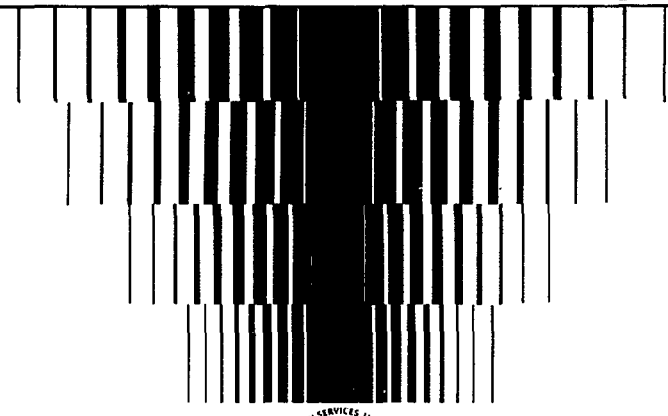
National Medical Care Utilization and Expenditure Survey

Utilization and Expenditures for Ambulatory Mental Health Care During 1980

Data Report 5



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Data Highlights

Estimates of ambulatory mental health care from the National Medical Care Utilization and Expenditure Survey (NMCUES) indicate that during 1980:

- An estimated 9.6 million people or 4.3 percent of the civilian noninstitutionalized population had one or more ambulatory mental health visits.
- Of the persons with one or more mental health visits, 24.5 percent were seen primarily by psychiatrists in office practice; 23.5 percent by psychologists in office practice; 40.1 percent in office practice settings of other providers, such as nonpsychiatrist physician or social worker; and 11.9 percent were seen in organized settings, such as hospital outpatient departments, emergency rooms, and specialty mental health clinics.
- Mental health visits totaled 79 million. Classified by profession of provider and independent of the organizational setting, 34.5 percent of these visits were to psychiatrists, 35.3 percent to psychologists, and 30.3 percent to other providers. Mental health visits accounted for 4.9 percent of all ambulatory visits.
- Aggregate expenditures for ambulatory mental health care were $2.4 billion, averaging $253 per person with mental health use and $11 per capita for the U.S. civilian noninstitutionalized population.
- For persons with a mental health visit, the average number of visits per person was 8.2, ranging from 10.9 and 12.5 for persons seen primarily by office-based psychiatrists and psychologists, respectively, to 5.3 and 4.4 for persons seen by other office-based providers and by persons in organized settings, respectively. These averages are for use in a calendar year and do not necessarily correspond to the average visits associated with a course of treatment for a clinical episode.
- Expenditures for mental health visits, among those with one or more visits, are extremely skewed. Almost half (48.8 percent) had less than three visits but accounted for only 8 percent of the total expenditures. At the other extreme, half the expenditures (49.1 percent) are accounted for by 9.8 percent of the persons—those with 25 or more visits per year.

Overview

Major changes have occurred in the mental health care delivery system since 1955, the peak year for the State mental hospital census. Since then, place of care has shifted from the State hospital to nursing homes, private mental hospitals, and general hospitals. From 1960 through 1980, inpatient care in the latter three settings increased dramatically for persons with mental disorders, while the resident census of State mental hospitals dropped 75 percent.

Concomitant with these dramatic changes in inpatient care, outpatient treatment of mental disorders has greatly increased. Episodes in organized mental health settings, spurred to some extent by the federally funded community mental health centers, increased from 0.5 million in 1960 to 4.5 million in 1980 (Taube and Barrett, 1983). Furthermore, the number of psychiatrists doubled during this period, and the number of psychologists increased 70 percent since 1970. The growth in ambulatory care provided in office-based practice of these two providers has been difficult to trace because comprehensive data based on individuals are lacking. Previous estimates have been derived from surveys based on visits, such as the National Ambulatory Medical Care Survey; from surveys of providers in which data were

obtained for a short time period, such as a week or month; or from surveys in which the sampling of visits was biased (Marmor, 1975).

