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Advance Data

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Serious Mental Illness and Disability in the Adult Household Population: United States, 1989

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Introduction

Significance of the problem

Estimates of the prevalence of serious mental illness (SMI) and information on persons with SMI in the United States are critical to the development of policy for this population in a broad range of areas, such as planning and development of necessary mental health, health, and social services, including housing; development of disability policy (for example, Supplemental Security Income and/or Social Security Disability Insurance eligibility); and training, recruitment, and placement of psychiatric and other mental health staff. However, such data have not been readily available because of the difficulty of defining the population, the lack of relevant operational measures, and the lack of appropriate survey mechanisms outside of treatment settings. This report is designed to address this deficit for the civilian noninstitutionalized population of the United States.

Deinstitutionalization of mentally ill persons and demographic trends in the United States, that is, the aging into adulthood of "baby boomers" and the overall graying of America, have resulted in an increase in the absolute number of SMI persons generally and in those living in the community. Currently, the National Institute of Mental Health (NIMH) estimates that there are between 4 and 5 million SMI persons in the adult population of the United States, including both institutional and community residential settings (1). Thus, some sense of urgency exists to improve knowledge about this large, disabled population.

Definition of the population

Historically, the definition of SMI was based principally upon psychiatric diagnosis. Over the years this definition has evolved to a more refined notion, including psychiatric disabilities. It has become increasingly recognized that the SMI population is a heterogeneous group with different diagnoses, levels of disability, and duration of disability, and therefore, different service needs (2). At present, a more precise definition is being developed by NIMH to encompass this diversity.

Because of the complexity of the interface among psychiatric diagnosis, type and level of disability, and duration of the disability, SMI has been defined for the present survey as any psychiatric disorder present during the past year that seriously interfered with one or more aspects of a person's daily life. In this context, specific measures of disability and their duration represent variable characteristics of persons in the population rather than defining criteria. This approach represents a more flexible application of the diagnosis, disability, and duration criteria employed in the past (3–5).

Previous estimates

The most recent survey prior to the present, the 1978 Social Security Administration Survey of Disability and Work, estimated that 1.1 million persons in households were "seriously disabled mentally ill" (6). The definition of the population was based on persons 20–64 years of age who were limited in the kind or amount of work or housework they could do and who had been disabled or were expected to be so for a

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period of at least 12 months, mainly because of mental illness or nervous or emotional problems.

The estimate of 1.1 million persons was known to be an undercount of the population in the community because data were not collected on functional limitations beyond the work domain, or on limitations of a shorter duration than 1 year, that is, people with recent or episodic disabilities. Elderly persons, the fastest growing segment of the population in the United States were not included and no data were collected on the use of mental health services or participation in programs by persons with psychiatric disabilities.

Present survey

In 1989, NIMH collaborated with the National Center for Health Statistics (NCHS) on a special supplement to the National Health Interview Survey (NHIS). The purpose was to update previous estimates using a more flexible operational definition of the number of SMI persons in the household population of the United States, and to examine the use of mental health services and disability program participation of this population.

Highlights

Based on respondent-reported information collected in the NHIS, in 1989 there were approximately 3.3 million adults 18 years of age or older in the civilian noninstitutionalized population of the United States who had a serious mental illness in the past 12 months, a rate of 18.2 adults per 1,000 persons. Approximately 2.6 million, or 78.8 percent of these adults, have one or more specific limitations in work, school, personal care, social functioning, concentrating, or coping with day-to-day stress attributed to SMI.

Approximately 1.4 million adults between the ages of 18 and 69 were currently unable to work (829,000) or limited in work (529,000) because of their SMI, and over 82 percent of these adults have had this work limitation for a year or longer.

Among the 390,000 adults 70 years of age and over with SMI, about 85 percent had current limitations in one or more of the specific activities described above because of SMI, and approximately 80 percent of these adults had been limited by SMI for a year or longer.

About 703,000 adults with SMI in the household population receive a disability payment through a Government program because of their mental disorder. By race, 76 percent of these adults are white persons and 22 percent are black persons. Almost 43 percent of black adults with SMI receive a Government disability payment compared with about 21 percent of white adults with SMI.

Data and methods

Design

The NHIS is a continuous cross-sectional nationwide survey of the resident household population of the United States. Every year since 1957, basic demographic and health information has been collected from a nationally representative sample of households in face-to-face interviews conducted by staff of the U.S. Bureau of the Census. Certain types of noninstitutional group quarters, such as small group homes and halfway houses, are included and residents interviewed when these places fall into the sampling frame. The term "household" is used to denote all residential places in the NHIS sample. Information is collected on each member of the family (or families) residing in the household, by proxy if the person is not at home at the time of the interview or is not competent to self-respond. For the NHIS-Mental Health, the same respondent or respondents present for the basic interview were asked questions on mental health about all family members.

