National Estimates of Expenditures for Mental Health and Substance Abuse Treatment, 1997

Rosanna M. Coffey, Ph.D., The MEDSTAT Group

Tami Mark, Ph.D. M.B.A., The MEDSTAT Group

Edward King, Actuarial Research Corporation

Henrick Harwood, The Lewin Group

David McKusick, Ph.D., Actuarial Research Corporation

Jim Genuardi, Actuarial Research Corporation

Joan Dilonardo, Ph.D., Center for Substance Abuse Treatment

Jeffrey Buck, Ph.D., Center for Mental Health Services

July 2000

U.S. Department of Health and Human Services
Substance Abuse and Mental Health Services Administration
5600 Fishers Lane
Rockville, MD 20857

ACKNOWLEDGMENTS

This report is the result of substantial contributions by numerous people and organizations. Rick Harwood of the The Lewin Group produced the specialty facility estimates. Edward King, Jim Genuardi, and David McKusick of Actuarial Research Corporation produced the estimates for other providers, as well as the final total estimates. Rosanna Coffey and Tami Mark of the MEDSTAT Group coordinated the project, monitored the results, and drafted the report. All team members contributed to the report. Deborah Ringel and Katherine Sullivan of the Lewin Group provided research assistance and computer programming, and LaTonia Adams of the MEDSTAT Group assisted in manuscript preparation. Joan Dilonardo, Jeffrey Buck and Mady Chalk guided the work and provided many helpful comments and suggestions throughout this project. The Advisory Panel (named in Appendix A) provided many insights on policy relevance of the results. Three technical experts – Richard Frank, Ph.D., Thomas McGuire, Ph.D., and Donald Shepard, Ph.D. – provided methodological guidance.

DISCLAIMER

This report was prepared by The MEDSTAT Group for the Substance Abuse and Mental Health Services Administration (SAMHSA) of the U.S. Department of Health and Human Services under Contract No. 270-96-0007 to Joan Dilonardo, Ph.D., Delivery Order Officer. The content of this publication does not necessarily reflect the views or policies of SAMHSA, nor does it necessarily reflect the views of any of the Advisory Panel members. The authors are solely responsible for the content of this publication.

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RECOMMENDED CITATION

Coffey RM, Mark T, King E, Harwood H, McKusick D, Genuardi J, Dilonardo J, Buck JA. *National Estimates of Expenditures for Mental Health and Substance Abuse Treatment, 1997.* SAMHSA Publication No. SMA-00-3499. Rockville, MD: Center for Substance Abuse Treatment and Center for Mental Health Services, Substance Abuse and Mental Health Services Administration, July 2000.

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ORIGINATING OFFICE

Office of Managed Care, Center for Substance Abuse Treatment, 5600 Fishers Lane, Rockwall II Building, Suite 740, Rockville, MD 20857.

EXECUTIVE SUMMARY

Background

An estimated 28 percent of the adult U.S. population will suffer from a mental health or substance abuse (MH/SA) disorder, including alcohol or drug abuse problem, during the course of a year. Of the ten leading causes of disability worldwide in 1990, five were psychiatric conditions including alcohol abuse. Given the prevalence of MH/SA-related morbidity and mortality and its effects, it is important to know how much the United States is investing in treatment of mental and substance abuse disorders. Moreover, due to the rapid changes occurring in treatment technologies, philosophy, organization, and financing, the extent and character of this investment should be tracked over time.

This is the second in a series of reports planned to provide periodic updates of national expenditures for MH/SA treatment. The report addresses the following key questions:

- How much is spent in the United States to treat MH/SA disorders?
- How are the expenditures distributed by payer and provider type?
- How has spending changed from 1987 to 1997?
- How do MH/SA expenditures compare to those for all U.S. health care?

This project estimated MH/SA treatment expenditures using data and methods that the Health Care Financing Administration (HCFA) uses for estimates of national health expenditures from the National Health Accounts (NHA). This work is based primarily on nationally representative databases with multiple years of data, which generally cover the study period of 1987 to 1997. The study examines expenditures for two sectors of providers – the specialty MH/SA providers and non-specialized general health care providers who also deliver MH/SA services. Two sets of estimates, adjusted for general inflation, were made: "NHA-equivalent MH/SA expenditures" which are comparable to all health care spending because they focus exclusively on health-care-service-related MH/SA treatment, and "total MH/SA expenditures" which include some social services (such as custodianship of group homes) delivered by specialty MH/SA providers. The estimates are presented for mental health (MH), substance abuse (SA), MH/SA combined, and all health care expenditures.

Because the study focuses on expenditures for treatment and not disease burden, estimates include expenditures only for the direct treatment of MH/SA disorders. It excludes the other substantial comorbid health costs that can result from MH/SA (for example, trauma and cirrhosis) and other direct costs of caring for MH/SA clients (for example, job training and subsidized housing). Other indirect costs such as lost wages and productivity are also excluded from these MH/SA expenditure estimates.

Key Findings

- National total expenditures for treatment of MH/SA were $85.3 billion in 1997. Of the total, $73.4 billion (86 percent) was for treatment of mental health (MH) disorders and $11.9 billion (or 14 percent) was for treatment of substance abuse (SA). NHA-equivalent MH/SA expenditures (excluding social services) were about $3 billion less ($82.2 billion) in 1997.

- MH/SA expenditures represented 7.8 percent of the more than one trillion dollars in all U.S. health care expenditures in 1997, down from 8.8 percent in 1987.

- MH/SA spending grew more slowly than spending for all health care. Inflation-adjusted, MH/SA spending grew by 3.7 percent annually between 1987 and 1997, while all health care spending grew by 5.0 percent each year on average.

- The slower growth of MH/SA expenditures relative to all health care was due primarily to less spending on hospitals. Hospital spending growth for MH/SA was only about 14 percent of the growth in all hospital spending (0.5 percent versus 3.6 percent annually over the ten years). Inpatient hospital volume for MH/SA declined dramatically.

- One of the fastest growing components of MH/SA spending was for drugs prescribed to treat mental health (MH) disorders. MH/SA prescription drug expenditures grew by 9.3 percent (inflation-adjusted), while those for all health care grew by 8.3 percent.

- Inflation-adjusted spending for SA grew much more slowly than spending on MH and on all health. SA expenditures rose 2.5 percent, MH 3.7 percent, and all health 5.0 percent annually on average.

- The share of SA treatment expenditures that went to psychiatrists and other professionals specializing in MH/SA treatment was notably lower than that of MH treatment dollars. Psychiatrists received almost 10 percent of MH dollars but only about 2 percent of SA expenditures in 1997. Likewise, psychologists, counselors, and social workers received about 13 percent of MH dollars but only 2 percent of SA spending.

- Most SA-related payments went to hospitals (40 percent) and specialty substance abuse centers (33 percent) in 1997. Among hospitals, most SA dollars went for care in specialty units (22 percent of SA spending) or in other parts of hospitals (10 percent).

- The public sector's share of MH/SA expenditures increased over the ten-year period, as did the public share of all health care spending. In addition, within MH/SA, state and local government spending other than Medicaid contributed proportionately less over time to the financing of MH/SA, as states moved health services under the Medicaid program. Medicaid spending slowed dramatically in the last five years of this study.

- Real spending by private insurers for SA services between 1987 and 1997 fell by 0.6 percent annually, compared to increases of 4.7 percent for MH and 5.4 for all health care.

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Chapter 1. Background and Study Methods

This study develops ongoing estimates of national spending on health care services related to the diagnosis and treatment of mental health and substance abuse (MH/SA) conditions. This report presents estimates for 1997 and a revision of the series from 1987 through 1996. It is the second set of estimates produced under the project. Readers who want more than an overview of methods, which this chapter presents, should consult the Technical Report on the 1997 estimates (Mark et al., 2000).

Background

An estimated 28 percent of the adult U.S. population will suffer from a mental health and substance abuse (MH/SA) disorder during the course of a year (Kesseler et al., 1994). Of the ten leading causes of disability worldwide in 1990, five were psychiatric conditions including alcohol abuse (Murray and Lopez, 1996).

Given the prevalence of MH/SA-related morbidity and mortality and its effects, the country should know how much is being invested in treatment of mental health and substance abuse disorders. Moreover, due to rapid changes in treatment technologies, philosophy, organization, and financing, consistent estimates of MH/SA spending over time are crucial for understanding major health policy changes.

Over the past two decades, eight studies have attempted to estimate the level of U.S. spending on MH/SA disorders (Levine and Levine, 1975; Berry et al., 1977; Cruze et al., 1981; Harwood et al., 1984; Frank and Kamlet, 1985a,b; Rice et al., 1990; Frank et al., 1994; Harwood et al., 1998). These studies made major contributions to our understanding of the total cost to society of mental and substance abuse disorders. However, they could not also satisfy the need for a longitudinal perspective, where MH/SA estimates from year to year can be readily compared to each other and to spending for all health care.

There have been major changes in the treatment of mental health and substance abuse in the last few decades. A person seeking treatment for a mental health and substance abuse (MH/SA) disorder in 2000 would have an experience vastly different from one seeking care 50 years ago.

In 1955, about three-fourths of those receiving care for mental illness by a specialty provider would have been hospitalized overnight, typically in a state or county mental hospital (Witkin et al., 1998). Their diagnosis might have been determined using the first edition of the Diagnostic and Statistical Manual: Mental Disorders (DSM-I), published in 1952. It was the first official manual of mental disorders to have clinical utility, although it was not based on explicit diagnostic criteria, as subsequent editions would be. If these clients were seeking treatment for schizophrenia in 1958, they may have been one of the first treated with the newly synthesized neuroleptic, Haloperidol, a breakthrough medication in the treatment of psychosis. If they had depression, they might have been treated with a monoamine oxidase inhibitor (MAOI) – the first effective medication for treating

depression and the only type available at the time. Their care would most likely be paid for by the state. If a substance abuser needed detoxification, they might be hospitalized for weeks.

Today, a person seeking care for a MH/SA disorder would most likely receive outpatient care. Even if hospitalization were needed, it would most likely occur in a general hospital psychiatric unit or private psychiatric hospital rather than a state or county mental hospital. For persons hospitalized, their tenure would be measured in days as opposed to months or years. They would be diagnosed with the standard DSM-IV taxonomy. Someone experiencing a first episode of schizophrenia might receive a new generation anti-psychotic medication, such as Risperidone (first approved by the FDA in 1993) or Zyprexia (approved in 1996) with lower risks of side effects. A person experiencing their first episode of depression would most likely receive an SSRI – a class of anti-depressants first marketed in 1987. In addition to medication therapy, they would typically receive psychosocial treatment from a psychiatrist, psychologist or social worker. Ideally, hospitalization would be followed by outpatient care in a practitioner's office or clinic, in the case of schizophrenia, perhaps enrollment in a Program of Assertive Community Treatment (PACT), a specific model of community-based care designed to treat patients who are at high risk for hospital readmission. Detoxification for chemical dependency might occur in an outpatient setting.

To understand the impact of dramatic changes such as these on health care resources, the Center for Substance Abuse Treatment and the Center for Mental Health Services (CSAT/CMHS) embarked on the development of a comprehensive set of estimates of spending on MH/SA treatment. A prime objective of this project was to devise estimates over a ten-year span that could be compared with spending on all health care services within the United States.

Scope of the Study

This study differs from many other studies of MH/SA in that it focuses on the cost of MH/SA treatment, not the burden of MH/SA illnesses. Burden of illness studies include costs not directly related to treatment, such as the impact of mental illness on productivity, costs due to drug-related crimes, or housing and other accommodation subsidies to MH/SA clients.[1]

To define MH/SA disorders, we relied on diagnoses classified in the International Classification of Diseases 9th Revision (ICD-9-CM) as:

- "mental disorders"

These exclude "cerebral degenerations" such as Alzheimer's disease. After consulting with a panel of outside experts, we also excluded other conditions. The full list of exclusions was:

- "cerebral degenerations" such as Alzheimer's disease
- "senile and presenile organic psychotic conditions"

[1] For an overview of the prior studies, see Mark et al., 1999.

- "transient organic psychotic conditions" such as epileptic related confusional state or acute psychosis associated with a cerebrovascular disorder
- "other organic psychotic conditions" such as dementia related to multiple sclerosis
- "tobacco abuse"
- "developmental mental delays"
- "mild mental retardation"
- "other retardation"

Two diagnoses were added:

- "drug dependence during pregnancy"
- "mental disorders during pregnancy"

as well as some relevant classifications related to a history of mental disorders.

These diagnostic categories generally reflect what most payers consider to be MH/SA conditions. This definition of MH/SA excludes expenditures on the physical sequelae of mental illness or substance abuse, such as cirrhosis of the liver.

This approach, however, primarily differs from earlier MH/SA expenditure studies by excluding dementia. Since those prior studies and estimates were developed, a separate specialty care system for dementia has evolved with such services as geriatric day care, assisted living, and dementia units in nursing homes. In addition, dementia is not typically singled out for reduced coverage under insurance benefits as are other MH/SA disorders[2]. For these reasons, we exclude it from the national MH/SA expenditure estimates.

Expenditure estimates were made for persons who had one of the included diagnoses as a primary diagnosis. Thus, additional expenditures for MH/SA treatments provided during visits or encounters for other medical problems are not counted in the expenditures presented here. This is because data and methods for allocating payments for co-occurring diagnoses and/or co-occurring treatments are not available and development of such methods is beyond the scope of this study. Nevertheless, primary diagnosis alone probably accounts for 95 percent of cases that would be identified through more sophisticated methods (Wright and Buck, 1991).

The results of this study will differ from other studies where mental health and substance abuse spending is based on all types of care provided in particular facilities. This study identifies relevant MH/SA diagnoses on the basis of diagnostic information, not on the basis of where the care was given. For example, when we excluded diagnoses (such as dementia and tobacco addiction), we also excluded their expenditures from specialty mental health or substance abuse facilities.

[2] Inclusion of dementia would have led to different trend estimates for MH/SA spending. Estimates of dementia treatment expenditures were created by this study team for the Surgeon General's Report on Mental Health (USDHHS, 1999) and can be found in that document.

This study included all providers delivering any services related to mental health or substance abuse. These included all hospital-based services (inpatient, residential, and outpatient services operated by any type of hospital), physician services (delivered by psychiatrists and other physicians), other professionals (including psychologists, counselors, social workers, and nurse practitioners), freestanding nursing homes and home health agencies, and specialty MH/SA facilities (multi-service mental health organizations, residential treatment centers for children, specialty substance abuse centers, and other facilities (including substance abuse services provided by schools, jails, churches, etc)).

The study included all types of payers. At the most detailed level, these included: Medicaid, Medicare, "other State/local" (State/local government sources other than Medicaid), and "other Federal" (Federal sources other than Medicaid and Medicare – e.g., Veterans Affairs, Department of Defense, and Federal Block Grants). For some analyses, we split Medicaid funds into State/local and Federal categories, to develop total spending for these two government sources. The private sources included private insurance, out-of-pocket expenditures, and other private sources. Out-of-pocket spending includes payments by those without and with insurance. For the insured, out-of-pocket payments can include copayment and deductible amounts, services that are uninsured or are beyond insurance limits, as well as MH/SA encounters paid totally by the client or family to avoid the stigma of insurance records with MH/SA treatment.

Methods

Technical Consultation

The methods used to estimate the 1997 national MH/SA expenditures took advantage of extensive suggestions from reviewers of the 1996 estimates. In addition, the project team sought and received numerous suggestions from mental health and substance abuse experts – researchers, clinicians, and policymakers. Some of their suggestions addressed the technical methods used to generate the estimates; others related to the report – its organization, display of data, and interpretation and meaning of the results.

With guidance from three technical experts in the field, the project team implemented the vast majority of the methodological suggestions for producing estimates. The improvements upon the first set of estimates included:

- Shifting dollars spent on care in mental health or substance abuse specialty units in general hospitals from the general sector to the specialty sector expenditures;
- Changing the method of allocating expenditures on co-occurring alcohol and drug abuse from including all co-occurring drug and alcohol specialty sector expenditures in the "other drug" category to separating them into the "alcohol" and "other drug" categories proportionately;
- Adding facility size (number of clients) as a predictor for imputing missing IMHO and UFDS data;
- Using more conservative trim points for specialty data;
- Using specific producer price indices to extrapolate expenditures for some specialty providers; and
- Deriving estimates for the cost of insurance administration.

Overview of Methods

The estimation approach differed according to the type of provider: 1) specialty facility providers of MH/SA services such as psychiatric hospitals, and 2) other providers and services. Other providers and services include providers who may treat any type of health care problem and also mental health or substance abuse problems, providers who are specialty independent practitioners (e.g., psychiatrists), and prescription drugs. In describing the methods, we refer to these two groups as "the specialty facilities" and "other types of providers," respectively. The methods for estimating MH/SA expenditures for these two types of providers are summarized in Table 1.1.

In addition, the final estimates are sometimes classified as "specialty" and "general" sector providers. Definitions of the providers in those "sectors" are described when the results are presented.

Data. Different estimation methods were used for the specialty facilities and the other providers of MH/SA services, primarily because the nature of the data differed between the two groups. Table 1.2 lists the data sources used. For specialty facility providers, SAMHSA conducts censuses of facilities that treat mental health or substance abuse disorders, through the Inventory of Mental Health Organizations (IMHO) and the Uniform Facilities Data Set (UFDS), respectively. Facility administrators answer these surveys and report statistics at the aggregate facility level (for example, total number of Medicaid clients or total alcohol abuse clients). No encounter-level or patient-level records are available from these surveys.

For the other providers, administrative data and surveys that collect encounter-level or patient-level data were used. These surveys often sample a first stage of providers and then a second stage of encounters between providers and patients resulting in a nationally representative sample of encounters. With characteristics on each encounter or patient, we can calculate expenditures for specific diagnoses such as mental health, substance abuse, or all health care and we can calculate various combinations of facility and patient characteristics.

Basic Calculations. Given different types of data sources, the methods used to develop estimates for each of the two types of providers differ. The specialty facility estimates were drawn from total revenues reported in the SAMHSA surveys by facility and by payment source. The major steps for the basic calculations included the following steps. Spending on mental disorders out of scope of this study (such as dementia, tobacco addiction, mental retardation and mental developmental delays) was subtracted from total revenues by facility. Revenues for providers that provided multiple modes of care (inpatient, outpatient, and residential treatment) were re-estimated by modality using the average revenue per client and characteristics of single modality providers. Total revenues were configured by type of provider (for example, multi-service mental health organizations or specialty substance abuse centers) and by payer and diagnosis (Mental Health (MH), Alcohol, and other substance abuse. While specialty facility estimates were compared for consistency against the National Health Accounts (NHA) estimates, they were not further calibrated against the NHA estimates of total expenditures.

Estimates for the other providers were derived from and calibrated against the NHA totals. This was done for two reasons. First, we wanted to take advantage of the substantial work (assembly of data and national weighting of sample surveys) that had been done for the NHA for all health care providers. Second, we wanted the final MH/SA expenditures to be consistent with and comparable to the NHA estimates.

To develop MH/SA expenditures for the other providers consistent with the methods of the NHA, we started with the NHA health care expenditures, where estimates are produced for all health care diagnoses combined. The Health Care Financing Administration estimates spending by type of health care provider (inpatient community hospitals, independent physicians, etc.) and by type of payer (Medicare, Medicaid, private insurance, etc.). Our dual approach to estimation meant that we had to eliminate the specialty MH/SA providers from the NHA estimates to avoid double-counting expenditures.

To identify MH/SA expenditures from all-disease treatment expenditures, we estimated spending rates by type of diagnosis. Only the principal or primary diagnosis was used to identify spending on MH or SA treatment. Spending rates for each diagnostic category were estimated from utilization rates, average charges, and payment rates (adjusted for discounts and cost sharing). When available, these three components were multiplied together to derive a spending rate for MH and SA versus all health care for particular providers and payers. These proportions were applied to the appropriate national health dollars from the NHA to estimate national MH and SA spending.

Table 1.1. Overview of Methods for Estimating MH/SA Expenditures

Methods	Specialty Facilities	Other Providers
Data Sources:	Facility Surveys (Facility-level reporting)	National surveys and administrative claims (Encounter-focused reporting)
Critical Data Elements:	Total Revenue By: Facility Modality of care (inpatient, etc.) Diagnosis Payer	Components of spending: Service use Charges Payment rates } By: Provider type Payer Diagnosis
Basic Calculations:	Eliminate diagnoses out of scope	Eliminate specialty institutional providers
	Split multi-modality revenue by modality based on single modality providers' revenue	Multiply "components of spending" together by diagnosis (MH, A, SA, All health) and payer to estimate MH/SA share of total health care expenditures by payer
	Estimate total revenue by: Provider type Payer Diagnosis	Multiply national health care expenditures (minus specialty institutional providers) by "MH/SA share"
Special Calculations:	Imputations for missing revenue = f (modality, ownership, region of country, number of client days) by facility	
	Survey non-response adjustments	Survey non-response adjustments
	Extrapolations for missing years of data	
	Projections for missing end years of data: HCFA five-factor model with producer price indices	
	Smoothing expenditure estimates across all years	Smoothing expenditure estimates across all years
Results for 1987-1997:	MH/SA specialty expenditures by facility type and payer.	MH/SA general expenditures by provider type and payer

Table 1.2. Primary Data Sources Used to Derive MH/SA Spending Estimates

Data Source	Description of Data Source	Years Used
National Health Accounts (NHA)	National health expenditures assembled from various national databases and published by the Health Care Financing Administration.	1986-1997
National Hospital Discharge Survey (NHDS)	A nationally representative sample of hospitals and discharges, collected by the National Center for Health Statistics (NCHS). Data are for non-Federal, short-stay, and general hospitals in the US and include about 300,000 of the 30,000,000 US discharges per year.	1986-1997
National Hospital Ambulatory Medical Care Survey (NHAMCS)	NCHS national probability survey of visits to hospital emergency and outpatient departments in US non-Federal, short-stay, and general hospitals.	1992-1997
National Ambulatory Medical Care Survey (NAMCS)	NCHS national probability survey of visits to office-based physicians in the US. Drugs prescribed during the visit are included.	Office visits: 1985, 1990-97; Drug use: 1985, 1992-97
National Nursing Home Survey (NNHS)	NCHS nationwide sample survey of US nursing homes and their residents. Covers all types of nursing and related care homes that provided some level of nursing care.	1985, 1995
National Home and Hospice Care Survey (NHHCS)	NCHS nationally respresentative sample survey of home and hospice care agencies, including their current patients and discharges. Includes agencies providing patient care and certified under Medicare or Medicaid, or which have a State license to operate.	1994, 1996
MarketScan®	The largest single source of private health insurance claims standardized across multiple insurers for persons employed by large firms in the U.S. Assembled by The MEDSTAT Group, it contains claims for over 7 million employees and dependents, with linked drug and medical claims for a subset of 500,000 covered lives.	1995, 1996
IMS Health data	A panel of 20,000 pharmacies randomly selected by IMS Health, Inc. from half of all retail stores (about 34,000) in the US. All new and refilled prescriptions are collected for every day of the month.	1994 – 1997
Medicaid drug rebate data from NY and CA	Reports of State Medicaid agencies to HCFA on outpatient drug purchases (number of units, prescriptions, and payments).	1994, 1996

Table 1.2. Primary Data Sources Used to Derive MH/SA Spending Estimates (continued)

Data Source	Description of Data Source	Years Used
Healthcare Cost and Utilization Project, Nationwide Inpatient Sample (HCUP-NIS)	Nationwide hospital discharge database drawn from a "convenience sample" of 20 States to approximate the distribution of hospitals nationally. All discharges from about 900 hospitals result in a sample of about 6 million of the 30 million discharges in the U.S. per year. Data include patient socio-demographics, length of stay, diagnoses, procedures, expected payer, collected by the Agency for Healthcare Research and Quality (AHRQ).	1988-1996
National Medical Expenditure Survey (NMES)	An AHRQ national probability household survey that provides data on health expenditures of American families, financing of these expenditures, and each person's use of service. Respondent-provided data are verified against provider and health plan records	1987
HCFA Medicare and Medicaid Statistics	Heath Care Financing Administration statistics on health care utilization and payments for people enrolled in Medicare and Medicaid.	Selected years 1986-1997
Inventory of Mental Healthcare Organizations (IMHO)	SAMHSA census of mental health facility administrators. Data include the distribution of clients across mental illness, substance abuse, mental retardation/ developmental disabilities, and other disorders, and information about the facility, its services, and finances.	1986, 1988, 1990, 1992, 1994
Uniform Facility Data Set (UFDS)	SAMHSA census of specialty substance abuse facilities. Data content is similar to IMHO, with added information on proportion of patients with alcohol, drug abuse, and both alcohol and drug abuse disorders.	1987, 1990, 1993, 1995, 1996

Special Calculations. Several issues arise in developing national spending estimates from multiple and disparate data sets. We devised methods for allocating spending by diagnosis for facility-level data where disease classifications differed across surveys or institutions. (For example, when co-occurring alcohol and drug abuse became adopted as a survey classification for patients, we apportioned these joint diagnoses according to data from prior years indicating spending on single-diagnosis care by facility.) We imputed missing total revenues based on numbers of clients, facility characteristics and geographic location. We also smoothed data from sources with small samples and high variance from year-to-year, adjusted estimates for varying response rates in surveys across

time, extrapolated missing years of survey data and outdated surveys to 1997. In addition, we made a rough estimate of the costs of health insurance administration for MH/SA coverage.