The National Medical Care Utilization and Expenditure Survey provides new estimates of the number of persons seen annually for ambulatory mental health care, the aggregate and average number of visits, charges for such visits, and the total expenditures devoted to this sector. The purpose of this report is to provide these initial estimates and describe variations by selected demographic characteristics and geographic region.

Discussion

Definition of Mental Health Visit

For this analysis, a mental health visit is (1) any visit with a mental disorder reported by the household respondent as a reason for the visit regardless of the provider type or setting and (2) any visit to a psychiatrist, psychologist, or a psychiatric clinic regardless of whether a mental disorder was given as a reason for the visit (Table 1). This definition of a mental health visit may be viewed as conservative because the definition of mental disorder may be conservative for several reasons. First of all, only specific mental disorders that can be coded to the Ninth Revision *International Classification of Diseases* (World Health Organization, 1977) are included. If nonspecific reports of "Nerves, not elsewhere classified" were to be included, the estimated number of mental disorders (but not necessarily the number of persons with a mental disorder) would increase almost 50 percent. Further, although the estimates of mental health visits from this survey are higher than those from other surveys (Horgan, 1982), mental disorders are probably still underreported because they are self-reported or reported by household members (Feuerberg, Kessler, and Taube, 1983).

Using this definition, 74 percent of the estimated 79 million mental health visits (Table 1, shaded) were reported as having been made because of a mental disorder. The rest of the visits occurred in psychiatric settings, but a mental disorder was not reported as a reason for the visit.

Table 1

Number of ambulatory visits by whether made to psychiatrist, psychologist, or psychiatric clinic and whether a reason for visit was a mental disorder: United States, 1980

Reason for visit a mental disorder	Visit to psychiatrist, psychologist, or psychiatric clinic		
	Total	Yes	No
	Visits in thousands		
All visits	1,150,642	55,637	1,095,005
Yes	58,250	35,109	23,141
No	1,092,392	20,528	1,071,864

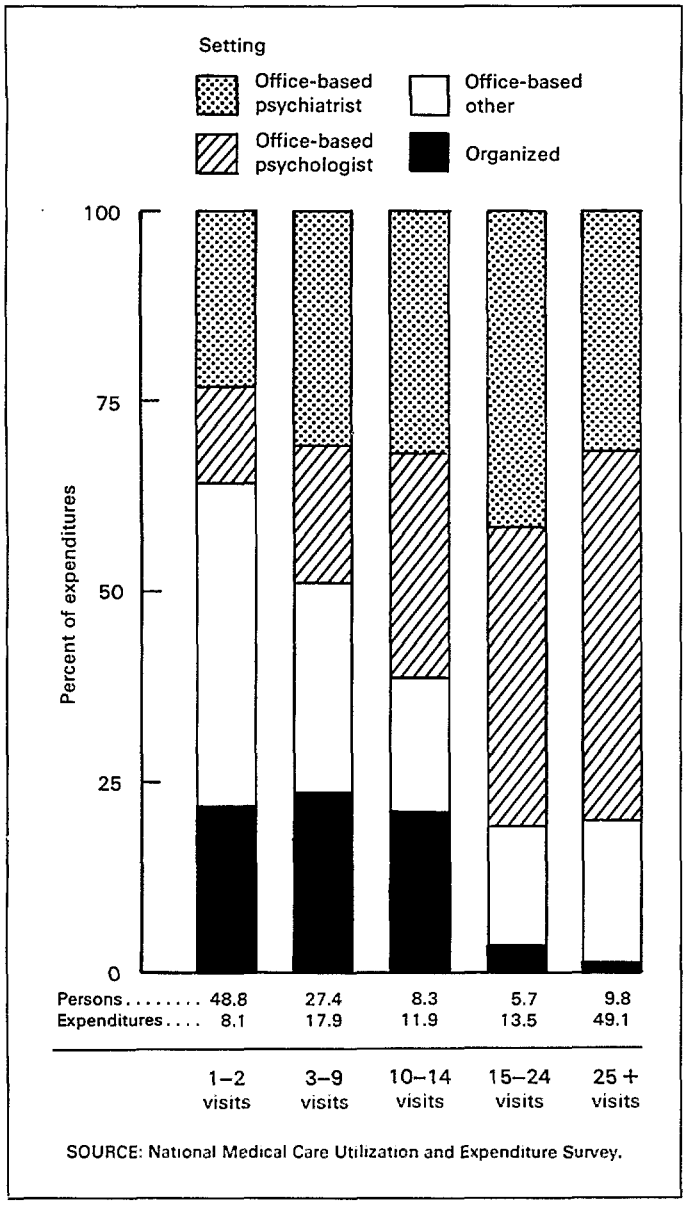
By definition, visits to nonpsychiatric settings that were not reported as having been made because of a mental disorder are not included. However, some of these may in fact have been for a mental disorder that was unrecognized or unreported by the household respondent. Studies indicate that only 10–15 percent of persons with a mental disorder are recognized and recorded as such in the chart by primary care physicians (Hoeper, 1983). Further, of persons with a psychiatric diagnosis presenting to primary care physicians, 72 percent reported the reason for visit as some sort of physical symptom (Schurman, Mitchell, and Kramer, 1983). From this perspective also, the definition of mental health visit used here may be considered conservative.