Respondents

In 1989, information was collected on about 113,000 persons for the NHIS-Mental Health. This represented a response rate of 97 percent of respondents for which information was collected on the basic questionnaire and about 92 percent of the total NHIS sample. Nonresponse for the basic NHIS was about 5 percent.

In the entire 1989 NHIS sample, over 58 percent of all adults responded for themselves, and about 68 percent of adults reported to have SMI responded for themselves. As might be expected, self-response was lower among those persons most seriously disabled by SMI. Of those reported to be unable to carry out one or more activities for a year or longer, 52 percent responded for themselves compared with 77 percent of those for whom no specific current limitations were reported.

Validity of the data

Clearly, the quality of these data is dependent on the person with SMI or a family member's awareness of and willingness to report both the condition and the resulting disability. Because there is still some stigma attached to mental illness and because this survey was not designed to "diagnose" mental disorders, these data are likely to underestimate the true prevalence. In this survey, both diagnosed and undiagnosed conditions were reported; but among those persons with a current limitation due to the mental disorder, about 95 percent reported that a health professional had diagnosed the disorder. Among all persons reported to have SMI, over 92 percent reported that the disorder had been diagnosed.

Methods

The three main concepts in the NIMH definition of "serious mental illness," diagnosis, disability, and duration of disability (3–5) were operationalized in the survey in the manner described below.

Information about a mental or emotional disorder diagnosis was determined using a checklist of specific severe mental disorders and

RT 69 3–4

Section O — MENTAL HEALTH

PERSON 1

Enter person number(s) of respondent(s).

5–6
7–8

Person number(s) of respondent(s)

These questions are about mental and emotional disorders.

1a. DURING THE PAST 12 MONTHS, did anyone in the family have —

If "Yes," ask 1b and c.

b. Who is this?

Mark box in appropriate person's column.

c. DURING THE PAST 12 MONTHS, did anyone else have —

A. Schizophrenia (skit-suh-free'-nee-uh)?	☐ Yes	☐ No	A.	1 ☐ Schizophrenia 9
B. Paranoid or delusional disorder, other than schizophrenia?	☐ Yes	☐ No	B.	1 ☐ Paranoid disorder 10
C. Manic episodes or manic depression, also called bipolar disorder?	☐ Yes *(Specify)*	☐ No	C.	1 ☐ Manic episodes 11 1 ☐ Manic depression 12
D. Major depression? *Read if necessary:* **A depressed mood and loss of interest in almost all activities FOR AT LEAST TWO WEEKS.**	☐ Yes	☐ No	D.	1 ☐ Major depression 13
E. Anti-social personality, obsessive-compulsive personality, or any other SEVERE personality disorder?	☐ Yes	☐ No	E.	1 ☐ Personality disorder 14
F. Alzheimer's (altz' hī-merz) **disease or another type of senile disorder?**	☐ Yes	☐ No	F.	1 ☐ Senility 15
G. Alcohol abuse disorder?	☐ Yes	☐ No	G.	1 ☐ Alcohol abuse 16
H. Drug abuse disorder?	☐ Yes	☐ No	H.	1 ☐ Drug abuse 17
I. Does anyone in the family NOW have mental retardation?	☐ Yes	☐ No	I.	1 ☐ Mental retardation 18

2a. DURING THE PAST 12 MONTHS, did anyone in the family have any OTHER mental or emotional disorders? Include ONLY those disorders which SERIOUSLY interfere with a person's ability to work or attend school, or to manage their day-to-day activities. ☐ Yes ☐ No *(Check Item 1)*

b. Who is this? Anyone else? *Mark box in appropriate person's column.* — 2b. 1 ☐ Other 19

Ask for each person with "Other" in 2b:

c. What would you call the disorder — — has? — c. 20–22

CHECK ITEM 1 — *Refer to 1A—F and 2b/c.* — CK 1 — 1 ☐ One or more entries in 1A–F or 2b/c *(Check Item 2)* 23; 2 ☐ All others *(NP or Section P)*

CHECK ITEM 2 — *Enter disorder(s) from 1A—F and 2c. DO NOT RECORD G, H, OR I.* — CK 2 — *(Check Item 3)*

Notes

FORM HIS-1A (10-01-92)

Figure 1. Mental disorder checklist

an additional question about the presence of "any other mental or emotional disorder" that seriously interfered with a person's ability to work or attend school or to manage their day-to-day activities. The reference period for these questions was during the past 12 months. The mental disorder checklist appears in figure 1.

Questions were subsequently asked about if and when the reported disorder was diagnosed by a health professional, if and when a mental health or other health professional was last seen for the disorder, the type of mental health professional last seen, and the use of prescription medication for the disorder.

