

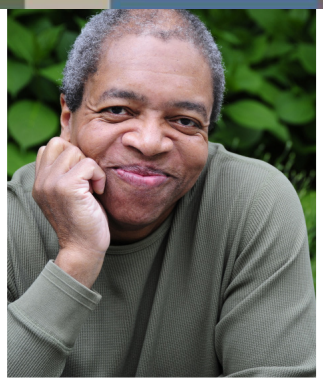




Behavioral Health Spending & Use Accounts

1986 – 2014

DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

Substance Abuse and Mental Health Services Administration
SAMHSA
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Behavioral Health Spending and Use Accounts, 1986-2014

U.S. Department of Health and Human Services
Substance Abuse and Mental Health Services Administration

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Executive Summary

The Substance Abuse and Mental Health Services Administration (SAMHSA) Behavioral Health Spending and Use Accounts (BHSUA) initiative was created to provide policymakers with essential information on expenditures for and utilization of mental health (MH) and substance use disorder (SUD) treatment services, sources of financing, allocation of treatment spending by provider, and trends over time.[1] The BHSUA allow comparisons of spending and financing sources between behavioral health and all health treatment. Such comparisons can be performed because the spending trends in BHSUA were designed so that they closely mirror the National Health Expenditure Accounts (NHEA), which are produced annually by the Centers for Medicare & Medicaid Services.

The current report presents estimates and analyses of treatment spending from 1986 through 2014. For the first time, the report includes trends in treatment use from 2004 through 2013. Its findings serve to document recent historical trends.

The report answers key policy questions such as:

- How much money was spent in the United States for MH and SUD treatment?
- Who paid for MH and SUD services, and how much money did each payer spend?
- How much money was spent on MH and SUD services by type of provider, such as hospitals, physicians, and specialty MH and SUD centers?
- How much money was spent by type of setting: inpatient, outpatient, and residential?
- How has spending changed over time?
- How did MH and SUD expenditures compare with those for all health care?
- What percent of the population receives mental health and substance use disorder treatment?
- What type of mental health and substance use disorder treatment do individuals receive?
- How did the utilization of behavioral health services change over time?

The MH and SUD spending estimates in this report focus on expenditures for treatment as opposed to disease burden; they include only spending for the direct treatment of mental health and/or substance use disorders (MH/SUDs) and exclude other substantial comorbid health costs that can result from MH/SUDs (e.g., trauma and liver cirrhosis). Other costs of patient care such as job training and subsidized housing also are excluded, as are indirect costs such as lost wages and productivity.

MAJOR FINDINGS

Total Mental Health and Substance Use Disorder Treatment Spending

- In 2014, MH/SUD spending totaled $220 billion. MH spending amounted to $186 billion, or 85 percent of overall MH/SUD spending; SUD spending amounted to $34 billion, or 15 percent of all MH/SUD spending.

[1] Throughout the report, we use the nomenclature of the Institute of Medicine—mental health (MH) and/or substance use disorders (SUD)—for programs, providers, services, treatments, or spending. Also in these contexts we may use the term *behavioral health* to refer to MH, SUD, or MH/SUD. Our estimates encompass all levels of severity (Institute of Medicine, 2006).

- Over most of the 1986–2009 period, all health spending grew faster than MH/SUD spending (7.5 percent versus 6.3 percent). However, beginning in 2009, growth in all health spending was lower than growth in MH/SUD spending; this trend continued through 2014 (4.3 percent versus 5.3 percent).
- MH/SUD spending decreased as a share of all health spending from 9.3 percent in 1986 to 7.2 percent in 2005, remained stable through 2010, and then increased to 7.5 percent in 2014.

Mental Health Treatment Spending in 2014

- In 2014, the $186 billion spent on MH treatment represented 6.4 percent of all health spending.
- Public payers accounted for 59 percent of MH treatment spending, whereas private payers accounted for 41 percent of this spending.
- Private insurance accounted for 28 percent, Medicaid accounted for 25 percent, and Medicare accounted for 15 percent of MH treatment spending. Other state and local government sources accounted for 14 percent and other federal spending accounted for 6 percent of MH treatment spending. Out-of-pocket spending totaled 10 percent and other private sources (e.g., spending from philanthropic and other nonpatient revenue sources) accounted for 3 percent of this spending. SAMHSA Block Grants accounted for roughly 0.2 percent of MH treatment spending.
- Care in general and psychiatric hospitals accounted for 27 percent of MH treatment spending. Treatment by office-based professionals (psychiatrists, nonpsychiatric physicians, psychologists, counselors, and social workers) accounted for 17 percent of MH treatment spending. Prescription drug spending accounted for 27 percent of this spending.
- The MH share differed by payment source, with public payment sources generally having higher shares compared with private payment sources. The MH shares of all health spending were highest for other state and local payment sources (16.0 percent), Medicaid (9.0 percent), and other federal payment sources (7.7 percent). The MH shares of all health spending were lowest for out-of-pocket spending (5.6 percent), private insurance (5.1 percent), Medicare (4.6 percent), and other private payment sources (3.6 percent).

Mental Health Treatment Spending Trends

- From 1986 – 2008, MH spending growth was less than all health spending growth (6.8 percent versus 7.8 percent). From 2008–2014, average MH spending growth (4.9 percent) exceeded all health spending growth (4.3 percent).
- The long-run trend in MH spending by site of care indicated a shift away from inpatient and residential treatment toward a greater share of spending on outpatient treatment and prescription medications. From 2008–2014, the shift to a greater share of outpatient spending continued (growing from 32 to 35 percent of all MH spending), but the share of MH spending on prescription medications declined as generic medication use increased (from 29 to 27 percent).
- The long-run trend in MH spending by payer indicated a shift toward insurance financing. From 1986–2014, Medicare, Medicaid, and private insurance increased from 43 percent to 68 percent of all MH spending. From 2008–2014, Medicaid decreased from 26 to 25 percent, other state and local spending decreased from 16 to 14 percent, and out-of-pocket spending 11 to 10

percent. Private insurance increased from 27 to 28 percent; Medicare increased from 12 to 15 percent. Meanwhile, other private sources remained at 3 percent and other federal spending hovered between 5 and 6 percent.

- From 1986–2014, the share of spending for hospital care decreased from 42 percent to 27 percent, whereas prescription drugs rose from 8 to 27 percent. Care by office-based professionals started at 16 percent in 1986, reached a high of 21 percent in 1995, and then declined to 17 percent in 2014. Care in MH specialty centers increased from 14 to percent in 1986 to a high of 18 percent in 1994 before dropping back to 14 percent in 2014.
- From 2008–2014, the share of spending for hospital care increased from 26 to 27 percent, whereas prescription drugs declined slightly from 29 to 27 percent in share. Office-based professionals hovered between 16 and 17 percent during the time period. Care in MH specialty centers stayed at 14 percent during this period, with the exception of 15 percent in 2009.

Substance Use Disorder Treatment Spending in 2014

- In 2014, the $34 billion spent on SUD treatment represented 1.2 percent of overall health spending.
- Public sources of payment accounted for 69 percent of total SUD treatment spending, whereas private payment sources accounted for 31 percent of this spending.
- State and local payment sources represented 29 percent of SUD treatment spending; other sources were Medicaid (21 percent), other federal payment sources (12 percent), and Medicare (6 percent). Private insurance accounted for 18 percent and out-of-pocket spending accounted for 9 percent of total SUD spending. SAMHSA Block Grants accounted for roughly 4 percent of SUD spending.
- In 2014, specialty SUD and MH centers accounted for 37 percent of all SUD spending. Specialty SUD centers were responsible for 31 percent of SUD treatment spending; specialty MH centers were responsible for 6 percent. Treatment in hospitals accounted for 32 percent, office-based professionals accounted for 15 percent, and psychiatrists and other nonpsychiatric physicians accounted for 5 percent of all SUD treatment spending. SUD treatment depended more on care from nonpsychiatric physicians (4 percent of SUD spending) than on care from psychiatrists (1 percent of SUD spending). In 2014, spending on prescription drugs accounted for 5 percent of SUD treatment spending, which was substantially smaller than the 27 percent of all MH spending for prescription drugs. Long-term care, which comprises freestanding nursing homes and freestanding home health centers, accounted for 2 percent of SUD treatment spending.
- In 2014, SUD spending accounted for only 1.2 percent of all health spending. However, the SUD share differed by payment source, with public payment sources generally having higher shares than private payment sources. SUD shares of all health spending for other state and local (6.1 percent) and other federal (2.9 percent) payment sources were higher than the SUD all-payer source share. The SUD shares of all health spending for private insurance (0.6 percent), other private payment sources (1.0 percent), out-of-pocket spending (0.9 percent), and Medicare (0.4 percent) were lower than the SUD all-payer source share. The SUD share of all health spending for Medicaid payments (1.4 percent) was slightly higher than the all payer source share.

Substance Use Disorder Treatment Spending Trends

- From 1986-2009, growth in SUD spending typically lagged behind all health spending (4.5 percent versus 7.5 percent). But after 2009, growth in SUD spending exceeded all health spending (6.2 percent versus 4.3 percent).
- The shift between 1986 and 2014 in insurance financing for MH was not seen for SUD. The share percent of SUD financed by Medicare, Medicaid, and private insurance was 45 percent in 1986 as well as in 2014.
- From 1986–2004, the private insurance share of SUD spending dropped dramatically from 32 percent to 13 percent. Since 2004, this share increased from 13 percent to 18 percent. From 1986–2014, the proportion of spending by Medicaid increased from 9 percent to 21 percent. Also from 1986–2014, the share of out-of-pocket spending remained relatively constant, ranging rom 13 percent in 1986 to 9 percent in 2014. The share of other state and local spending increased from 27 percent in 1986 to 35 percent in 1998 before declining to 29 percent in 2014.
- The share of SUD treatment spending for treatment in specialty MH and SUD centers increased from 29 percent in 1986 to 51 percent from 1999–2002. The share then declined to 37 percent in 2014.
- From 1986–2014, spending on prescription drugs for SUDs increased from $3 million to $1,818 million, driven overwhelmingly by increased use of buprenorphine and buprenorphine/naloxone, which are used to treat opioid use disorders. In 2014, however, prescription drugs accounted for only 5 percent of total SUD treatment spending.

Trends in Mental Health and Substance Use Disorder Treatment Utilization

- The percentage of noninstitutionalized adults (aged 18 years and older) receiving any type of MH treatment grew steadily, from 12.6 percent in 2004 to 14.6 percent in 2013. The growth in MH treatment use was driven mainly by an increase in the share of adults using prescription medications, which was 10.3 percent in 2004 and 12.5 percent in 2013.
- From 2004–2013, the percentage of noninstitutionalized adults (aged 18 years and older) receiving SUD treatment in inpatient and outpatient settings did not vary substantively. The 2013 share was 1.6 percent for all users and 1.2 percent when users who received treatment solely in self-help group settings were excluded.
- From 2004–2013, the volume of prescriptions filled for SUD medications increased 15 times from 712 thousand to 10,377 thousand fills.
- In 2013, receipt of SUD treatment was most common among adults with Medicaid (4.1 percent), those with other insurance (2.8 percent), and those not covered by insurance (2.6 percent). Individuals with private insurance had the lowest rates of SUD treatment (0.9 percent).