For accurate comparisons between MH/SA and all health, we computed an estimate of MH/SA NHA-equivalent expenditures, which removed privately funded social services (captured only for MH/SA treatment) from the MH/SA estimate. For example, private providers of group homes for the seriously mentally ill would be included in MH/SA specialty facility spending, but would be excluded from the NHA estimates because they would be classified as a social service and would not be counted as a health service in the NHA. Nevertheless, some social services under public health budgets would be included in the NHA because they cannot be separated; for these public facilities we kept their social service expenditures in our MH/SA estimates. We used the NHA-equivalent MH/SA figures throughout this report because most of the comparisons were to all health care spending. The NHA-equivalent MH/SA expenditures were about $3 billion (or 4 percent) less than total MH/SA spending estimated in this study. Whenever social services are particularly relevant to a comparison within MH/SA, we used the total MH/SA estimates. Both types of estimates are presented in the tables of Appendix D.

Finally, we examined trends in spending inflation-adjusted growth rates. This provides a perspective on the real growth in treatment expenditures, as opposed to expenditure increases that also result from general inflationary pressures in the United States economy. The same inflation adjustment used in the National Health Accounts (NHA) is used here – the "Gross Domestic Product deflator."[3]

Limitations of Approach

Two types of limitations affect this work – underlying data sets and methods of estimation, including tying estimates to the National Health Accounts.

The inherent limitations of underlying data sets primarily drive the limitations of this work. For example, data for mental health facilities (the IMHO) was only available until 1994 and expenditures in 1995 through 1997 had to be extrapolated using other information. Also, there may be underreporting of MH/SA diagnoses in health care claims for reimbursement due to concern about stigma or insurance limitations leading to a possible underestimate of MH/SA spending. At the same time, because we could not determine when MH drugs were used for conditions other than MH, such as anti-depressants for pain control, we may have overestimated MH/SA spending on retail drugs. Furthermore, the use of claims for tracking personal out-of-pocket spending on non-specialty care in general hospitals can underestimate that spending, particularly when limits on inpatient services

[3] The GDP represents the opportunity cost of other goods and services that consumers must give up when they buy medical care. The GDP inflation adjuster was 3.0 percent per year over the period 1987 to 1997. Between 1987 and 1992, it was 3.8 percent per year; between 1992 and 1997, it was 2.2 percent per year. The rationale for using the GDP deflator is explained in the Technical Report (Mark et al., 2000).

cause the cost of a hospitalization to be borne entirely by the client. (This is not a problem for out-of-pocket spending on care outside the hospital, because the data sources for these estimates (NAMCS and NHAMCS data) capture such self-payments correctly.) There may be errors in allocations of expenditures among payers, because of confusion by providers about insurance type. For example, the use of Medicaid managed care cards that are indistinguishable from private insurance cards can lead to incorrect coding of payment source in facility data bases that feed into surveys. Finally, we strive to eliminate duplicate expenditures from data sources that report on the same facilities. For example, both the NHDS and the IMHO and UFDS data sets include specialty hospitals which we must not count more than once in the MH/SA estimates. We can eliminate this problem only if survey coverage is documented accurately and types of facilities are delineated in the data sets.

In addition to the underlying data, methods can create limitations. For example as mentioned earlier, we did not capture spending on MH/SA treatment during an encounter that was secondary to treatment for physical ailments. Also, tying the estimation process to the National Health Accounts also imposes some limits on MH/SA estimates. The NHA includes expenditures only for health services. However, social services (such as custodial residential care or group homes) can be essential complements to the treatment of some types of mental illness in the community. For this reason, we develop two sets of estimates – one of total MH/SA spending and one of NHA-equivalent spending.

Benefits of Approach

The major benefit of this project for estimating national MH/SA spending is that it levels the playing field for an analysis of MH/SA and total health care spending. When the same methods and same underlying numbers are used for both calculations, the numbers can be made consistent for meaningful comparisons. Thus, MH/SA and total health care spending can be followed over time as public programs and the health care system change. Furthermore, spending by clinical problem – mental health, alcohol, and other substance abuse – can be studied to understand the patterns of public and private spending on these clinical conditions.

Future Improvements

As we advance the methods and understanding of the limits of the work, we find new ideas for improving the estimates. We use the opportunity of a new round of estimation to review the methods and make changes. Some enhancements are a forgone conclusion – add more recent data. Other suggestions – alternative data sources, reclassification of expenditures, a new algorithm for estimating insurance costs – must be assessed for feasibility. The decision to adopt a new approach depends on the level of effort required and potential impact on the estimates.

Organization of The Report

This report summarizes the methods (Chapter 1) and highlights the major findings from the CSAT/CMHS Spending Estimates Project. Chapter 2 examines MH/SA spending

for the latest year estimated, 1997, and compares that to all health care spending. Chapter 3 reviews the trends in expenditures since 1987 for MH/SA and all health care. Chapter 4 focuses on mental health services and explores the major providers and sources of support for MH in comparison to all health care over the ten-year period. Likewise, Chapter 5 focuses on substance abuse (SA) expenditures, and compares them to MH spending. Each chapter attempts to assess the changes in the expenditures in relation to major Federal and State policy changes related to MH and SA services and in major shifts in patterns of treatment and technology evident in literature on MH and SA services over the 1987 to 1997 time period. Chapter 6 summarizes the conclusions of the study

Chapter 2. Expenditures for MH/SA and All Health Care, 1997

Two Estimates of MH/SA Expenditures

Two estimates of mental health and of substance abuse (MH/SA) expenditures were developed for this study -- "NHA-equivalent MH/SA expenditures" (excluding privately funded social services) and "total MH/SA expenditures" (including those social services). In general in this report, we use the NHA-equivalent numbers. In a limited number of instances for which social service is an important component, we use "total MH/SA spending."

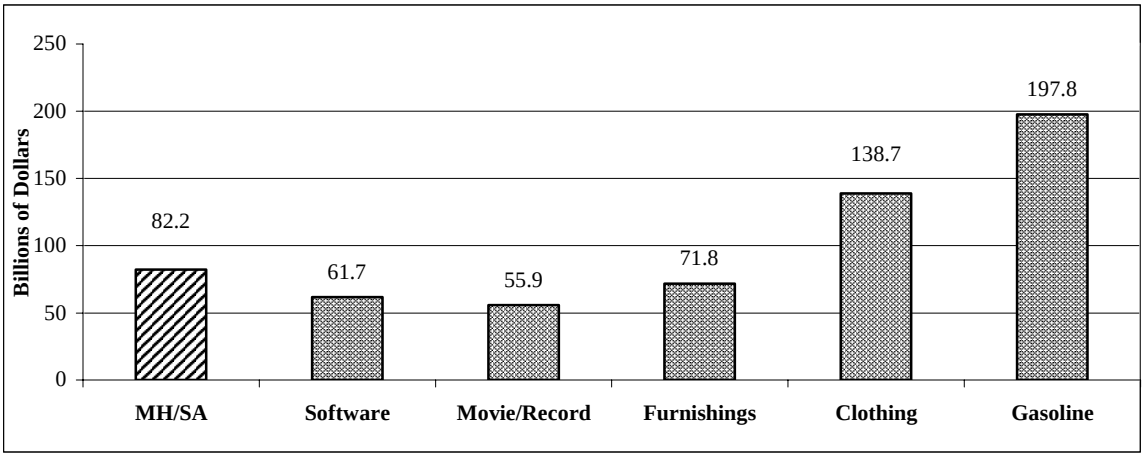
Tables D.1 and D.2 in Appendix D present NHA-equivalent MH/SA expenditures (with all health care expenditures), by provider and by payer, respectively. Similarly, Tables D.3 and D.4 present total MH/SA expenditures. Each table shows expenditures for years 1987, 1992, and 1997 and the problem treated – MH/SA, MH, SA, or all health. Each table provides: (a) total dollar estimates, (b) percents across providers or payers, and (c) average annual growth rates for 10- and 5-year increments. Footnotes below the graphical figures reference the table source.

MH/SA Expenditures in Context

MH/SA a Substantial Expenditure and a Major Clinical Problem

National expenditures (NHA-equivalent) for MH/SA treatment were $82.2 billion in 1997 (Figure 2.1). Compared to spending on other retail trade, Americans spent more on MH/SA treatment in 1997 than they did on software ($61.7 billion) or home furnishings ($71.8 billion). However, they spent less on MH/SA than on clothing ($138.7 billion) or gasoline ($197.8 billion) (U.S. Census Bureau, 2000).

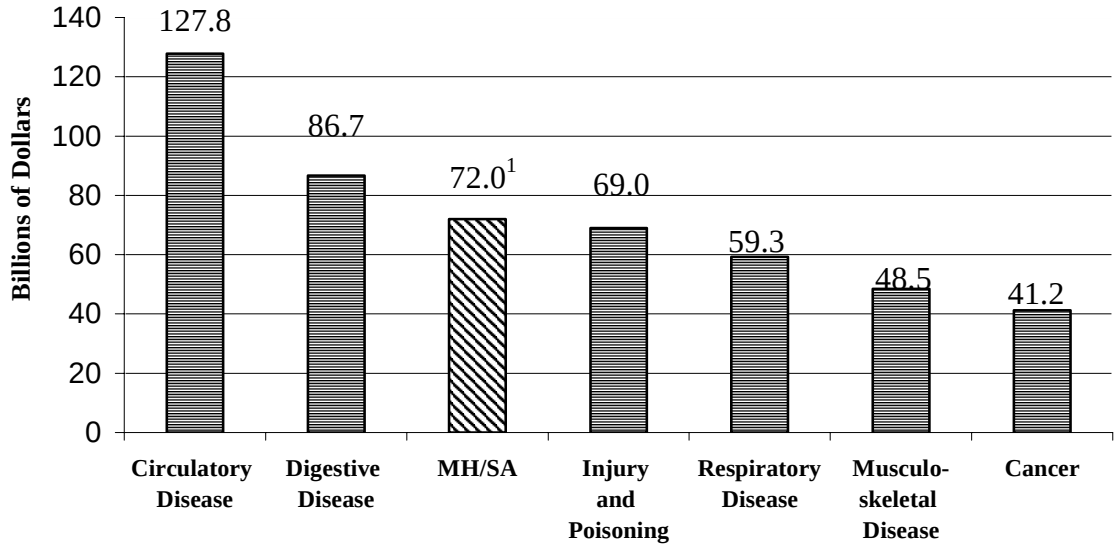
Figure 2.1. MH/SA Expenditures Were a Major Component of U.S. Economy in 1997



Source: U.S. Census Bureau, 2000
[1]CSAT/CMHS Spending Estimates (Table D.1(a)).

Another context for spending on MH/SA is spending on other diseases. A recent study (Hodgson and Cohen, forthcoming) estimated the direct treatment costs of specific diseases in 1995. Our 1995 MH/SA estimate implies that more was spent on MH/SA treatment than most other types of diseases (Figure 2.2). MH/SA spending was greater than that for cancer, injuries, respiratory diseases, and musculoskeletal and connective tissue diseases. MH/SA spending at $72 billion was about half of the amount spent nationally ($127.8 billion) on treatment of circulatory diseases in 1995, the most resource-intensive disease group.

Figure 2.2. MH/SA Spending Ranked with Other Major Health Problems in 1995



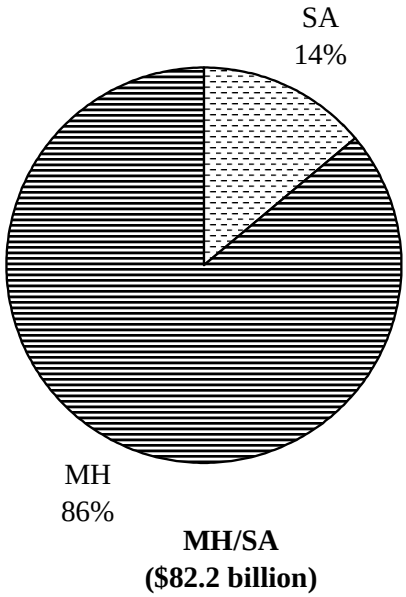
Source: Hodgson and Cohen, forthcoming.
[1]CSAT/CMHS Spending Estimates (NHA-equivalent MH/SA expenditures).

Another context for MH/SA dollars is spending on all health care. MH/SA expenditures ($82.2 billion) were 7.8 percent of the one-trillion-dollar health care industry in 1997 (see Table D.1(a)).

MH Largest Component of MH/SA

Of the $82.2 billion spent on MH/SA treatment in 1997, 86 percent (or $70.8 billion) was for treatment of mental illness and 14 percent (or $11.4 billion) was for treatment of substance abuse (Figure 2.3). Mental health care is clearly the largest component of MH/SA spending.

Figure 2.3. Mental Health Dominated MH/SA Expenditures in 1997



Source: CSAT/CMHS Spending Estimates (Table D.1(a)).

MH/SA Treatment Providers

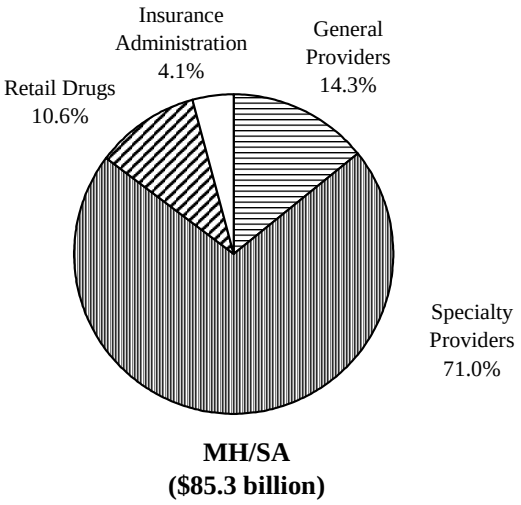
A Large Specialty Network of Providers

Mental health disorders and abuse of alcohol or other drugs can be diagnosed and treated by many types of health care providers. A large network of "specialty" providers focuses exclusively on MH/SA treatment. In that group are specialty psychiatric or substance abuse hospitals, such specialty units of general hospitals, psychiatrists, other MH/SA professionals (such as psychologists, counselors, social workers, and nurse practitioners), multi-service mental health organizations (MSMHOs), specialty substance abuse centers (SSACs), and residential treatment centers for emotionally disturbed children (RTCCs). Some providers who treat physical health problems also treat MH/SA disorders. We call them "general providers" in this study. In that group are non-specialty units of general hospitals, nursing homes and home health agencies, and non-psychiatric physicians.

As noted above, for some comparisons of providers within MH/SA, we incorporate spending on social services reported in SAMHSA's inventory of specialty providers. "Total MH/SA expenditures," in 1997 were $85.3 billion. These "total" dollars are the base for the following estimates.

Specialty providers are a much larger force in MH/SA treatment than are general health care providers (Figure 2.4). Specialty providers received 71.0 percent ($60.6 billion) of the $85.3 billion of "total MH/SA expenditure" in 1997. General providers received 14.3 percent ($12.2 billion). The remaining, nearly 15 percent of dollars, were spent on prescription drugs and administrative expenses of insurance.

Figure 2.4. MH/SA Expenditures Reflected a Large Sector of Specialized Providers in 1997

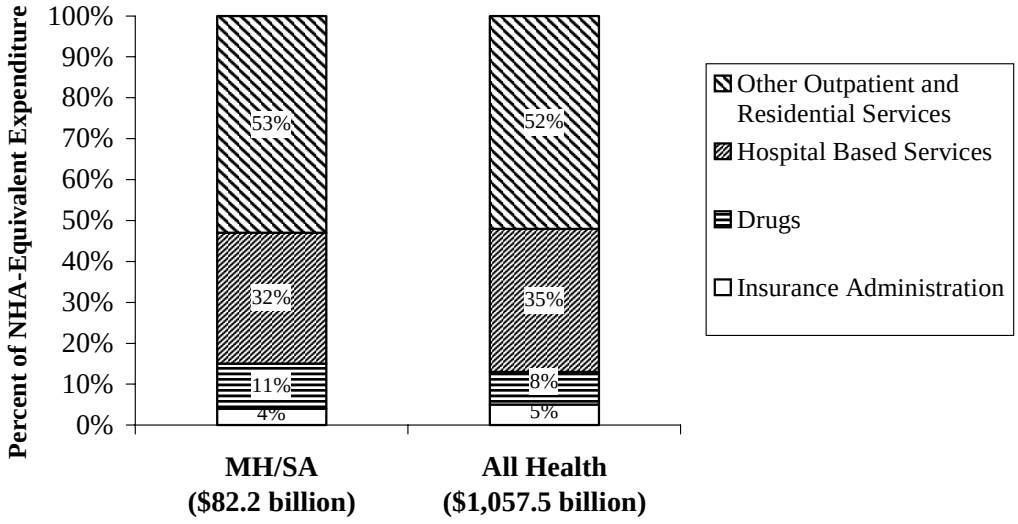


Source: CSAT/CMHS Spending Estimates (Total MH/SA expenditures calculated from Table D.3(a)).

Mostly Outpatient and Residential Treatment

In 1997, outpatient and residential treatment were the most likely settings for spending on MH/SA treatment (Figure 2.5), as for all health care. Fifty-three percent of the $82.2 billion in NHA-equivalent MH/SA spending in 1997 was for care in settings not affiliated with hospitals (non-hospital-based care). Likewise, 52 percent of the total health care dollar was spent in non-hospital-run outpatient or residential settings. Hospital-based services were slightly less likely to be used for MH/SA care than for all health care in 1997.

Figure 2.5. Outpatient and Residential Treatment Dominated MH/SA Spending as with All Health Care in 1997



Source: CSAT/CMHS Spending Estimates (Calculated from Tables D.1(a) and D.1(b)).

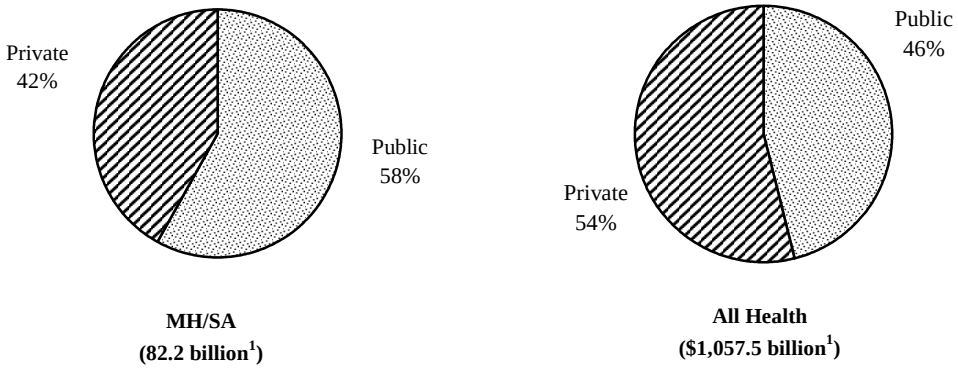
These percents underestimate the full extent of outpatient and residential treatment because some outpatient care is provided by hospitals. In future studies, we will attempt to allocate hospital-based expenditures to inpatient, outpatient, and residential settings, to give a clearer picture of the extent to which MH and SA patients are treated outside of institutional settings.

MH/SA Financing

Mostly Public Funding

Public payers fund the majority of MH/SA spending – the opposite of all health care funding (Figure 2.6). While public sources provided 58 percent of MH/SA dollars (NHA-equivalent) in 1997, they supplied only 46 percent of all health spending.

Figure 2.6. MH/SA Funding Was Predominantly Public, All Health Funding Predominantly Private in 1997



Source: CSAT/CMHS Spending Estimates (Table D.2(b)).
[1]NHA-equivalent expenditures.

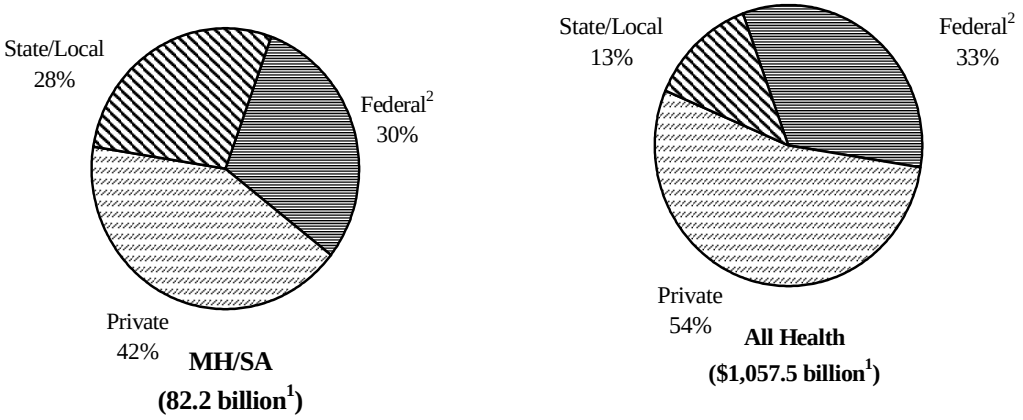
The reasons for these substantial differences in the extent of public financing are complex. One explanation is that care for persons with severe and chronic MH/SA disorders requires both medical and social services over long periods of time. State governments have historically organized and funded the bulk of services to care for persons with chronic and severe MH/SA disorders, while private insurers have typically viewed their role as paying for medical treatment of acute conditions. Private insurers have restricted the use of MH/SA services by use of annual and lifetime limits on benefits and other controls on service utilization. Recent legislative efforts to make private insurance for MH/SA more on par with that for other disorders may reduce the disparity in coverage of services.

Crucial State and Local Funding

State and local governments play a very substantial role in the funding of mental health and substance abuse disorders. This is most obvious in comparison to their role in all health care services. State and local governments supported 28 percent of MH/SA expenditures in 1997, while they funded only 13 percent of all health care services (Figure 2.7). The State and local share was almost as large as the 30 percent Federal share of MH/SA dollars. (This Federal definition includes Medicare, the Federal share of Medicaid,

Federal Block Grants to the States, and other Federal programs.) Thus, the State and local sources provide a substantial amount of direct funding to care for those afflicted with mental and substance abuse disorders.

Figure 2.7. State and Local Funding Was Comparable to All Federal Funding for MH/SA, but Not for All Health, in 1997



Source: CSAT/CMHS Spending Estimates (Table D.2(b)).

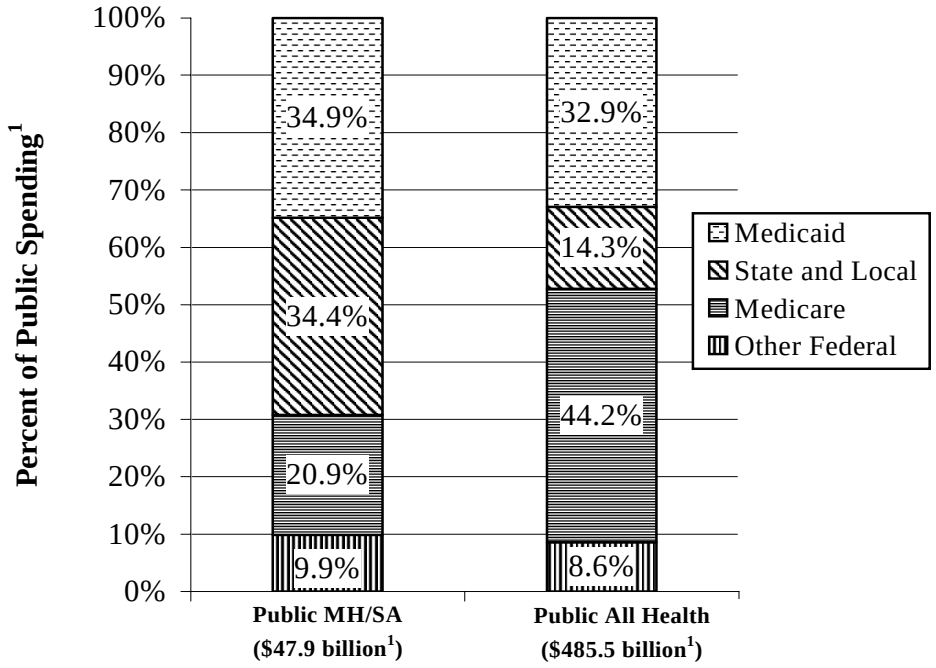
[1]NHA-equivalent expenditures.
[2] Federal includes Medicare, the Federal share of Medicaid, Federal Block Grants to the states and other Federal programs.