Alcohol abuse disorder, drug abuse disorder, and mental retardation were asked on the checklist but no followup questions were asked about these conditions. Persons reporting only one or more of these disorders are excluded from the data in this report because they are not included in the NIMH definition of "serious mental illness." These conditions were asked on the checklist in order to avoid having them reported as "other" mental or emotional disorders, which would have required coding before deleting them from this analysis.

Among those with SMI, disability was measured through a series of questions about current limitations in activities and functions and a series of questions about the receipt of Government disability payments. The limitation questions asked whether the person was entirely prevented from working or limited in work, and, for persons 18–24 years old and not in the labor force, in attending school or college; whether they appropriately and adequately took care of personal care needs (eating, dressing, bathing, and going to the toilet) and specific instrumental activities of daily living (managing money, doing everyday household chores, shopping, and getting around outside the home); and the degree of difficulty with certain aspects of social and cognitive functioning. The time reference for the disability questions was "now," that is, the present time. Each of these questions was phrased to refer only to limitations due to the reported mental disorder. Obviously, to the extent that persons have multiple health problems and cannot parcel out disability resulting from each, this was a difficult question to answer. Similar questions have been used previously by NIMH as part of surveys of SMI in treatment settings (7) as well as in household surveys (8).

The duration of disability concept was measured simply by asking how long any identified limitation due to the mental disorder had been present.

The "Technical notes" section that appears at the end of this report contains more information on the survey design, sampling procedure, and NHIS questionnaire documents. Methods for constructing approximate standard errors and tests of significance for estimates and percents presented in this report also appear in these notes. Unless otherwise noted, the comparisons made within the text are significant at the .05 level.

This report presents estimates of the 12-month prevalence, demographic and socioeconomic characteristics, current disability, service utilization, and disability program participation of the adult SMI household population of the United States. A facsimile of the mental health questions is provided in "Current Estimates From the National Health Interview Survey, 1989" (9).

Results

Prevalence and demographic characteristics

The 1989 12-month prevalence estimate of SMI in the U.S. adult household population is 18.2 per 1,000 persons. About 79 percent of these persons had one or more current limitations attributed to their mental disorder but these estimates varied greatly between subgroups of the population (table 1). The rate of SMI was generally higher in the oldest age group than in any other. More females than males were reported to have SMI (20.6 compared with 15.5 per 1,000 persons).

Neither the prevalence of SMI nor the proportion of persons with resulting current disability is significantly different for black and white persons. The prevalence rate among "other" races is about one-half that of black or white persons.

Both the prevalence of SMI and resulting disability are clearly related to poverty status. SMI was over 2 1/2 times as likely among adults in poverty than among those not in poverty, and proportionally more poor than nonpoor adults with SMI had resulting disability.

Lower educational attainment is strongly related to prevalence and disability from SMI. Among adults with less than 12 years of education, the rate of SMI is almost twice that among those with more than 12 years; and the percent with disability among the least educated group is 86.5 percent compared with 70.7 percent of the highest educated group.

Respondent-assessed health status

Data on assessed health status are acquired in the basic NHIS by asking respondents to assess their own health and that of family members living in the same household as excellent, very good, good, fair, or poor. Respondent-assessed health status has been shown to be highly correlated with more objective measures of health status and to predict mortality (10, 11).

Table 1 shows a strong negative correlation between reported health status and prevalence rate of SMI, and the same pattern holds for the proportions of persons reporting current limitations. Among adults with "poor" health status, the rate of SMI was 118.3 per 1,000 persons, or more than six times the rate for the total adult population; and almost

Table 1. Number and percent distribution of the adult household population, adults with serious mental illness and rate per thousand, adults currently limited by serious mental illness and percent limited, by selected characteristics: United States, 1989