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Introduction

The Substance Abuse and Mental Health Services Administration (SAMHSA) Behavioral Health Spending and Use Accounts (BHSUA) initiative was created to provide policymakers with benchmark information on expenditures on and utilization of mental health (MH) and substance use disorder (SUD) treatment. The spending estimates in the BHSUA were designed to be comparable with the National Health Expenditure Accounts (NHEA) produced annually by the Centers for Medicare & Medicaid Services (CMS). To strengthen their ties to these all health accounts, the BHSUA rely heavily on the definitions and concepts used in the NHEA.

For the first time, utilization trends for behavioral health conditions are presented as part of the BHSUA. This addition expands the analytic capacity of the BHSUA by focusing on treatment use as well as financing trends over time. Compared with examining spending trends in isolation, investigating utilization trends in conjunction with spending trends can provide a more complete view of the behavioral health care system in the United States. For example, such analyses may help answer questions about whether periods of rising total expenditures were associated with expanded access to treatment. The utilization estimates presented in this report were derived from various data sources that are independent of the NHEA and allowed estimation of national MH and SUD treatment utilization trends across a range of care settings.

PURPOSE AND ORGANIZATION OF THIS REPORT

This report presents the latest estimates of expenditures on MH/SUD treatment services and new estimates of MH/SUD treatment service use. It expands upon, updates, and replaces the prior reports and related journal articles of national mental health and/or substance use disorder (MH/SUD) estimates that have been produced by SAMHSA since the inception of this project in 1996 (listed chronologically, these documents are McKusick et al., 1998; Mark, McKusick, King, Harwood, and Genuardi, 1998; Coffey et al., 2000; Mark et al., 2000; Mark and Coffey, 2004; Mark, Coffey, McKusick, et al., 2005; Mark, Coffey, Vandivort-Warren, et al., 2005; Mark et al., 2007; SAMHSA, 2010; Mark, Levit, Vandivort-Warren, Buck, and Coffey, 2011; SAMHSA, 2013; Levit et al., 2013; Mark, Levit, Yee, and Chow, 2014; SAMHSA, 2014).

The spending estimates are presented first for MH/SUD combined, followed by MH and then by SUD. This organization is used because expenditure patterns differ in some important ways by condition. Utilization estimates are presented last. The report contains the following sections:

- Overview of mental health and substance use disorder spending
- Mental health spending by payment source
- Mental health spending by provider, setting, and specialty treatment type
- Substance use disorder spending by payment source
- Substance use disorder spending by provider, setting, and specialty treatment type
- Trends in mental health and substance use disorder treatment utilization
- Appendix A—Tables

- Appendix B—Structure and Definitions
- Appendix C—Methods
- Appendix D—Abbreviations
- Appendix E—Authors and Reviewers

RATIONALE FOR THE ESTIMATES

SAMHSA, an agency of the U.S. Department of Health and Human Services, strives to reduce the impact of substance abuse and mental illness on America's communities.[2] SAMHSA's initiatives include the following:[3]

- Supporting the behavioral health field with critical data from national surveys and surveillance
- Building public awareness of the importance of behavioral health
- Supporting innovation and practice improvement by evaluating and disseminating promising evidence-based behavioral health practices and engaging in activities that support behavioral health system transformation
- Collecting best practices and developing expertise related to prevention, treatment, and recovery programs that address mental illness and addictions
- Helping states, territories, and tribes build and improve system capacity by encouraging innovation, supporting more efficient approaches, and utilizing evidence-based programs and services to produce measurable results.[4]

These efforts increase public understanding of behavioral health disorders and of prevention and treatment services. The aims are to achieve the full potential of prevention and to enable people to recognize and seek treatment for these conditions with the same urgency as they would for other conditions.

To support and guide policy initiatives, SAMHSA tracks national trends, establishes measurement and reporting systems, and develops and promotes standards to improve delivery of services to people with MH/SUDs. As one piece of that effort, these reports track national spending on MH/SUD treatment and its use. This information aids SAMHSA—as well as policymakers, providers, consumers, and researchers—by increasing their understanding of what the nation uses and spends on MH and SUD treatment, which payment sources fund that treatment and use, who delivers treatment, and how expenditures and use have changed over time.

PURPOSE AND SCOPE OF THE ESTIMATES

[2] Substance Abuse and Mental Health Services Administration. (n.d.). About us [website]. Retrieved from http://www.samhsa.gov/about-us; accessed September 25, 2015.

[3] Substance Abuse and Mental Health Services Administration. (n.d.). About us [website]. Retrieved from http://www.samhsa.gov/about-us; accessed September 25, 2015.

[4] Substance Abuse and Mental Health Services Administration. (2015, May 11). Strategic initiatives [website]. Retrieved from http://www.samhsa.gov/about-us/strategic-initiatives; accessed September 28, 2015.

The BHSUA provide ongoing information about national spending and use on health care services related to the diagnosis and treatment of MH/SUDs. These accounts also provide a view of MH/SUD treatment spending and utilization of services over time and compared with spending on all health care. Spending and utilization estimates for 1986 through 2014 are described in this report, and the results replace prior sets of MH/SUD treatment spending estimates. The present report includes some estimates for periods covered in earlier reports that now are revised to take advantage of better data sources and improved analysis methods. These estimates serve as a basis for assessing the impact on MH/SUD spending following the Great Recession (2008-2009), the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA) as well as the initial years of the Patient Protection and Affordable Care Act of 2010 (generally referred to as the Affordable Care Act) (PL 111-148) on MH/SUD spending and use.

The economic burden of MH/SUDs is not incorporated into the spending estimates. Burden-of-illness studies include costs not directly related to treatment, such as the impact of mental illness on productivity, societal costs linked to drug-related crimes, or housing and other subsidies to assist people with MH/SUDs. The scope of the report does not include the physical consequences of MH/SUDs or their related costs. Physical consequences of MH/SUDs can include cirrhosis of the liver, trauma, HIV and other infectious diseases, and exacerbation of chronic conditions such as diabetes and respiratory disease. In addition, expenditures for the diagnosis and treatment of developmental or intellectual impairment or disorders that are usually or historically covered by general medical insurance, such as dementia and nicotine dependence, are not included here. Services through self-help groups such as Alcoholics Anonymous also are not included in these estimates because these programs are free to people with SUDs. These estimates do not include MH/SUD services paid by federal, state, or local corrections and justice departments or agencies, unless these funds are subcontracted to community providers. Finally, the estimates from the BHSUA do not include spending to prevent SUDs or mental illnesses.

LIMITATIONS

The estimates in this report were prepared using standard estimation techniques and the best available survey information. They represent the only MH/SUD estimates that are comparable to total health care spending for the United States. As in any effort of this type, multiple data sources were used to assemble and cross-check information that ultimately formed the basis for the estimates. Each data source has its own strengths and weaknesses, which were assessed before determining the best data sources to use in producing the MH/SUD estimates. Estimates for 2014 should be considered preliminary until more complete information to support them becomes available. State decisions as to Medicaid expansion and other facets of the Affordable Care Act continue to be implemented and may be subject to change. As more fully discussed in previous reports (Appendix C: Methods, SAMHSA, 2014), as the Affordable Care Act continues to be implemented, more precise data as to its impact on behavioral health spending will become available.

DEFINITIONS

As in the NHEA, the physical location of services provided (referred to as an *establishment* by the Bureau of the Census) determined the provider category for health care spending. In other words, the MH/SUD expenditures by specific providers were categorized not by the spending for a specific service, but by spending for services of a particular establishment. For example, home health care may be

provided by freestanding home health agencies, but it also may be provided by home health agencies that are part of a hospital. In the former case, home health care spending was classified as home health care; in the latter case, it was classified as part of hospital care.

The following is a list of abbreviated definitions of provider, payment source, and setting categories used in the BHSUA spending estimates. They borrow extensively from those used in the NHEA.[5,6] More comprehensive descriptions can be found in Appendix B.

PAYMENT SOURCES

Private payments: Any payments made through private health insurance, out of pocket, or from other private sources.

- **Private health insurance:** benefits paid by private health insurers (including behavioral health plans) for provision of service, prescription drugs, or the administrative costs and profits of health plans. Private health insurance benefits paid through managed care plans on behalf of Medicare and Medicaid were excluded.
- **Out-of-pocket payments:** direct spending by consumers for health care goods and services including coinsurance, deductibles, and any amounts not covered by public or private insurance.
- **Other private:** spending from philanthropic and other nonpatient revenue sources.

Public payments: Any payments made on behalf of individual enrollees in Medicare or Medicaid or through other programs run by federal or state and local government agencies.

- **Medicare:** the federal government program that provides health insurance coverage to eligible individuals who are aged or disabled. It includes payments made through fee-for-service and Medicare Advantage plans.
- **Medicaid:** a program jointly funded by the federal and state governments that provides health care coverage to certain classes of people with limited income and resources. It includes payments made through fee-for-service and managed care plans.
- **Other federal:** programs other than Medicaid and Medicare provided through federal payment sources, including the Department of Veterans Affairs (VA), Department of Defense (DoD), SAMHSA (e.g., block grants)and the Indian Health Service, among others.
- **Other state and local:** programs other than Medicaid that are funded primarily through state and local MH and SUD agencies.

[5] Centers for Medicare & Medicaid Services. (n.d.) *National Health Expenditure Accounts: Methodology paper, 2013*. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/downloads/dsm-13.pdf

[6] Centers for Medicare & Medicaid Services. (n.d.) *Quick definitions for National Health Expenditure Accounts (NHEA) categories*. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/quickref.pdf

PROVIDERS

Hospital care: all billed services provided to patients by public and private hospitals, including general medical or surgical hospitals and psychiatric and SUD specialty hospitals.

- **General hospitals:** community medical or surgical and specialty hospitals other than MH and SUD specialty hospitals providing diagnostic and medical treatment, including psychiatric care in specialized treatment units of general hospitals, detoxification, and other MH/SUD treatment services in inpatient, outpatient, emergency department, and residential settings.
    - **General hospital specialty unit:** designated unit of a general medical or surgical hospital (other than a MH or SUD specialty hospital) that provides care for diagnosed mental illness, SUDs, or detoxification.
    - **General hospital nonspecialty unit:** medical or surgical units of general hospitals (other than in MH or SUD specialty hospitals) that provide treatment for a diagnosed mental illness, SUD, or detoxification.
- **Specialty hospitals:** hospitals primarily engaged in providing diagnostic, medical treatment, and monitoring services for patients with mental illness or substance use diagnoses.

Physician services: independently billed services provided by Medical Doctors (M.D.) and Doctors of Osteopathy (D.O.), plus the independently-billed portion of medical laboratory services.

- **Psychiatrists:** independently billed services of private or group practices of health practitioners having the degree of M.D. or D.O. who are primarily engaged in the practice of psychiatry or psychoanalysis, plus the independently-billed portion of medical laboratory services.