Medicaid Funding Also Critical

In addition to all State and local funding, Medicaid supports a substantial portion of MH/SA care, as it does for all health care spending. Looking only at public funds in 1997, Medicaid supplied 35 percent of the $47.9 billion in NHA-equivalent MH/SA public sector funds and 33 percent of the public funds for all health care (Figure 2.8). While most of the dollars go for MH treatment, Medicaid also covers a substantial share (31 percent) of SA public services, as well (Table D.2(a)). In addition, on the base of all public funding, State and local programs other than Medicaid funded 34 percent of MH/SA, but only 14 percent of all health.

By contrast, Medicare funded a much smaller proportion of publicly supported MH/SA services (21 percent), than of publicly funded all health care (44 percent). The large differences between Medicaid and Medicare support of MH/SA spending may reflect the age-specific prevalence of MH/SA problems in the populations. It certainly reflects the exclusion of dementia from this study of MH/SA, and may reflect inter-generational differences in attitudes toward acceptance of depression and other mental health problems as treatable conditions.

Figure 2.8. Medicaid and Other State and Local Sources Dominated Public Funding of MH/SA, While Medicare Dominated All Health, in 1997



Source: CSAT/CMHS Spending Estimates (Calculated from Table D.2(a)).
[1]NHA-equivalent public funds.

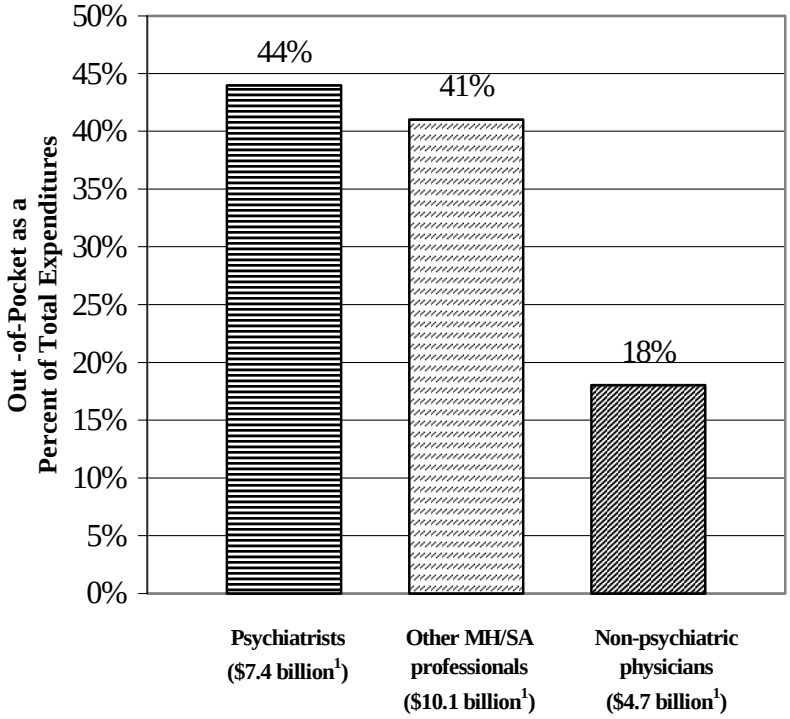
High Out-of-Pocket Payments for Some Providers

The level of out-of-pocket payment reveals the financial burden that individuals carry for treatment for MH/SA. Over all types of providers, out-of-pocket payments were smaller for MH/SA (15.8 percent) than for all health care (17.7 percent) in 1997 (Table D.2 (b)).

On the surface, this result is surprising. Everyone knows that private copayments are higher for mental health services than for other health services. The important distinction of these spending estimates is that they include both private and public spending. Thus, in the aggregate of counting all dollars on the table, public dollars more than compensate for private copayments that come out of the pockets of patients or their families. Of course, the public-private tradeoffs are not made for the same people. And those who pay for their care privately may face substantial cost sharing out of pocket. To see this, we compared out-of-pocket spending for three types of providers.

The result is striking and as expected. The share of spending out-of-pocket for treatment by MH/SA practitioners was more than double that for MH/SA treatment by general (non-psychiatric) physicians (Figure 2.9). Patients or their families paid out of their own pockets an enormous 44 percent of spending on psychiatrists in 1997. They paid almost the same portion of all expenditures on psychologists, counselors, social workers, and nurse practitioners – 41 percent. By stark contrast, they paid only 18 percent of total MH/SA spending on physicians who did not specialize in MH/SA.

Figure 2.9. Out-of-Pocket Spending Was Substantial for MH/SA Practitioners in 1997



Source: CSAT/CMHS Spending Estimates.
[1] "Total MH/SA expenditures" (not NHA-equivalent and not shown in Appendix D).

These results confirm the general awareness that privately funded mental health and substance abuse treatment is covered less generously than all health care. These high out-of-pocket expenses indicate that private insurance for MH/SA has high cost sharing (with high co-insurance rates and deductibles) and/or that many people seeking treatment from private practitioners do not have insurance for MH/SA problems.

Chapter 3. Trends in MH/SA and All Health Care, 1987-1997

Inflation-Adjusted Growth and NHA-Equivalent Expenditures

The comparisons in this chapter are based on inflation-adjusted growth in spending. Also, because we are comparing MH/SA to all health care in this chapter, we use NHA-equivalent MH/SA estimates throughout. The concepts of inflation adjustment and NHA-equivalent MH/SA expenditures are explained in Chapter 1.

MH/SA Spending Grew More Slowly Than All Health

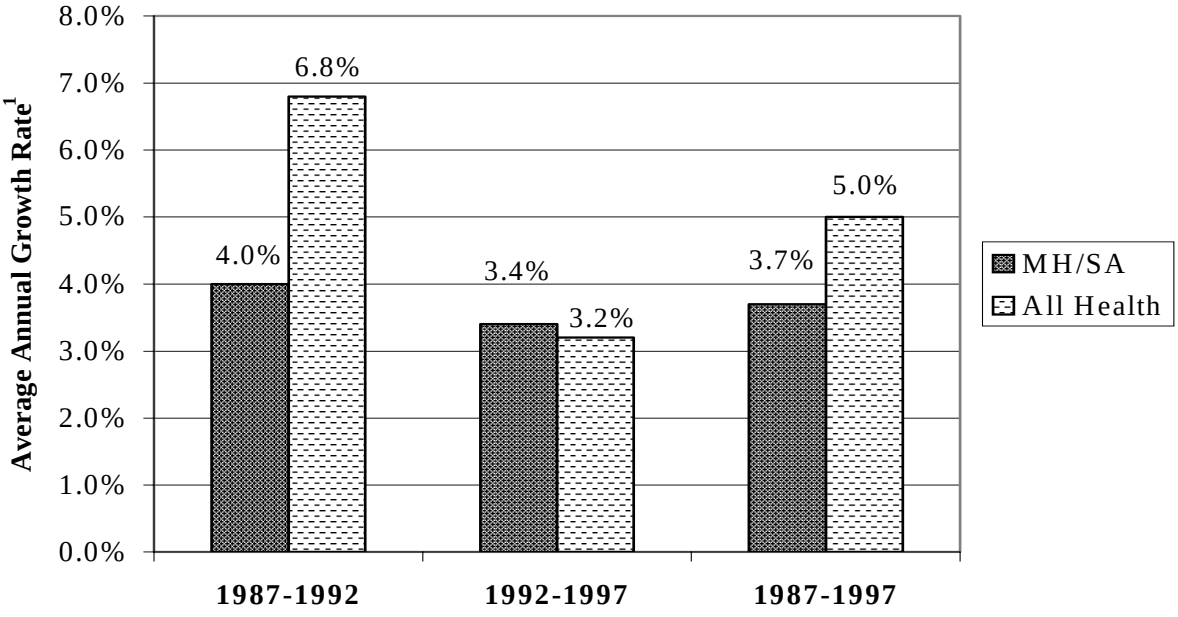
Inflation-adjusted MH/SA spending grew much more slowly than all health care spending between 1987 and 1997. The average rate of increase of MH/SA spending each year was 3.7 percent, but the rate for all health was 5.0 percent per year (Figure 3.1). Thus, MH/SA spending grew at a rate that was about three-quarters of that for all health.

This relative growth shifted during the 10-year period (Figure 3.1). During the first five years (1987-1992), MH/SA expenditures grew at 4.0 percent per year, much slower than all health at 6.8 percent per year. During the second five-year period, both types of expenditures grew at about the same, albeit a slower, rate – 3.4 to 3.2 percent.

Growth was more rapid across all providers and services (with few exceptions) in the first five years than in the second five years, whether for MH/SA or all health care spending (Table D.1(c)). The period of 1987-1992 was a time when medical-care-price inflation was well above general price inflation. With the threat of Federal health care reform early in the Clinton administration (discussed and proposed in 1992 and 1993) and with the increased penetration of managed care, medical prices started an unprecedented decline. Managed care organizations, perhaps stimulated by the political debate of managed health care, negotiated deep discounts with institutions and with independent practitioners (Smith et al., 1999).

While these general trends can explain the overall changes between the two periods, they do not account for the markedly slower growth of MH/SA relative to all health during the first five years. To the extent feasible, it is important to explore the possible causes of the slower growth in MH/SA expenditures. Some of the reasons are apparent from the sub-categories that we measured in this study. Some of the reasons must be deduced from literature on MH/SA and all health care spending.

Figure 3.1. MH/SA Expenditures Grew More Slowly than All Health between 1987 and 1997



Source: CSAT/CMHS Spending Estimates (Table D.1(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

Reasons for Slower MH/SA Spending

From the long quarter-century trend of the NHA, we can see cycles of health care spending and understand the dramatic slowdown in the last five years of 1992-1997 (Braden et al., 1998). By viewing only 10 years of MH/SA spending we cannot see the slower MH/SA spending in full context. Does the MH/SA spending since 1987 represent a substantial slowdown in MH/SA services, perhaps because of earlier efforts by employers and private insurers to introduce managed behavioral health care carve outs? Or does it represent a slower MH/SA growth rate relative to all health care expenditures, perhaps because MH/SA expenditures are not driven as relentlessly by costly medical and surgical advances and increases in treatment intensity as all health care. We explore some of these issues below.

MH/SA Reduced Hospital-Based Services and Adopted Other Treatments Faster Than All Health

Real MH/SA expenditures for hospital-based services grew slowly, 0.5 percent per year, barely above general inflation between 1987 and 1997 (Figure 3.2). All health care

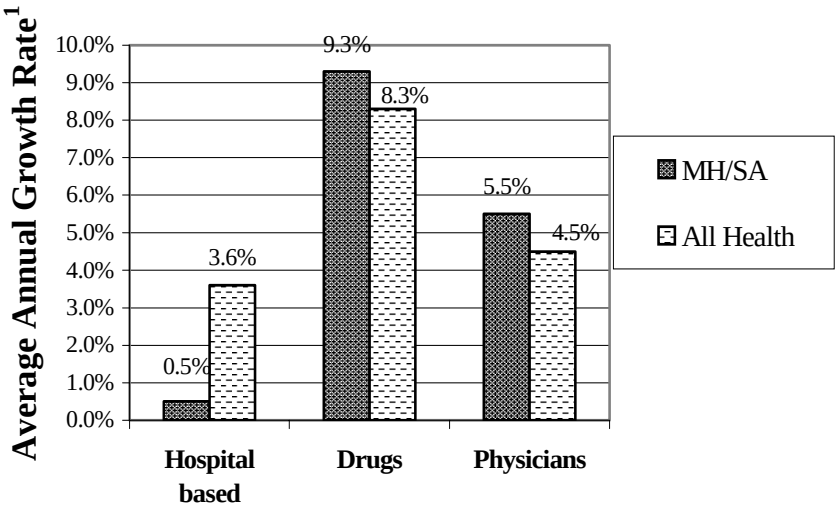
expenditures for hospital-based care grew much more rapidly (3.6 percent per year). This clearly influenced the slower overall growth of MH/SA spending compared to all health care, because hospital care is the most expensive mode of treatment for disease.

Furthermore, Table D.1(c) shows that hospital-based spending for MH/SA for the first five years grew at a 2.3-percent inflation-adjusted rate per year, much slower than all health care (5.5 percent). And during the last five years, hospital-based expenditures for MH/SA declined 1.3 percent, while they rose 1.8 percent for all health.

The increased spending in outpatient care for MH/SA relative to all health is apparent for retail drugs and physician services. These two components of MH/SA grew more rapidly than for all health care over the entire period (Figure 3.2). MH/SA prescription drugs grew at 9.3 percent per year, after adjusting for general inflation, while all retail drug spending rose 8.3 percent annually. Reasons for the acceleration of prescription drugs are explored in the section below, "Changes in MH/SA Technology." Spending on office-based physician services rose 5.5 percent for MH/SA, but only 4.5 percent for all health (Figure 3.2). The faster MH/SA growth for these two components occurred in the second five-year period from 1992-1997. Prior to 1992, these MH/SA components grew more slowly than for all health spending (Table D.1(c)).

Furthermore, MH/SA clients may be receiving even more outpatient treatment than these numbers imply. Hospital-based services include some outpatient and residential treatment, as configured in these classifications. If hospital-based outpatient services have increased relative to inpatient care, more so for MH/SA than for all health, then the differences in expenditures found here could be greater. We hope to redefine categories as inpatient, outpatient, and residential for future studies.

Figure 3.2. MH/SA Spending, Compared to All Health, Grew More Rapidly in Outpatient Settings and Less Rapidly in Hospital Settings between 1987 and 1997



Source: CSAT/CMHS Spending Estimates (Table D.1(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

The slower hospital-based MH/SA expenditures, combined with the faster physician and drug therapy spending, may reflect a faster movement from institutional to community-based treatment for MH/SA than for all health care. Alternatively, it may reflect less treatment for MH/SA patients who are kept out of hospitals by various forces. How the spending is distributed among the severely and persistently mentally ill, the moderately ill and the worried well cannot be ascertained from this study.

Managed Care and Greater Competition

Nationally, the trend toward slower health care cost increases began in 1991 and has been propelled by industry changes such as the shift to managed care plans, price competition among health plans, and low general and medical inflation (Braden et al., 1998). The same trends clearly have restrained MH/SA spending growth, although it is possible they took hold sooner and had a greater impact on MH/SA than for all health. It is also possible that the slower growth of MH/SA spending reflected erosion of MH/SA health insurance benefits.

The Private Sector. The explosive private-sector enrollment in managed care plans – plans with some type of gatekeeper or other management technique for controlling health care use – is a primary candidate for understanding the overall slower growth in MH/SA than all health care. In the 1980s, private employers implemented managed care contracts hoping to restrain rising health care costs. Furthermore, by the late 1980s, the popular press and trade journals reported that employers fearful of large increases in MH/SA expenditures, were turning to managed behavioral health care plans for relief (Williams, 1990).

Enrollment in managed care plans, and in plans that specialize in managing MH/SA benefits, have grown rapidly since the early 1990s. In 1987, traditional insurance based on fee-for-service was the dominant method of financing health care; by 1998, less than 15 percent of active employees covered in employer-sponsored health plans were enrolled in indemnity insurance (Collective Bargaining Reporter, 1998). In 1985, 21.0 million persons (8.9 percent of the population) were enrolled in health maintenance organizations (HMOs); by 1992 36.1 million (14.3 percent) were enrolled in HMOs, and by 1997 it was 66.8 million (25.2 percent) (NCHS, 1998). And most importantly, while in 1987 behavioral health carve-outs were essentially unknown, they enrolled 48 percent of the insured population by the end of 1992 and 57 percent by the end of 1997 (Open Minds, 1993 and 1998). These facts have likely had significant effects on MH/SA-related utilization and expenditures, if the effect of managed care and managed behavioral health care found in other studies is a pervasive, nation-wide effect.

Research has shown that managed care organizations (MCOs) tend to contain expenditures, including MH/SA expenditures, by shifting use from inpatient services to outpatient services. Although this may be a one-time effect on expenditures, it is usually spread over several years (Braden et al, 1998). Furthermore, MCOs decrease the volume of services received (typically the average length of stay of an inpatient visit and the mean number of outpatient visits) (see Grazier and Eselius, 1999 for a review). An analysis of MarketScan® data found that in real dollars inpatient MH expenditures declined between the years 1993 and 1995, primarily due to decreases in the number of treatment days per year, which fell by 20 percent (Leslie and Rosenheck, 1999). Another study suggests that managed care programs, such as utilization review of hospital admissions and length of stay, may have a greater impact on MH/SA care than on care for other conditions (Wickizer and Lessler, 1998).

Managed behavioral health care (MBHC) plans argue that they substantially lessen the costs of MH/SA treatment by assertive case management. The management may involve many activities: 24-hour telephone access to case managers, use of community care as opposed to inpatient treatment, follow-up after hospitalization or emergency care or hospitalization to insure continuity of MH/SA treatment, family involvement in treatment, outreach to assess compliance with medications, and, for the most severe, placement in supportive environments.

One study compared an employer's experience with an MBHC plan in 1995 and 1996 and an HMO in 1993. The result was a significantly reduced (almost by half) annual cost per client for treatment of MH/SA disorders under the MBHC compared to the HMO experience (Stein et al., 1999). Since the annual cost increased in the first year (1995) of the MBHC arrangement and then fell dramatically in the second year (1996), it is unlikely that the decline was due to a system-wide decline in health-care utilization for MH/SA. The reduced costs occurred primarily because of reduced hospital utilization.

Based on these separate pieces of information, we can speculate that the slower growth of MH/SA in the first five years of the trend might have been due to managed care influences. Enrollment under MBHC contracts, especially, was greater in the first half than

the second half of the period. However, the literature is sparse for evaluating the effectiveness of managed care in controlling the costs of MH/SA relative to all health care. The evidence that exists on MBHC carve outs suggests that managed care may have made substantial contributions to the greater decline in hospital expenditures for MH/SA than for all health care services over the study period.

The Public Sector. We know that public payers followed private payers in their adoption of managed care. Managed care grew from a 9.5 percent of total Medicaid enrollment in 1991 to nearly one-half (47.8 percent) in 1997 (Braden et al., 1998). Likewise, enrollment of Medicare beneficiaries in HMOs increased, although at a much more conservative pace, from about 3 percent of Medicare enrollees to 13.5 percent over the same period (Braden et al., 1998). This slower entry into the managed care market by public payers coincides with a delayed slowdown of public funding for MH/SA that we describe later in this chapter.

We have no nation-wide information on Medicaid adoption of managed behavioral health care contracts for their enrollees. This is an important piece of the puzzle for understanding the slower growth of MH/SA in relation to all health care and for understanding a slowdown in Medicaid funding for MH/SA. As we will see later, several Federal policy changes related to MH/SA services also may have contributed to the slower growth in MH/SA spending relative to all health.

Changes in MH/SA Technology

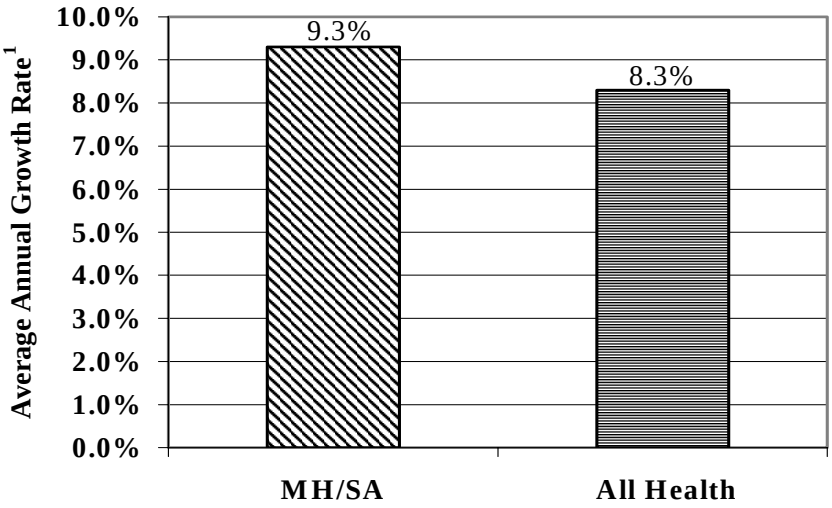
One of the most significant changes in the treatment of MH/SA disorders over the past few decades has been the introduction of new and more effective medications, primarily for mental disorders rather than substance abuse problems. By better control of symptoms of MH disorders, new medications in conjunction with effective outpatient care have allowed thousands of patients who would have been hospitalized for long tenures, to be treated in the community.

Prescription drug spending was one of the fastest components of MH/SA spending, growing at an inflation-adjusted 9.3 percent annually as compared to 8.3 percent for prescription drugs for all diagnoses (See Figure 3.3). Although it is beyond the scope of this study to decompose expenditure increases into increases in volume and price changes, we know that at least some of the growth in retail prescription drug expenditures is due to growth in utilization. Based on NAMCS data (described in Table 1.2) over the ten-year period, physicians increased the number of psychotropic drugs prescribed during office visits at a rate of 5.1 percent each year on average, as compared to the 9.3-percent, inflation-adjusted increase per year for drug expenditures. A useful base of comparison for the trend in MH/SA drug utilization is the trend in all types of drug prescribing, which until recently, rose about 2 percent per year (IMS Health, 1998a).

One reason for these large increases in drug prescribing is the introduction of new drugs for behavioral health conditions. New discoveries of MH/SA drug treatments and faster approvals of new drugs by the FDA in the 1987-to-1997 period contributed to this

trend. For example, new anti-depressant medications (the so-called SSRIs[2]) were introduced during this time. New types of schizophrenia medication appeared on the market with purportedly lower side effects (Lehman, 1999). And new medications to treat heroin addiction (LAAM) and alcoholism (Naltrexone) were developed, although their use in clinical practice has been minimal.[3] In addition, faster approvals by the Food and Drug Administration of new drugs for market occurred. Between 1990 and 1995, about 20 to 30 new drugs were introduced each year. A record of 53 new drugs went to market in 1996 and 39 in 1997. FDA approval times fell from 20.5 months in 1996 to 17 months in 1997 (Braden et al., 1998; Gebhart, 1998).

Figure 3.3. Prescription Drug Spending for MH/SA Outpaced that for All Health between 1987 and 1997



Source: CSAT/CMHS Spending Estimates (Table D.1(b)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

Because newer drugs cost more than older medications, these developments have particular significance for MH/SA treatment expenditures. For example, the widespread use of the newer anti-depressants and anti-psychotics means that the per-person cost of drug

[2] Selective serotonin reuptake inhibitors (SSRIs) were developed in the late 1980s, starting with approval of Prozac, to treat depression. SSRIs are believed by some to have fewer side effects than traditional medications to treat depression (primarily tricyclic anti-depressants (TCAs)) and were rapidly and widely adopted. New generation anti-psychotics were approved beginning with Clozapine in 1989 and have recently included Zyprexia (approved in 1996), Seroquel (approved in 1997) and Risperdal (approved in 1993). New approvals of older medications such as the use of Prozac to treat obsessive-compulsive disorder have also changed the treatment of mental illness.

[3] Naltrexone is designed to reduce the cravings for alcohol and offers the hope of improved compliance and outcomes for the treatment of alcohol abuse.

treatment is rising. Chapter 4 provides additional insight on the drug-prescribing trend for mental health.

Changes in Treatment Philosophy

The shift away from hospital care also reflects a long-term shift in thinking about the most cost-effective and beneficial mode for treating MH/SA disorders. Since the 1950s, State governments have been downsizing and closing public mental hospitals; long-term patients have been returned to community residence and care in general hospitals (Mechanic et al., 1998). State and county mental hospitals reached their peak census in 1955 at 550,000, and declined to less than 80,000 by the 1980s (Bachrach, 1996). Because the Medicaid program prohibits payments to Institutions of Mental Disorders for those between the ages of 21 and 65, Medicaid has been constrained in its ability to fund care for many persons who formerly would have received care in public mental hospitals or in residential centers with more than 16 beds.

Other MH/SA facilities followed this trend away from institutional treatment by modifying their services. Partial hospitalization became one approach for treating seriously ill MH/SA patients. Even residential treatment centers for emotionally disturbed children (RTCCs), which traditionally provided only residential treatment, experienced a four-fold increase in outpatient enrollment between 1986 and 1997, from 44,000 visits in 1986.

Shift to Greater Public Financing

The public sector's share of MH/SA expenditures increased from 55 percent in 1987 to 58 percent in 1997. A similar shift occurred for all health care – public spending changed from 41 percent to 46 percent (Table D.2(b)). These trends are primarily due to slower growth in private spending and rapid growth by Medicare and Medicaid.