Characteristic	Adult household population		All adults with serious mental illness			Adults currently limited by serious mental illness		
	Number in thousands	Percent distribution	Number in thousands	Percent distribution	Rate per thousand	Number in thousands	Percent distribution	Percent
Total[1]	179,529	100.0	3,264	100.0	18.2	2,571	100.0	78.8
Age[1]								
18–24 years	25,401	14.2	361	11.1	14.2	291	11.3	80.6
25–34 years	42,814	23.9	707	21.7	16.5	501	19.5	70.8
35–44 years	35,982	20.0	744	22.8	20.7	600	23.3	80.6
45–64 years	46,114	25.7	919	28.2	19.9	749	29.1	81.5
65–69 years	9,903	5.5	142	4.4	14.3	99	3.9	70.0
70–74 years	7,925	4.4	102	3.1	12.9	82	3.2	79.8
75 years and over	11,391	6.3	288	8.8	25.3	249	9.7	86.6
Sex[1]								
Male	85,257	47.5	1,320	40.4	15.5	1,105	43.0	83.7
Female	94,272	52.5	1,944	59.6	20.6	1,466	57.0	75.4
Race[1]								
White	153,763	85.6	2,812	86.1	18.3	2,194	85.3	78.0
Black	19,932	11.1	393	12.0	19.7	325	12.7	82.8
Other	5,834	3.2	59	1.8	10.1	52	2.0	87.1
Poverty status[2]								
Below poverty threshold	15,464	9.5	609	21.0	39.4	525	23.1	86.3
At or above poverty threshold	147,070	90.5	2,284	79.0	15.5	1,750	76.9	76.7
Education[2]								
Less than 12 years	39,809	22.4	1,083	33.8	27.2	937	37.3	86.5
12 years	68,563	38.6	1,120	34.9	16.3	866	34.5	77.4
More than 12 years	69,369	39.0	1,002	31.3	14.4	708	28.2	70.7
Respondent-assessed health status[2]								
Excellent	62,277	34.8	337	10.3	5.4	192	7.5	56.9
Very Good	50,941	28.5	620	19.1	12.2	414	16.1	66.7
Good	43,769	24.5	812	24.9	18.6	617	24.1	75.9
Fair	15,565	8.7	755	23.2	48.5	648	25.3	85.9
Poor	6,207	3.5	734	22.5	118.3	695	27.1	94.7

[1]Includes persons with unknown poverty status, education, and/or self-assessed health status.
[2]Percent denominators exclude persons with this characteristic unknown.

95 percent of those adults have a current limitation resulting from the SMI.

Work and other limitations

An estimated 47.2 percent of persons 18–69 years of age with SMI, or 1.4 million persons, were reported to be unable to work (28.9 percent) or limited in work (18.4 percent) because of their mental disorder (table 2). By race, more black persons with SMI (43.4 percent) were unable to work because of their mental disorder than white persons with SMI (26.8 percent).

Among SMI persons who are unable to work, 94.1 percent reported additional limitations, and among those limited in work, 91.3 percent reported additional limitations (table 3). Not surprisingly, persons with SMI who are unable to work or limited in work are more likely to have one or more of the other specific limitations shown in table 3 than their peers who do not report work limitations. However, more than one-half (58 percent) of persons 18–69 years of age with SMI who reported no current work limitation, and about the same proportion of those who reported not working for other reasons or for whom work limitation was unknown, reported other limitations. For these two groups of persons, "coping with day-to-day stress" was the most frequently reported limitation, (52.6 and 54.3 percent), although between 21 and 32 percent were reported to have difficulty making and keeping friendships ("social functioning") and "concentrating long enough to complete tasks."

Reporting of each type of limitation is higher for persons with SMI who are unable to work than for those who are limited in work, but the differences in difficulty "coping with day-to-day stress" and "concentrating long enough to complete tasks" are not statistically significant.

Considering the range of limitations asked about in this survey, persons with SMI who are unable to

Table 2. Number and percent distribution of adults 18–69 years of age with serious mental illness by current work limitation status according to race: United States, 1989

Work limitation status[1]	Total[2]	White	Black	Total[2]	White	Black
	Number in thousands			Percent distribution		
Total	2,874	2,471	345	100.0	100.0	100.0
Total with work limitation due to serious mental illness	1,358	1,116	215	47.2	45.2	62.1
Unable to work	829	663	150	28.9	26.8	43.4
Limited in work	529	454	65	18.4	18.4	18.7
No current work limitation	1,032	934	79	35.9	37.8	23.0
Does not work for other reasons or work limitation status unknown	485	420	51	16.9	17.0	14.8

[1]Approximately 1 percent (11,000) of those shown in "unable to work" or "limited in work" were persons aged 18–24 who were not in the labor force and who were reported as being "unable" or "limited" in school attendance.
[2]Includes "other" race.

Table 3. Number of adults 18–69 years of age with serious mental illness by current work limitation status and percent reporting other limitations, and number and percent of adults 70 years of age and over with serious mental illness reporting limitations: United States, 1989

Age and work limitation status[1]	SMI[2] population	Any other limitation	Personal care activities of daily living[3,4]	Instrumental activities of daily living[5]	Social functioning[6]	Coping with day-to-day stress	Concentrating long enough to complete tasks
	Number in thousands	Percent					
Total 18–69 years of age	2,874	74.6	2.7	22.9	46.3	67.7	46.5
Unable to work	829	94.1	7.7	48.8	70.4	86.5	72.9
Limited in work	529	91.3	2.6	30.2	61.2	80.1	67.2
No current work limitation	1,032	58.0	– – –	4.6	26.8	52.6	21.4
Does not work for other reasons or work limitation status unknown	485	58.7	– – –	9.8	30.7	54.3	32.0
Total 70 years of age and over	390	84.8	24.3	62.3	59.8	70.8	69.8

[1]Approximately 1 percent (11,000 persons) of those shown in "unable" or "limited" in work were persons age 18–24 who were not in the labor force and who were reported as being "unable" or "limited" in school attendance.
[2]SMI is seriously mentally ill.
[3]Includes eating, dressing, bathing, and going to the toilet.
[4]Questions about personal care limitations were not asked of adults 18–64 years of age with no work or school limitations resulting from the serious mental illness.
[5]Includes managing money, doing everyday household chores, shopping, and getting around outside the home.
[6]Includes forming and keeping friendships.