Other professional services: care provided in locations operated by independent licensed health practitioners other than physicians and dentists, such as psychologists, social workers, and counselors who are permitted to bill directly for services. (Spending for services provided in doctors' offices by nurses, nurse practitioners, and physician assistants was classified with the spending by their supervising physician.)

Home health care: medical care provided in the home by private and public freestanding home health agencies.

Nursing home care: services provided in private and public freestanding nursing home facilities.

Long-term care: services provided by nursing home or home health care.

Specialty MH centers: organizations providing outpatient and/or residential MH services and/or co-occurring MH and substance use treatment services to individuals with mental illness or with co-occurring mental illness and substance use diagnoses.

Specialty SUD centers: organizations providing residential and/or outpatient substance use services to individuals with substance use diagnoses.

Prescription drugs: psychotherapeutic medications sold through retail outlets and mail order pharmacies. Sales through hospitals, exclusive-to-patient health maintenance organizations (HMOs), and nursing home pharmacies were excluded. See Appendix B for specific medication classes. Spending on methadone dispensed for the treatment of drug abuse was captured as part of spending

for specialty SUD centers where methadone is dispensed, rather than with SUD prescription drug spending.

Insurance administration: spending for the cost of running various government health care insurance programs, as well as the administrative costs and profit of private health insurance companies.

SETTINGS OF CARE

Inpatient services: care provided in an acute medical care unit or setting of a general hospital or in specialty MH or SUD hospitals.

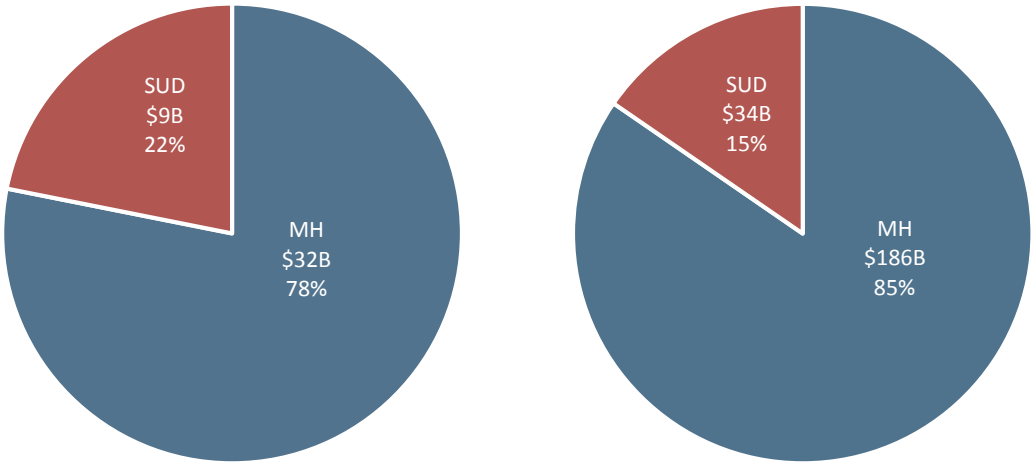
Outpatient services: care provided in settings such as hospital outpatient departments, emergency departments, or offices and clinics of physicians and other medical professionals; includes partial hospitalization and intensive outpatient services offered by hospital outpatient departments as well as case management and intensive outpatient services offered by health clinics and specialty MH and SUD centers. Care provided by home health providers was counted as an outpatient service.

Residential services: therapeutic care provided by licensed health professionals in a 24-hour care setting, including residential care in specialty MH and SUD centers and all nursing home care.

Overview of Mental Health and Substance Use Disorder Spending

Exhibit 1. In 2014, Mental Health and Substance Use Disorder Treatment Spending Totaled $220 Billion, Up from $42 Billion in 1986

MH and SUD Treatment Spending (in Billions), 1986 and 2014



MH/SUD Spending in 1986
$42 Billion

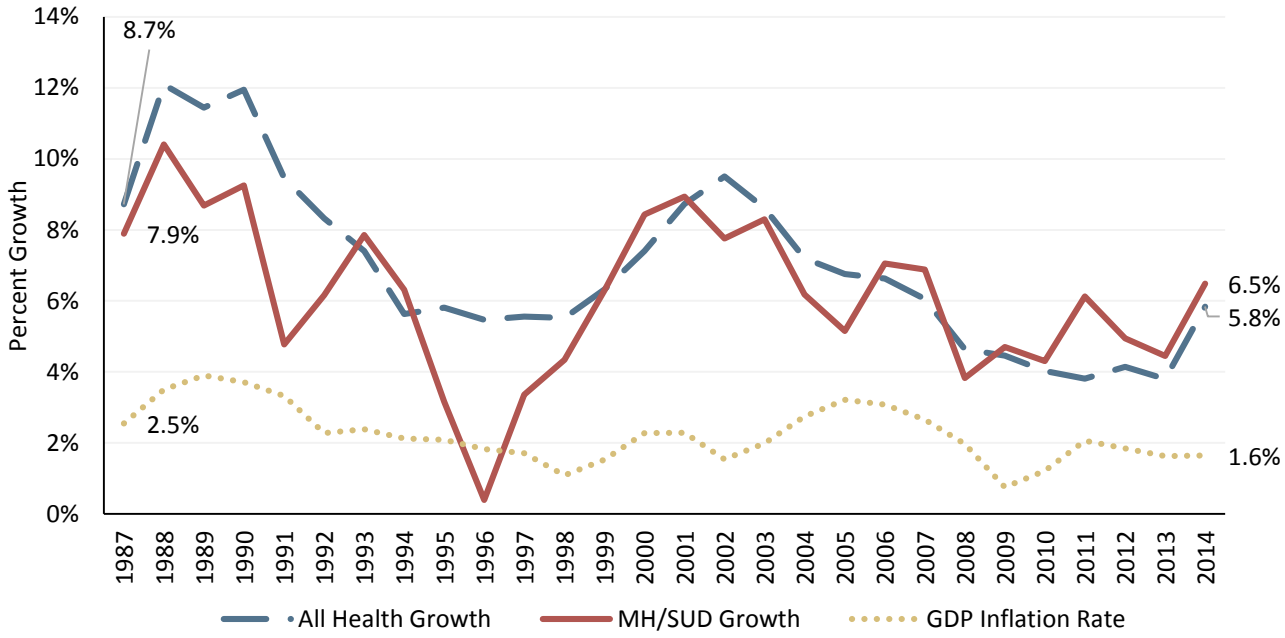
MH/SUD Spending in 2014
$220 Billion

Note: Details are presented in Table A.1.

- In 2014, MH/SUD spending totaled $220 billion. MH spending amounted to $186 billion, or 85 percent of all MH/SUD spending; SUD spending amounted to $34 billion, or 15 percent.
- The SUD share of MH/SUD spending declined over time from 22 percent in 1986 to 15 percent of total MH/SUD spending in 2014. However, SUD spending rose during this period from $9 billion to $34 billion.

Exhibit 2. From 2009–2014, Mental Health and Substance Use Disorder Spending Increased at a Faster Rate Than All Health Spending

Annual Growth in All Health and MH/SUD Spending, 1986–2014

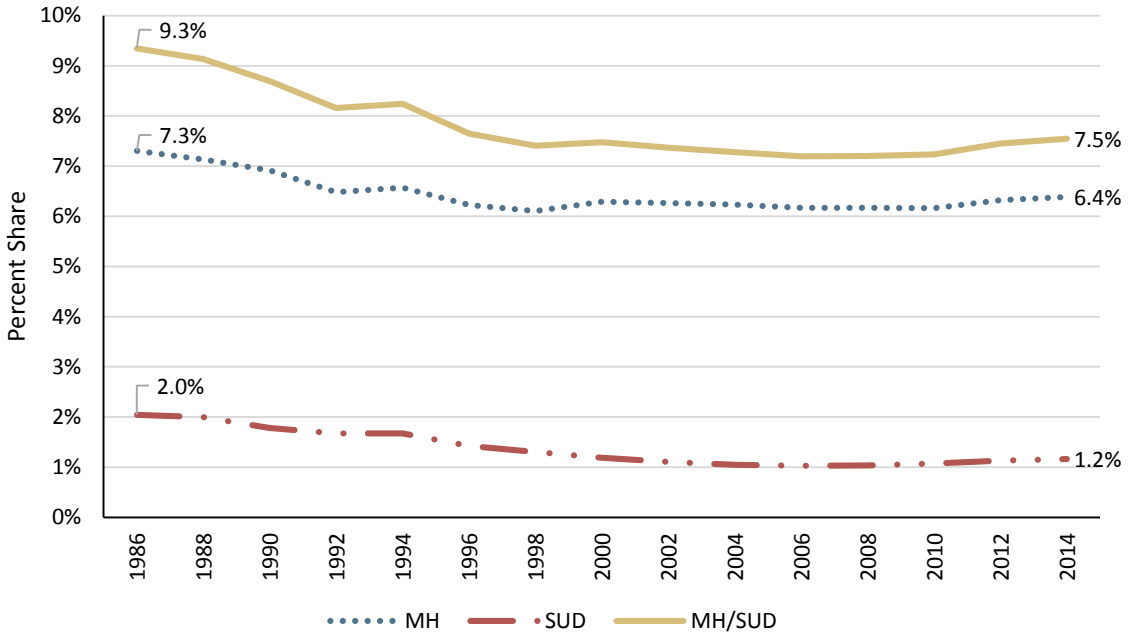


Note: The x-axis does not include 1986 because growth rates, which represent change across time, are not applicable for the first year.

- Over most of the 1986–2009 period, all health spending grew faster than MH/SUD spending (7.5 percent versus 6.3 percent). However, beginning in 2009, growth in MH/SUD spending exceeded growth in all health spending; this trend continued through 2014 (4.3 percent versus 5.3 percent).

