits and helping them file an application should be a priority for persons working with the disabled mentally ill. Research has shown that appropriate intervention can increase application rates among likely recipients (Dow and Boaz 1994; Rosenheck, Frisman, and Kasprow 1999). Many service providers, however, are aware that the path to disability benefits is often a one-way street, that few who enter the rolls ever leave them (Estroff, Zimmer, et al. 1997). Thus, it is important to distinguish those who are unlikely ever to be able to work from unemployed persons whose prospects for employment in the future might be derailed by their entry into the disability system.

Deprivation, disability, and access to information appear to characterize those who apply for SSDI/SSI benefits. Applicants tend to have lower incomes and less education than do nonapplicants. Interpersonal deprivation may be a factor as well. For example, persons living with a spouse were less likely to apply for benefits. In analyses not reported here, applicants were also more likely to have problems getting along in social situations and maintaining friendships. In addition, Estroff, Zimmer, and colleagues (1997) reported that applicants were more submissive in relation to a significant person in their lives than were nonapplicants.

We were not surprised to find that reported disability was an important predictor of application. Both general work disability and specific problems with activities of daily living were associated with higher odds of application. Persons who reported that they were unable to work were more than nine times more likely to apply for benefits than were persons who did not report any work disability. Work disability, in turn, was highest among individuals with a serious mental illness, especially schizophrenia. The presence of an SMI, however, was only one among a constellation of predictors. Whether describing oneself as having a work disability is primarily a cause of application or a consequence of it cannot be conclusively determined in a cross-sectional study like this. The complex and drawn-out nature of the disability determination

process (see Goldman and Gattozzi 1988; Mashaw 1983), however, is a likely deterrent to persons not already faced with some disability.

The case for the third characteristic of applicants—access to information—is more conjectural and was based on doctor visits, use of community mental health services, and the presence of an SSDI/SSI recipient in the household. Although it is possible that visits to a doctor and the use of community mental health assistance reflect a need for services, the fact that these variables remained significant predictors when illness, health, and disability variables were controlled suggests another interpretation. Both doctors and community mental health providers can be valuable sources of information that can help people evaluate their prospects of being able to work and document their disabilities during the application process. And they can provide information about benefits and assistance in receiving them for those who cannot work. Community programs, in particular, are aggressive in encouraging application and help during the disability determination process. Similarly, another person in the household who has successfully navigated the application process can both help initiate an application and serve as an example of the benefits to be had from the SSDI/SSI programs. The fact that another's having *applied* for benefits is not a significant predictor points to a commonsense hypothesis: the presence of another household member who *received* benefits motivated the person to apply for similar benefits. The design of this study, however, does not permit a test of this hypothesis against reasonable alternatives: that members of some households are more inclined to seek benefits than are persons in other households or that persons with disabilities are selected into households with others who have similar disabilities.

Some people with serious mental illness are unable to work but have not applied for benefits. Although people with an SMI who report an inability to work are very likely to apply for benefits, approximately one-fifth have not done so. These people are important targets for intervention because although they appear to be better off than nonapplicants, they are much worse off than the general population or the population of people with any mental disorder. Programs intended to provide information and support in the application process may be all that are required to separate those who can be helped by SSDI/SSI from those who do not need or want such benefits.

Efforts at understanding the variables that predict the receipt of benefits among those who applied were less successful. The significant

variables represented a subset of those that predicted application, but the model's overall predictive utility was low. The analyses suggest that deprivation, disability, and access to information may help determine which applicants receive benefits, but clearly, much about receipt has still not been explained.

It is not surprising that we were less successful in accounting for benefit receipt than we were in understanding application. Many factors not measured in the NHIS-D may affect applicants' odds of being enrolled in the SSDI and/or SSI programs. The pool of applicants is likely to change with shifts in the national economy. For example, between 1970 and 1993, the rates of initial acceptance into the programs ranged from 27 percent to 57 percent of applicants, and the rates following reconsideration ranged from 11 percent to 35 percent (Mashaw and Reno 1996b). During recessions and when unemployment rates are higher, persons with disabilities may face greater difficulty keeping their jobs or finding new ones. The labor market also varies by geographic area, and applicant pools may differ from one locality to another. In addition, Disability Determination Service (DDS) agencies have a great deal of discretion in interpreting claims and medical documentation, and there is much variability in the process. Even more variability is introduced when ALJs reverse DDS decisions to deny benefits. When Congress has become concerned about increases in the disability rolls, efforts have been made to limit the discretion of ALJs.

From the applicant side, success depends not only on disability and need but also on the sophisticated management of the application process. This includes a basic knowledge of how to make a claim, the availability of assistance, the ability to gather needed medical documentation, access to legal advice, and a willingness to pursue appeals through successive levels. For example, Rosenheck and colleagues (2000) reported that homeless veterans who received SSDI/SSI benefits, in contrast to applicants who did not get benefits, showed more general willingness to delay satisfaction. They interpreted this as a sign of patience, thoroughness, and willingness to persevere through the application process. With regard to legal assistance, an attorney specializing in Social Security disability law told one of us that he felt confident that he could get any person with a disability on the rolls by carefully managing the application and review process.

Ideally, all people whose impairments prevent them from working should receive necessary financial, medical, and rehabilitative support.

Disability policy must inevitably find a balance between the growth of the disability rolls and the increased expenditures accompanying such growth. Although there is a consensus in favor of helping those who need income support, there is also a strong belief that people who can work should work and that incentives that induce individuals to leave the workforce prematurely should be avoided. This position is shared by many persons with disabilities and their advocates who seek to eliminate work disincentives in disability programs. Distinguishing between those who can and cannot work is often difficult and contentious at the margins, and the state of the economy and the availability of jobs for persons of different skill levels in different locations can tip the balance in either direction at different times.

The report of the Disability Policy Panel of the National Academy of Social Insurance, commissioned by the House Ways and Means Committee, concluded after exhaustive study:

> The Panel's basic finding is that the Social Security and SSI disability benefit programs do not pose strong incentives for Americans with disabilities to seek benefits in lieu of working. Rather, the strict and frugal design of these programs makes remaining at work preferable to benefits for those who are able to work. (Mashaw and Reno 1996a, 56)

Our analysis of application and receipt among persons with mental disorders substantiates the conclusion that those who apply for and receive benefits are among the most vulnerable and disabled persons in the U.S. population. Although our statistical analysis of survey data cannot be fully determinative, our analysis also suggests that there are many nonapplicants with mental illness who have high levels of need and who would probably qualify for benefits. Some of the studies reviewed and the practical experience of clinicians who work with these populations indicate that good informational resources and assistance in the application process can help improve the fit between need and enrollment.

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