Table 4. Number and percent distribution of adults with serious mental illness by selected services, according to limitation status, and percent currently limited by serious mental illness: United States, 1989

Selected services	Total		Currently limited		
	Number	Percent distribution	Number	Percent distribution	Percent
Receipt of Government disability payment[1]					
Yes	703	23.2	685	27.8	97.5
No	2,324	76.8	1,782	72.2	76.7
Use of prescription medication for the mental disorder in the past year[2]					
Yes	1,891	68.2	1,573	67.9	83.2
No	881	31.8	744	32.1	84.5
Last visit to a mental health professional[1]					
Less than one month	1,035	33.6	895	35.6	86.6
One month to less than one year	836	27.2	663	26.4	79.3
One year or more	509	16.5	436	17.4	85.7
Never[3]	700	22.7	520	20.7	74.2

[1]Percent denominators exclude adults with this characteristic unknown.
[2]Percent denominators include only adults who have ever seen a doctor for the disorder, and exclude adults with this characteristic unknown.
[3]Among the 700,000 adults who reported never seeing a mental health professional, 447,000, or 63.8 percent, did report seeing another doctor or health professional for the mental disorder and 83.5 percent of these adults reported limitations.

work are the most likely to be disabled in other activities by their mental disorder, even more so than persons with SMI who are 70 years of age and over (94.1 percent compared with 84.8 percent reporting other limitations). However, persons 70 years of age and over with SMI were much more likely than younger persons to be limited in personal care and instrumental activities of daily living. More than three times as many persons 70 years of age and over were reported to be unable to take care of their personal care needs because of the mental disorder than SMI persons 18–69 years of age who were unable to work.

Receipt of disability payments

About 703,000, or 23.2 percent of adults with SMI in households currently receive disability payments through a Government program because of their mental disorder. (table 4). About 98 percent of these persons had current limitations due to the disorder. The discrepant two percent is due to proxy respondents who reported "don't know" to the limitation questions.

Respondents were asked whether this payment was through Social Security Disability Insurance (SSDI), through Supplemental Security Income (SSI), through the Veterans' Administration (VA), or through some other program. The Social Security Administration (SSA) administers several programs that provide cash payments or other benefits to persons who are, by SSA standards, disabled. Persons with adequate work histories usually receive monthly cash payments as social security benefits (SSDI), and persons with minimal resources and insufficient work history usually receive a monthly payment under the SSI program. VA disability payments are provided for service-incurred disability. As shown in table 5, most respondents with a disability payment reported SSDI (46.0 percent) or SSI (43.5 percent) as the source.

Data in table 6 indicate that adults with SMI who are 35–64 years of age, male, black, in poverty, have

Table 5. Number and percent of recipients of disability payment for mental illness, by source of payment: United States, 1989

Source	Number in thousands	Percent[1]
Social Security Disability Insurance	323	46.0
Supplemental Security Income	306	43.5
Veterans' Administration	86	12.3
Other	53	7.5

[1]Percents add to more than 100 because of multiple sources of payment.

Table 6. Number and percent of adults with serious mental illness who received Government disability payment for the mental disorder, by selected characteristics: United States, 1989

Characteristics	Number in thousands	Percent[1]
Total[2]	703	23.2
Age		
18–24 years	*38	*11.0
25–34 years	123	19.1
35–44 years	198	28.3
45–64 years	298	35.1
65 years and over	46	9.4
Sex		
Male	402	33.3
Female	301	16.6
Race		
White	537	20.5
Black	156	43.8
Other	*10	*22.7
Poverty status[3]		
Below poverty threshold	195	33.6
At or above poverty threshold	405	19.2
Education[3]		
Less than 12 years	317	30.9
12 years	212	20.8
More than 12 years	142	15.3
Respondent-assessed health status[3]		
Excellent	*34	*11.9
Very good	93	16.1
Good	140	18.3
Fair	193	27.3
Poor	241	35.1
Use of prescription medication in the past year for the mental illness[3]		
Yes	549	29.7
No	143	16.4
Last saw mental health professional for the mental disorder[3]		
Less than one month	385	38.7
One month to less than one year	188	23.2
One year or more	92	18.9
Never	*25	*3.6

[1]All percent denominators exclude persons with unknown receipt of disability payment (237,000, or 7.3 percent of adults with serious mental illness.
[2]Percent denominator for total includes persons with unknown poverty status, education, health status, time since last saw a mental health professional, and use of prescription medication.
[3]Percent denominator excludes persons with this characteristic unknown.