Exhibit 3. Beginning in 2010, Mental Health and Substance Use Disorder Treatment Spending Increased as a Share of All Health Spending

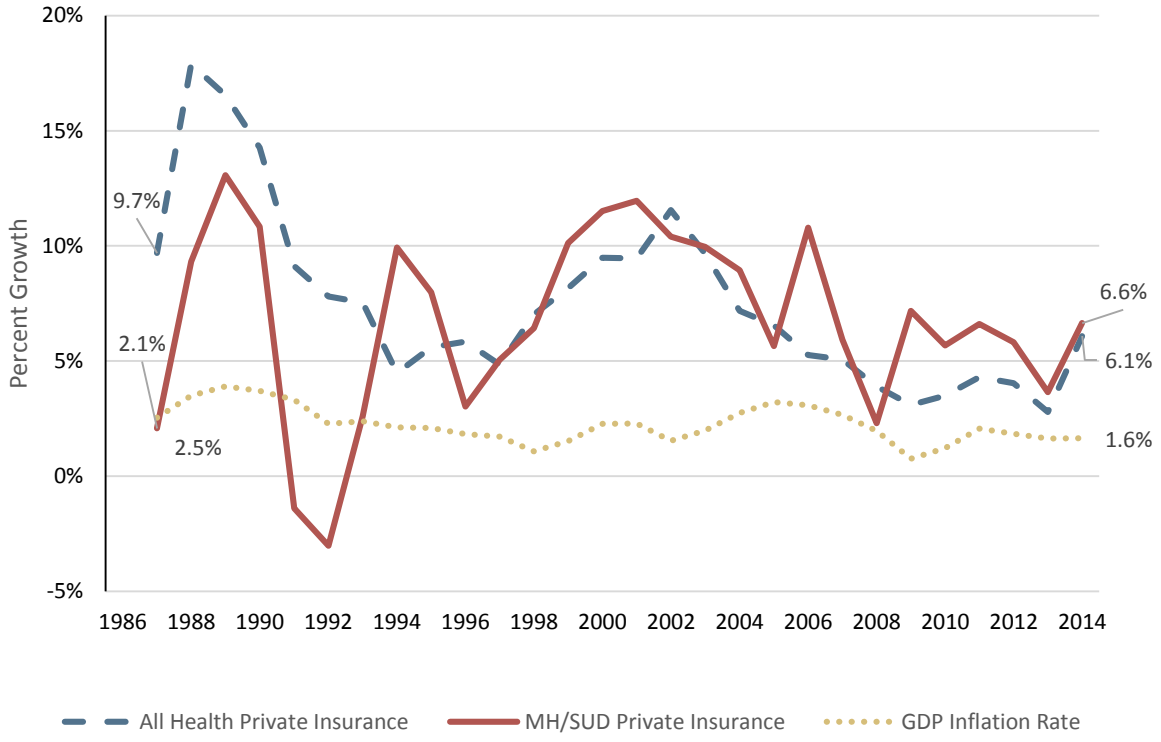
MH and SUD Shares of All Health Spending, 1986–2014



- MH/SUD spending decreased as a share of all health spending from 9.3 percent in 1986 to 7.2 percent in 2005, remained stable through 2010, and then increased to 7.5 percent in 2014.
- MH spending decreased as a share of all health spending from 7.3 percent in 1986 to 6.3 percent in 2000 and has remained stable (ranging from 6.1 percent to 6.4 percent) through 2014. The share of all health spending to mental health services was 6.4 percent in 2014.
- SUD spending decreased as a share of all health spending from 2.0 percent in 1986 to 1.1 percent in 2002 and has remained stable (ranging from 1.0 percent to 1.2 percent) through 2014. The share of all health spending to substance use disorder treatment was 1.2 percent in 2014.

Exhibit 4. From 2009–2014, the Average Annual Growth Rate in Private Insurance Spending for Mental Health and Substance Use Disorder Treatment Exceeded that for All Health Treatment

Growth in Private Insurance Spending for All Health and MH/SUD, 1986–2014

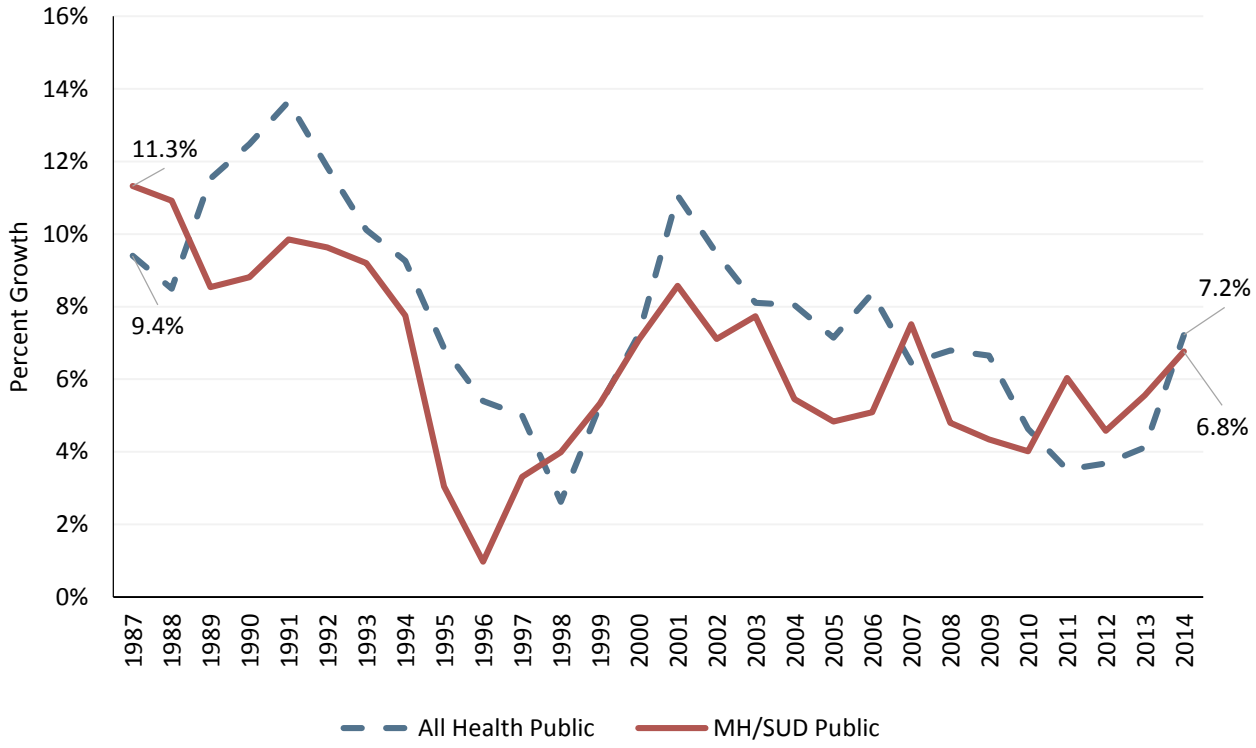


Note: The x-axis does not include 1986 because growth rates, which represent change across time, are not applicable for the first year.

- MH/SUD private insurance trends tend to follow health insurance trends for all health care. For example, the 2008–2009 recession resulted in the lose of jobs and employer-based insurance, causing spending under private insurance to decline. As the economy recovered in more recent years private health expenditures for all health and for MH/SUD increased, as seen in 2013 and 2014. From 2013 to 2014, the growth rate for MH/SUD private insurance spending was 6.6 percent.
- From 2009–2014, MH/SUD private insurance spending growth rates exceeded all heatlh private spending growth rates. This trend may reflect a combination of factors including increased need for MH/SUD services as a result of the recession and the opioid epidemic, and improved insurance coverage of MH/SUD services as a result of the Mental Health Parity and Addictions Equity Act of 2008.

Exhibit 5. Beginning in 2011, Growth in Public Spending for Mental Health and Substance Use Disorder Treatment Was More Rapid Than Growth in Public Spending for All Health

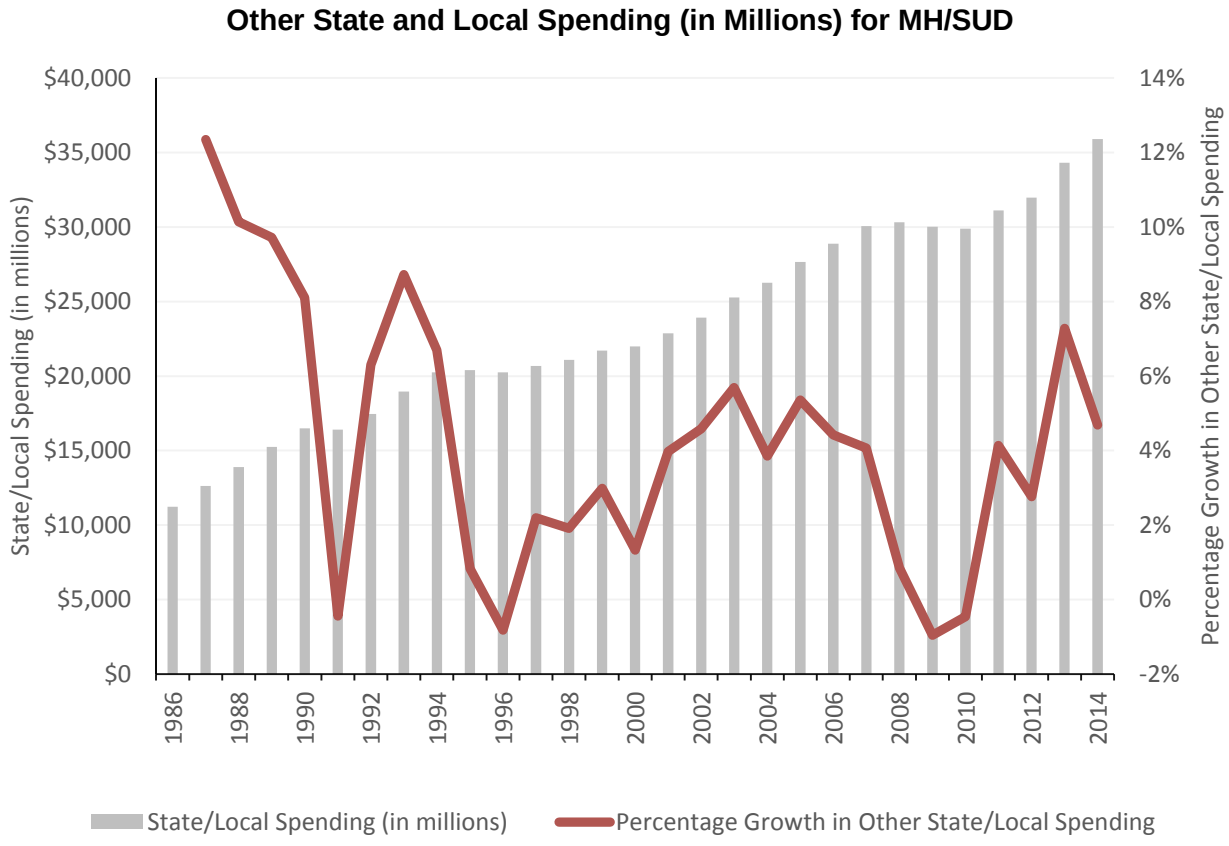
Percent Growth in Public Spending for All Health and MH/SUDs, 1986–2014



Note: The x-axis does not include 1986 because growth rates, which represent change across time, are not applicable for the first year.

- From 1986–2011, the rate of growth in public spending for MH/SUD treatment tended to be slower than growth in public spending for all health.
- From 2011-2014, public spending for MH/SUD treatment increased at a higher average annual rate than for all health public spending. Slower growth in other state and local spending during the recession was followed by a resurgence in spending growth, which primarily affected public spending in specialty behavioral health clinics.