The estimates of costs and utilization in this report exclude use by persons in institutions such as nursing homes or State mental hospitals. this would include professional services to such persons by nonstaff physicians or other providers of these institutions. Also, use and expenditures for inpatient care, either short- or long-term, are not covered here. All ambulatory care for the noninstitutionalized population is covered, including that provided in office practice, emergency rooms or outpatient departments of general hospitals, freestanding outpatient mental health clinics, community mental health centers, or outpatient services provided by psychiatric hospitals.

Findings

An estimated 9.6 million people or 4.3 percent of the civilian noninstitutionalized population generated 79 million ambulatory mental health visits in 1980. By profession, independent of organizational setting, 35 percent of these visits were to psychiatrists, 35 percent to psychologists, and 30 percent to other physician or nonphysician providers. This is a rate of 353 mental health visits per 1,000 population and an average of 8.2 visits per person with a mental health visit. The average charges per year per person with a mental health visit were $253, a per capita cost of $11 for the U.S. population. The aggregate charges were $2.4 billion. This figure is close to the estimate by Hodgson and Kopstein (1983) that professional services equaled 10 percent of the total $20.3 billion spent on mental disorders in 1980.

Expenditures for ambulatory mental health care, like all health expenditures, are extremely unevenly distributed in the population. More than 95 percent of the population had no expenditures. Half of those with visits, 48.8 percent, had less than three visits (Figure). On the other hand, half of the expenditures were accounted for by people who had 25 or more visits per year, or only 9.8 percent of those with mental health visits. Of this high-use group, 34 percent of these expenditures were for persons primarily seeing office-based psychiatrists, 48 percent were for persons primarily seeing office-based psychologists, 18 percent were for persons primarily seeing other office-based providers, and less than 1 percent were for persons seen primarily in organized settings. Conversely, of the low-use group—those with less than 3 visits—22 percent were in organized settings, 42 percent were in other provider settings, 13 percent were in psy-



Percent distributions of expenditures for mental health visits and of persons with at least 1 mental health visit by number of visits and primary setting: United States, 1980

chologists' offices, and 24 percent were in psychiatrists' offices.

Total expenditures for ambulatory mental health care are a function of the proportion of the population experiencing one or more visits during the year, the average number of visits (given contact with the system), and the average charges for these visits. The tables focus sequentially on each of these components. The individual attributes generally would have more impact on cost through variation in the average number of visits than through variation in the unit cost. The unit cost would be affected by geographic variables and the type of provider and setting.