NOTES: Estimates of less than 41,000 and percents based on these estimates have 30 percent or more relative standard error (RSE); see Technical notes for description of the calculation of standard errors. Estimates with 30 percent or more RSE are indicated with an asterisk.

less than a high school education, have poor overall health status, used prescription medication in the past year for their mental disorder, or have recently (past month) seen a mental health professional, are disproportionately likely to receive Government disability payments. The most striking finding in this table is that almost 44 percent of black adults with SMI receive disability payments compared with about 21 percent of white adults with SMI. Overall, 22.1 percent of adults with SMI receiving disability payments for the disorder were black persons, although black adults are not significantly overrepresented among SMI in general or in the proportion of the SMI population with current limitations.

Comparing the source of disability payments by race, table 7 shows that black adults with SMI are more than twice as likely to report receiving SSI for their mental disorder than white adults with SMI. The higher proportions of black adults receiving SSDI and VA disability payments are significant at the .10 level.

These findings related to SSDI and SSI benefits are consistent with those from a recent report by the General Accounting Office (GAO) (12). In April 1992, the GAO issued findings from a study of racial differences in disability decisions for SSDI and SSI benefits. This report analyzed the circumstances surrounding the lower allowance rate for black applicants compared with white applicants for disability benefits. One of the findings was that while black applicants are less likely to be awarded benefits than white applicants, in the general population a higher proportion of black adults were receiving benefits than white adults. The report attributed this higher rate in the population to the fact that black adults apply at a higher rate than white adults, and it goes on to speculate that this may be due in part to poorer economic circumstances among black persons. Additional work is in progress to identify factors that might account for these racial differences.

As noted in table 2, a higher proportion of black adults with SMI in this survey are unable to work because of their disorder than white adults with SMI. Black adults are more likely than white adults (both in the general population and among adults with SMI) to be in poverty, to have less than a high school education, and to have fair or poor self-assessed health. Since all of these factors are related to receipt of disability payments, it is not surprising that black persons with SMI are more likely to receive disability payments because of their mental disorder.

Prescription drug use

Prescription drug use was highly prevalent in the population reporting SMI; about 68 percent of the adult SMI population who saw a doctor or other health professional for the mental disorder used prescription medication for the disorder during the past 12 months (table 8). Taking prescription medication was not related to limitation status. The lowest use of prescription medication for the disorder during the past year was among the youngest and oldest age groups (table 8). The proportion using prescription medication generally increased with age through the age group 65–69 years and decreased thereafter. Persons with SMI in "poor" health, those who received Government disability payments, and those who recently saw a mental health professional were most likely to have used medication.

The various types of prescription drugs used by persons with SMI during the past 12 months for the mental disorders reported are shown in table 9. Actual drug names were obtained from respondents and then coded by major class of drugs. Antidepressants were used by almost 41 percent of the 1.9 million persons using prescription medication in the past year, and were the most commonly reported type of drug used. This is not surprising, since "major depression" was reported for approximately 45 percent of persons reported to have SMI. Antianxiety and antipsychotic drugs were used by 26.3 and 25.2 percent of persons, respectively. Various other drugs, not considered to be drugs for mental health problems, were used for the mental disorders by about 18 percent of those who used prescription drugs. Table 10 shows that almost one-half of all persons with SMI using prescription medication for the disorder during the past year used more than one drug.

Visits to mental health professionals

About 77 percent of the SMI population in households (2.4 million persons) have seen a mental health professional for the mental disorder reported (table 4). Among the 700,000 persons with SMI who have never seen a mental health professional, most (about 64 percent) had seen a doctor or other health professional for the disorder. In table 11, characteristics of the SMI population who have seen a mental health professional for the reported mental disorder(s) are displayed. In the oldest age group, only 37 percent of persons with SMI had seen a mental health professional for the reported disorder but about 90 percent of this age group had seen another type of doctor or health professional for their disorder.

Table 7. Percent of adults with serious mental illness receiving disability payment for their mental disorder, by race and source of payment: United States, 1989

Source	White	Black
	Percent	
Social Security Disability Insurance	10.0	16.7
Supplemental Sercurity Income	8.9	20.0
Veterans' Administration	2.4	7.0
Other	1.6	2.7

Table 8. Number and percent of adults with serious mental illness who used prescription medication during the past year for the mental disorder, by selected characteristics: United States, 1989

