Mental Health Expenditures for Services for People With Severe Mental Illnesses

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Objective: **To provide comprehensive information on expenditures for mental health and substance abuse services for a large number of people with severe mental illnesses, this study examined use of major types of clinical-medical mental health and psychiatric rehabilitation services over a one-year period.** ***Methods:*** **Data were obtained for 1,890 clients in ten public county-based nonmetropolitan mental health systems in Wisconsin. Expenditures were for services provided with public funding, including local sources of funding, Medicaid, and Medicare. Data about services and expenditures were obtained from county records and unduplicated Medicaid claims for 12 months in 1989 and 1990.** ***Results:*** **Expenditures per client averaged $10,995 for one year ($13,992 in 1994 dollars), with a maximum of $95,093. Expenditures for community-based outpatient services, including residential care and vocational services, represented 53.5 percent of all expenditures; residential care accounted for 12.4 percent and vocational services for 5.7 percent. Overall, 46.5 percent was spent for institutional care, with inpatient hospital care accounting for 12.6 percent. Approximately 40.6 percent of total expenditures were for services not typically covered under managed care plans.** ***Conclusions:*** **Expenditures for community-based care accounted for more than half of total expenditures. Expenditure patterns revealed the important role of social and rehabilitation services, a role that must be continued in managed care arrangements if they are to provide adequate services for people with severe mental illnesses. (*Psychiatric Services* 48:485–490, 1997)**

Discussions of health care reform, rising expenditures for mental health care, and attempts to manage care have all raised questions about the components of and total expenditures for mental health services for people with severe mental illnesses. In this paper expenditures are defined as outlays for the provision or purchase of services—that is, payments that are made (1). Empirical studies that report figures for expenditures have been limited and have often involved either a small number of clients or clients in special circumstances (2–12). Some studies have been based on segments of the population with particular service characteristics, such as people just released from psychiatric hospitals or living in supervised housing, or have excluded potentially important segments of the severely mentally ill population, such as people in nursing homes.

Adequate estimates of mental health expenditures for severely mentally ill persons, particularly those served in the public sector, have received too little attention (13). As managed care entities become more pervasive in public systems of care and make decisions about the types and amounts of services to authorize, the absence of high-quality data on services and expenditures limits the ability to review their practices using benchmark data. Processes in several states to capitate Medicaid for people with serious mental illness (for example, in Massachusetts and Washington) call attention to the need for more understanding of mental health expenditures and, in particular, the role of expenditures for psychiatric rehabilitation.

To provide comprehensive information on expenditures for many kinds of services for a large number of people with severe mental illnesses, this paper reports on expenditures for a one-year period for 1,890 clients of public mental health systems in Wisconsin. Data on expenditures for services provided by the specialty mental health sector are presented for several types of mental health care. The population from which the data are derived is not tied to a particular program, such as persons receiving inpatient care or clients of certain community mental health centers, or to a particular service, such as persons with Medicaid claims. Unique in its scope and in the size of the population included, the data set is drawn from various sources and includes a full range of expenditures for mental health and substance abuse services. Expenditures are presented as totals, types of expenditures, and categories of clinical and psychiatric rehabilitation services. Data on such a broad range of services for so large a population have not previously been available.

Studies of costs and expenditures

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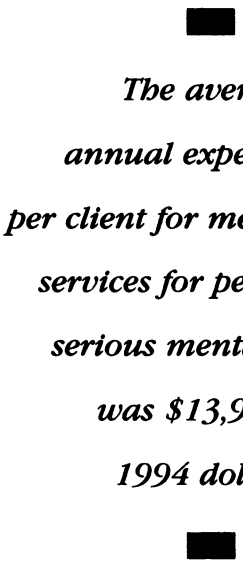
for services to people with serious mental illness have varied widely in their research questions, populations of interest, definition of services, time of execution, and results. Several issues related to estimating costs and expenditures for mental health care must be taken into account (14). Familiar and basic issues include whether to calculate indirect as well as direct costs, and how to define the boundaries of mental health care—for example, whether to include housing vouchers or Social Security Disability Insurance payments. Difficulties in computing total expenditures include the nonstandardized methods used by different providers and administrators (15) and the problems of identifying the range of providers involved with particular clients and client populations.

In addition, there are difficulties in obtaining adequate data from a sufficient range of providers both public and private. The diversity of funding streams (Medicaid, private insurance, and so forth) may result in providers' being unaware of expenditures made on behalf of some of their clients (16). Data from public accounting systems are complex; one must pull together, without duplication, information about expenditures made by local, state, and federal authorities (17,18). Comprehensive data on resource utilization have not been available (19).