The probability of having a mental health visit differs by individual attributes (Table 2). White people have almost double the probability of a mental health visit than people of other races; females have a 40 percent higher probability

Table 2

Persons with at least 1 mental health visit and average number of visits per person, by selected characteristics: United States, 1980

Characteristic	Persons with a mental health visit	Average visits per person with at least 1 visit
	Number per 1,000 population	
Total	43.0	8.2
Race		
White	46.1	8.0
Other	23.3	10.5
Sex		
Male	35.8	9.1
Female	49.6	7.6
Age		
Under 17 years	31.6	8.1
17–24 years	41.1	7.5
25–64 years	53.6	8.9
65 years and over	27.9	4.7
Family income in 1979		
Less than $9,999	52.3	8.4
$10,000–$14,999	51.8	7.9
$15,000–$24,999	37.0	7.6
$25,000–$34,999	34.6	6.6
$35,000 and more	43.3	11.5
Education[1]		
12 years or less	42.7	7.4
13 years or more	57.9	11.0

[1]Excludes individuals 17 years of age and under.

than males have; proportions with visits are highest among adults 25–64 years of age and among those in the low or high family income categories. Adults (over 17 years of age) with 13 or more years of education have a 54 percent higher probability of an ambulatory mental health visit than those with less education have.

Given that a mental health visit occurs, the average number of visits does not differ significantly by sex or by race but does differ by other characteristics (Table 2). The average number of visits was highest for the age group 25–64 years and lowest for the age group 65 years and over. The highest and lowest income groups differ significantly from the middle income groups. Again, adults with 13 or more years of education had an average of 58 percent more visits than those with less education.

Table 3 shows the average number of visits by the primary setting in which care was received by region and standard metropolitan statistical area component. Primary setting was coded to either office-based or organized setting, and office-based setting was further subdivided into psychiatrists, psychologists, and other providers. The last category can also be broken down into visits to physicians (43 percent), social workers or counselors (29 percent), and other providers (28 percent). However, because of the small

Table 3

Average number of mental health visits per person with at least 1 mental health visit, by primary setting, region, and standard metropolitan statistical area (SMSA) component: United States, 1980

Region and SMSA component	All settings	Primary setting			
		Office-based setting			Organized setting
		Psychiatrist	Psychologist	Other	
		Average number of visits			
Total	8.2	10.9	12.5	5.3	4.4
Region					
Northeast	10.5	11.8	18.8	6.6	[1]5.0
North Central	6.0	6.8	7.0	5.1	[1]3.8
South	6.0	8.4	6.2	5.0	[1]3.7
West	10.0	15.9	16.1	4.0	[1]4.6
SMSA component					
Inside SMSA:					
Central city	9.2	12.0	14.7	6.8	5.2
Other	9.5	13.2	13.9	5.8	4.0
Outside SMSA	4.9	5.1	8.2	3.1	[1]2.8

[1] Fewer than 30 sample cases.

NOTE: Primary setting, used to classify persons, is the one in which a majority of a person's mental health visits occurred. In the case of ties, priority was given in the order shown in the table from left to right. 77 percent of the persons with mental health visits had visits in only 1 of these settings, and 23 percent had visits in more than 1 setting. The average visits for persons seen in the primary setting of "psychiatrist office-based setting," for example, will include visits in that setting plus visits these persons had to other settings.

sample sizes, these are collapsed into one group for this analysis. A person was classified into one of these categories based on which provider type accounted for the majority of that person's visits. Priority in the case of ties was given in the order shown in the table from left to right. Since 77 percent of the people had visits in only one of these categories, this coding algorithm was needed in only 23 percent of the cases.

Variation in the average number of visits occurs by the primary setting in which care was received. The number of visits by persons to either psychiatrists or psychologists in office practice (10.9 and 12.5 visits per person, respectively) was significantly higher than the average number of visits to other providers in office practice or to organized settings (5.3 and 4.4 visits per person, respectively).