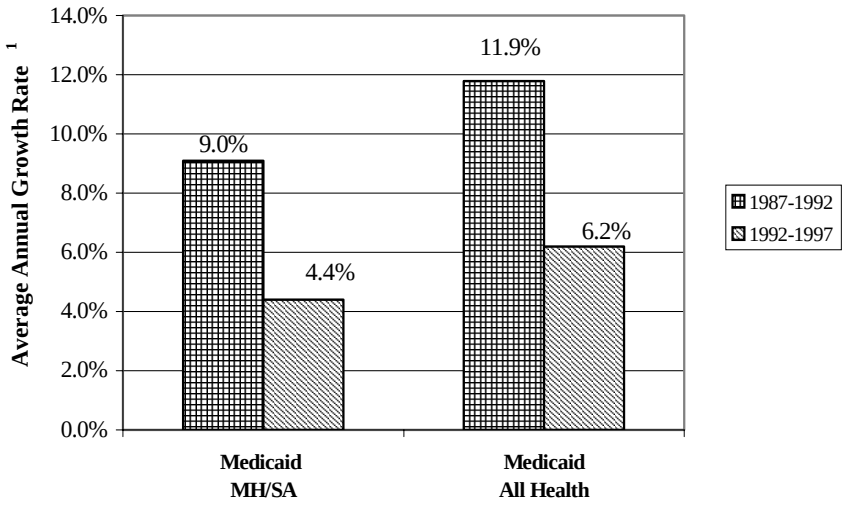
Between the first and second five-year periods, public funding increases were somewhat similar for MH/SA and all health – substantial increases for 1987-1992 and much slower increases for 1992-1997. In the latter period, the public MH/SA increases were only 3.2 percent per year (inflation-adjusted) compared with 5.3 percent annually for all health (Table D.2(c)). The MH/SA public funding slowdown was driven primarily by Medicaid spending and by other Federal and other State and local spending; Medicare increases were stable over the two periods. Over the last five years of this study, Medicaid spending slowed due to a slowing of Medicaid enrollment and an increase in Medicaid managed care (Holahan et al., 1998).

On the private side, a somewhat different picture emerges. The sharp slowdown in private spending on all health in the second five-year period (6.6 percent in period one versus 1.7 percent in period two) was reversed for MH/SA (2.4 to 3.6 percent from period one to two) (Table D.2 (c)). The MH/SA second-period increase reflected much faster growth in out-of-pocket spending that did not occur for all health care spending.

Rapid Medicaid Growth Substantially Reduced in Last Five Years

Social and health policy changes appear to have had strong effects on Medicaid trends in MH/SA expenditures over the ten-year period. Medicaid MH/SA expenditure increases slowed markedly between the first and second halves of the period 1987-1997. Medicaid spending rose at an inflation-adjusted rate of 9.0 percent yearly between 1987 and 1992 and then Medicaid programs cut that rate in half to an annual 4.4-percent increase between 1992 and 1997 (Figure 3.4). Federal and State policies designed to expand Medicaid eligibility in the early 1990s, particularly for pregnant women and children, fueled dramatic growth in Medicaid enrollment (from 23.1 million recipients in 1987 to 32.1 million recipients in 1997). In addition an economic downturn increased the number of people in need (Ku and Bruen, 1999). However, the increasing general enrollment turned in 1996 and 1997 and Medicaid participation dropped (Holahan et al., 1998).

Figure 3.4. Medicaid MH/SA Spending Increases Were Cut in Half over the Ten-year Period



Source: CSAT/CMHS Spending Estimates (Calculated from Table D.2(c) and other data).
[1] Inflation-adjusted, NHA-equivalent expenditures.

While Medicaid enrollment was growing rapidly, States were restructuring their financing of health services. The Federal match on disproportionate share hospital (DSH) payments for low-income recipients of hospital services caused States to expand greatly their financing of DSH services through provider taxes and donations. From 1988 to 1992, DSH payments rose at about 250 percent per year. States aggressively shifted other health programs to Medicaid to reap Federal matching funds (Holahan et al., 1998).

The Medicaid program also shifted from large hospital spending increases before 1992 to lower increases afterward. At the same time, Medicaid stepped up funding of outpatient services particularly at mental health organizations (Witken et al., 1999).

The slowdown in Medicaid MH/SA expenditures also corresponds with accelerated enrollment of Medicaid recipients in managed care programs (Braden et al., 1998). This

policy change should affect all health care spending as well. Medicaid spending on all health care grew 11.9 percent per year (inflation-adjusted) for the first five years and fell dramatically to 6.2 percent growth annually for the second five years (Figure 3.4). Thus, the general Medicaid change affected both MH/SA and all health care spending.

This drop in Medicaid participation (and slowdown in Medicaid MH/SA spending) measured here is not influenced by legislation passed in 1996 (Public Law 104-121) which stipulated that people disabled due to drug addiction or alcoholism would be ineligible for Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) disability benefits and, therefore, Medicare and Medicaid coverage linked to SSDI and SSI. The law denied benefits to individuals who applied for such benefits on or after July 1, 1996. Individuals already collecting benefits on July 1, 1996, continued to receive them until January 1, 1997 (SSA, 1996). Our estimates for SA are based on actual UFDS data that end in 1996, too soon to see the effect of this law. Also, even with 1997 UFDS data, we would not know the impact of this policy change, because some SA-SSI beneficiaries who lost their benefits may have reapplied and obtained SSI benefits on the basis of other disabilities.

In terms of Medicare spending, rapid growth of home health care and nursing home spending, and to a lesser extent enrollment growth, led to the relatively high spending growth. Medicare had slight expansions of their benefits for MH/SA treatment during the study time period (Rosenbach and Ammering, 1997). The growth rate of MH/SA spending by the Medicare program was at a relatively high and stable rate over the period about 8.4 percent annually, inflation-adjusted for both the first and last five-year periods.

What Does Slower MH/SA Growth Mean?

The slower growth rate of MH/SA spending relative to all health care may reflect greater restraints on MH/SA spending, whether induced by patients, providers, employers, or health plans, whether appropriate or inappropriate. If so, this raises a series of questions. How much further can the need for expensive services such as inpatient care be reduced? Do these restraints mean greater access barriers to MH/SA treatment? Or do they indicate that MH/SA treatment has become relatively more cost-effective? Are more people being served with fewer dollars? Will new, more effective therapies continue to decrease total MH/SA spending? Are new approaches to therapy comparable, better, or worse than older ones for patient outcomes?

Alternatively, slower MH/SA spending growth may have occurred because MH/SA is fundamentally different from the rest of the health care system. MH/SA services may face less of the rapid, continuous change in underlying technologies and experiments that can dramatically increase the cost of health care once new treatments becomes widespread. New expensive surgical procedures (with organ transplantation leading the way) save lives but dramatically increase the cost of health care, especially as they become disseminated widely.

We suggest here that the reduction in inpatient care, the growth in outpatient and

residential spending, the increased emphasis on drug therapy, and the cost containment pressures from third-party management of MH/SA care, along with treatment less pressured by new technological imperatives, caused slower growth in MH/SA expenditures compared to that of all health services over the period from 1987 to 1997. However, the arguments that we can make are more circumstantial than definitive proof. For example, we have no direct evidence on changes in coverage of MH/SA services by private health insurers. More detailed work is needed and has just begun on these issues (e.g., Frank et al., 1998). Such research is critical for understanding the reasons for the relatively lower MH/SA growth rates over the last decade.

Chapter 4. Mental Health (MH) Expenditure Trends

In this chapter, we examine the mental health (MH) component of the aggregate mental health and substance abuse (MH/SA) expenditures. Since MH is by far the larger of the two components of MH/SA (86 percent), essentially all trends we observed for MH/SA apply to MH. To minimize redundancy with Chapters 3, we present the main components of MH expenditures here and refer the reader to Chapter 3 for the policy-related discussions.

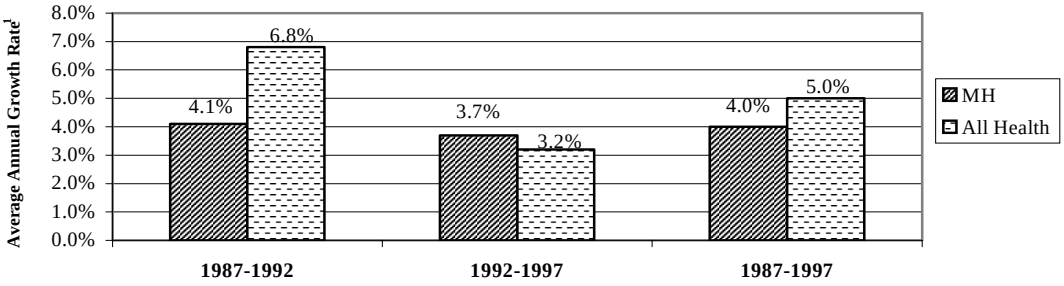
Also, we use NHA-equivalent MH expenditures for all but two comparisons in this chapter. For the exceptions, we use "total MH expenditures," which include some "social services" spending on MH/SA. These concepts are explained in Chapter 1.

While the limitations of this study are described in Chapter 1, one limitation is particularly relevant for MH estimates discussed in this chapter. Although MH is the larger part of MH/SA, some parts of the MH estimates may be less reliable than the SA estimates. This is because more years of the MH specialty facility estimates are extrapolated. MH specialty data ended in 1994 for this study; SA specialty data continued through 1996. Furthermore, the two additional years of SA data revealed a notable slowdown in revenues for specialty SA facilities. We cannot determine whether a similar slowdown has occurred for MH specialty facilities. In future studies, we hope to incorporate more recent specialty MH sector data.

MH Spending Grew More Slowly Than All Health

As with MH/SA spending, mental health spending grew more slowly than all health care between 1987 and 1997. Inflation-adjusted MH expenditures grew by an average 4.0 percent annually from 1987 to 1997, while all health care spending increased 5.0 percent per year (Figure 4.1). For the latter half of the 10 year period, a slowdown in MH spending occurred as it did for all health expenditures. The slowdown for MH spending was less than for all health with the result that MH spending increases between 1992 and 1997 were slightly above all health care.

Figure 4.1. Mental Health Spending Grew More Slowly Than All Health between 1987 and 1992, but More Rapidly between 1992 and 1997



Source: CSAT/CMHS Spending Estimates (Table D.1(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

An extensive discussion of possible reasons for this trend can be found in Chapter 3. The reasons include proliferation of managed behavioral health care, a substantial decrease in spending on inpatient relative to outpatient treatment, and rapid increases in drug therapy for MH/SA. We do not know whether increases in prescription drugs may have helped to decrease the need for other expensive long-term therapies, whether they simply add to the cost of treatment, or some combination of these.

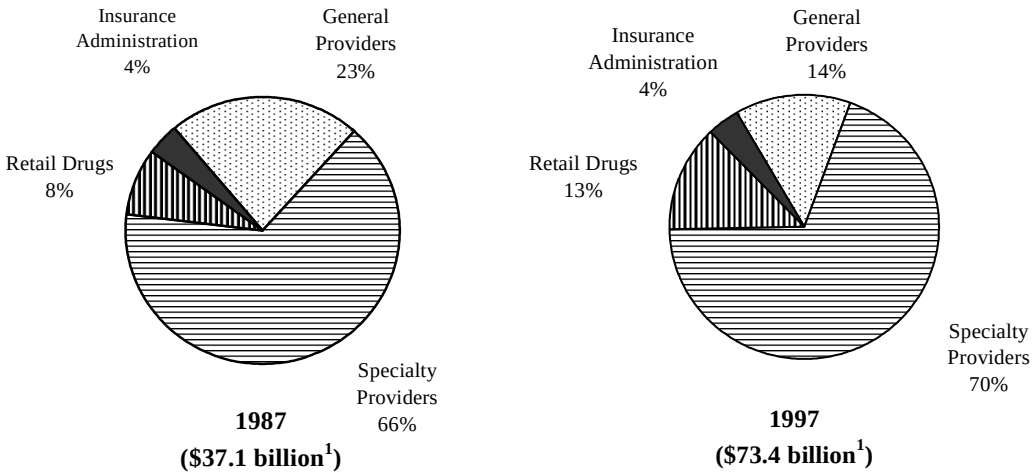
Patterns of Treatment for MH

The providers of MH services include hospitals (psychiatric units of general hospitals, psychiatric hospitals, and other general hospitals), independent practitioners (non-physician professionals, psychiatrists, and other physicians), and outpatient and residential facilities (multi-service mental health organizations (MSMHOs), residential treatment centers for children (RTCCs) and general nursing homes). Specialists in MH include psychiatric units of general hospitals, psychiatric hospitals, non-physician MH/SA professionals, psychiatrists, MSMHOs and RTCCs.

Increased Spending on Specialty Services

MH care is provided primarily in specialty settings and by specialty practitioners. Over time, specialization in the treatment of mental health conditions has increased (Figure 4.2). In 1987, specialists received 66 percent of the MH care dollar, while generalists received 23 percent of the MH dollar. By 1997, specialists represented 70 percent of MH care spending and generalists only 14 percent. (The remaining proportions of total MH expenditures include retail drug and insurance administration expenses.)

Figure 4.2. MH Expenditures Reflected a Larger Sector of Specialized Providers in 1997 Than in 1987



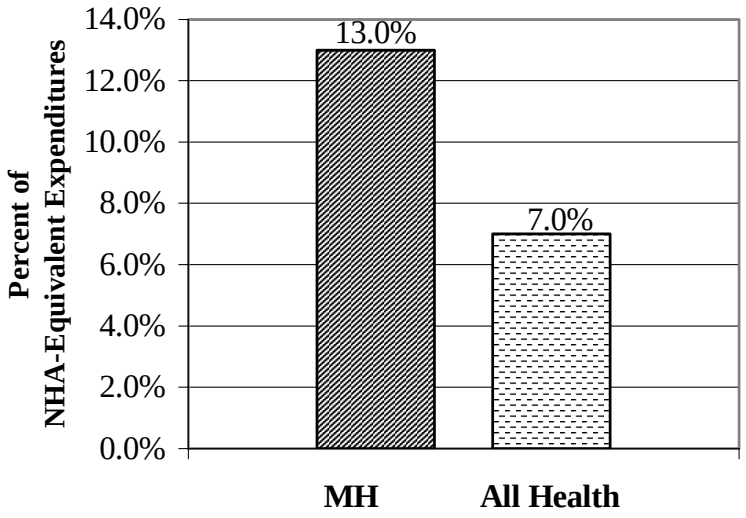
Source: CSAT/CMHS Spending Estimates (Calculated from Table D.3(a)).
[1] Total MH expenditures.

Rapid Retail Prescription Drug Growth

Prescription drug spending accounted for only 8 percent of MH (NHA-equivalent) spending in 1987, but by 1997 was 13 percent (Figure 4.2). Essentially all of the expansion in retail drug spending was for treatment of mental health conditions (as opposed to SA disorders, as we will see in the next chapter).

As a result of this growth, prescription drug spending became a much larger share of MH treatment than of all health care treatment (Figure 4.3). In 1997, while MH-related prescriptions accounted for 13 percent of MH expenditures, they account for only about 7 percent of all health care expenditures.

Figure 4.3. Retail Drugs Were a Much Larger Share of MH Spending Than of All Health in 1997

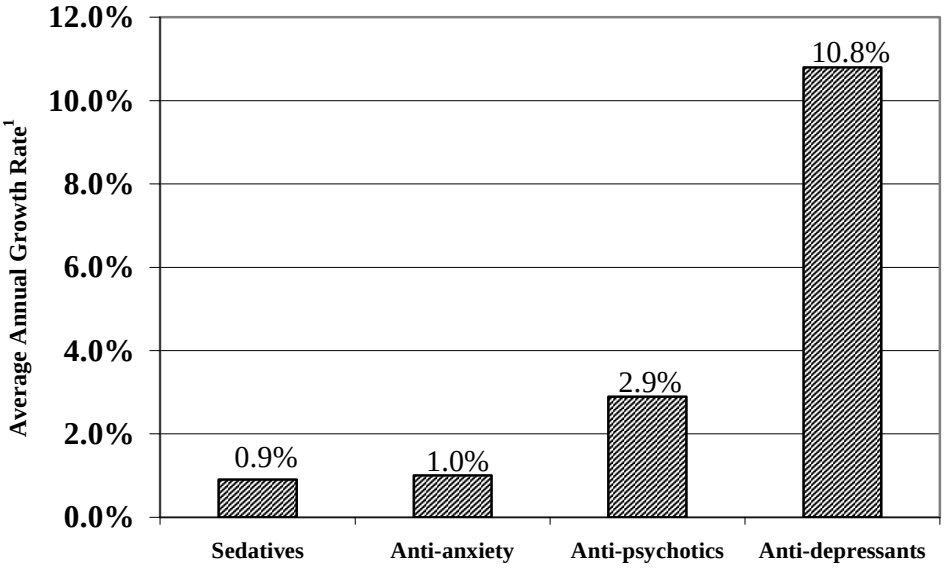


Source: CSAT/CMHS Spending Estimates (Table D.1(b)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

Rapid increases in MH drug prescribing were fueled by the sale of anti-depressants. The number of anti-depressant prescriptions grew on average 10.8 percent per year between 1987 and 1997 (Figure 4.4). This was 3 or more times the growth of any other class of psychotropic drug.

In addition, new anti-psychotics were introduced and the use of these drugs increased by almost 3 percent each year on average (Figure 4.4). These newer drugs for treating psychoses have been shown to have fewer side effects, which presumably increase patient compliance with drug regimens.

Figure 4.4. The Rapid Growth of MH Drug Expenditures Was Fueled by Anti-depressant Prescriptions between 1987 and 1997



Source: CSAT/CMHS Spending Estimates and NAMCS (Not in tables.)
[1]Utilization measured by drug mentions during physician office visits.

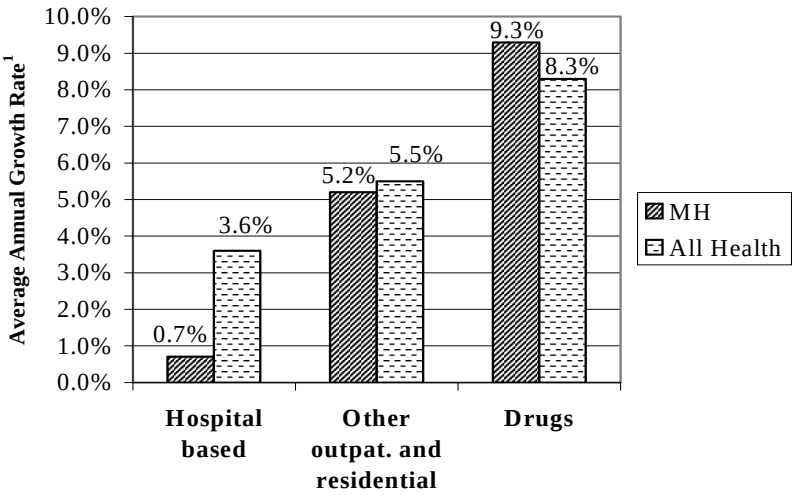
The newer drugs, while disseminated more widely, are also more expensive than older medications. However, the utilization increases appear to overpower price increases in explaining increases in prescription drug spending. A recent study concluded that increased volume of drug prescribing between 1994 and 1997 outweighed rising prices 5 to 1, across drugs for seven different diseases, in explaining the increase in expenditures for prescription drugs (Dubois et al., 2000). The ratio of volume-to-price increases for anti-depressants, the only MH/SA drug analyzed in that study, was about 3 to 1. Prices for anti-depressants rose 6 percent per year, while its volume increased 18 percent per year from 1994 to 1997.

Slowdown in Inpatient Care Spending

Hospital-based spending for MH, adjusted for inflation, grew less than one percent per year compared with 3.6 percent per year for all health care (Figure 4.5). This slower growth of MH hospital-based services certainly explains some of slower overall growth in MH spending compared to overall growth in all health care spending.

Furthermore, MH-specific hospital-based services are growing much slower than all other types of services used to treat MH disorders. The 0.7 percent annual increase in hospital spending is tiny compared to 5.2 percent for other outpatient and residential treatment and to 9.3 percent for medicines – all adjusted for general inflation (Figure 4.5).

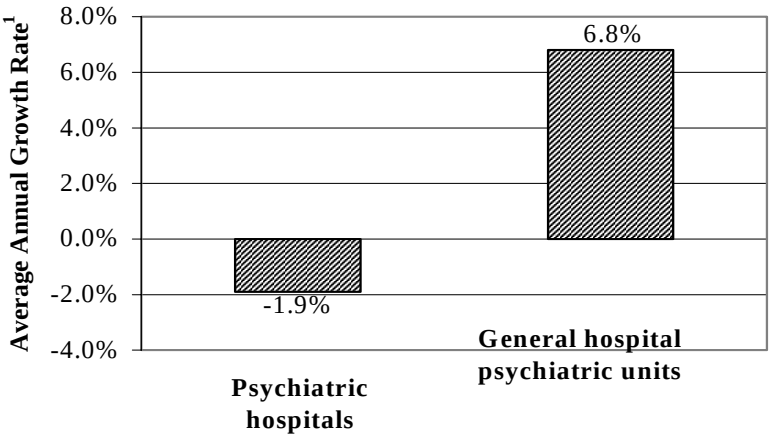
Figure 4.5. Spending on Hospital-based Services Remained Almost Unchanged for MH between 1987 and 1997



Source: CSAT/CMHS Spending Estimates (Table D.1(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

These comparisons at the aggregate hospital level mask two opposite trends. One is a decline in real spending on psychiatric hospitals. The other is considerable growth in expenditures on treatment at psychiatric units of general hospitals. Between 1987 and 1997, inflation-adjusted spending for MH patients at psychiatric hospitals fell 1.9 percent per year, while spending on treatment at psychiatric units of general hospitals rose by 6.8 percent each year on average (Figure 4.6).

Figure 4.6. MH Expenditures Shifted from Psychiatric Hospitals to General Hospital Psychiatric Units between 1987 and 1997



Source: CSAT/CMHS Spending Estimates (Table D.3(c)).
[1] Inflation-adjusted, total MH expenditures.

This shift in hospital settings reflects the downsizing and closing of State-run mental hospitals since the 1970s, many of which had very long stays for patients. Furthermore, the historical exclusion of Institutions for Mental Disease from Medicaid reimbursement for clients between the ages of 21 and 65 may have reinforced the use of outpatient and rehabilitation MH services for those eligible for Medicaid, contributing to the shift of spending from inpatient to outpatient assessment and treatment for mental illness. Moreover, Medicaid does cover MH/SA treatment in general hospitals, and this surely contributed to the shift of inpatient treatment from specialty to general hospitals for MH/SA Medicaid clients.

The increase of expenditures on treatment in psychiatric units of general hospitals was expected given that the seriously mentally ill, who were discharged from State psychiatric hospitals, would require at least some inpatient treatment because of the difficulty of managing their serious conditions. In addition, the increase in general hospital psychiatric units was consistent with Medicare and other Prospective Payment Systems that placed hospitals under fixed per-case reimbursement, but allowed an exception for specialty units of general hospitals. Specialty units continued to be paid on the more lucrative cost-basis rather than a fixed prospective payment specific to the disease of the patient (MEDPAC, 1999). Many hospitals saw expansion in specialty units as a way to make up for expected losses on other inpatient services.

A Note on Home Health Expenditures

We do not explore in this report the large increase in home health services for MH because this increase is relative to a very small base of home health spending in 1987. Even after the spending increase on home health agencies grew by 18.1 percent per year from 1987 to 1997, they still represented only 0.6 percent of total MH expenditures in 1997 (Table D.1(b)).

One rationale for the increases observed could be related to the growth of assisted-living communities. Although those facilities screen out potential clients with serious mental illness or substance abuse problems, when they discover that a client has a mental condition or alcohol or medication abuse problem, they insist that the resident receive treatment, and such treatment may be provided by a home health agency. This, and the growth of assisted-living communities, may be one cause of the doubling of home health expenditures as a proportion of MH spending over the ten-year period.

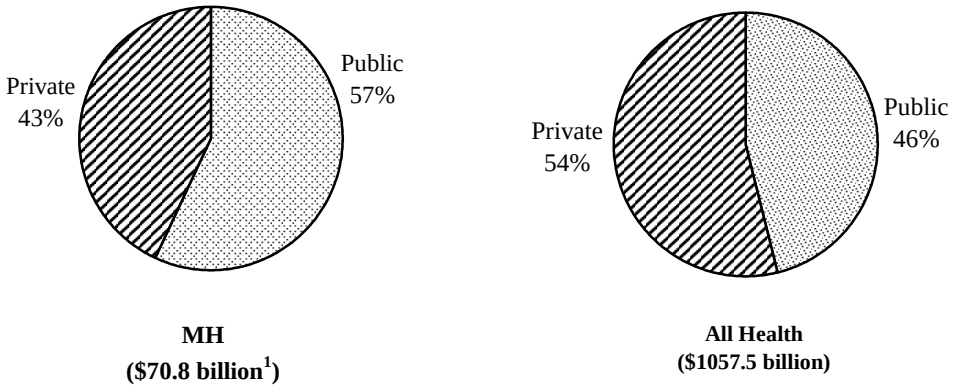
For all health care, there was dramatic growth in spending on home health services in the late 1980s and early 1990s – as high as almost 30 percent in 1990 alone (Braden et al., 1998). By 1997, the growth rate fell to zero as the Health Care Financing Administration stepped up investigations of fraud and abuse in home health claims for Medicare reimbursement.