Exhibit 6. After a Decline in Spending During the Great Recession (2007–2009), Other State and Local Government Spending for Behavioral Health Increased Steadily From 2010–2014

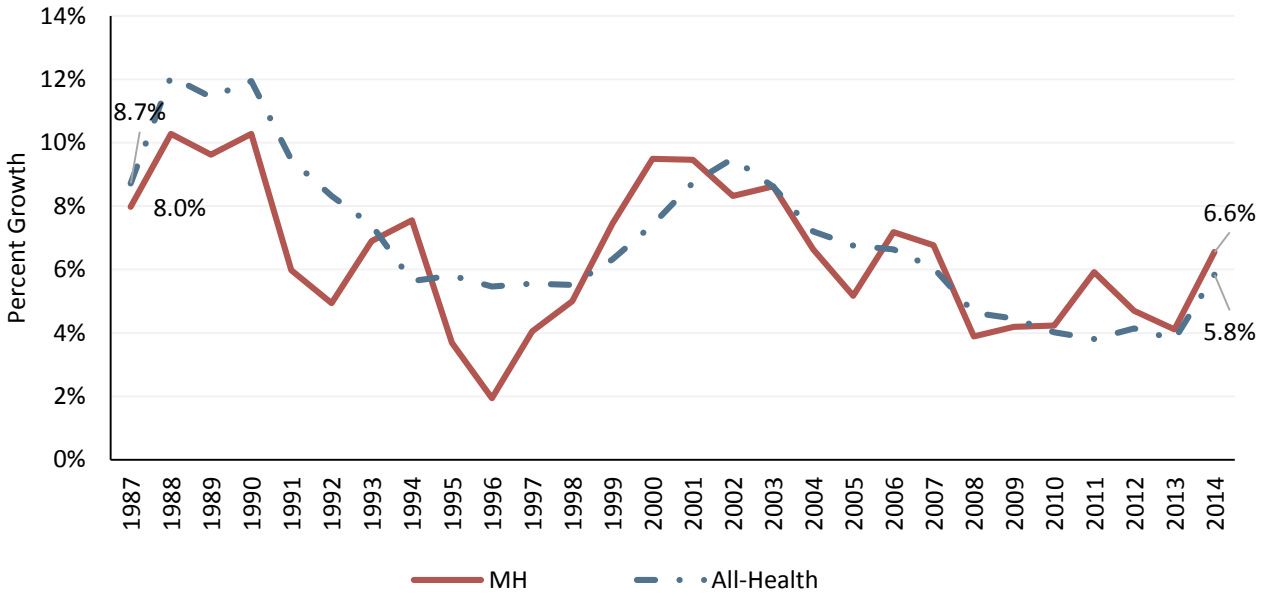


- Other state and local spending for MH/SUD increased from $11 billion in 1986 to $36 billion in 2014.
- In 2008, growth in other state and local spending for MH/SUD slowed substantially, followed by a decline in spending in 2009 and 2010 caused by the economic recession.
- The overall rate of growth from 2010–2014 was positive, averaging 4.7 percent per year. From 2013 to 2014, the growth rate for MH/SUD other state and local spending was 4.7 percent.

Mental Health:
Spending by Payment Source

Exhibit 7. From 1986–1998, Average Annual Growth in Mental Health Spending Typically Lagged Behind All Health Spending; After 1998, Average Annual Growth in Mental Health Exceeded All Health Spending Growth

Average Annual Growth in Spending on MH and All Health Treatment, 1986–2014

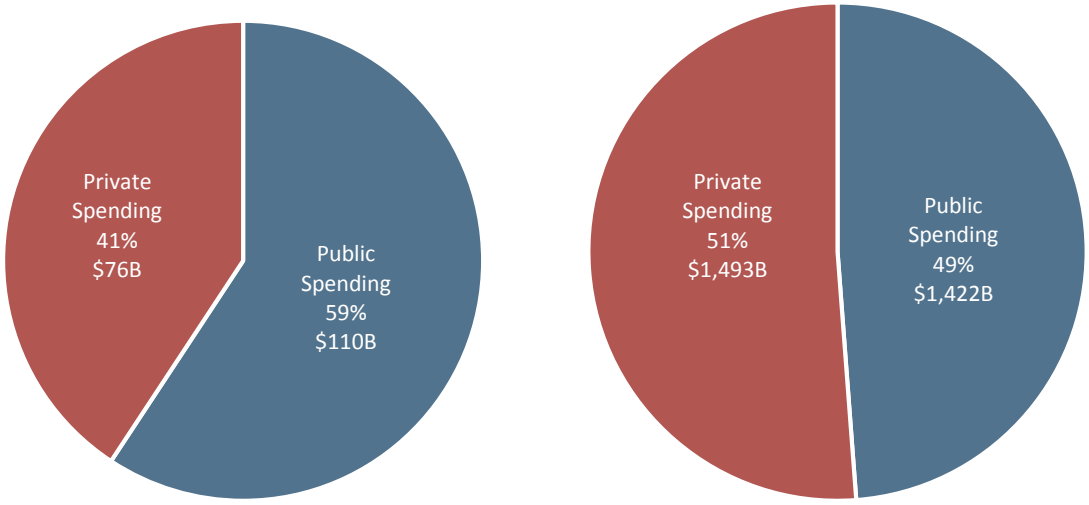


Note: The x-axis does not include 1986 because growth rates, which represent change across time, are not applicable for the first year.

- Viewed in the context of distinct periods, 1986–1992 had higher inflation compared with subsequent periods. During this period, Medicaid expansion took place, including the extension of community-based MH services through the Medicaid rehabilitation and targeted case management options. There was also rapid growth in hospital spending for all health spending and MH spending.
- From 1992–1998, there was an intensive expansion of behavioral health managed care and a decline in the rate of MH and all health spending growth.
- From 1998–2004, MH and all health spending increased at similar rates. The rapid increase in spending on MH prescription drugs, which averaged 18.3 percent growth per year, was responsible in large part for the surge in MH spending.
- From 2004 to 2008, growth in MH spending and overall prescription drug spending slowed largely because of the entry of generic versions of medication such as antidepressants.
- From 1986 – 2008, MH spending growth was less than all health spending growth (6.8 percent versus 7.8 percent). From 2008–2014, average MH spending growth (4.9 percent) exceeded all health spending growth (4.3 percent).

Exhibit 8. In 2014, Compared With All Health Treatment, Mental Health Treatment Depended More on Public Spending

Public and Private Spending (in Billions) on MH and All Health Treatment, 2014



Mental Health Spending
$186 Billion

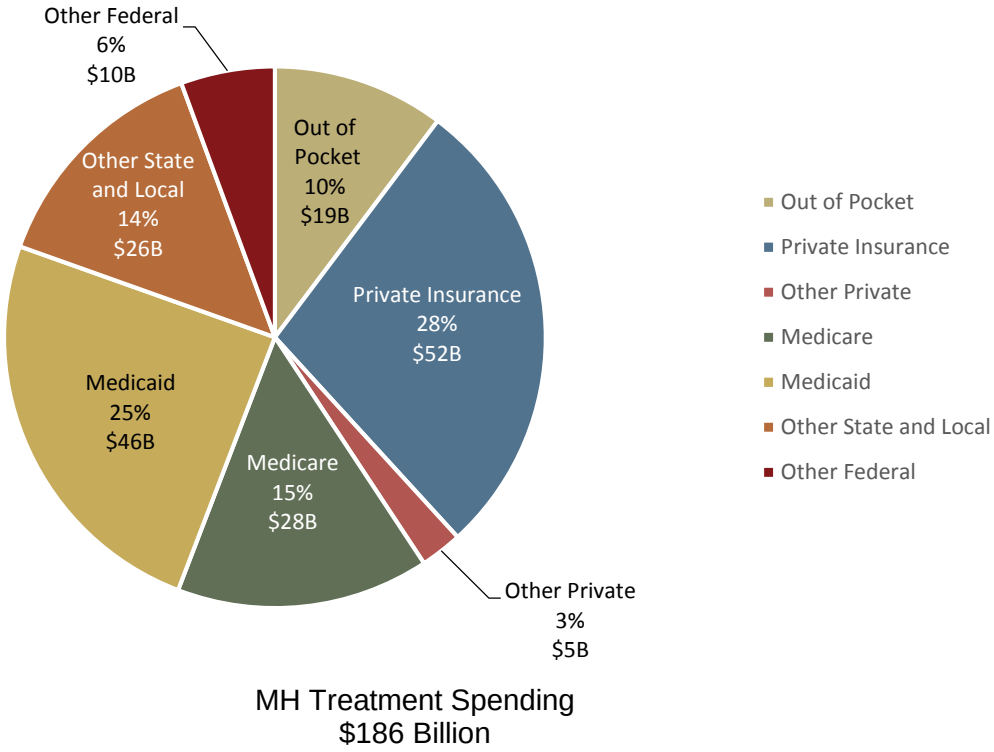
All Health Spending
$2,915 Billion

Note: Details are presented in Table A.2.

- In 2014, public spending—including Medicare, Medicaid, other federal, and other state and local government sources—accounted for 59 percent ($110 billion) of the $186 billion spent for MH treatment compared with 49 percent ($1,422 billion) of the $2,915 for all health spending.
- Private spending—including private insurance, out-of-pocket spending, and other private sources—accounted for 41 percent ($76 billion) of the $186 billion spent for MH treatment compared with 51 percent ($1,493 billion) of the $2,915 for all health spending.

Exhibit 9. In 2014, Medicaid, Private Insurance, and Medicare Represented 68 Percent of Mental Health Spending

Distribution of Spending (in Billions) for MH Treatment by Payment Source, 2014

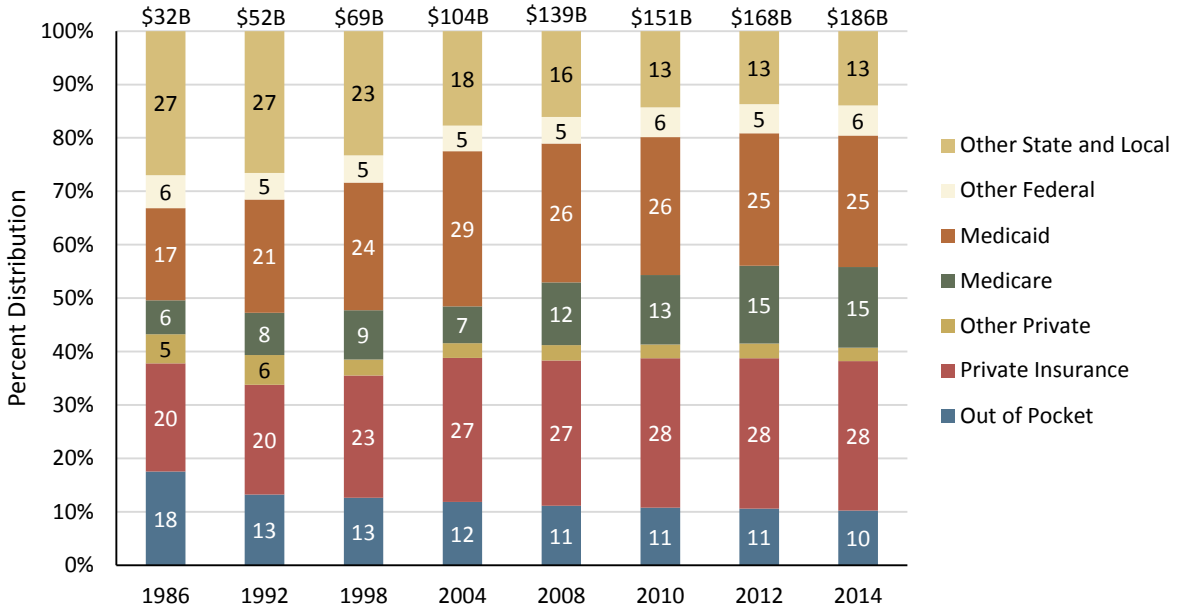


Note: Percentages do not sum to 100 percent because of rounding. Details are presented in Table A.2.