Although numerous studies report expenditures for mental health services, three recently published studies help provide a framework for our results. Their goals and methods differ. Studying clients in a Wisconsin program, Wolff and colleagues (2) used a societal costs model to estimate costs of assertive community treatment. Their estimate for direct mental health treatment costs for 94 clients in 1988 was $7,113 per client ($10,826 in 1994 dollars) as part of total societal costs estimated to be $23,061 per client ($29,965 in 1994 dollars). Data on services reported by Wolff and associates most closely approximate the wide range of services data used in the study reported here.

Jerrell (20) analyzed three different models of community-based care and compared the Program for Assertive Community Treatment model or an adaptation of this model with less intensive approaches, which included a clinical team model and an intensive broker model. Jerrell reported expenditures for supportive and intensive mental health services ranging from $8,256 to $23,713 per client (normalized to fiscal year 1990–1991). The average expenditure varied, depending on the program model and time point.

In a study of programs conducted at Veterans Affairs medical centers, Rosenheck and colleagues (21) reported outpatient and inpatient expenditures for clients of intensive psychiatric community care programs of $15,556 per client per year, excluding costs of the program. Including program costs, the average total mental health care costs in fiscal year 1990 were $33,295 per client.



Methods

In this paper we report estimates of expenditures in fiscal year 1990 for direct costs of care for mental health and substance abuse services (22,23). We have followed McGuire's definition (24) of direct cost of care, which is "the actual dollar expenditures related to an illness or disorder, including amounts spent for hospital and nursing home care, physician and other medical professional services, drugs and appliances, and rehabilitation."

Overall, 2,434 clients on whom services data were available and who were enrolled in ten public county-based mental health systems in Wisconsin were approached for study participation. A total of 2,037, or 83.7 percent, consented to participate. The mental health systems are in rural areas and small and middle-sized cities. Informants from the state government, protection and advocacy groups, University of Wisconsin faculty, and family and consumer organizations identified these systems as providing good services. Seventeen systems were approached; five refused to participate, and two were excluded because they lacked administrative or programmatic stability. Seven of the systems consist of one county, and three systems are multicounty systems.

Comparison of participating clients and those who refused to participate revealed no significant differences in age, gender, primary diagnosis, or Medicaid coverage. However, participants and nonparticipants differed significantly in whether they were from rural areas; 24.1 percent of the participants were from rural areas, compared with 15.3 percent of the nonparticipants.

Of the 2,037 clients, 7.6 percent (N=147) were new clients; that is, they had received services for less than 12 months. Because they differed significantly in service utilization from clients who had received a full year of several services, analysis of their service use and expenditures was reserved for another study. The results reported here are thus for 1,890 clients who received 12 months of service during the study year.

The client populations and geographic areas for which these estimates were made are not representative of the nation as a whole; there were fewer minorities and the areas are more rural. Other studies have reported that service use and thus expenditures vary by ethnic and racial status (15).

The expenditures discussed in this paper were for mental health services provided with public funding from local, state, and federal sources. Not included were the sometimes considerable expenditures by individuals and

families for mental health care (24). Information about mental health care expenditures by private insurers was not available; however, such payments probably represent less than 1 percent of total spending for mental health care (2).

Data on Medicare payments were available for inclusion only if Medicaid paid for part of the care. Based on a study of 892 rural Wisconsin clients in a community services program, we estimate that the expenditures reported here are understated by no more than 2.2 percent as a result of the partial unavailability of Medicare data.

Funding for mental health services received by the clients in this study came primarily from four sources: State of Wisconsin monies granted to counties on the basis of population, poverty, and rurality; mandatory county matching of state funds (less than 10 percent of the state contribution); Medicaid payments to providers or counties (for case management services); and Medicare payments to providers.

Estimates of expenditures are based primarily on records kept by county-based systems and providers of care for 1989 and 1990. These records detailed units of service (hours or days) for types of care that varied in particulars but conformed to larger categories mandated by the State of Wisconsin. These categories include supportive home care, specialized transportation and escort services, work-related services, training in daily living skills, adult family home care, crisis intervention, inpatient detoxification, inpatient care, nursing home care, community-based care and treatment, counseling and therapeutic resources, day center services and treatment, community support, case management and service coordination, medical day services, substance abuse services, and services in long-term-care facilities such as institutes for mental disease (nursing homes in which more than 50 percent of the residents have a primary diagnosis of mental illness other than dementia).

Rates covered personnel and other services to clients (25), including capital facilities (24), and reflected variation in local markets (26). No standardized state financial reporting system exists in Wisconsin, but the process used here for estimating expenditures is analogous to the procedure used in studies with standardized reporting (15,26). Adjustments for inflation were made using consumer price index values for medical and nonmedical services.