Financing for MH: Public Growth, Private Slowdown

Public Growth

MH (like MH/SA) expenditures are predominantly publicly funded and have more public funding than does all health care. Public funding represented 57 percent of MH expenditures (NHA-equivalent) in 1997, while private funding dominated all health care spending at 54 percent (Figure 4.7).

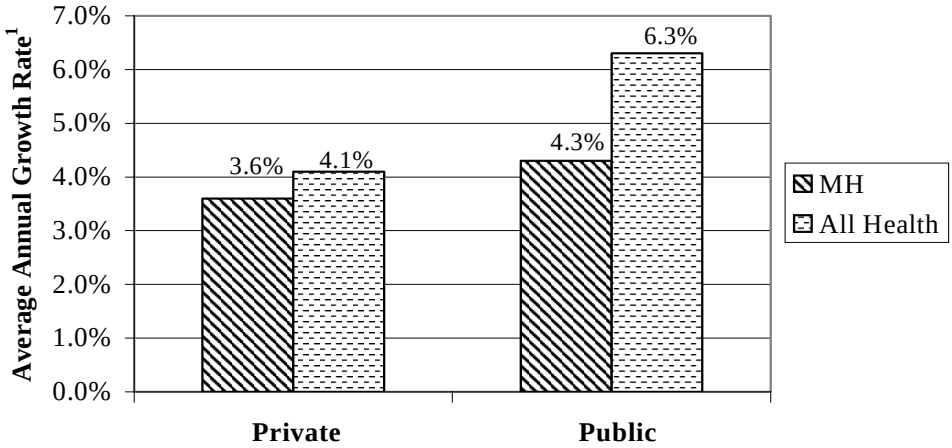
Figure 4.7. Public Funding Was the Major Support of MH Expenditures; Private Funding Was the Major Source of All Health Expenditures in 1997



Source: CSAT/CMHS Spending Estimates (Tables 2(a) and 2(b)).
[1]NHA-equivalent expenditures.

In terms of growth in funding sources, public funding of MH grew faster than private funding from 1987 to 1997. MH public funding increased 4.3 percent per year, while private funding rose 3.6 percent per year (Figure 4.8). However, public funding of MH (4.3 percent annually) grew more slowly than public funding of all health care expenditures (6.3 percent per year).

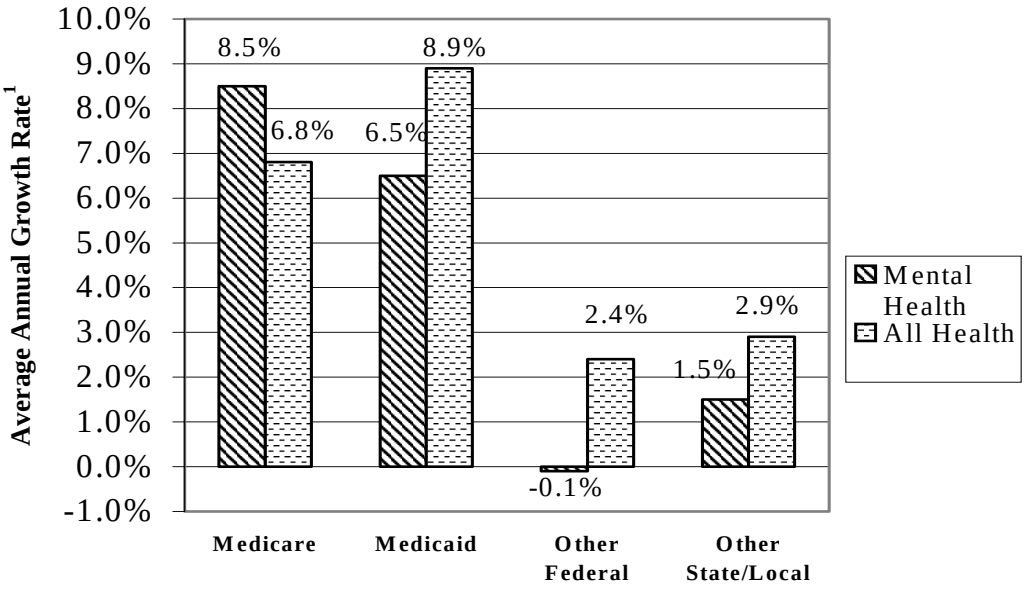
Figure 4.8. Public Funding of MH Grew Much More Slowly Than Public Funding of All Health between 1987 and 1997



Source: CSAT/CMHS Spending Estimates (Table D.2(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

The only source of public payment for MH that grew faster than for all health care over the period was Medicare. Medicare reimbursement for MH services rose 8.5 percent each year on average, while Medicare payments increased only 6.8 percent per year for all health care (Figure 4.9).

Figure 4.9. Medicare Funding of MH Grew More Rapidly, but Medicaid Funding Grew More Slowly, Than All Health between 1987 and 1997



Source: CSAT/CMHS Spending Estimates (Table D.2(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

There are several possible factors that may explain the faster Medicare spending on mental health treatment. In 1990, Medicare eliminated the restriction on reimbursing for MH treatments by independent practitioners other than physicians. Medicare has exempted psychiatric hospitals and psychiatric units of general hospitals from the prospective payment system based on DRGs since their inception in 1983 (MEDPAC, 1999). Also, the NIMH campaign to reduce the stigma associated with mental illness may have had an impact, as well as celebrity revelations of their own MH problems (Regier et al., 1988).

At the same time that the Medicare program was increasing MH payments at a faster rate than all health payments, the Medicaid program was increasing MH payments at a slower rate than all health payments. Over the 10 years, the Medicaid MH payments grew 6.5 percent annually while Medicaid all-health funding was 8.9 percent each year on average, inflation adjusted (Figure 4.9).

There were profound changes in the Medicaid program over the period. Enrollment expanded in many States to cover more children and women under Medicaid. The exclusion of Institutions of Mental Disorders from eligibility for Medicaid reimbursement throughout the 10 year period constrained Medicaid spending over what it would have been without

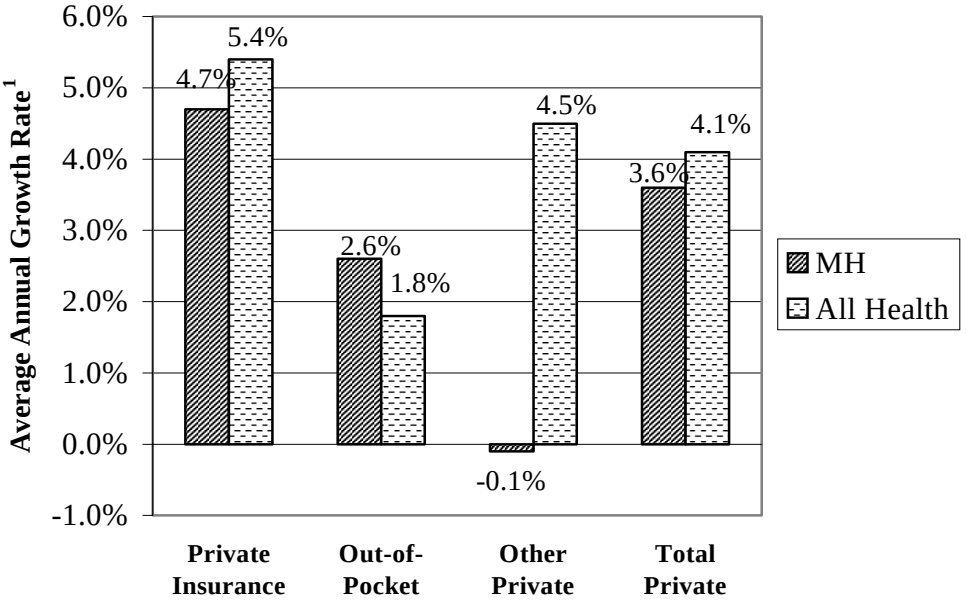
those exclusions. Managed care enrollment of Medicaid recipients grew dramatically. The increase in Medicaid managed care enrollment and particularly the use of behavioral health carve-outs could have dampened Medicaid MH spending more than Medicaid spending on all health problems.

Besides Medicare and Medicaid, the relatively small "other Federal" funding of MH declined and State and local funding of MH grew slowly compared to their funding of all health care services (Figure 4.9). This reflected a stable Federal Block Grant program for MH, almost unchanged over the period and declines in other Federal dollars. State and local funding, however, was the largest contributor to MH spending, despite its slow growth over the period.

Private Slowdown

The rate of spending from all private sources was slower for MH (3.6 percent per year) than for all health care (4.1 percent annually) between 1987 and 1997 (Figure 4.10). This slower overall private growth rate was caused by two components. Private insurance benefits were slower for MH (4.7 percent annually) compared to all health (5.4 percent per year). And philanthropic sources and charity related to uncompensated care ("other private") did not keep pace with general health inflation, declining in inflation-adjusted terms for MH (down 0.1 percent per year on average) compared to a substantial increase for all health (up 4.5 percent annually). Individual patients may have financed some of the slackening in insurance funding. Out-of-pocket spending for MH grew faster (2.6 percent per year) than for all health care (1.8 percent per year).

Figure 4.10. Out-of-Pocket Spending for MH Grew More Quickly Than for All Health between 1987 and 1997



Source: CSAT/CMHS Spending Estimates (Table D.2(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

The out-of-pocket trend is particularly disturbing in this study because out-of-pocket expenses may be somewhat under-reported here. Private claims (which we used for inpatient expenditures) do not capture spending on non-specialty care in general hospitals when limits on MH insurance are reached or when MH services are not covered. However, for specialty inpatient care and outpatient services, spending by patients who exceed limits are captured in the underlying data sources for this study – IMHO and UFDS for specialty inpatient care and NAMCS for outpatient care. Other sources suggest that mental health benefits as a proportion of total private health insurance spending have declined faster over this period than we estimate here (Buck and Umland, 1997; The Hay Group, 1998, Foote and Jones, 1999). Those studies do not, however, include prescription drug expenditures, which have grown rapidly over the study period. In addition, some of those studies are limited because they were not based on nationally representative samples.

Reasons for Slow Growth of MH Expenditures

Chapter 3 provides an extensive discussion of the health system and health policy changes that are the most likely reasons for the trends in MH/SA expenditures. Because MH is such a large proportion (86 percent) of MH/SA spending, the systemic causes of MH/SA expenditure trends undoubtedly apply to MH as well.

The advent of managed care and especially managed behavioral health care is a prime reason for the slower growth of MH expenditures than all health care spending. Higher public funding for MH, with the slower movement of public payers toward managed care, might imply a lesser impact of managed care on MH than on all health care spending over the study period. The private sector, however, instituted managed behavioral health care for MH long before the public sector. The fact that private spending on MH rose to a lesser extent than public spending between 1987 and 1997 suggests that the private sector may have been more aggressive in constraining the costs of mental health care. MH benefits were cut back by private insurers in recent years (Buck and Umland, 1997; The Hay Group, 1998; Foote and Jones, 1999). Consistent with private insurance restraint, we found a substantial increase in out-of-pocket spending for MH relative to all health over the ten-year period of this study.

Reduced use of hospital services clearly lessened the relative spending on MH care, while spending on other types of providers grew. The prolific development of new drugs and faster FDA approvals expanded spending on drug therapy for mental illness. The rapid increases in prescription drug spending, which is almost entirely attributable to MH rather than substance abuse treatment, may have given insurers the incentive and ability to ratchet down on spending for other services, such as expensive inpatient treatments.

Chapter 5. Substance Abuse (SA) Expenditure Trends

Expenditures on treatment of substance abuse (SA) represent only 14 percent of MH/SA expenditures – a small component compared to the 86 percent that is spent on mental health (MH) care (Figure 2.3). This reflects, at least partially, the fact that SA disorders affect a smaller portion of the U.S. population than mental disorders (Narrow et al., 1993; Regier et al., 1993).

This study cannot determine whether the supply of SA services is appropriate to the need for services by the population at risk or whether the supply is curtailed because of heightened stigma associated with SA disorders. What this study does show is the total amount of resources devoted to substance abuse treatment over time. It enlightens our understanding of who is treating substance abuse and who is funding services. It also provides a national benchmark for assessing the capacity of the SA-treatment system to support a concerted attack on SA problems. Those who want information specifically on alcohol treatment expenditures or on other substance abuse treatment spending should consult the Technical Report for this study (Mark et al., 2000).

Important Methods Issues for SA

Two important methodological issues affect the SA estimates in this second study, and both represent an improvement in the estimate, albeit, one creates problems for comparisons. First, the trend for SA specialty facility expenditures is more reliable than that for MH estimates. This occurs because specialty SA expenditures are based on UFDS data, which were available through 1996, while MH expenditures were based on IMHO data, which were only available through 1994 for this study. The more recent data for SA without the same for MH creates a problem for comparisons of the two. This is because MH trends are based more on estimated data from a period of faster growth, while the more recent actual SA data show a slowdown for SA. If the missing MH data also show a slowdown in spending, then we have overestimated the MH component and overstated the differential between the two.

A second issue is lower SA expenditures from this second set of expenditures than from the first set of estimates (Mark et al., 1999). (See Appendix C for a comparison of the two rounds of estimation for a common year, 1996.) The lower estimate in this study is due to two factors. The first was the addition of a year of data (UFDS for 1996), which revealed an earlier flattening of SA expenditures and a decrease in 1996. This accounted generally for over half of the difference in SA expenditures between the two studies and for some years for nearly two-thirds of the difference. The second was a change in the method of estimation for the time series of expenditures, by which we used more conservative and symmetrical trim points than in the first set of estimates. We made this change after extensive consultation with outside experts in quantitative methods and MH/SA research.

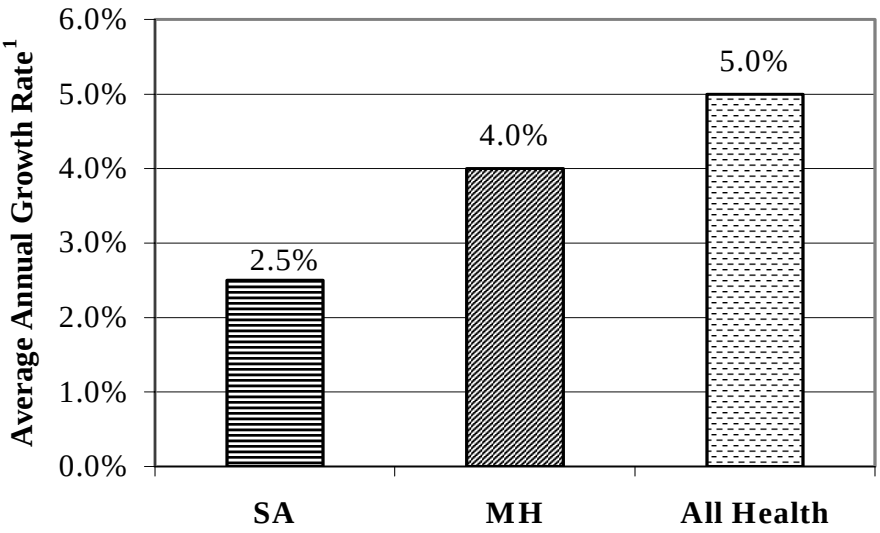
In this chapter, we use NHA-equivalent SA expenditures for all but a few comparisons. (NHA-equivalence is explained in Chapter 1.) For the exceptions we use

"total SA expenditures," which include some "social services" that are an important component of specialized SA providers. All growth rates here are reported in inflation-adjusted terms.

SA Expenditures Grew More Slowly Than MH and All Health

SA spending grew much more slowly than MH between 1987 and 1997 (2.5 versus 4.0 percent annually on average) (Figure 5.1). Also, the benchmark against all health spending shows that SA increases were significantly below all-health-care growth (2.5 percent compared with 5.0 percent per year for all health care.)

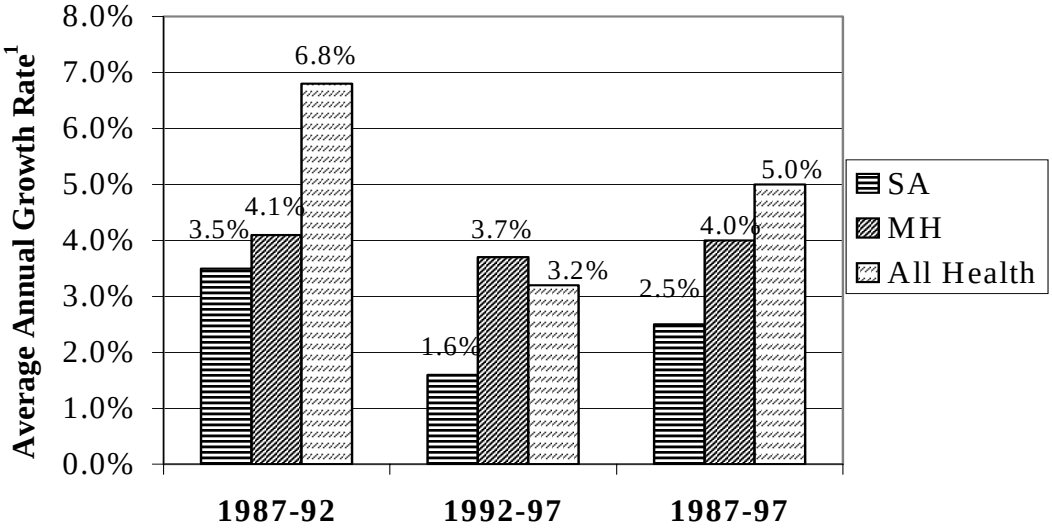
Figure 5.1. SA Spending Grew More Slowly Than MH and All Health between 1987 and 1997



Source: CSAT/CMHS Spending Estimates (Table D.1(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

The trends in five-year increments were not the same. SA spending actually grew faster between 1987 and 1992 than over the last five years. In fact, the SA expenditures over the first five years grew more in line with MH (3.5 percent compared to 4.1 percent per year on average) (Figure 5.2). However, in the latter five years, SA spending grew 1.6 percent per year, slightly faster than general inflation, while MH spending, as estimated here, grew nearly 4 percent annually.

Figure 5.2. SA Spending Was Just Slightly Faster Than Inflation in the Second Half of the 1987-to-1997 Period



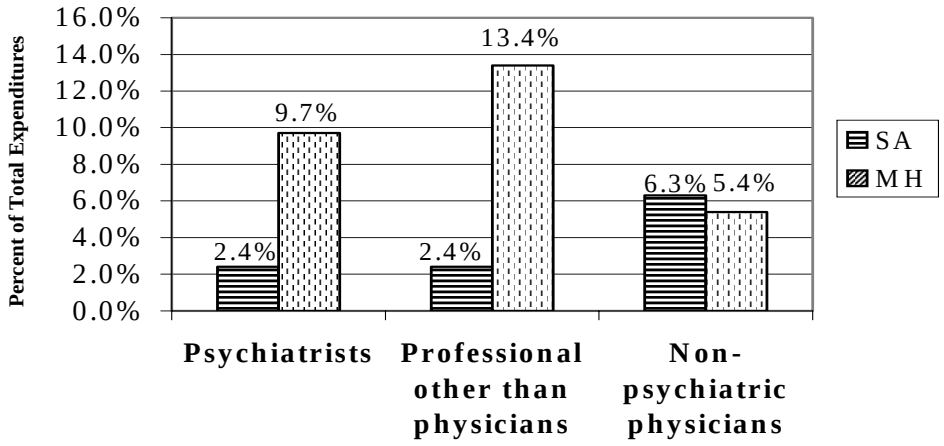
Source: CSAT/CMHS Spending Estimates (Table D.1(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

SA Patterns of Treatment Differ from MH

Some Specialized Professionals Do Not Treat SA

One of the striking contrasts between SA and MH treatment relates to who is treating SA problems. Few SA treatment dollars went to independent practitioners who might be expected to treat SA problems, including psychiatrists and, as a group, other non-physician professionals – psychologists, counselors, social workers and nurse practitioners. Only 2.4 percent of SA dollars went to psychiatrists in 1997 compared with 9.7 percent of MH dollars (Figure 5.3). Likewise, only 2.4 percent of SA spending went to professionals other than physicians compared with 13.4 percent of MH spending. These striking differences suggest that independent specialty practitioners treat primarily MH disorders. By contrast, non-psychiatric physicians received much more similar portions of SA and MH dollars. Non-psychiatric physicians received 6.3 percent of SA dollars and 5.4 percent of MH dollars.

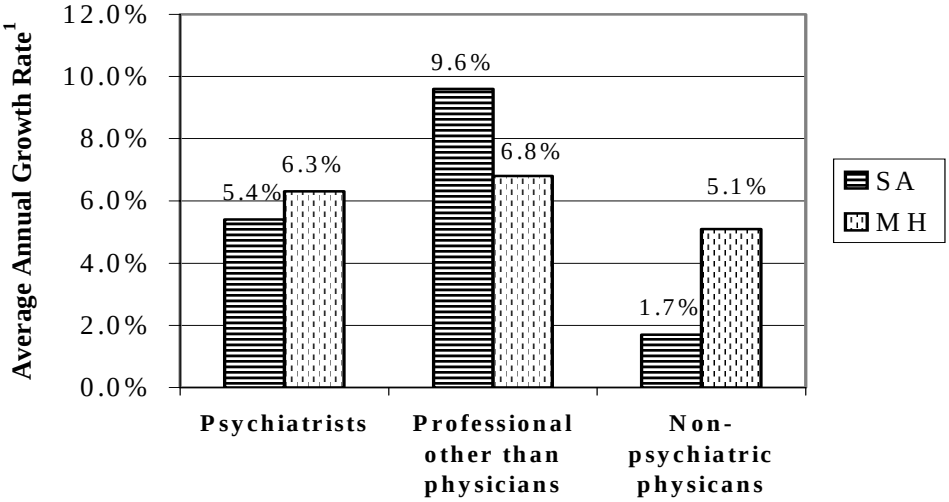
Figure 5.3. Few SA Treatment Dollars Went to Psychiatrists, Psychologists, Counselors, and Social Workers Compared to MH Dollars in 1997



Source: CSAT/CMHS Spending Estimates (Total expenditures, Table D.3(b)).

Over the period, MH/SA professionals other than physicians may have increased their treatment of SA clients, assuming that fee increases rose comparably for SA and MH alike. Inflation-adjusted payments to these other professionals for SA treatment rose 9.6 percent annually, while payments to them for MH treatment increased only 6.8 percent yearly (Figure 5.4). This is not true for general physicians whose receipts for MH services rose much faster than for SA between 1987 and 1997 and much below other MH/SA professionals (Figure 5.4). The faster growth in spending on other professionals, for both SA and MH, was likely influenced by Medicare changes, providing payment for these professionals starting in 1990 (Rosenbach and Ammering, 1997).

Figure 5.4. Spending on Psychologists, Counselors, and Social Workers Grew Rapidly for SA and MH between 1987 and 1997

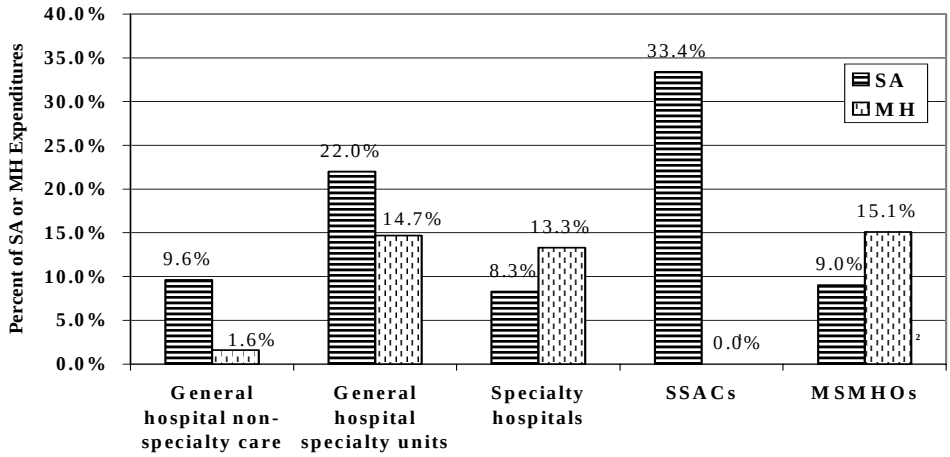


Source: CSAT/CMHS Spending Estimates (Table D.3(c)).
[1] Inflation-adjusted, total expenditures.

Most of SA Specialized Care Is Facility Based

Many types of facilities have evolved to serve the needs of substance abuse clients (Figure 5.5). Hospitals received 40 percent of SA expenditures in 1997 (Table D.3(b)). Outside of hospitals, most of the SA spending is on services provided in specialty substance abuse centers (SSACs) (33.4 percent in 1997). SSACs in this study include freestanding substance abuse centers and units of other facilities that specialize in substance abuse treatment such as substance abuse units of public health clinics, ambulatory treatment clinics, health maintenance organizations (HMOs), charitable organizations, correctional facilities, and other facilities. Multi-service mental health organizations (MSMHOs) also received 9.0 percent of SA dollars in 1997.