Characteristic	Number in thousands	Percent[1]
Total[2]	1,890	68.2
Age		
18–24 years	168	55.7
25–34 years	347	61.8
35–44 years	463	69.2
45–64 years	638	78.8
65–69 years	100	82.1
70–74 years	62	75.0
75 years and over	112	50.0
Sex		
Male	732	67.4
Female	1,158	68.8
Race		
White	1634	68.2
Black	231	70.3
Other	*25	*55.4
Poverty status[3]		
Below poverty threshold	373	70.1
At or above poverty threshold	1313	68.4
Education[3]		
Less than 12 years	658	69.4
12 years	646	69.9
More than 12 years	563	66.1
Respondent-assessed health status[3]		
Excellent	162	61.4
Very good	357	67.7
Good	448	66.4
Fair	420	64.8
Poor	502	77.0
Receipt of Government disability payment[3]		
Yes	549	79.4
No	1303	64.1
Last saw mental health professional for the mental disorder[3]		
Less than one month	849	85.0
One month to less than one year	598	74.2
One year or more	201	40.2
Never	220	52.5

[1]All percent denominators exclude persons who have not seen any health professional for the disorder (246,000, or 7.5 percent of adults with serious mental illness and exclude persons with unknown "use of prescription medication for the disorder" (247,000, or 7.6 percent of adults with serious mental illness).

[2]Percent denominator for total includes persons with unknown poverty status, education, health status, disability pay, and time since last saw a mental health professional.

[3]Percent denominator excludes persons with this characteristic unknown.

NOTES: Estimates of less than 41,000 and percents based on these estimates have 30 percent or more relative standard error (RSE); see Technical notes for description of the calculation of standard errors. Estimates with an RSE of 30 percent or more are indicated with an asterisk.

Table 9. Number and percent of adults with serious mental illness who took prescription drugs in the past year for mental disorder, by type of drug: United States, 1989

Type of drug	Number in thousands	Percent
Antidepressant	769	40.6
Antianxiety	497	26.3
Antipsychotic	477	25.2
Antimanic	233	12.3
Other psychotropic drug	65	3.4
Other drug	337	17.8
Unknown drug name	46	2.4

Table 10. Number and percent distribution of adults with serious mental illness who took prescription drugs in the past year for the mental disorder, by number of drugs reported: United States, 1989

Number of drugs	Number in thousands	Percent distribution
Total	1,890	100.0
Number of drugs		
One	875	46.3
Two	478	25.3
Three	251	13.3
Four	85	4.5
Five or more	68	3.6
Unknown	135	7.1

Persons 35–64 years of age were more likely than any other age group to have seen a mental health professional.

Persons who used prescription medication for their mental disorder during the past year and persons who received disability payments for the disorder were more likely to have seen a mental health professional than others with SMI.

Summary and conclusions

The major significance of the current report is that it provides estimates and characteristics for that portion of the civilian SMI population living in households. Survey results show that approximately 3.3 million adult Americans have mental disorders that seriously interfere with one or more aspects of daily life and that about 2.6 million of these persons are currently limited in one or more functional areas. These results suggest that the household component of the SMI population is comprised of between 2.6 and 3.3 million adults, depending upon the criteria employed for inclusion. Undoubtedly, both of these numbers are conservative because of the likelihood of underreporting in the survey.

Placed in the context of the entire adult population, these findings suggest that the SMI population can be conservatively estimated to include 4 to 5 million adult Americans, or 2.1 to 2.6 percent of the adult population. In addition to the household population, it is estimated that 200,000 SMI persons are homeless on any given day (13). An additional 1 million to 1.1 million are residents of nursing homes (14), approximately 50,000 to 60,000 are patients of mental hospitals, and approximately 50,000 are inmates of State prisons (15).

A major remaining need is to collect similar data on all SMI persons, whether their residence is a household, an institutional or noninstitutional group quarter, or some other setting, including streets and shelters. In order to formulate more effective national policy to address the needs of these disabled Americans, a need exists to examine the longitudinal relationship between course of disorder and functioning as they relate to service and program participation.

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Table 11. Number and percent of adults with serious mental illness who have ever seen a mental health professional, by selected characteristics: United States, 1989

Characteristic	Number in thousands	Percent[1]
Total[2]	2,380	77.3
Age		
18–24 years	276	80.3
25–34 years	503	75.8
35–44 years	630	87.6
45–64 years	719	82.5
65–69 years	89	68.5
70–74 years	70	69.5
75 and over	93	37.0
Sex		
Male	959	77.9
Female	1,421	76.8
Race		
White	2,042	76.8
Black	292	80.3
Other	46	79.7
Poverty status[3]		
Below poverty threshold	470	79.1
At or above poverty threshold	1633	76.1
Education[3]		
Less than 12 years	766	74.9
12 years	804	76.4
More than 12 years	762	80.3
Respondent-assessed health status[3]		
Excellent	244	82.6
Very good	464	78.7
Good	606	78.2
Fair	533	74.4
Poor	530	75.8
Use of prescription medication for the mental disorder[4]		
Yes	1648	88.2
No	657	76.7
Receipt of Government disability payment[3]		
Yes	665	96.4
No	1628	71.3

[1]All percent denominators exclude persons with unknown time since last saw a mental health professional (184,000, or 5.6 percent of total adults with serious mental illness).