Additional information came from Medicaid claim files. Some of the units of service reported in these files were also available in the mental health systems data, but others were not. In Wisconsin, the extent to which Medicaid claims are reflected in county service records varies widely by county, provider, and service. In some state systems, Medicaid information such as data on inpatient care in public or private facilities is systematically captured in administrative data systems (26). Even in such situations, however, outpatient visits to mental health providers and mental health services from general medical providers may not be included. The amounts shown in Medicaid claims for more than 60 types of mental health services were included, once it had been determined through laborious item-by-item and client-by-client verification that the data did not duplicate mental health systems data.

Mental health services were identified based on diagnostic and procedure codes and identification codes for providers and billing authorities. Review of other inpatient claims was completed to ensure that all mental health services were included. Medicare dollars shown in Medicaid claims were also added.

The expenditures reported were for outpatient mental health services, both clinical and rehabilitative; for residential services; and for institutional services. Clinical and rehabilitative outpatient services include community support, case management, counseling, medication checks, day treatment, medical day treatment, alcohol and drug abuse treatment, medication counseling, community options program services (various types of services provided to clients at high risk for institutionalization), crisis care, daily living skills services, evaluation, supportive home care, transportation, other supportive services, vocational services, and screening for tardive dyskinesia. Residential services included supervised housing and adult family home care. Institutional services consisted of psychiatric and substance abuse hospitalization, nursing home care, and care in institutes for mental disease. These categories approximate those used elsewhere (15), which also include both treatment and supportive services (27). Broad definitions of the types of services included in most managed care plans have been used in this analysis.

Table 1

Characteristics of 1,890 clients of the Wisconsin public mental health system

Characteristic	Mean or percent
Age (mean±SD years)	43.9±14.3
Ethnicity	
White	97.4
Black	1.6
Female	48.4
Primary diagnosis	
Schizophrenia or schizoaffective disorder	64.0
Bipolar disorder	11.0
Major depression	11.0
Medicaid client	53.3
Time in public mental health system (years)	7.1
Rural resident	23.8

Results

Characteristics of clients

Table 1 presents data on several characteristics of the 1,890 clients in this sample. In terms of gender, age, predominant diagnoses, and eligibility for Medicaid, the sample was similar to those in other studies (28,29). The sample reflects the ethnic heritage of nonmetropolitan Wisconsin, with few minorities represented.

Expenditures for mental health care

As shown in Table 2, the average annual expenditure per client for mental health services for people with serious mental illness was $10,995. Adjusted for inflation, the figure is $13,992 in 1994 dollars. Expenditures ranged from zero to a maximum of

Table 2

Types of mental health services used and mean expenditures for services for 1,890 clients of the Wisconsin public mental health system

Service type	% using service	Units of service used	Mean expenditure per client per year	% of total expenditure	Mean expenditure per year for clients using the service
Case management	75.7	44,291 hours	$ 697	6.3	$ 920
Community support	47.6	45,968 hours	833	7.6	1,535
Counseling	49.4	12,730 hours	361	3.3	791
Medication checks	37.5	1,765 hours	49	.5	130
Medication counseling	36.2	1,338 hours	158	1.4	406
Vocational services	23.3	125,047 hours	622	5.7	2,261
Day treatment	23.0	77,449 hours	804	7.3	2,251
Inpatient hospital care	17.9	10,300 days	1,386	12.6	7,741
Supervised housing	11.6	40,628 days	1,011	9.2	7,993
Evaluation	11.1	534 hours	24	.2	199
Tardive dyskinesia screen	10.7	73 hours	9	.1	16
Transportation	7.2	1,461 hours	169	1.5	1,911
Nursing home care	5.6	7,196 days	335	3.0	5,571
Care in an institute for mental disease	5.2	25,230 days	3,366	30.6	29,712
Medical day treatment	3.4	13,330 hours	403	3.7	1,582
Adult family home care	3.0	12,014 days	354	3.2	4,184
Alcohol and other drug abuse	2.6	865 hours	93	.9	1,717
Supportive home care	2.1	2,093 hours	89	.8	1,666
Detoxification	1.8	156 hours	29	.3	216
Community options program services	1.0	3,213 hours	166	1.5	3,471
Crisis care	.8	30 hours	4	.0	461
Other supportive services	.8	49 hours	20	.2	372
Daily living skills	.6	662 hours	13	.1	795
Total			$10,995	100.0	

$95,093 per client. Expenditures were made for most clients (98.6 percent) during the year.

For 40.3 percent of clients, less than $2,000 a year was expended. These findings are comparable to those reported in Ohio, where 47.7 percent of clients received few services; the Ohio clients averaged eight units per year (hours or days) and used a mean of 1.7 services (30).