Figure 5.5. SA and MH Dollars Supported a Spectrum of Treatment Facilities in 1997



Source: CSAT/CMHS Spending Estimates (Table D.3(b), total expenditures).
[1]Specialty substance abuse centers. [2]Multi-service mental health organizations

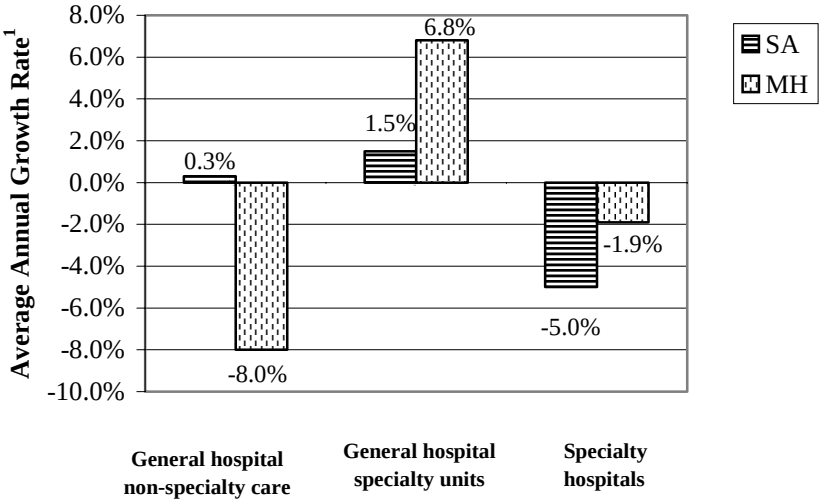
Other than hospitals, only MSMHOs received both MH and SA service dollars between 1987 and 1997. SSACs are assumed to provide substance abuse treatments only (by the nature of the UFDS Survey) and generally do not provide mental health services. With about half of MH and SA patients being diagnosed with both mental illness and substance abuse (Kesseler et al., 1996), separation of providers may challenge the continuity of care for clients with co-occurring MH and SA disorders. The extent of this problem and its impact on those dually diagnosed is unknown.

SA Spending Shifted from Hospital-based to Other Services; Specialty Hospital Expenditures Declined Dramatically

Hospital-based spending declined faster for SA than MH care between 1987 and 1997. In inflation-adjusted terms, SA spending on care in specialty hospitals declined dramatically (-5.0 percent each year on average) (Figure 5.6). The associated decline for mental health was substantial but more modest (-1.9 percent per year). SA spending on care in specialty units of general hospitals rose by a small 1.5 percent per year compared to a large 6.8-percent increase per year for MH. These relative SA and MH trends for specialty units were reversed for non-specialty care in general hospitals, where SA expenditures rose

0.3 percent per year, while MH expenditures fell precipitously by -8.0 percent per year (Figure 5.6). The net effect was that hospital-based expenditures fell slightly each year on average for SA (in inflation-adjusted terms) and rose slightly for MH (Figure 5.7).

Figure 5.6. Specialty Hospital Expenditures Declined More Rapidly for SA Than MH between 1987 and 1997



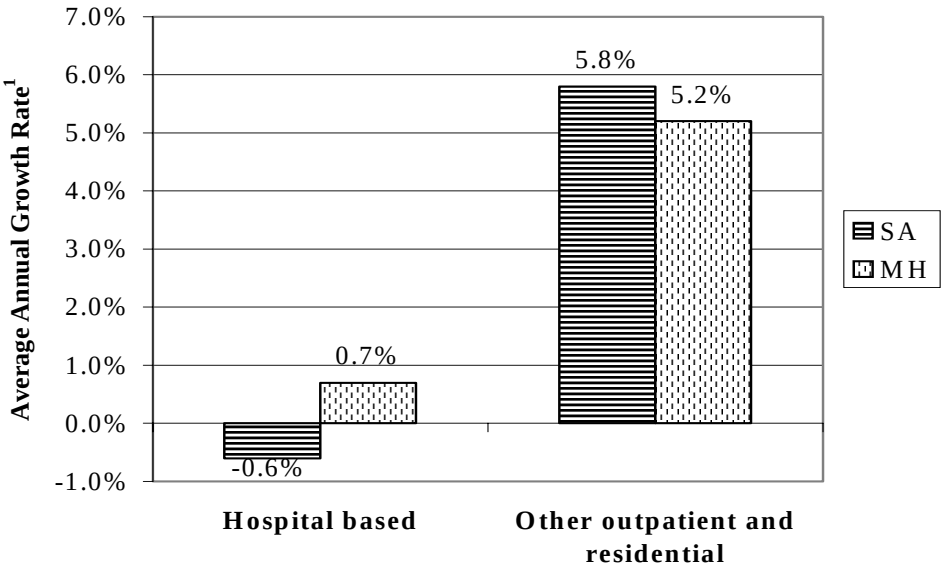
Source: CSAT/CMHS Spending Estimates (Table D.3(c)).
[1] Inflation-adjusted, total expenditures.

Given that hospital-based services have been a much larger share of SA treatment dollars than of MH (40 percent versus 30 percent) (see Figure 5.5), it is not surprising to see that the growth rate of spending on such SA services has been slower than MH. Some of the general health system effects of slower hospital spending should have affected SA spending. For example, greater managed care constraints on admissions to hospitals and greater hospital efficiencies that have shortened lengths of stay generally should have affected SA treatments as well as MH.

While real hospital spending on SA has declined, residential and outpatient treatment has grown substantially for SA, as it has for MH. SA hospital-based spending over all types of hospitals fell 0.6 percent per year between 1987 and 1997. Such MH spending rose by about the same amount (Figure 5.7). Both were small changes compared to spending on outpatient and residential care (a 5.8-percent increase annually for SA and 5.2 percent for MH). Even detoxification, historically an inpatient procedure, can now be accomplished in outpatient settings for persons with chemical dependency.

In terms of total dollars spent, the decline in real SA hospital spending from 1987 to 1997 (-$264 million) was more than offset by spending on outpatient and residential SA services (+$2.6 billion) by 1997. We cannot determine, however, whether these added dollars spent on outpatient and residential treatment reached more substance abuse patients.

Figure 5.7. Outpatient and Residential Treatment Expenditures Grew About the Same for SA and MH between 1987 and 1997



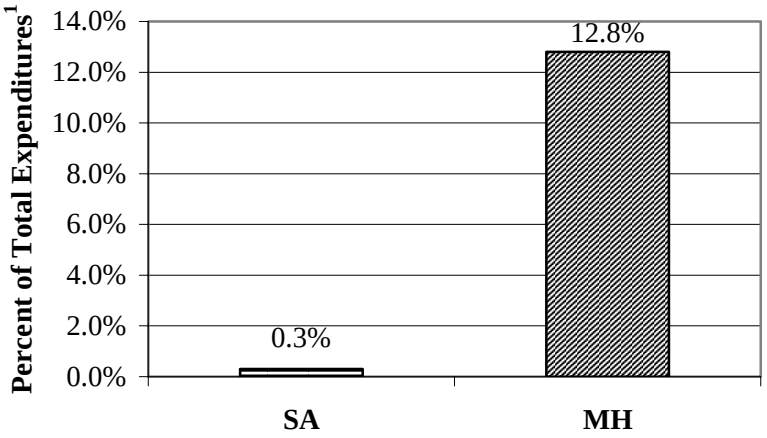
Source: CSAT/CMHS Spending Estimates (Table D.1(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

Role of Retail Medications Was Small but Growing

The fairly parallel trends in SA and MH hospital and non-hospital-based expenditures occurred as well in drug spending. However, the enormous base of drug therapy in MH does not exist in SA. Prescription drug expenditures were only 0.3 percent of SA treatment expenditures in 1997, while they were 12.8 percent of MH expenditures nationwide (Figure 5.8). Therefore, the relatively large increase in inflation-adjusted SA drug treatment spending compared to MH (17.1 percent annually versus 9.3 percent, as shown in Table D.1(c)) is an anomaly of the miniscule SA base. There was little use of and spending on SA drug therapy in 1987 (only 0.1 percent of SA spending).

Also, when assessing the low SA prescription drug amount, keep in mind that methadone is not a retail drug and, thus, is not counted as a prescription drug expenditure in this study. Methadone expenditures here are included in expenditures of facilities that provide methadone treatment. The only SA-relevant drugs included are those that physicians prescribe in their offices – disulfiram and naltrexone (FDA-approved for marketing in 1984).

Figure 5.8. Retail Drug Spending for SA Treatment Was Miniscule in 1997



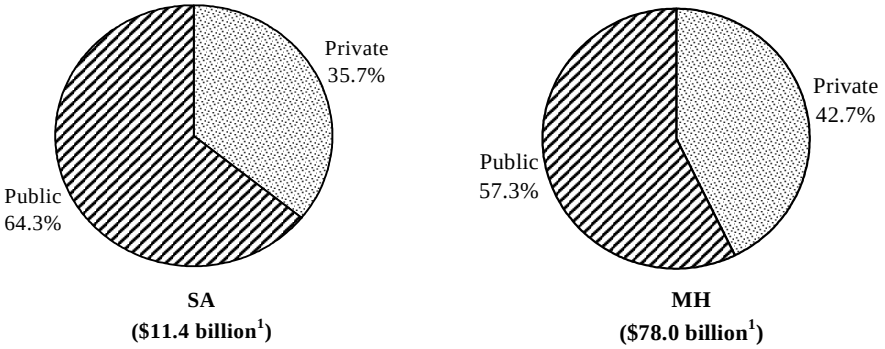
Source: CSAT/CMHS Spending Estimates (Table D.1(b)).
[1] NHA-equivalent expenditures

Financing

SA Treatment Funded Predominantly by Public Payers

Public sources of funding covered a much larger share of SA treatment dollars than of MH in 1997. For SA, 64 percent of spending came from public funders; for MH, 57 percent was from the public sector (Figure 5.9). This means that only 36 percent of SA expenditures are covered privately by private insurers, philanthropy, or out of the pockets of clients or their families.

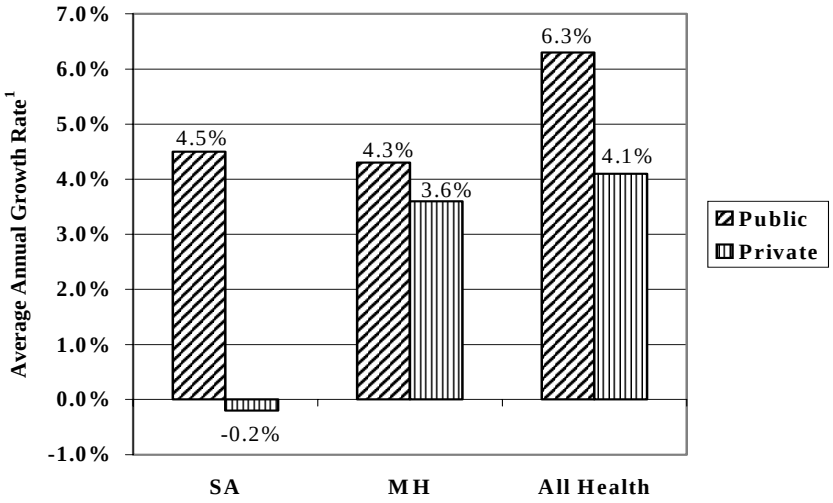
Figure 5.9. Public Funding for SA Treatment Was Larger Than for MH in 1997



Source: CSAT/CMHS Spending Estimates (Tables 2(a) and 2(b)).
[1] NHA-equivalent expenditures.

During the period of this study, public funding for SA treatment grew about the same rate as MH (4.5 and 4.3 percent per year, respectively) (Figure 5.10). However, private support for SA treatment expenditures did not keep pace with inflation, falling 0.2 percent per year on average. And, private funding of MH grew substantially by comparison (3.6 percent per year) (Figure 5.10). Public and private spending for all health care services grew 6.3 percent and 4.1 percent annually, respectively, outpacing both SA and MH.

Figure 5.10. Private Funding for SA Was Outpaced by Inflation and Was Much Slower Than MH , All Health, and Than Public Spending for Each, between 1987 and 1997

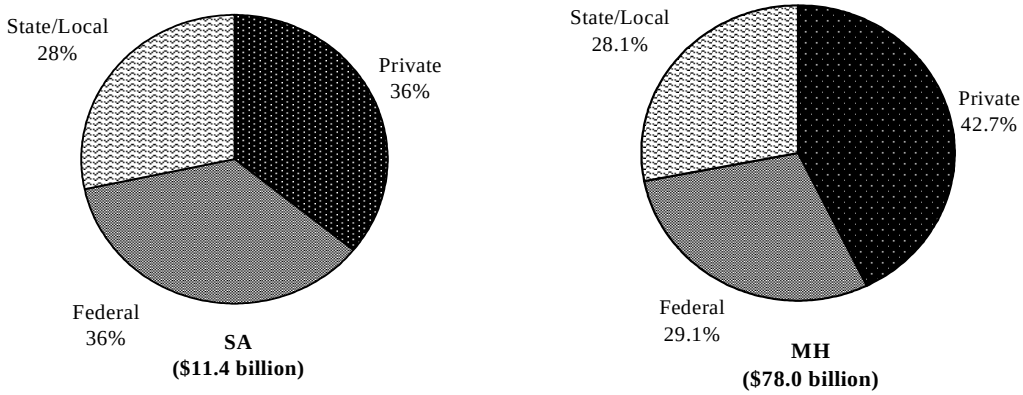


Source: CSAT/CMHS Spending Estimates (Table D.2(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

Federal and State and Local Funding Foremost for SA Treatment

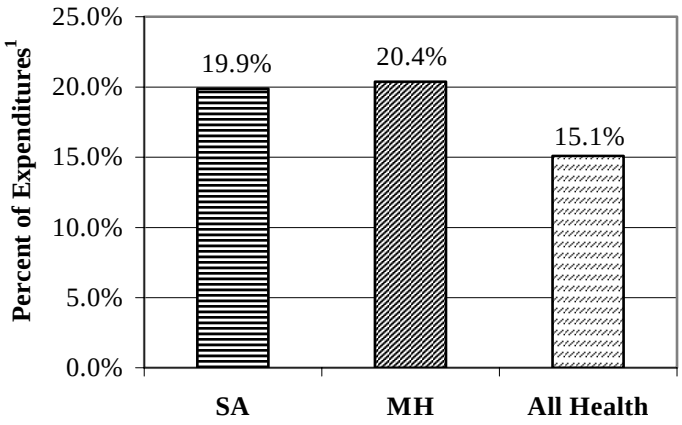
Government funding sources (Federal and State and local combined) were important contributors to SA treatment expenditures as Figure 5.9 showed. Federal funding made a larger relative contribution to SA treatment (36.1 percent) than to MH treatment (29.1 percent) in 1997 (Figure 5.11). The types of Federal spending that contributed the most to SA treatment included Medicaid and "other Federal programs" (SAMHSA Block Grants and Federal Veterans and military programs) in 1997. Medicaid supported about 20 percent of SA expenditures in 1997, which was about the same as of MH expenditures but a larger portion than of all health care expenditures (15.1 percent) (Figure 5.12).

Figure 5.11. Public Funding of SA, Especially Federal Funding, Was Larger Than Public/Federal Funding of MH in 1997



Source: CSAT/CMHS Spending Estimates (NHA-equivalent expenditures; Table D.2(b)).
[1] Medicaid dollars here were apportioned to Federal and State/Local Spending.

Figure 5.12. Medicaid Supported a Larger Share of SA and MH Expenditures Than of All Health Spending in 1997

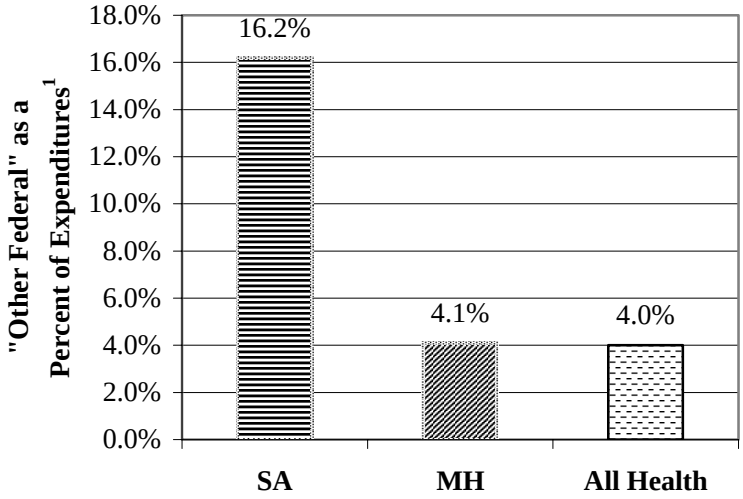


Source: CSAT/CMHS Spending Estimates (Table D.2(b)).
[1] NHA-equivalent expenditures.

Other State and local government programs provided about the same amount (20.3 percent) of SA spending that Medicaid did (19.9 percent). These aggregate shares nationally mask any variation among states in their coverage of substance abuse services under Medicaid.

Federal programs other than Medicaid and Medicare provided 16.2 percent of the funds for SA but only 4.1 percent for MH (Figure 5.13). This reflects the substantial Federal Block Grant program to the States that supports services provided by substance abuse facilities (Huber et al., 1994). By 1997, the Federal Block Grant program for SA was almost $900 million, while the program for MH was about $250 million.

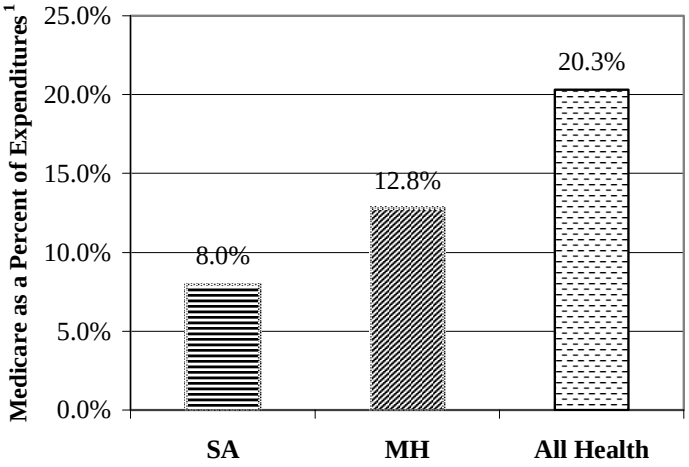
Figure 5.13. Federal Programs Other Than Medicaid and Medicare Provided Substantial SA Funding in 1997



Source: CSAT/CMHS Spending Estimates (Table D.4(b)).
[1] NHA-equivalent expenditures

Medicare supported less of SA expenditures (8 percent) than of MH care (12.8 percent) and substantially less than of all health (20.3 percent) in 1997 (Figure 5.14). This may be due to the lower incidence of substance abuse problems in the elderly and/or poor recognition by practitioners of these problems. It also may be a result of reluctance of older generations to acknowledge substance abuse or mental illness because of the intense stigma associated with these problems "in their day." And/or, it may be influenced by restrictions prior to 1990 on Medicare payments to MH/SA practitioners.

Figure 5.14. Medicare Supported a Smaller Share of SA and MH Expenditures Than of All Health Expenditures in 1997



Source: CSAT/CMHS Spending Estimates (Table D.4(b)).
[1] NHA-equivalent expenditures

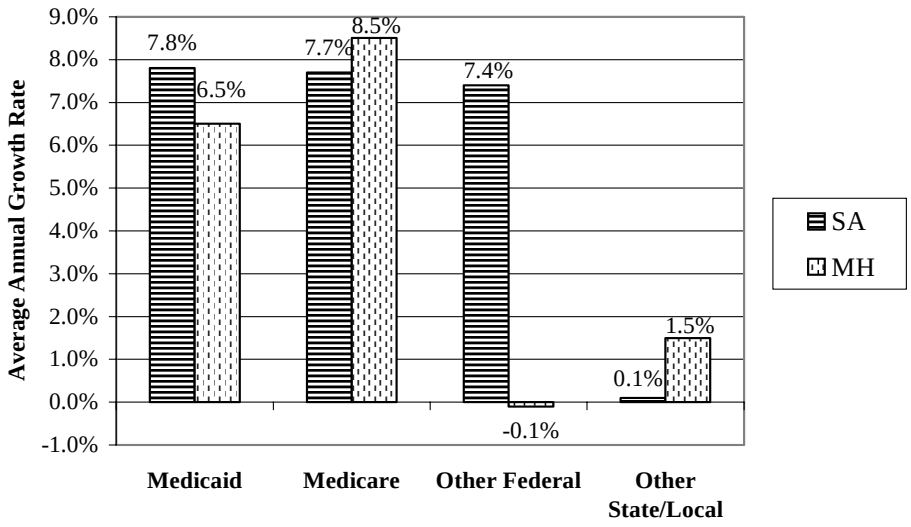
Federal Funding Grew Rapidly for SA

Despite the disparity in shares of SA expenditures paid from Medicare, Medicaid, and other Federal programs, all three grew rapidly (about 7 percent per year each) between 1987 and 1997 (Figure 5.15). Other State and local programs funding SA services, despite being a large 20-percent share of SA in 1997, did not keep up with general inflation, declining 0.1 percent per year. This shift is part of a long-term trend away from direct State funding of SA (and MH) care. This trend was probably related, at least partially, to the closure of public hospitals and privatization of publicly sponsored care. And, it was probably driven by States' efforts to move funding of health-related programs as much as possible into the Medicaid program in order to obtain Federal Medicaid matching funds.

For MH, by contrast, only the Medicare and Medicaid public payments grew in size, while other government programs lost ground or remained fairly flat over the 10-year period.

The large increases for "other Federal" funds for SA reflected an active SAMHSA Block Grant program. Block Grants for SA increased dramatically in the 1980s and 1990s (Huber et al., 1994).

Figure 5.15. Public Funding Grew Differentially for SA and MH Treatments Between 1987 and 1997



Source: CSAT/CMHS Spending Estimates (Table D.2(c)).
[1] Inflation-adjusted, NHA-equivalent expenditures.

Reasons for Slow Growth and Declines in SA Expenditures

We cannot determine with certainty the effect of managed care on SA spending from these data. As mentioned earlier, managed care enrollment in both private insurance and Medicaid and Medicare increased substantially over the period. However, the large support of SA services from Block Grants and from direct State and local funding suggests that managed care could have had a lesser impact on SA than MH services. Alternatively, managed care may have had a greater effect on SA spending through the private insurance market. As we saw in Figure 5.10, private funding for SA declined dramatically in inflation-adjusted terms, while private funding rose considerably for MH and all health. The notably slower SA spending and the widespread introduction of managed behavioral health care throughout this period leads us to deduce that managed care may also have had a significant effect on substance abuse treatment expenditures between 1987 and 1997.

One public policy change with the potential to reduce spending on SA services in 1997 and beyond is the denial of health benefits to substance abusers, although we did not see the effect of this change in this study. In 1996, Public Law 104-121 was passed that stipulated that as of 1997 people disabled due to drug addiction or alcoholism (DAA) would be ineligible for Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) disability benefits and, therefore, Medicare and Medicaid coverage linked to SSDI and SSI (SSA, 1996). We did not see effects of this change because the underlying data from UFDS ended in 1996. Our projections for SA spending in 1997 had no information on which to base a change as a result of this law.

Chapter 6. Conclusions

Mental health, alcohol, and other substance abuse (MH/SA) disorders are highly prevalent and associated with a substantial degree of morbidity and mortality, draining resources of individuals and the larger society. The health care system for treating MH/SA disorders is continually evolving. Over the past 10 years, major strides in the neurological and behavioral sciences have led to the development of new treatments. Advances also have been made in identification and diagnosis of MH/SA diseases. Changes in treatment philosophy and technologies, as well as consumer activism and more recently managed care, continue to move care out of hospitals and into community settings. The stigma associated with MH/SA treatment is declining although it is still widespread (Borinstein, 1992). Some of these changes may raise MH/SA expenditures (e.g., greater numbers of persons seeking treatment; increased use of pharmaceuticals), others may dampen growth (e.g., shorter hospital stays, managed care, outpatient treatment for detoxification).

Given the dramatic changes in the MH/SA treatment landscape it is important to track how MH/SA dollars are changing and to evaluate that growth relative to spending overall in the health care industry. On a national scale, who is paying for MH/SA treatment? Are government roles increasing? Are private insurers cutting MH/SA benefits? Who is providing treatment and receiving MH/SA dollars? How is the focus of care changing?

Study Methods

This is the second in a series of reports planned to provide periodic updates of national expenditures for mental health, alcohol, and other substance abuse (MH/SA) treatment. It provides estimates that can be compared with all health care spending nationally. The latter are contained in the National Health Accounts of the United States (see for example, Braden et al., 1998).