Regional variation in the average number of visits is striking for two of the settings—the psychatrist and psychologist office-based groups (Table 3). The average number of visits to each of these providers in the Northeast and in the West ranged from 40 to 23 percent higher than the average number to each in the North Central and in the South. Regional differences for the other providers and organized setting groups are not significant. Inside standard metropolitan statistical areas (SMSA's), differences between central city and other components are not significant within any primary setting provider group. However, differences were significant for each group when comparing inside SMSA with outside SMSA, with outside SMSA averaging about half the visits inside SMSA.

Table 4 shows the average charge by setting, region, and SMSA component. These averages are calculated excluding visits for which no charge was made, 10.5 percent of all visits. An unknown amount of discounting occurs, however, which causes these averages to be lower than the standard "average" charge made in each setting. Differences by income levels in average charges is evidence of the level of discounting. Average charges for persons with family incomes under $15,000 are $31 per visit, compared with $39 a visit for persons with family incomes of $25,000 or more. Estimates of discounting for psychologists are given in VandenBos and Stapp (1983).

It should also be noted that no standardization is possible for the length of the visit. These averages are for a mix of visits of varying length, for example, visits to psychiatrists range from 50 minutes to 20 or 30 minutes. For these reasons, these averages are lower than the rate or "usual, customary, and reasonable" charges. Also, major differences occur in average visit length for psychiatrists and other medical specialties. For a visit with psychotherapy, the average time per visit is very different: 47 minutes for psychiatrists compared with 21 minutes for other specialties (Taube and Barrett, 1983). Since 43 percent of the other provider column in Table 4 consists of visits to nonpsychiatric physicians, this is a major factor in explaining the difference in average charges because the average visit is considerably shorter in this setting.

Differences by region or SMSA component are generally not significant for any of the four settings. The only significant difference is for psychologists, where the North Central average is lower than the West and the outside SMSA average charge is lower than the inside SMSA averages. However, psychiatrists' charges are significantly higher than

Table 4

Average charge per visit, by type of setting, region, and standard metropolitan statistical area (SMSA) component: United States, 1980

Region and SMSA component	Type of setting			
	Office-based setting			Organized setting
	Psychiatrist	Psychologist	Other	
	Average charge per visit			
Total	$37.70	$32.50	$27.10	$54.50
Region				
Northeast	36.60	31.70	22.50	41.90
North Central	37.50	25.90	31.50	[1]60.10
South	37.90	29.30	28.90	[1]78.10
West	38.50	38.00	29.10	56.50
SMSA component				
Inside SMSA:				
Central city	37.20	37.20	28.90	49.80
Other	38.70	34.10	27.20	58.90
Outside SMSA	35.00	20.20	23.10	[1]55.80

[1]Fewer than 35 sample cases.

NOTE: Type of setting is used to classify visits, in contrast to primary setting (tables 3 and 5) which is used to classify persons. In table 4, all visits and charges for the type of setting occurred in that setting.

psychologists' charges in the North Central part of the country but not in other regions. Outside SMSA, psychologists charge significantly less than psychiatrists.

These differentials in average visits by primary provider, individual attributes, and geographic variables, coupled with the variation in charges per visit, produce differences in the average annual ambulatory mental health expenditures per person with a mental health visit (Table 5). Given that a visit has occurred, people in the Northeast and West have 50 percent higher expenditures than people in the other two regions; people outside SMSA's have a little more than one-third the annual expenditures per person with one or more visit than have people inside SMSA's; and persons with family incomes of $35,000 or more have about twice the annual expenditure.

Table 5

Average annual expenditures per person, by primary setting, region, standard metropolitan statistical area (SMSA) component, and family income: United States, 1980

Region, SMSA component, and family income	All settings	Primary setting			
		Office-based setting			Organized setting
		Psychiatrist	Psychologist	Other	
	Average expenditures per person				
Total	$253	$340	$393	$135	$194
Region					
Northeast	306	365	602	143	[1]172
North Central	178	230	180	154	[1]118
South	178	235	153	137	[1]287
West	336	510	570	105	[1]217
SMSA component					
Inside SMSA:					
Central city	297	400	515	183	184
Other	302	403	477	144	218
Outside SMSA	113	151	148	76	[1]98
Family income in 1979					
Less than $10,000	230	343	[1]245	165	[1]265
$10,000–$34,999	204	235	361	111	144
$35,000 or more	420	566	558	163	[1]241

[1] Fewer than 35 sample cases.