At the opposite end of the cost continuum, for 11.1 percent of the clients in our study, more than $20,000 was spent per client during the study year. Clients for whom annual expenditures were under $2,000 consumed only 4.2 percent of all expenditures for mental health services, whereas clients for whom annual expenditures were more than $20,000 used 51.7 percent of total expenditures. The finding that small percentages of clients consume large percentages of resources mirrors findings reported elsewhere (30–32).

Table 3

Mean expenditures for major categories of services for 1,890 clients of the Wisconsin public mental health system

Service category	Mean expenditure per client per year	% of total expenditure
Outpatient care	$3,893	35.4
Care in hospitals, other institutions	5,116	46.5
Residential care	1,365	12.4
Vocational services	622	5.7

Expenditures for types of services

Table 2 also shows the percentage of clients who used each type of service during the study year, the total number of units of service used by all clients, the average expenditure per client based on the total sample of 1,890 clients, the percentage of total expenditures represented by each type of service, and the average expenditure per client based on the number of clients who actually used that service. Services are listed in the order of the frequency with which they were used. As the data in the table indicate, the five most commonly used services represent expenditures of less than $2,100 per client per year.

As noted, the right-hand column of Table 2 reports expenditures for clients who used each type of service—for example, for the 64 clients who received medical day treatment, the figure represents the annual amount spent for each client. These figures illuminate the high cost of hospitalization and care in nursing homes. Averages for inpatient care, supervised housing, care in institutes of mental disease, and nursing homes all exceeded $5,000 per client per year. For care in adult family homes and services in community options programs to prevent institutionalization, annual expenditures were between $3,000 and $5,000. In comparison, the expenditures per client for each of the most commonly used services—case management, community support, counseling, medication checks, and medication counseling—did not exceed $1,000.

Table 3 groups data on payments for mental health services into four expenditure categories: outpatient care, care in hospitals and other insti-

Table 4

Mean expenditures for clinical-medical mental health and substance abuse services likely to be covered by managed care plans and rehabilitation services not likely to be covered

Service type	% of total expenditure	Mean expenditure per client per year
Clinical-medical	59.4	$6,526
Outpatient services[1]	6.5	712
Case management	6.3	697
Inpatient services[2]	46.5	5,116
Psychiatric rehabilitation	40.6	4,469
Community support	7.6	833
Residential services	12.4	1,365
Vocational services	5.7	622
Other[3]	15.0	1,650
Total expenditures	100.0	$10,995

[1] Includes medication checks, medication counseling, medical day treatment, and screening for tardive dyskinesia

[2] Includes hospital care, care in an institute for mental disease, nursing home care, and detoxification

[3] Includes community options program hourly services, transportation, counseling, day treatment, supportive home care, evaluation, other support, and training in daily living skills

tutions (nursing homes and institutes for mental disease), residential care, and vocational services. Overall, expenditures for outpatient services, residential care, and vocational services were greater than expenditures for hospitals and others institutions (53.5 percent versus 46.5 percent). This finding suggests that to a substantial extent the goal of concentrating dollars on services in the community has been realized (33).

Table 4 divides expenditures into the clinical-medical types of services generally included in managed care plans and the psychosocial rehabilitation services that are much less likely to be included in these plans. We estimated that managed care plans would include services that account for 59.4 percent of mental health spending. Services likely to be excluded from managed care arrangements represented a significant part, 40.6 percent, of the total expenditures for mental health services.

Discussion and conclusions

In this study, expenditures for community-based outpatient services were greater than expenditures for care in hospitals and institutions. Such expenditure patterns reflect service use in a state with a reputation for having a well-established community-based system and for spending a substantial portion of its mental health dollars on community-based services (34–36). In Wisconsin a large amount of public mental health system resources is used for residential care, often to help clients and their families cope with crises or to avoid admission to institutional settings.

These data strongly suggest the need for managed care plans to move beyond medically based definitions and limitations in identifying appropriate services to include in care plans for people with severe mental illnesses. Failure to do so would mean the exclusion of a significant portion of services now available to clients (40.6 percent). Managed care plans often exclude rehabilitative services (37,38), especially two services used by about half of those with severe mental illnesses—community support and nonmedical counseling. In addition, most expenditures for residential and vocational services are rarely covered by managed care plans. To provide all the services received by the clients in this study, managed care plans would need to use a broad definition of service and to budget for significant amounts of nonmedical services (39,40).

Without these services, which constitute a large portion of total spending, overall expenditures for care will be much lower. But without services such as residential care and vocational services, the ability of clients to lead stable community-based lives may be significantly reduced. ♦

Acknowledgments

This work was supported by grant MH43555 from the National Institute of Mental Health. The authors thank James R. Greenley, Ph.D., the late director of the Mental Health Research Center; Sylvia Streeck, M.S.; and Mark Covaleski, Ph.D.

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