This series of studies also provides an historical perspective developed with one consistent methodology so that trends in MH/SA expenditures and treatment can be identified. This work also distinguishes spending on mental health (MH) and substance abuse (SA), separately, which allows policymakers to discern whether and where their program policy initiatives have had an impact. It provides a way to assess how public policy changes interact with the dynamics of the private health care system. Separate estimates on alcohol and other substance abuse are available in the full Technical Report (Mark, et al., 2000).

Key Findings

Expenditures for mental health, alcohol abuse, and other substance abuse (MH/SA) treatment grew over this period less rapidly than for all health care services. Both components of MH/SA, mental health (MH) and substance abuse (SA) grew more slowly than all health care. The reasons for these slower growth rates are complex and not easily discerned with the aggregate expenditure data presented here. However, from studying sub-components of care, we can see that the trends in health care generally are

clearly influencing MH/SA services and spending. Managed care constraints, changes in how hospitals are used, increases in outpatient treatment relative to institutional care, the extreme rapidity in discoveries and promotion of pharmaceutical therapies – all are affecting MH/SA expenditures.

The financing of MH/SA care moves generally with the financing of all health care. The public sector's share of MH/SA expenditures increased from 55 percent in 1987 to 58 percent in 1997, while public spending on all health increased from 41 percent to 46 percent. In addition within MH/SA, State and local government programs other than Medicaid contributed relatively less to the financing of MH/SA treatment in 1997 (20.0 percent) than in 1987 (25.5 percent). These trends are primarily due to high growth by Medicare and Medicaid. Recently, Medicaid spending has slowed due to a slowing of Medicaid enrollment and the increase in Medicaid managed care contracts.

An important finding for MH relates to the large prescription drug component, which was 12.8 percent of MH spending in 1997. Retail drug spending for mental health conditions grew 9.3 percent annually (inflation-adjusted), somewhat faster than drugs for all health conditions (8.3 percent). By contrast, prescription drugs remained a small component of SA spending (less than 1 percent). It is unclear whether drugs (now available) for treatment of alcoholism and heroin addiction are less useful in treating the abuse of those substances than psychotropic drugs are for MH or whether SA treatment specialists are slow to adopt new drug treatments. Methadone, dispensed only in specialty facilities, is not included in this study as SA drug expenditures (rather as part of the facility expenditures).

Another important finding for SA treatment spending is its slower growth than MH spending and its substantial lag behind spending on all health care problems. The gap between SA and MH spending, inflation-adjusted, occurred primarily with respect to private expenditures, which declined 0.2 percent for SA and grew 3.6 percent for MH and 4.1 percent for all health.

Our study of SA expenditures raises other important questions. First, why do independent specialists in MH/SA treatment (psychiatrists, psychologists, counselors, and social workers) receive a lower proportion of SA dollars than do general physicians? Independent practitioners' share of SA dollars are substantially less than their share of MH dollars. Are these MH/SA specialists less likely to accept addiction clients than mental health clients? Or are their services less likely to be covered by third-party payments? Another issue raised by these spending estimates concerns the degree of specialization in MH or SA services. What is the impact of the high degree of separation of SA and MH services when persons with substance abuse also suffer from mental disorders? Further work remains for definitive conclusions about the extent of dual services available to clients with substance abuse and mental health problems, and the effect of separate services on the continuity of their care.

Implications

What can be concluded from the fact that MH/SA spending grew from 1987 to 1997, but at a rate significantly below that for all health care expenditures? First, given the significant gap between disease prevalence and treatment utilization reported in the Surgeon General's Report on Mental Health (USDHHS, 1999), the growth in expenditures can be viewed as a positive sign. More people are now seeking treatment for MH/SA disorders. For example, a recent Healthy People 2000 progress report finds that in 1993, 14.3 percent of adults sought help in coping with personal and emotional problems, up from 11.1 percent in 1985. The target for the year 2000 is 20 percent.

Second, evidence from this report and other research demonstrates that MH/SA expenditures can be contained. Over the study time period there was a greater recognition that MH/SA disorders are serious but treatable illnesses and there was also rapid introduction of new and better technologies to treat MH/SA disorders (most notably medications). Despite these changes, we did not witness a surge in spending, at least as compared to that experienced for other diseases.

However, without further work that dissects the rate of expenditure growth into changes in utilization and changes in prices, it is impossible to say whether access and use of needed services did indeed improve over the time period. The relatively low growth rate of private SA spending is particularly troubling in this regard. Recently, the Office of National Drug Control Policy estimated that from 4.4 to 5.4 million people are in need of substance abuse treatment while only about 2 million are receiving treatment. Only with greater efforts to ensure that access is being met, at the same time that costs are being contained, can we ensure that the tremendous costs to society be lessened and a more satisfied life be realized for those who suffer from mental illness and substance abuse disorders.

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Appendix A. Glossary of Acronyms and Terms

Acronyms:

GDP = Gross Domestic Product
HCFA = Health Care Financing Administration
HCUP-NIS = Healthcare Cost and Utilization Project, Nationwide Inpatient Sample
IMHO = Inventory of Mental Health Organizations
MH/SA = Mental Health and Substance Abuse, including alcohol and drug abuse
MSMHO = Multi-Service Mental Health Organizations
NAMCS = National Ambulatory Medical Care Survey
NDATUS = National Drug and Alcoholism Treatment Unit Survey
NHA = National Health Accounts
NHDS = National Hospital Discharge Survey
NHAMCS = National Hospital Ambulatory Medical Care Survey
NHHCS = National Home and Hospice Care Survey
NMES = National Medical Expenditure Survey
SIC = Standard Industrial Classification
SAMHSA = Substance Abuse and Mental Health Services Administration
UFDS = Uniform Facility Data Set

Terms:

General Hospital Specialty Units: Specialty psychiatric or substance abuse units of community hospitals and Veterans Affairs hospitals.

Hospital-based Services: All services owned and operated by hospitals – inpatient, outpatient (including clinics and home health), and residential facilities (including nursing homes).

Insurance Administration: Administrative expenses of all third-party payers and profit and reserve adjustments for private insurers.

MarketScan®: A private database of The MEDSTAT Group, Inc. The database includes paid insurance claims for 7 million privately insured persons from large employers across the Nation.

National Health Accounts: A system of accounting for expenditures on health care in the United States developed and maintained by the Health Care Financing Administration.

Medicaid: A State-administered and State-and-Federally-funded program which provides health care services for certain low-income persons.

Medicare: A Federal government health insurance program for persons 65 years of age and over, for people entitled to social security disability payments for 2 years or more, and for people with end-stage renal disease, regardless of income.

Multi-Service Mental Health Organizations (MSMHOs): A variety of providers such as community mental health centers, residential treatment facilities for the mentally ill, and partial care facilities. Some MSMHO providers treat people with substance abuse disorders.

Non-Specialty Care in Community Hospitals: That portion of care provided in community hospitals outside of specialty psychiatric or substance abuse treatment units. This category excludes VA hospitals.

Other Non-Community Hospitals (for NHA comparisons): Psychiatric and substance abuse hospitals, Veterans Affairs hospitals, and other specialty hospitals and all of their hospital-based services.

Other Federal Government: Health care covered or provided by Federal government agencies and programs other than Medicaid or Medicare (e.g., Veterans Affairs, Department of Defense, and Block Grants to the States).

Other Non-Durable Medical Products: Non-prescription drugs and medical sundries.

Other Outpatient and Residential Care: All providers except for hospital-based services, retail prescription drugs, and insurance administration. Note hospital-based services include some outpatient services, which are thus excluded from the "other outpatient and residential care" category. This latter category captures most (albeit imperfectly) outpatient and non-hospital-based services to MH/SA clients.

Other Private: A residual category of nonpublic funds which include philanthropy, foundation grants, gift shops, and cafeterias, as well as health care provider investment income.

Other Personal Health Care and Government Public Health Activities: Direct services provided by employers for the health care needs of their employees, offered either on-site or off-site. Government expenditures for care not specified in kind, or health care spending that is not elsewhere classified. This tends to include services offered at non-health facilities such as at schools, military field stations, prisons, and community centers. Health care spending at prisons is excluded when it is paid for by the correctional system and funded internally [or outside government health agencies]. If the services are obtained through contract with other health facilities or independent practitioners, they are included in the respective provider category.

Other Professionals: This category includes psychologists, nurse practitioners and social service providers such as counselors and social workers. For the NHA-equivalent estimates, this category includes only non-physician health professionals such as psychologists, chiropractors, optometrists, podiatrists, and other licensed medical practitioners, as well as miscellaneous health and allied services, and excludes social service providers such as counselors and social workers.

Other State/Local Government: Health care expenditures by State and local governments other than that for Medicaid.

Out-of-Pocket Spending: Expenditures that are made by individuals or their families for health care services that are not reimbursed by health insurers or publicly subsidized programs. This includes payments by those without and with insurance. For the insured, out-of-pocket payments can include: copayment and deductible amounts, services uninsured or beyond insurance limits, as well as MH/SA encounters paid entirely by the client or family to avoid the stigma of MH/SA treatment on insurance records. Health insurance premiums are excluded from this category.

Residential Treatment Centers for Children: These residential facilities primarily treat emotionally disturbed children and may include a small amount of inpatient treatment, as well as outpatient care. They also treat adolescents for substance abuse problems.

Retail Prescription Drugs: Prescriptions obtained through retail (pharmacy or mail order) distribution. Inpatient drug treatment and facilities which dispense drugs through public programs, such as methadone clinics, are not included in this category, but rather are part of the specific facility expenditure.

Specialty Hospitals: Psychiatric hospitals and substance abuse hospitals, which specialize in mental health or substance abuse treatment, and all of their hospital-based services.

Specialty Substance Abuse Centers (SSACs): Freestanding substance abuse centers and units of other facilities. Thus, for example, it includes methadone maintenance clinics, other facilities that primarily serve persons with substance abuse problems, and units of public health clinics, charitable organizations, correctional facilities, and other entities. Some of these organizations have substance abuse as their primary mission and others treat substance abuse as a secondary function. We assume that all services provided at these facilities are primarily for treatment of substance abuse rather than mental health disorders.

Standard Industrial Codes: A classification system used by the Bureau of the Census to classify businesses.

Appendix B. Advisory Panel

Robert Anderson
Director of Quality Assurance Programs
National Association of State Alcohol and Drug Abuse Directors, Inc.

Barry Brauth
New York Office of Mental Health

William Cartwright, Ph.D.
Health Services Research Division
National Institute on Drug Abuse

Richard Frank, Ph.D.*
Professor of Health Economics
Department of Health Policy
Harvard University

Louis E. Gallant, Ph.D.
Director, Office of Substance Abuse
Department of Mental Health, Mental Retardation, and Substance Abuse
State of Virginia

Howard Goldman, M.D.
Professor
University of Maryland

Mike Hilton, Ph.D.
Health Services Research Program
National Institute on Alcohol Abuse and Alcoholism

Edwin Hustead
Senior Vice President
The Hay Group

Barry Kast, M.S.W.
Administrator, Mental Health and Disabilities Division
Department of Human Resources
State of Oregon

Rafael Semansky
(substituting for Chris Koyanagi)
Bazelon Center for Mental Health Law

Katharine Levit
Director of National Health Statistics Group
Health Care Financing Administration
Department of Actuarial Studies

Theodore Lutterman
Director of Research Analysis
National Association of State Mental Health Program Directors Research Institute

Thomas McGuire, Ph.D.*
Professor
Department of Economics
Boston University

Agnes Rupp, Ph.D.
National Institute of Mental Health

Jane Sanville
Policy Analyst
Office of National Drug Control Policy
U.S. Executive Office of the President

Donald Shepard, Ph.D.*
Research Professor
Heller School
Brandeis University

Gary Tischler, M.D.
Professor of Psychiatry
Cornell University

Albert Woodward, Ph.D.
Office of Applied Studies
Substance Abuse and Mental Health Service Administration

* These panel members provided ongoing technical consultation for the project, especially during the phase of reviewing and revising methods for the study.

Appendix C. Explanation of Changes in SA Expenditures between the 1996 and 1997 Estimation Process

Between the first set of SA estimates that ended with 1996 and the second set that ended with 1997, there was a substantial drop in the SA estimate. Table 6.1 shows the change for the common year between the two sets of estimates, 1996. While MH estimates were lower by about a half a billion (under 1 percent of MH expenditures), the SA estimates were lower by more than one-and-a-half billion (15 percent of SA expenditures).

Table C.1. Comparison of Round-One[1] and Round-Two Estimates of Mental Health (MH), Substance Abuse (SA), and MH/SA Treatment Expenditures, Excluding Insurance Administration, 1996 (in $Millions)

	Round-One	Round-Two	Round-Two Difference	Percent Difference Round-Two Relative to Round-One
MH/SA	79,280	77,062	-2,218	-2.9%
MH	66,704	66,153	-551	-0.8
SA	12,576	10,909	-1,667	-15.3

Source: CSAT/CMHS Spending Estimates Project

[1] For round-one estimates, see Mark et al., 1999; round-two estimates are presented in this document. Both exclude insurance administration expenses because they were exclude from round one.

The main reason for the larger decline in SA expenditures can be traced to the revenues reported by substance abuse facilities in the UFDS survey. Looking at the trend in SA revenues for substance abuse facilities in Table C.2, we can infer the cause of lower SA estimates in round 2. The difference between the early years of round 1 and round 2 estimates showed that about a half billion dollars (or almost a third) of the SA specialty facility estimate was lower because of various methods changes, listed in Chapter 1, that affected both SA and MH. In addition, the additional year of 1996 UFDS data changed our understanding of the trend in SA facility expenditures and changed the estimates of the last couple of years as well as the 1997 projection by about another billion dollars (or two-thirds) of the SA facility revenue change. Thus, the SA change was not so much due to methods changes but rather to the underlying report of revenues by substance abuse facilities.

Table C.2. Estimates of Total Revenue from UFDS Specialty Facilities Contributing to SA Expenditure Estimates, 1987-1997

Year	Round One		Round Two	
	$ Billions	**Source**	**$ Billions**	**Source**
1987	2.9	Data	2.2	Data
1988	3.2	Interpolation	2.5	Interpolation
1989	3.5	Interpolation	2.8	Interpolation
1990	3.8	Data	3.1	Data
1991	4.1	Interpolation	3.6	Data
1992	4.5	Interpolation	4.0	Interpolation
1993	4.8	Data	4.5	Data
1994	5.2	Interpolation	4.5	Interpolation
1995	5.5	Data	4.5	Data
1996	5.9	Projection	4.0	Data
1997	6.2	Projection	4.2	Projection

Source: CSAT/CMHS Spending Estimates Project

Appendix D. Detailed Tables of MH/SA and All Health Care Expenditures

Table D.1(a) Nominal Dollars for NHA-Equivalent Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), MH/SA, and All Health Care, by Type of Provider, 1987 - 1997

Type of Provider	MH/SA			MH			SA			All Health		
	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997
	Expenditures ($ Millions)											
Hospital-based[1]:	**18,766**	**25,339**	**26,448**	**15,047**	**21,018**	**21,714**	**3,719**	**4,320**	**4,734**	**194,099**	**305,313**	**371,061**
Community hospitals[2]	7,268	10,693	13,293	5,080	8,047	10,081	2,188	2,646	3,213	165,758	267,841	331,251
Other Non-Community hospitals[3]	11,498	14,645	13,154	9,967	12,971	11,633	1,531	1,674	1,521	28,341	37,472	39,810
Other Outpatient and Residential:	**19,291**	**30,426**	**43,321**	**16,670**	**25,707**	**37,136**	**2,622**	**4,719**	**6,185**	**242,995**	**412,182**	**557,545**
Freestanding Nursing Homes	4,590	5,363	4,722	4,461	5,192	4,546	129	171	176	36,329	62,301	82,774
Freestanding Home Health	59	170	428	59	168	414	1	3	14	6,654	19,624	32,318
Physicians	5,248	8,643	12,113	4,655	7,845	11,088	594	797	1,025	104,138	175,912	217,628
Other Professionals[4]	3,092	5,322	8,145	3,031	5,212	7,928	61	110	217	22,606	42,089	61,916
Other Personal Health Care[6] and Government Public Health Activities	6,302	10,928	17,913	4,464	7,290	13,160	1,837	3,638	4,753	21,541	38,773	68,399
Other Non-Durable Medical Products[7]										18,269	24,577	29,984
Durable Medical Products										8,115	11,893	13,878
Dental										25,343	37,013	50,648
Retail Prescription Drugs[5]	**2,776**	**3,838**	**9,076**	**2,771**	**3,831**	**9,038**	**6**	**7**	**38**	**26,533**	**46,598**	**78,888**
Insurance Administration[8]	**1,548**	**2,744**	**3,333**	**1,271**	**2,307**	**2,870**	**277**	**437**	**463**	**18,550**	**44,901**	**49,998**
Total NHA-Equivalent Expenditures[9]	**42,381**	**62,346**	**82,178**	**35,758**	**52,863**	**70,759**	**6,623**	**9,483**	**11,419**	**482,178**	**808,994**	**1,057,493**

Source: CSAT/CMHS Spending Estimates Project
Notes at end of Table.

Table D.1(b) Percent Distribution for NHA-Equivalent Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), MH/SA, and All Health Care, by Type of Provider, 1987-1997

Type of Provider	MH/SA			MH			SA			All Health		
	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997
	Percent Distribution											
Hospital-based[1]:	**44.3%**	**40.6%**	**32.2%**	**42.1%**	**39.8%**	**30.7%**	**56.2%**	**45.6%**	**41.5%**	**40.3%**	**37.7%**	**35.1%**
Community hospitals[2]	17.1%	17.2%	16.2%	14.2%	15.2%	14.2%	33.0%	27.9%	28.1%	34.4%	33.1%	31.3%
Other Non-Community hospitals[3]	27.1%	23.5%	16.0%	27.9%	24.5%	16.4%	23.1%	17.7%	13.3%	5.9%	4.6%	3.8%
Other Outpatient and Residential:	**45.5%**	**48.8%**	**52.7%**	**46.6%**	**48.6%**	**52.5%**	**39.6%**	**49.8%**	**54.2%**	**50.4%**	**50.9%**	**52.7%**
Freestanding Nursing Homes	10.8%	8.6%	5.7%	12.5%	9.8%	6.4%	1.9%	1.8%	1.5%	7.5%	7.7%	7.8%
Freestanding Home Health	0.1%	0.3%	0.5%	0.2%	0.3%	0.6%	0.0%	0.0%	0.1%	1.4%	2.4%	3.1%
Physicians	12.4%	13.9%	14.7%	13.0%	14.8%	15.7%	9.0%	8.4%	9.0%	21.6%	21.7%	20.6%
Other Professionals[4]	7.3%	8.5%	9.9%	8.5%	9.9%	11.2%	0.9%	1.2%	1.9%	4.7%	5.2%	5.9%
Other Personal Health Care[6] and Government Public Health Activities	14.9%	17.5%	21.8%	12.5%	13.8%	18.6%	27.7%	38.4%	41.6%	4.5%	4.8%	6.5%
Other Non-Durable Medical Products[7]										3.8%	3.0%	2.8%
Durable Medical Products										1.7%	1.5%	1.3%
Dental										5.3%	4.6%	4.8%
Retail Prescription Drugs[5]	**6.6%**	**6.2%**	**11.0%**	**7.7%**	**7.2%**	**12.8%**	**0.1%**	**0.1%**	**0.3%**	**5.5%**	**5.8%**	**7.5%**
Insurance Administration[8]	**3.7%**	**4.4%**	**4.1%**	**3.6%**	**4.4%**	**4.1%**	**4.2%**	**4.6%**	**4.1%**	**3.8%**	**5.6%**	**4.7%**
Total NHA-Equivalent Expenditures[9]	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: CSAT/CMHS Spending Estimates Project
Notes at end of Table.

Table D.1(c) Growth Rates for NHA-Equivalent Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), MH/SA, and All Health Care, by Type of Provider, 1987-1997

Type of Provider	MH/SA			MH			SA			All Health		
	1987-1997	1987-1992	1992-1997	1987-1997	1987-1992	1992-1997	1987-1997	1987-1992	1992-1997	1987-1997	1987-1992	1992-1997
	Average Annual Growth Rate, Inflation Adjusted											
Hospital-based[1]:	**0.5%**	**2.3%**	**-1.3%**	**0.7%**	**3.0%**	**-1.5%**	**-0.6%**	**-0.8%**	**1-0.4%**	**3.6%**	**5.5%**	**1.8%**
Community hospitals[2]	3.1%	4.0%	2.3%	4.0%	5.6%	2.3%	0.9%	0.1%	1.8%	4.1%	6.1%	2.1%
Other Non-Community hospitals[3]	-1.6%	1.2%	-4.2%	-1.4%	1.5%	-4.3%	-3.0%	-1.9%	-4.0%	0.5%	1.8%	-1.0%
Other Outpatient and Residential:	**5.3%**	**5.5%**	**5.0%**	**5.2%**	**5.1%**	**5.3%**	**5.8%**	**8.4%**	**3.3%**	**5.5%**	**7.1%**	**3.7%**
Freestanding Nursing Homes	-2.6%	-0.6%	-4.6%	-2.7%	-0.7%	-4.7%	0.1%	1.9%	-1.7%	5.4%	7.3%	3.5%
Freestanding Home Health	18.3%	19.0%	17.6%	18.1%	18.9%	17.2%	28.7%	21.9%	35.9%	13.7%	19.6%	8.1%
Physicians	5.5%	6.5%	4.7%	5.9%	6.9%	4.9%	2.5%	2.2%	2.9%	4.5%	7.0%	2.1%
Other Professionals[4]	7.0%	7.4%	6.6%	6.9%	7.4%	6.5%	10.3%	8.5%	12.1%	7.4%	9.1%	5.7%
Other Personal Health Care[6] and Government Public Health Activities	7.8%	7.5%	8.0%	8.2%	6.3%	10.1%	6.8%	10.4%	3.2%	8.9%	8.4%	9.5%
Other Non-Durable Medical Products[7]										2.0%	2.2%	1.9%
Durable Medical Products										2.4%	3.9%	0.9%
Dental										4.1%	3.9%	4.2%
Retail Prescription Drugs[5]	**9.3%**	**2.8%**	**16.2%**	**9.3%**	**2.8%**	**16.1%**	**17.1%**	**0.9%**	**35.8%**	**8.3%**	**7.8%**	**8.7%**
Insurance Administration[8]	**4.9%**	**8.0%**	**1.8%**	**5.3%**	**8.6%**	**2.3%**	**2.2%**	**5.6%**	**-1.1%**	**7.2%**	**14.9%**	**0.0%**
Total NHA-Equivalent Expenditures[9]	**3.7%**	**4.0%**	**3.4%**	**4.0%**	**4.1%**	**3.7%**	**2.5%**	**3.5%**	**1.6%**	**5.0%**	**6.8%**	**3.2%**

Source: CSAT/CMHS Spending Estimates Project

[1] "Hospital-based" services includes all services owned and operated by hospitals – inpatient, outpatient (including clinics and home health), and residential facilities (including nursing homes). For NHA-equivalent estimates all general and specialty hospitals are combined.

[2] "Community hospitals" combined the specialty units of general hospitals with the non-specialty units for the purpose of comparing the estimates with the NHA.

[3] "Other non-community hospitals" includes psychiatric and substance abuse hospitals, Veterans Affairs hospitals, and other specialty hospitals and all of their hospital-based services.

[4] "Other professionals" Includes non-physician health professionals such as psychologists, chiropractors, optometrists, podiatrists, and other licensed medical practitioners, as well as miscellaneous health and allied services. The category does not include social service providers such as counselors and social workers, which have been removed from the MH/SA estimates for this comparison.

[5] "Retail prescription drugs" relates to drugs obtained through retail (pharmacy or mail order) distribution. Inpatient drug treatment and facilities which dispense drugs through public programs, such as methadone clinics, are not included in this category, but rather are included with the specific facility expenditures.

[6] "Other personal health care" includes direct services provided by employers for the health care needs of their employees, offered either on-site or off-site. It also covers government expenditures for care not specified by kind, or health care spending that is not elsewhere classified. This tends to include services offered at non-health facilities such as at schools, military field stations, prisons, and community centers. Health care spending at prisons is excluded when it is paid for by the correctional system and funded internally [or outside government health agencies]. If the services are obtained through contract with other health facilities or independent practitioners, they will be included in the respective provider categories.

[7] "Other non-durable medical products includes non-prescription drugs and medical sundries.

[8] "Insurance administration" includes the administrative expenses of all third-party payers and profit and reserve adjustments for private insurers.

[9] "Total Expenditures" reported here differ from those in Table 1 because not all expenditures in that table are relevant to the National-Health-Account-equivalent comparisons made here.