NOTE: Primary setting, used to classify persons, is the one in which a majority of a person's mental health visits occurred. In the case of ties, priority was given in the order shown in the table from left to right. 77 percent of the persons with mental health visits had visits in only 1 of these settings, and 23 percent had visits in more than 1 setting. The average visits for persons seen in the primary setting of "psychiatrist office-based setting," for example, will include visits in that setting plus visits these persons had to other settings.

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Technical Notes

Definition of Terms

Age—The age of the person as of January 1, 1980. Babies born during the survey period were included in the category "under 5 years."

Education of individual—The years of school completed for people 17 years of age and over. Only years completed in regular schools, where persons are given a formal education, were included. A "regular" school is one that advances a person toward an elementary or high school diploma or a college, university, or professional school degree. Thus, education in vocational, trade, or business schools outside the regular school system was not counted in determining the highest grade of school completed.

Family income in 1979—Income of all members of the family from all sources constituted 1979 family income. The respondent for the family selected an income bracket from a list on a card presented at the time of the first interview.

Mental disorder—Those disorders listed in Chapter V of the Ninth Revision *International Classification of Diseases,* codes 290–319.

Organized setting—Freestanding outpatient clinics, such as specialty health clinics, neighborhood health centers or industrial clinic, psychiatric clinic, and community mental health center; hospital outpatient departments; and hospital emergency department.

Other provider—Primary care physicians and physician specialties (other than psychiatry), social workers, nurse or nurse practitioner or alcohol/drug counselor.

Race—The race of people 17 years of age and over reported by the family respondent; the race of those under 17 derived from the race of other family members. If the head of the family was male and had a wife who was living in the household, her race was assigned to any children under 17 years of age. In all other cases, the race of the head of the family (male or female) was assigned to any children under 17 years of age. Race is classified as "white," "black," or "other." The "other" race category includes American Indian, Alaskan Native, Asian, Pacific Islander, and people not identified by race. The category "all other" includes the categories "black" and "other."

Region—NORTHEAST: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania; NORTH CENTRAL: Michigan, Wisconsin, Ohio, Indiana, Illinois, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas; SOUTH: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas; WEST: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Hawaii, Alaska.

Limitations of Data and Comparisons With Other Sources

Some major limitations of these data should be kept in mind. First, the definition of the presence of a mental disorder is by the respondent and therefore depends on the respondent's knowledge of his or her condition or the respondent's knowledge of and willingness to report someone else's condition. Since specific diagnoses are not examined in this analysis, the main impact should be on underreporting or overreporting of mental disorders. A constant bias in this regard would not necessarily affect relationships or patterns of expenditures or financing across subgroups of the population. Such a constant relationship is assumed in these analyses although the empirical basis for this assumption has not been demonstrated.

Second, there is potential underreporting or inaccurate reporting of number of visits, identification of provider type (i.e., location of visit), expenses, and sources of payment. Again, the differential errors across subgroups of the population are unknown.

Comparisons with the National Medicare Expenditure Survey (NMCES) are possible on the reported number of visits. This survey is the most comparable in terms of having a self-report situation in a household panel sample. Data on the NMCES provider followup are not used. The percent of persons reporting a mental health visit are similar, 4.6 and 4.3 percent in NMCES and NMCUES, respectively (Horgan, 1982). Almost 50 percent more visits per person with a visit were reported in NMCUES, however, an average of 8.2 versus 5.5 per person with a mental health visit. The distribution of these visits was comparable, with 67–70 percent reported to specialty mental health settings in both surveys and 30 percent to general medical settings. Shapiro et al. (In press) studied three metropolitan areas in which more intensive interviewer probing occurred regarding mental health visits. They found a rate of 6.0–7.1 percent of the adult population with one or more mental health visits. The comparable urban rate for NMCUES is 4.8 percent. The number of visits per person in the Shapiro study ranges from 6.7 to 10.1 in the three urban areas.