- In 2014, private insurance, Medicaid, and Medicare together accounted for 68 percent of MH treatment spending.
- Other state and local government spending acounted for 14 percent of payment for MH treatment.
- Out-of-pocket and other federal spending (other than Medicaid and Medicare) accounted for 10 percent and 6 percent of all MH spending, respectively. Other federal spending included MH block grants from SAMHSA, which accounted for 0.2 percent (not shown in graph) of all MH spending.

Exhibit 10. From 1986–2014, Shares of Other State and Local Mental Health Spending Decreased; Shares of Medicaid, Medicare, and Private Insurance Increased

Distribution of MH Spending by Payment Source, 1986–2014

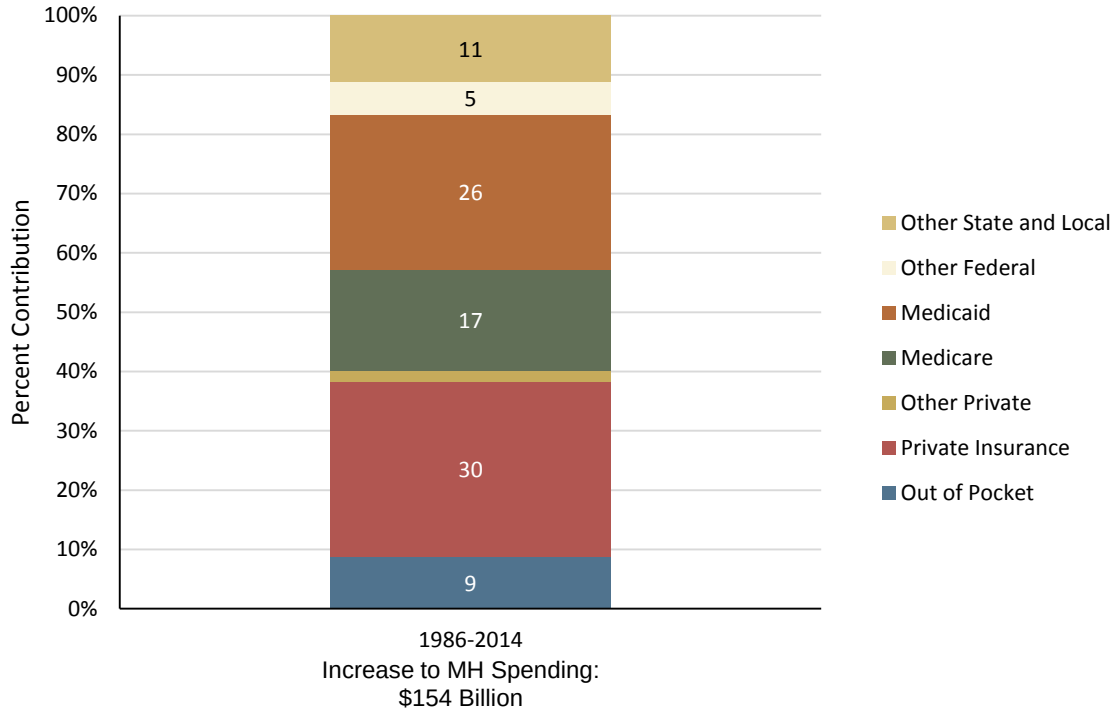


Note: Bar segments less than 5 percent are not labeled. Percentages may not sum to 100 percent due to rounding. Details are presented in Table A.7.

- From 1986–2014, an increasingly greater share of MH spending was insurance based (rising from 43 percent to 68 percent):
  - Medicaid spending increased from 17 percent to 25 percent.
  - Private insurance spending increased from 20 percent to 28 percent.
  - Medicare spending increased from 6 percent to 15 percent.
- During this same time period, the share of MH spending among other payment sources declined:
  - Other state and local government spending decreased from 27 percent to 13 percent.
  - Out-of-pocket spending decreased from 18 percent to 10 percent.
- From 1986–2014, other federal spending remained at a steady 5 to 6 percent.
- Little change took place from 2008–2014. Most shares of MH spending changed by only one percentage point, although other state and local spending decreased by three percentage points (from 16 percent to 13 percent) and Medicare increased by 3 percentage points (from 12 percent to 15 percent).

Exhibit 11. From 1986–2014, Private Insurance and Medicaid Contributed the Most to Mental Health Spending Increases

Contribution to Increase in MH Spending by Payment Source, 1986–2014

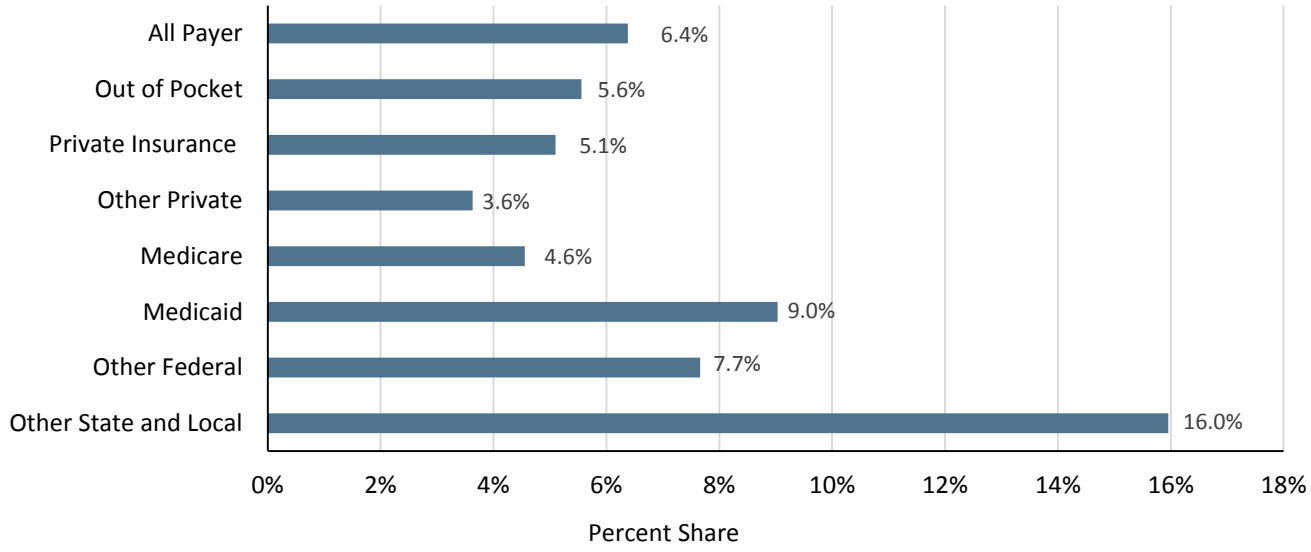


Note: Bar segments less than 5 percent are not labeled. Percentages do not sum to 100 percent due to rounding. Details are presented in Table A.7.

- From 1986–2014, MH spending increased by $154 billion. Private insurance and Medicaid accounted for the majority of the increase (30 percent and 26 percent, respectively).
- Other state and local government spending accounted for 11 percent of the increase.
- In contrast, other federal and other private spending accounted for only 5 percent and 2 percent of the increase, respectively.

Exhibit 12. In 2014, Mental Health Spending Accounted for 6.4 Percent of All Health Spending; the Mental Health Share Varied by Payment Source, With Public Payment Sources Having the Highest Mental Health Shares

Mental Health Share of All Health Spending by Payment Source, 2014



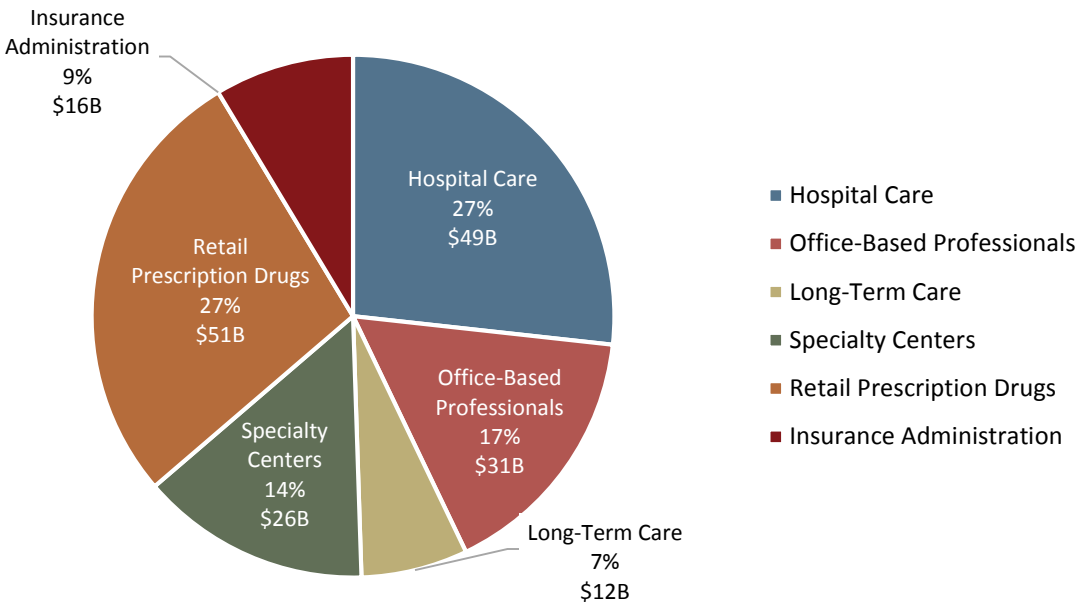
Note: Details are presented in Table A.2

- The MH share differed by payment source, with public payment sources generally having higher shares compared with private payment sources.
    - Among the various payment sources, the MH shares of all health spending were highest for other state and local payment sources (16.0 percent), Medicaid (9.0 percent), and other federal payment sources (7.7 percent).
    - The MH shares of all health spending were lowest for out-of-pocket spending (5.6 percent), private insurance (5.1 percent), Medicare (4.6 percent), and other private payment sources (3.6 percent).