[2]Percent denominator for total includes persons with unknown poverty status, education, health status, prescription drug use, and/or disability pay.

[3]Percent denominator excludes persons with this characteristic unknown.

[4]Percent denominator includes only persons who have ever seen a doctor or other health professional and excludes persons with this characteristic unknown.

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Symbols

---	Data not available
. . .	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision

Technical notes

Source and description of data

The estimates presented in this report are based on data from the 1989 National Health Interview Survey (NHIS), an ongoing survey of households in the United States conducted by the National Center for Health Statistics (NCHS). Each week, a probability sample of the civilian noninstitutionalized population of the United States is interviewed by personnel of the U.S. Bureau of the Census. Interviewers obtain information about the health and other characteristics of the households included in the NHIS sample.

NHIS consists of two parts: (a) a basic health and demographic questionnaire that remains the same each year and is completed for every household member and (b) special topics questionnaires that vary from year to year, some of which may be completed only for selected persons in each family. In 1989, the special topics included health care coverage, adult immunization, mental health, dental health, diabetes, orofacial pain, digestive disorders, and knowledge and attitudes about acquired immunodeficiency syndrome (AIDS).

The total interviewed sample for 1989 for the basic health and demographic questionnaire consisted of 45,711 households containing 116,929 persons. The noninterview rate was 5.1 percent. NHIS Mental Health (NHIS-MH) interviews were completed for 113,231 persons, or 96.8 percent of those interviewed on the basic questionnaire. The overall response rate for the NHIS-MH was 91.9 percent (the product of the response rates for the basic and mental health questionnaires).

Sampling errors

Because estimates shown in this report are based on a sample of the population rather than on the entire population, they are subject to sampling error. When an estimate or the numerator or denominator of a percent is small, the sampling error may be relatively high. In addition, the complex sample design of NHIS has the effect of making sampling errors larger than they would be had a simple random sample of equal size been used. Estimates and figures based on estimates that do not meet the reliability criteria of 30 percent relative standard error are marked on the tables.

Approximate standard errors of the estimated numbers (x) in the tables (except for age, sex, and race for all persons when the standard error is assumed to be 0.0) may be calculated using the formula

$$SE(x) = \sqrt{.0000307(x)^2 + 3640(x)}$$

For example, it is estimated that 3,264,000 adults had a SMI in the last 12 months (table 1). Using this formula, the standard error for the estimated number is

$$SE(3{,}264{,}000) =$$

$$\sqrt{.0000307(3{,}264{,}000)^2 + 3640(3{,}264{,}000)}$$

$$= 110{,}490$$

Approximate standard errors of the estimated percents in the tables may be calculated using the formula

$$SE(p) = \frac{\sqrt{3640(p)(100-p)}}{y}$$

where p is the percent of persons and y is the base population from which the percent is calculated.

For example, it is estimated that 78.8 percent of adults with SMI have one or more specific limitations resulting from the SMI (table 1). Using this formula, the standard error for the estimated percent is

$$SE(78.8) = \frac{\sqrt{3640(78.8)(100-78.8)}}{3{,}264{,}000}$$

$$= 1.86$$

If x_1 and x_2 are two estimates, then the approximate standard error of the difference $(x_1 - x_2)$ can be computed as follows:

$$SE(x_1)^2 + SE(x_2)^2 - 2r\,SE(x_1)SE(x_2)$$

where $SE(x_1)$ and $SE(x_2)$ are computed using the appropriate formulas previously presented in this section and r is the correlation coefficient between x_1 and x_2. Assuming $r = 0.0$ will result in an accurate standard error if the two estimates are actually uncorrelated. If they are correlated, the standard error of the difference will be underestimated or overestimated. These calculations can also be performed for differences in percents using the appropriate standard error formulas for percents.

In this report, unless otherwise noted, a difference was considered statistically significant at the 5-percent level if the difference $(x_1 - x_2)$ was at least twice as large as its standard error. Further information on how the standard error parameters are constructed is available in "Current Estimates From the National Health Interview Survey: 1989" (9).

Related documentation

More detailed discussion of the sample design, estimating procedures, procedures for estimating standard errors, nonsampling errors, and definitions of other sociodemographic terms used in this report have been published in *Vital and Health Statistics*, Series 1, no 18; Series 2, no 110; Series 10, nos 160 (16–18) and 176 (9).

A public use data file based on the 1989 Mental Health Survey questionnaire was released in April 1991. Information regarding the purchase of the public use data tape may be obtained by writing the National Center for Health Statistics, Division of Health Interview Statistics, 6525 Belcrest Road, Hyattsville, Maryland, 20782.

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