In the National Ambulatory Medical Care Survey (NAMCS), the report of the visit characteristics is by the physician, not the person with the condition. In the NAMCS for 1980, 15.8 million visits to psychiatrists offices are reported (Taube and Barrett, 1983). The estimate from NMCUES is 61 percent more or 25.5 million. For office visits to other physicians in which any diagnosis was a mental disorder, NAMCS reports 16.7 million visits (Cypress, 1983), and NMCUES reports 20.4 million or 22 percent more.

It is possible that in NMCUES, visits to psychiatrists are misidentified as general physician visits, but the opposite would be suggested by the comparison with the NAMCS data. Alternatively, visits in NMCUES reported as to psychiatrists may be really to nonphysician providers such as psychologists. The number of visits to psychologists reported in NMCUES, however, is as high as the number to psychiatrists. This is consistent with data on the number of psychologists in practice. A 1982 survey of American Psychologist Association (APA) members indicates that there were 27,897 APA member health service providers. These providers had an average of 18.8 visits per week, an estimated

27 million visits a year (VandenBos and Stapp, 1983). The corresponding estimated number of visits for 1980 from NMCUES is 27.8 million visits. The higher figure from NMCUES could result from including visits to both APA member and nonmember psychologists. About 27,100 psychiatrists were in patient care activities in 1980 (Bidese and Danais, 1981).

Data reported in the National Institute of Mental Health National Statistics Program for specialty mental health facilities indicate that there were 3 million episodes in organized outpatient services of these facilities during 1980 (Taube and Barrett, 1983). Assuming the average number of visits per person found in NMCUES for organized settings (4.4), then specialty mental health organized settings alone should account for 13.2 million visits. The NMCUES estimates of mental health visits in organized settings for psychiatrists and psychologists is 2.5 million. Total mental health visits to organized settings in NMCUES were 5.9 million. It is possible that visits to organized settings are reported as office-based visits, thereby inflating the office visit counts and deflating the organized setting counts. The impact on the analyses will be to dampen the differences between the types of visits with respect to cost and other comparisons.

Finally, it should be noted that charges for mental health visits were imputed at a higher rate than overall visits, 35 percent for mental health visits as opposed to 26 percent for all visits. Comparison of the average charges calculated on the basis of nonimputed cases only with the averages based on both imputed and nonimputed cases showed hardly any difference. Exclusion of a few outliers in the imputed cases also had little effect on the averages presented here.

Sample Design

The National Medical Care Utilization and Expenditure Survey (NMCUES) utilized two independently drawn national area samples provided by the Research Triangle Institute and its subcontractor, the National Opinion Research Center. Both sample designs were stratified four-stage area probability designs and were similar in structure. The first stage consisted of primary sampling units (PSU's), which were counties, parts of counties, or groups of contiguous counties. The second stage consisted of secondary sampling units (SSU's), which were census enumeration districts or block groups. The third stage consisted of smaller area segments, and the fourth stage consisted of housing units (HU's). Related persons in an HU were interviewed as a single reporting unit (RU). Combined stage-specific samples for the two designs totaled 135 PSU's (covering 108 separate primary areas), 809 SSU's, 809 small area segments (one segment per SSU), and 7,244 RU's. Of these, 6,599 RU's agreed to participate in the survey, for a response rate of 91.1 percent of eligible RU's.

NMCUES consisted of initial interviews during February through April 1980 and four followup interviews spaced at approximately 3-month intervals. About four-fifths of the third and fourth interviews were conducted by telephone; all of the remaining interviews were conducted in person. In most RU's, data for all related persons were collected from a single respondent. A summary of selected information reported in previous interviews was reviewed with the family to correct errors and update information.