Table D.2(a) Nominal Dollars for NHA-Equivalent Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), MH/SA, and All Health Care, by Type of Payer, 1987 - 1997

Type of Payer	MH/SA			MH			SA			All Health		
	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997
	Expenditures ($ Millions)											
Private – Total	**18,927**	**25,717**	**34,312**	**15,842**	**22,096**	**30,238**	**3,085**	**3,621**	**4,074**	**285,983**	**472,547**	**571,948**
Out-of-Pocket	7,561	9,828	13,004	6,857	8,965	11,952	704	863	1,052	116,053	161,758	187,551
Private Insurance	10,056	14,386	19,580	7,932	11,949	16,884	2,124	2,437	2,696	152,446	285,490	348,021
Other Private	1,309	1,503	1,728	1,053	1,182	1,402	257	321	326	17,484	25,299	36,376
Public – Total	**23,454**	**36,629**	**47,866**	**19,916**	**30,767**	**40,521**	**3,538**	**5,862**	**7,345**	**196,198**	**336,450**	**485,548**
Medicare	3,297	5,953	9,985	2,972	5,460	9,071	325	493	914	82,711	136,163	214,571
Medicaid[1]	6,516	12,057	16,701	5,715	10,516	14,433	801	1,541	2,268	50,421	106,371	159,891
Other Federal[2]	2,851	4,129	4,737	2,173	2,315	2,887	677	1,814	1,851	24,394	35,812	41,792
Other State and Local	10,790	14,490	16,443	9,055	12,476	14,130	1,735	2,014	2,313	38,672	58,104	69,294
Federal Total[3]	**9,732**	**17,798**	**24,743**	**8,289**	**14,505**	**20,617**	**1,443**	**3,293**	**4,125**	**134,949**	**239,967**	**351,792**
State and Local Total[4]	**13,723**	**18,831**	**23,123**	**11,627**	**16,262**	**19,903**	**2,095**	**2,569**	**3,220**	**61,249**	**96,483**	**133,756**
Total NHA-Equivalent Expenditures[5]	**42,381**	**62,346**	**82,178**	**35,758**	**52,863**	**70,759**	**6,623**	**9,483**	**11,419**	**482,178**	**808,994**	**1,057,493**

Source: CSAT/CMHS Spending Estimates Project
Notes at end of Table.

Table D.2(b) Percent Distribution for NHA-Equivalent Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), MH/SA, and All Health Care, by Type of Payer, 1987 - 1997

Type of Payer	MH/SA			MH			SA			All Health		
	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997
	Percent Distribution											
Private – Total	**44.7%**	**41.2%**	**41.8%**	**44.3%**	41.8%	**42.7%**	**46.6%**	**38.2%**	**35.7%**	**59.3%**	**58.4%**	**54.1%**
Out-of-Pocket	17.8%	15.8%	15.8%	19.2%	17.0%	16.9%	10.6%	9.1%	9.2%	24.1%	20.0%	17.7%
Private Insurance	23.7%	23.1%	23.8%	22.2%	22.6%	23.9%	32.1%	25.7%	23.6%	31.6%	35.3%	32.9%
Other Private	3.1%	2.4%	2.1%	2.9%	2.2%	2.0%	3.9%	3.4%	2.9%	3.6%	3.1%	3.4%
Public – Total	**55.3%**	58.8%	**58.2%**	**55.7%**	**58.2%**	**57.3%**	**53.4%**	**61.8%**	**64.3%**	**40.7%**	**41.6%**	**45.9%**
Medicare	7.8%	9.5%	12.2%	8.3%	10.3%	12.8%	4.9%	5.2%	8.0%	17.2%	16.8%	20.3%
Medicaid[1]	15.4%	19.3%	20.3%	16.0%	19.9%	20.4%	12.1%	16.2%	19.9%	10.5%	13.1%	15.1%
Other Federal[2]	6.7%	6.6%	5.8%	6.1%	4.4%	4.1%	10.2%	19.1%	16.2%	5.1%	4.4%	4.0%
Other State and Local	25.5%	23.2%	20.0%	25.3%	23.6%	20.0%	26.2%	21.2%	20.3%	8.0%	7.2%	6.6%
Federal Total[3]	**23.0%**	**28.5%**	**30.1%**	**23.2%**	**27.4%**	**29.1%**	**21.8%**	**34.7%**	**36.1%**	**28.0%**	**29.7%**	**33.3%**
State and Local Total[4]	**32.4%**	**30.2%**	**28.1%**	**32.5%**	**30.8%**	**28.1%**	**31.6%**	**27.1%**	**28.2%**	**12.7%**	**11.9%**	**12.6%**
Total NHA-Equivalent Expenditures[5]	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: CSAT/CMHS Spending Estimates Project
Notes at end of Table.

Table D.2(c) Growth Rates for NHA-Equivalent Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), MH/SA, and All Health Care, by Type of Payer, 1987 - 1997

Type of Payer	MH/SA			MH			SA			All Health		
	1987 - 1997	1987-1992	1992-1997	1987-1997	1987-1992	1992-1997	1987-1997	1987-1992	1992-1997	1987-1997	1987-1992	1992-1997
	Average Annual Growth Rate, Inflation Adjusted											
Private – Total	**3.0%**	**2.4%**	**3.6%**	**3.6%**	**3.0%**	**4.2%**	**-0.2%**	**-0.5%**	**0.2%**	**4.1%**	**6.6%**	**1.7%**
Out-of-Pocket	2.5%	1.5%	3.5%	2.6%	1.6%	3.6%	1.1%	0.4%	1.8%	1.8%	3.0%	0.8%
Private Insurance	3.8%	3.5%	4.1%	4.7%	4.5%	4.9%	-0.6%	-1.0%	-0.2%	5.4%	9.2%	1.8%
Other Private	-0.2%	-1.0%	0.6%	-0.1%	-1.4%	1.3%	-0.6%	0.8%	-1.9%	4.5%	3.8%	5.2%
Public – Total	**4.3%**	**5.3%**	**3.2%**	**4.3%**	**5.1%**	**3.4%**	**4.5%**	**6.6%**	**2.3%**	**6.3%**	**7.3%**	**5.3%**
Medicare	8.4%	8.4%	8.5%	8.5%	8.8%	8.3%	7.7%	4.7%	10.7%	6.8%	6.5%	7.1%
Medicaid[1]	6.7%	9.0%	4.4%	6.5%	8.9%	4.2%	7.8%	9.8%	5.7%	8.9%	11.9%	6.2%
Other Federal[2]	2.1%	3.8%	0.6%	-0.1%	-2.4%	2.3%	7.4%	17.3	-1.8%	2.4%	4.0%	0.9%
Other State and Local	1.3%	2.2%	0.4%	1.5%	2.7%	0.3%	-0.1%	-0.8%	0.6%	2.9%	4.5%	1.4%
Federal Total[3]	**6.6%**	**8.7%**	**4.5%**	**6.3%**	**7.7%**	**5.0%**	**7.9%**	**13.6%**	**2.3%**	**6.9%**	**8.1%**	**5.7%**
State and Local Total[4]	**2.3%**	**2.6%**	**2.0%**	**2.4%**	**3.0%**	**1.9%**	**1.4%**	**0.4%**	**2.3%**	**5.0%**	**5.5%**	**4.5%**
Total NHA-Equivalent Expenditures[5]	**3.7%**	**4.0%**	**3.4%**	**4.0%**	**4.1%**	**3.7%**	**2.5%**	**3.5%**	**1.6%**	**5.0%**	**6.8%**	**3.2%**

Source: CSAT/CMHS Spending Estimates Project

[1] "Medicaid" includes both State and Federal Medicaid expenditures.

[2] "Other Federal" includes Veterans Affairs, Department of Defense, and Federal Block Grants.

[3] "Federal subtotal" is an alternate grouping of public funds. It includes Medicare, the Federal contribution to Medicaid, which has varied by year, and other Federal programs including Block Grants for substance abuse or mental health. These Block Grants to States were removed from facility reports of State funding and reapportioned to the Federal category based on the SAMHSA report of these funds. Substance abuse prevention activities were excluded.

[4] "State and local subtotal" includes the State only portion of Medicaid and other State and local programs for mental health and substance abuse treatment. Substance abuse prevention activities are excluded.

[5] "Total Expenditures" reported here differ from those in Table 2 because not all expenditures in that table are relevant to the National-Health-Account-equivalent comparisons made here.

Table D.3(a) Nominal Dollars for Total Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), and MH/SA, by Type of Provider, 1987 - 1997

Type of Provider	MH/SA			MH			SA		
	1987	1992	1997	1987	1992	1997	1987	1992	1997
	Expenditures ($ Millions)								
Hospital-based[1]:	**18,766**	**25,338**	**26,448**	**15,047**	**21,018**	**21,714**	**3,719**	**4,320**	**4,734**
Specialty Hospitals[2]	10,088	12,961	10,746	8,869	11,733	9,761	1,218	1,228	985
General Hospitals Specialty Units[3]	5,812	8,162	13,371	4,133	5,946	10,758	1,679	2,216	2,613
Non-Specialty Care in Community Hospitals[4]	2,866	4,215	2,331	2,045	3,339	1,195	821	876	1,136
Other Outpatient and Residential[5]:	**21,010**	**33,307**	**46,325**	**17,994**	**27,930**	**39,689**	**3,015**	**5,377**	**6,637**
Independent Practitioners:	9,144	15,284	22,260	8,464	14,346	20,945	680	938	1,315
Psychiatrists	2,996	4,972	7,396	2,873	4,779	7,115	123	193	280
Non-Psychiatric Physicians	2,252	3,670	4,718	1,782	3,066	3,973	470	604	745
Other Professionals[6]	3,895	6,641	10,147	3,809	6,501	9,856	86	141	290
Other:	11,866	18,023	24,065	9,531	13,584	18,744	2,335	4,439	5,321
Multi-Service Mental Health Organizations[7]	4,378	6,921	12,135	3,944	6,428	11,066	435	493	1,069
Freestanding Nursing Homes	4,590	5,363	4,722	4,461	5,192	4,546	129	171	176
Specialty Substance Abuse Centers[8]	1,746	3,683	3,974	-	-	-	1,746	3,683	3,974
Residential Treatment Centers for Children[9]	1,092	1,885	2,807	1,068	1,796	2,718	25	89	89
Freestanding Home Health	59	170	428	59	168	414	1	3	14
Retail Prescription Drugs[10]	**2,776**	**3,838**	**9,076**	**2,771**	**3,831**	**9,038**	**6**	**7**	**38**
Insurance Administration[11]	**1,625**	**2,927**	**3,468**	**1,329**	**2,442**	**2,986**	**296**	**485**	**482**
Total Expenditures	**44,177**	**65,410**	**85,317**	**37,140**	**55,221**	**73,427**	**7,036**	**10,190**	**11,890**

Source: CSAT/CMHS Spending Estimates Project
Notes at end of Table.

Table D.3(b) Percent Distribution for Total Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), and MH/SA, by Type of Provider, 1987 - 1997

Type of Provider	MH/SA			MH			SA		
	1987	1992	1997	1987	1992	1997	1987	1992	1997
	Percent Distribution								
Hospital-based[1]:	**42.5**	**38.7**	**31.0**	**40.5**	**38.1**	**29.6**	**52.9**	**42.4**	**39.8**
Specialty Hospitals[2]	22.8	19.8	12.6	23.9	21.2	13.3	17.3	12.0	8.3
General Hospitals Specialty Units[3]	13.2	12.5	15.7	11.1	10.8	14.7	23.9	21.8	22.0
Non-Specialty Care in Community Hospitals[4]	6.5	6.4	2.7	5.5	6.0	1.6	11.7	8.6	9.6
Other Outpatient and Residential[5]:	**47.6**	**50.9**	**54.3**	**48.4**	**50.6**	**54.1**	**42.9**	**52.8**	**55.8**
Independent Practitioners:	20.7	23.4	26.1	22.8	26.0	28.5	9.7	9.2	11.1
Psychiatrists	6.8	7.6	8.7	7.7	8.7	9.7	1.8	1.9	2.4
Non-Psychiatric Physicians	5.1	5.6	5.5	4.8	5.6	5.4	6.7	5.9	6.3
Other Professionals[6]	8.8	10.2	11.9	10.3	11.8	13.4	1.2	1.4	2.4
Other:	26.9	27.6	28.2	25.7	24.6	25.5	33.2	43.6	44.8
Multi-Service Mental Health Organizations[7]	9.9	10.6	14.2	10.6	11.6	15.1	6.2	4.8	9.0
Freestanding Nursing Homes	10.4	8.2	5.5	12.0	9.4	6.2	1.8	1.7	1.5
Specialty Substance Abuse Centers[8]	4.0	5.6	4.7	0.0	0.0	0.0	24.8	36.1	33.4
Residential Treatment Centers for Children[9]	2.5	2.9	3.3	2.9	3.3	3.7	0.3	0.9	0.7
Freestanding Home Health	0.1	0.3	0.5	0.2	0.3	0.6	0.0	0.0	0.1
Retail Prescription Drugs[10]	**6.3**	**5.9**	**10.6**	**7.5**	**6.9**	**12.3**	**0.1**	**0.1**	**0.3**
Insurance Administration[11]	**3.7**	**4.5**	**4.1**	**3.6**	**4.4**	**4.1**	**4.2**	**4.8**	**4.1**
Total Expenditures	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: CSAT/CMHS Spending Estimates Project
Notes at end of Table

Table D.3(c) Growth Rates for Total Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), and MH/SA, by Type of Provider, 1987 - 1997

Type of Provider	MH/SA			MH			SA		
	1987-1997	1987-1992	1992-1997	1987-1997	1987-1992	1992-1997	1987-1997	1987-1992	1992-1997
	Average Annual Growth Rate, Inflation Adjusted								
Hospital-based[1]:	**0.5%**	**2.3%**	**-1.3%**	**0.7%**	**3.0%**	**-1.5%**	**-0.6**	**-0.8%**	**-0.4%**
Specialty Hospitals[2]	-2.3	1.3	-5.8	-1.9	1.9	-5.7	-5.0	-3.5	-6.4
General Hospitals Specialty Units[3]	5.5	3.1	8.0	6.8	3.6	10.2	1.5	1.8	1.1
Non-Specialty Care in Community Hospitals[4]	-4.9	4.0	-13.1	-8.0	6.3	-20.4	0.3	-2.4	3.0
Other Outpatient and Residential[5]:	**5.0**	**5.7**	**4.5**	**5.0**	**5.2**	**5.0**	**5.0**	**8.2**	**2.1**
Independent Practitioners:	6.1	6.7	5.5	6.3	7.0	5.6	3.7	2.7	4.7
Psychiatrists	6.3	6.6	6.0	6.3	6.6	6.0	5.4	5.4	5.5
Non-Psychiatric Physicians	4.6	6.3	2.8	5.1	7.4	3.0	1.7	1.3	2.1
Other Professionals[6]	6.8	7.2	6.5	6.8	7.2	6.4	9.6	6.2	13.1
Other:	4.2	4.7	3.7	3.9	3.4	4.4	5.4	9.5	1.5
Multi-Service Mental Health Organizations[7]	7.5	5.6	9.5	7.7	6.3	9.1	6.2	-1.3	14.2
Freestanding Nursing Homes	-2.6	-0.6	-4.6	-2.7	-0.7	-4.7	0.1	1.9	-1.7
Specialty Substance Abuse Centers[8]	5.4	11.8	-0.7				5.4	11.8	-0.7
Residential Treatment Centers for Children[9]	6.7	7.4	6.0	6.6	6.9	6.3	10.4	24.9	-2.3
Freestanding Home Health	18.3	19.0	17.6	18.1	18.9	17.2	28.7	21.9	35.9
Retail Prescription Drugs[10]	**9.3**	**2.8**	**16.2**	**9.3**	**2.8**	**16.1**	**17.1**	**0.9**	**35.8**
Insurance Administration[11]	**4.8**	**8.4**	**1.3**	**5.2**	**8.8**	**1.9**	**1.9**	**6.4**	**-2.3**
Total Expenditures	**3.7**	**4.2**	**3.2**	**4.0**	**4.3**	**3.6**	**2.3**	**3.8**	**0.9**

Source: CSAT/CMHS Spending Estimates Project

[1] "Hospital-based" services includes all services owned and operated by hospitals – inpatient, outpatient (including clinics and home health), and residential facilities (including nursing homes).

[2] "Specialty hospitals" includes psychiatric hospitals and substance abuse hospitals, which specialize in mental health or substance abuse treatment, and all of their hospital-based services.

[3] "General hospitals specialty units" includes specialty psychiatric or substance abuse units of community hospitals and Veterans Affairs hospitals.

[4] "Non-specialty care in community hospitals" includes community hospitals without any specialty psychiatric or substance abuse treatment units and all of their hospital-based services as well as care provided outside of specialty units of hospitals that have specialty mental health and substance abuse units. The category excludes all VA hospitals.

[5] "Other outpatient and residential care" includes all providers except hospital-based services, retail prescription drugs, and insurance administration. Note hospital-based services include outpatient services, which are thus excluded from the "other outpatient and residential care" category. This latter category captures most (albeit imperfectly) outpatient and non-hospital-based services to MH/SA clients.

[6] "Other professionals" Includes psychologists, counselors, social workers, and nurse practitioners.

[7] "Multi-service mental health organizations" (MSMHOs) includes a variety of providers such as community mental health centers, residential treatment facilities for the mentally ill, and partial care facilities. Some MSMHO providers treat people with substance abuse disorders.

[8] "Specialty substance abuse centers" (SSACs) includes freestanding substance abuse centers and units of other facilities. Thus, for example, it includes methadone maintenance clinics, other facilities that primarily serve persons with substance abuse problems, and units of public health clinics, charitable organizations, correctional facilities, and other entities. Some of these organizations have substance abuse as their primary mission and others treat substance abuse as a secondary function. We assume that all services provided at these facilities are primarily for treatment of substance abuse rather than mental health disorders.

[9] "Residential treatment center for children" treat primarily emotionally disturbed children. These facilities may include a small amount of inpatient treatment, as well as outpatient care. They also treat some substance abuse.

[10] "Retail prescription drugs" includes prescriptions obtained through retail (pharmacy or mail order) distribution. Inpatient drug treatment and facilities which dispense drugs through public programs, such as methadone clinics, are not included in this category, but rather as part of the specific facility expenditure.

[11] "Insurance administration" includes the administrative expenses of all third-party payers and profit and reserve adjustments for private insurers.

Table D.4(a) Nominal Dollars for Total Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), and MH/SA, by Type of Payer, 1987 - 1997

Type of Payer	MH/SA			MH			SA		
	1987	1992	1997	1987	1992	1997	1987	1992	1997
	Expenditures ($ Millions)								
Private – Total	**20,723**	**28,781**	**37,451**	**17,224**	**24,453**	**32,906**	**3,498**	**4,328**	**4,545**
Out-of-Pocket	8,168	10,770	14,301	7,345	9,742	13,049	823	1,029	1,252
Private Insurance	10,886	15,737	20,823	8,542	12,943	17,948	2,344	2,794	2,875
Other Private	1,669	2,273	2,326	1,337	1,769	1,909	332	505	417
Public – Total	**23,454**	**36,629**	**47,866**	**19,916**	**30,767**	**40,521**	**3,538**	**5,862**	**7,345**
Medicare	3,297	5,953	9,985	2,972	5,460	9,071	325	493	914
Medicaid[1]	6,516	12,057	16,701	5,715	10,516	14,433	801	1,541	2,268
Other Federal[2]	2,851	4,129	4,737	2,173	2,315	2,887	677	1,814	1,851
Other State and Local	10,790	14,490	16,443	9,055	12,476	14,130	1,735	2,014	2,313
Federal Total[3]	**9,732**	**17,798**	**24,743**	**8,289**	**14,505**	**20,617**	**1,443**	**3,293**	**4,125**
State and Local Total[4]	**13,723**	**18,831**	**23,123**	**11,627**	**16,262**	**19,903**	**2,095**	**2,569**	**3,220**
Total Expenditures	**44,177**	**65,410**	**85,317**	**37,140**	**55,221**	**73,427**	**7,036**	**10,190**	**11,890**

Source: CSAT/CMHS Spending Estimates Project
Notes at end of Table.

Table D.4(b) Percent of Distribution for Total Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), and MH/SA, by Type of Payer, 1987 - 1997

Type of Payer	MH/SA			MH			SA		
	1987	1992	1997	1987	1992	1997	1987	1992	1997
				Percent Distribution					
Private – Total	**46.9%**	**44.0%**	**43.9%**	**46.4%**	**44.3%**	**44.8%**	**49.7%**	**42.5%**	**38.2%**
Out-of-Pocket	18.5%	16.5%	16.8%	19.8%	17.6%	17.8%	11.7%	10.1%	10.5%
Private Insurance	24.6%	24.1%	24.4%	23.0%	23.4%	24.4%	33.3%	27.4%	24.2%
Other Private	3.8%	3.5%	2.7%	3.6%	3.2%	2.6%	4.7%	5.0%	3.5%
Public – Total	**53.1%**	**56.0%**	**56.1%**	**53.6%**	**55.7%**	**55.2%**	**50.3%**	**57.5%**	**61.8%**
Medicare	7.5%	9.1%	11.7%	8.0%	9.9%	12.4%	4.6%	4.8%	7.7%
Medicaid[1]	14.8%	18.4%	19.6%	15.4%	19.0%	19.7%	11.4%	15.1%	19.1%
Other Federal[2]	6.5%	6.3%	5.6%	5.9%	4.2%	3.9%	9.6%	17.8%	15.6%
Other State and Local	24.4%	22.2%	19.3%	24.4%	22.6%	19.2%	24.7%	19.8%	19.5%
Federal Total[3]	**22.0%**	**27.2%**	**29.0%**	**22.3%**	**26.3%**	**28.1%**	**20.5%**	**32.3%**	**34.7%**
State and Local Total[4]	**31.1%**	**28.8%**	**27.1%**	**31.3%**	**29.4%**	**27.1%**	**29.8%**	**25.2%**	**27.1%**
Total Expenditures	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: CSAT/CMHS Spending Estimates Project
Notes at end of Table.

Table D.4(c) Growth Rates for Total Estimated Expenditures of Mental Health (MH), Substance Abuse (SA), and MH/SA, by Type of Payer, 1987 - 1997

Type of Payer	MH/SA			MH			SA		
	1987-1997	1987-1992	1992-1997	1987-1997	1987-1992	1992-1997	1987-1997	1987-1992	1992-1997
	Average Annual Growth Rate, Inflation Adjusted								
Private – Total	**3.0%**	**2.9%**	**3.1%**	**3.6%**	**3.4%**	**3.8%**	**-0.3%**	**0.5%**	**-1.2%**
Out-of-Pocket	2.7%	1.8%	3.5%	2.8%	1.9%	3.7%	1.3%	0.8%	1.8%
Private Insurance	3.6%	3.7%	3.5%	4.6%	4.7%	4.5%	-0.9%	-0.2%	-1.6%
Other Private	0.4%	2.5%	-1.7%	0.6%	1.9%	-0.7%	-0.7%	4.8%	-5.8%
Public – Total	**4.3%**	**5.3%**	**3.2%**	**4.3%**	**5.1%**	**3.4%**	**4.5%**	**6.6%**	**2.3%**
Medicare	8.4%	8.4%	8.5%	8.5%	8.8%	8.3%	7.7%	4.7%	10.7%
Medicaid[1]	6.7%	9.0%	4.4%	6.5%	8.9%	4.2%	7.8%	9.8%	5.7%
Other Federal[2]	2.1%	3.8%	0.6%	-0.1%	-2.4%	2.3%	7.4%	17.3%	-1.8%
Other State and Local	1.3%	2.2%	0.4%	1.5%	2.7%	0.3%	-0.1%	-0.8%	0.6%
Federal Total[3]	**6.6%**	**8.7%**	**4.5%**	**6.3%**	**7.7%**	**5.0%**	**7.9%**	**13.6%**	**2.3%**
State and Local Total[4]	**2.3%**	**2.6%**	**2.0%**	**2.4%**	**3.0%**	**1.9%**	**1.4%**	**0.4%**	**2.3%**
Total Expenditures	**3.7%**	**4.2%**	**3.2%**	**4.0%**	**4.3%**	**3.6%**	**2.3%**	**3.8%**	**0.9%**

Source: CSAT/CMHS Spending Estimates Project

[1] "Medicaid" includes both State and Federal Medicaid expenditures.

[2] "Other Federal" includes Veterans Affairs, Department of Defense, and Federal Block Grants.

[3] "Federal subtotal" is an alternate grouping of public funds. It includes Medicare, the Federal contribution to Medicaid, which has varied by year, and other Federal programs including Block Grants for substance abuse or mental health. These Block Grants to States were removed from facility reports of State funding and reapportioned to the Federal category based on the SAMHSA report of these funds. Substance abuse prevention activities were excluded.

[4] "State and local subtotal" includes the State only portion of Medicaid and other State and local programs for mental health and substance abuse treatment. Substance abuse prevention activities are excluded.