Mental Health: Spending by Provider, Setting, and Specialty Type

Exhibit 13. In 2014, Hospital Treatment Accounted for 27 Percent of Mental Health Spending

Distribution of Mental Health Spending (in Billions) by Provider Type, 2014



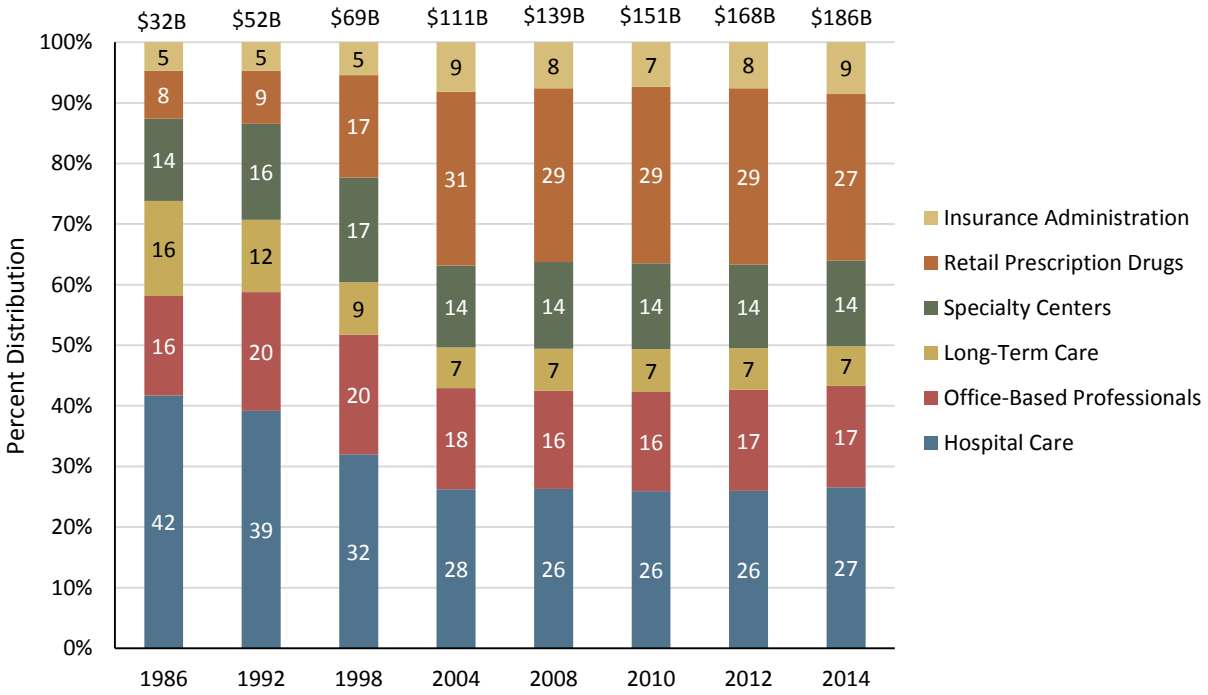
MH Treatment Spending
$186 Billion

Note: Percentages do not sum to 100 percent because of rounding. Total does not sum to $186 because of rounding. Details are presented in Table A.1

- In 2014, hospital care in specialty psychiatric and general hospitals accounted for 27 percent of all MH spending ($49 billion).
- Prescription medications accounted for 27 percent, or $51 billion, of MH spending.
- Seventeen percent, or $31 billion, of MH spending was for treatment by office-based professionals: psychiatrists, nonpsychiatric physicians, and other professionals such as psychologists and social workers.
- Spending in specialty MH centers was $26 billion, or 14 percent.
- Insurance adminstration and long-term care (consisting of freestanding nursing homes and freestanding home health centers) accounted for the remainder of MH spending at 9 percent ($16 billion) and 7 percent ($12 billion), respectively.

Exhibit 14. From 1986–2014, Hospital Treatment and Prescription Medications Were the Largest Drivers of the Increase in Mental Health Spending

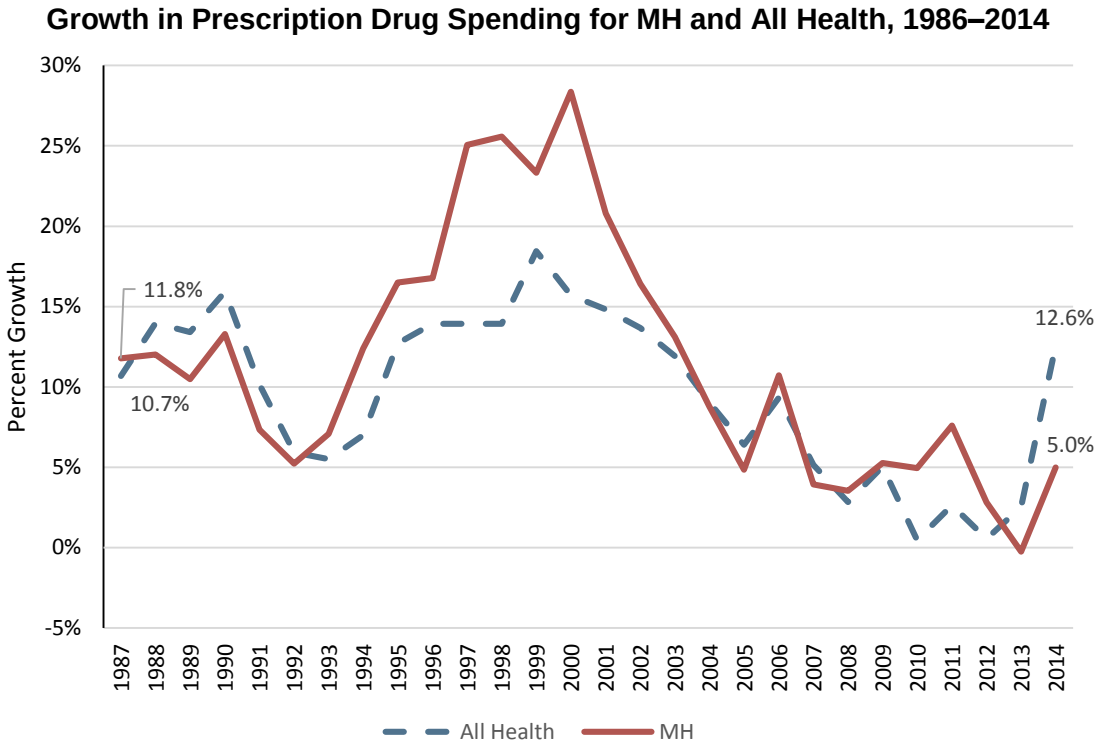
Distribution of MH Spending by Provider Type, 1986–2014



Note: Bar segments less than 5 percent are not labeled. Percentages may not sum to 100 percent due to rounding. Details are presented in Table A.5

- From 1986–2014, MH spending increased by $154 billion. Hospital treatment and prescription medications accounted for the majority of the increase (23 percent and 32 percent, respectively).
- Trends in the share of spending from 1986–2014 indicated that spending for hospital care decreased from 42 percent to 27 percent, whereas prescription drugs rose from 8 to 27 percent. Office-based professionals started at 16 percent in 1986, reached a high of 21 percent in 1995, and then declined to 17 percent in 2014. Care in MH specialty centers rose from 14 percent in 1986 to a high of 18 percent in 1994 before dropping back to 14 percent in 2014.
- Trends in the share of spending from 2008–2014 indicated little change across these years. The share of spending for hospital care increased from 26 percent to 27 percent and declined for prescription drugs from 29 percent to 27 percent. Shares ranged from 16 percent to 17 percent for office-based professionals and from 14 percent to 15 percent for MH specialty centers.

Exhibit 15. From 2000–2014, Mental Health Medication Spending Slowed Because of More Frequent Use of Generic Medications

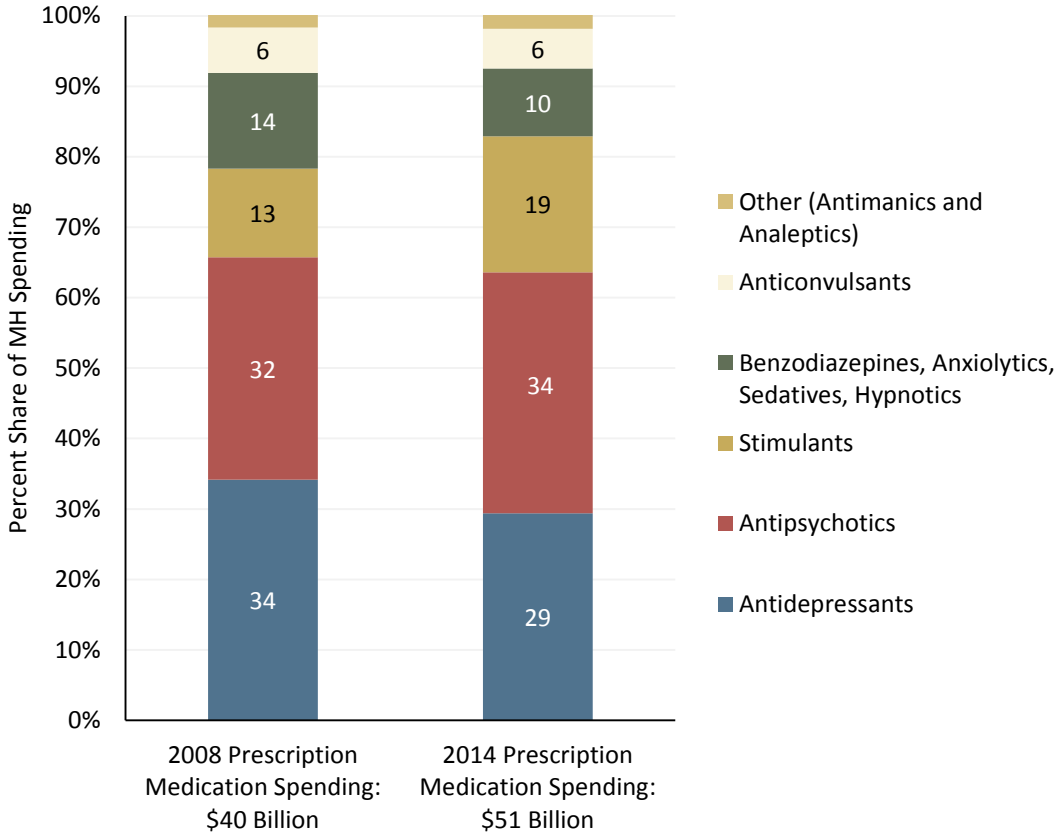


Note: The x-axis does not include 1986 because growth rates, which represent change across time, are not applicable for the first year.

- From 1994–2003, MH medication spending grew at double-digit rates. More people were taking MH medications because of the availability of many new and expensive psychiatric drugs with fewer side effects, including atypical antipsychotics and therapeutic classes of antidepressants. This growth exceeded all health medication growth by a wide margin, resulting in an increase in the MH drug spending share of all health drug spending from 10 percent to 17 percent.
- From 2004–2008, this spending growth slowed, stemming from patent expirations and the availability of generic alternatives to many psychiatric medications (Mark, Kassed, Levit, and Vandivort-Warren, 2012). The upward bump in 2006 all-drug spending growth marked the implementation of Medicare Part D, which allowed enrollees who previously paid for prescription drugs entirely out of pocket or through Medigap policies to pay a premium that would allow them to purchase prescription medications at a substantially lower out-of-pocket cost.
- From 2008–2014, the average growth rate was 4.2 per year in MH medication spending.