Reliability of Estimators

The statistics presented in this report are based on a sample of the population rather than on the entire population. Thus the estimates may differ from values that would be obtained from a complete census. The difference between a sample estimate and the population value is called the sampling error and the expected magnitude of the sampling error is measured by a statistic called the standard error. The standard errors for the statistics in the tables are estimated by using the procedure Standard Errors Program for Computing of Standardized Rates from Sample Survey Data developed by B. V. Shah (1981), Research Triangle Institute, North Carolina.

Tables 6 and 7 show the standard errors for the statistics presented in Tables 2–5. Under the assumptions that the n's are sufficiently large and the sampling distribution is very nearly a normal distribution, the chances are approximately 68 out of 100 that an estimate from a sample is

Table 6

Absolute standard errors for statistics in Table 2, by selected characteristics: United States, 1980

Characteristic	Number per 1,000 population	Average visit per person
Total	2.7	0.68
Race		
White	2.4	0.74
Other	4.6	1.55
Sex		
Male	2.5	1.13
Female	2.9	0.61
Age		
Under 17 years	3.7	1.44
17–24 years	4.6	0.99
25–64 years	3.2	0.90
65 years and over	3.5	0.91
Family income in 1979		
Less than $9,999	4.1	1.11
$10,000–$14,999	5.3	1.43
$15,000–$24,999	3.1	1.04
$25,000–$34,999	7.9	1.69
$35,000 or more	4.3	1.75
Education		
12 years or less	2.9	0.70
13 years or more	6.9	1.20

Table 7

Absolute standard errors for estimates in Tables 3, 4, and 5, by selected characteristics: United States, 1980

Region and SMSA component	All settings	Primary setting			
		Office-based setting			Organized setting
		Psychiatrist	Psychologist	Other	
		Average visits			
Total	0.68	1.40	1.60	0.63	0.66
Region					
Northeast	1.69	2.66	3.68	1.30	1.18
North Central	0.83	1.40	1.48	1.44	1.56
South	0.80	2.11	1.36	1.33	1.17
West	1.59	3.74	2.41	0.57	1.28
SMSA component					
Inside SMSA:					
Central city	0.79	2.14	3.11	1.81	0.95
Other	1.27	2.36	2.55	1.14	0.84
Outside SMSA	0.70	1.23	1.99	0.47	1.26
		Average charge per visit			
Total	1.03	1.53	2.52	1.78	7.80
Region					
Northeast	3.13	2.92	4.20	2.60	10.39
North Central	1.42	2.34	3.14	2.36	17.82
South	1.78	3.93	3.25	3.69	23.57
West	1.77	2.74	4.72	2.43	7.00
SMSA component					
Inside SMSA:					
Central city	1.96	2.90	3.07	2.98	6.94
Other	2.57	2.65	3.92	2.73	13.93
Outside SMSA	1.98	4.57	2.26	2.19	8.76
		Average annual expenditures per person			
Total	21.45	41.10	58.86	19.03	33.88
Region					
Northeast	52.56	84.84	136.48	22.67	47.63
North Central	25.92	40.18	51.15	48.27	54.60
South	33.24	59.97	46.85	50.27	88.62
West	48.93	105.40	114.20	18.46	47.30
SMSA component					
Inside SMSA:					
Central city	30.50	60.27	131.17	63.09	37.56
Other	39.85	65.72	94.56	26.78	55.45
Outside SMSA	21.18	41.28	43.48	14.91	51.03

within one standard error of the true percent for the target population. The chances are approximately 95 out of 100 that the estimate is within two standard errors of the true percent.

In addition to sampling error, the results are also subject to various types of nonsampling errors such as nonresponse, misreporting by respondents, data processing mistakes, and so forth. These types of errors have been kept to a minimum by various quality control procedures, imputation procedures, outlier checks, and other methods.

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