Exhibit 16. From 2008–2014, the Share of Mental Health Medication Spending for Antidepressants Decreased; the Share for Antipsychotics and Stimulants Increased

MH Prescription Medications Spending Share by Therapeutic Class, 2008 and 2014

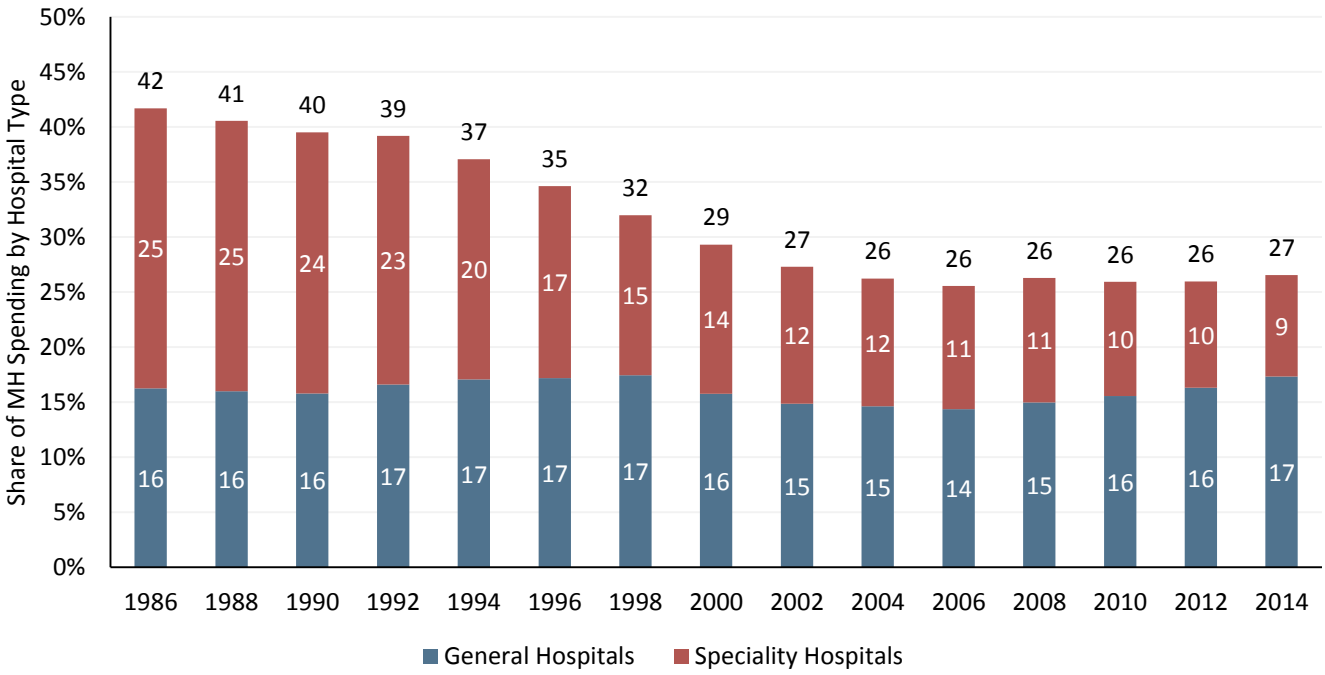


Note: Bar segments less than 5 percent are not labeled. Percentages do not sum to 100 percent due to rounding. Manufacturers' rebates returned to insurers, which reduce actual spending on medications, have been accounted for in these estimates.

- In 2008, one-third of all spending for MH prescription medications was for antidepressants and another third was for antipsychotics. Stimulants used to treat conditions such as attention deficit hyperactivity disorder (ADHD) accounted for 13 percent of all spending on MH medications, whereas purchase of benzodiazepines and anxiolytics, sedatives, and hypnotics used to treat anxiety and sleep disorders accounted for 14 percent. Anticonvulsants made up the remaining 6 percent of all spending on MH prescription medications.
- From 2008–2014, the share of MH prescription drug spending for antidepressants and for combined benzodiazepines, anxiolytics, sedatives, and hypnotics decreased to 29 percent and 10 percent, respectively. In contrast, the share of MH prescription drug spending for antipsychotics increased to 34 percent, and the share for stimulants increased to 19 percent. (Refer to Appendix B for more details on drug classifications.)

Exhibit 17. From 1986–2014, the Share of Mental Health Spending on Specialty Hospitals Declined Substantially

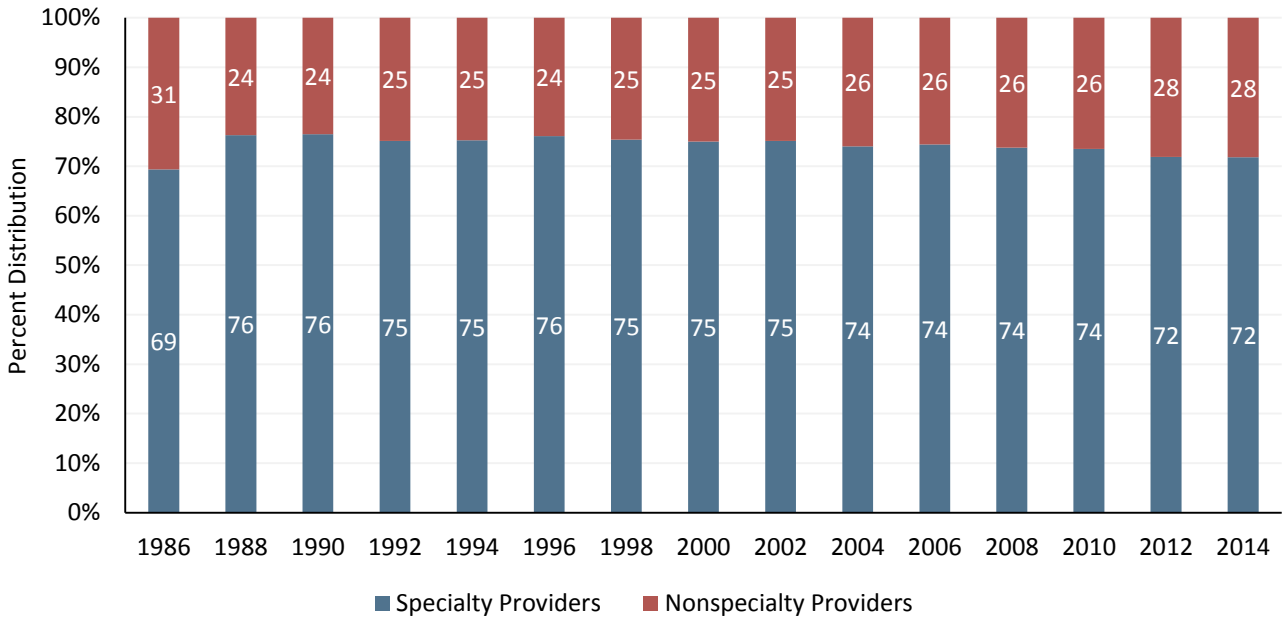
Share of MH Spending for Hospital Care by Hospital Type, Selected Years 1986–2014



- From 1986–2014, the hospital share of MH spending experienced a significant decline. It fell from 42 percent in 1986 to 26 percent in 2003–2013, followed by a slight increase to 27 percent in 2014. The decline in the hospital share of MH spending, from 25 percent in 1986 and 9 percent in 2014, was driven by a decrease in the share of spending on MH treatment in specialty hospitals.
- From 1986–2014, the share of MH spending in general hospitals remained relatively constant, ranging between 14 and 17 percent.

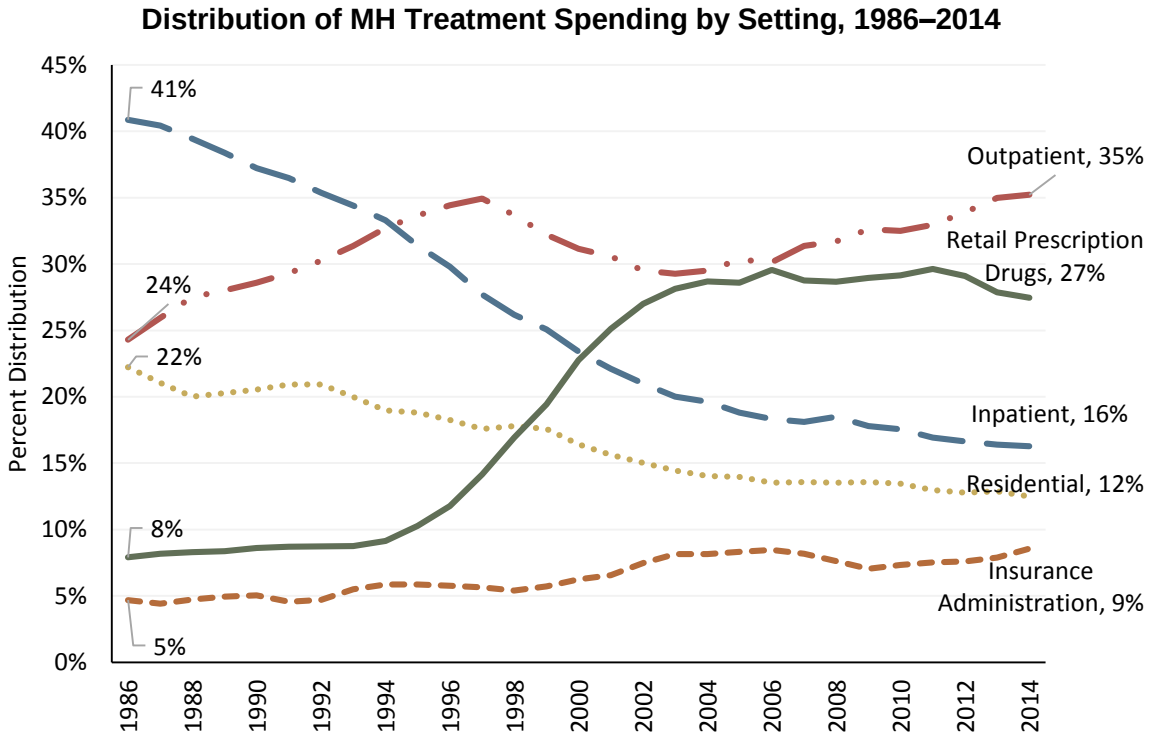
Exhibit 18. From 1986–2014, Specialty Providers Accounted for About 70 Percent of Mental Health Spending

Distribution of MH Treatment Spending by Specialty and Nonspecialty Providers, 1986–2014



- From 1986–2014, the share of mental health provider treatment spending devoted to specialty and to nonspecialty providers remained relatively constant.
- Specialty providers, with shares ranging from 69 percent to 76 percent, included psychiatric units of general hospitals, specialty psychiatric hospitals, psychiatrists, other MH professionals such as psychologists and licensed clinical social workers, and specialty MH and SUD centers providing mostly outpatient and residential treatment services.
- Nonspecialty providers, with shares ranging from 24 percent to 31 percent, included nonpsychiatric physicians, inpatient medical or surgical units and outpatient departments (including emergency departments) of general hospitals, home health, and nursing homes. It should be noted that many primary care office visits that involved a prescription for a mental health medication did not have a mental health diagnosis associated with the visits. The cost for these visits are not included in these estimates.

Exhibit 19. From 1986–2014, Shares of Mental Health Spending for Inpatient and Residential Settings Decreased and Shares for Outpatient, Prescription Drugs, and Insurance Administration Increased

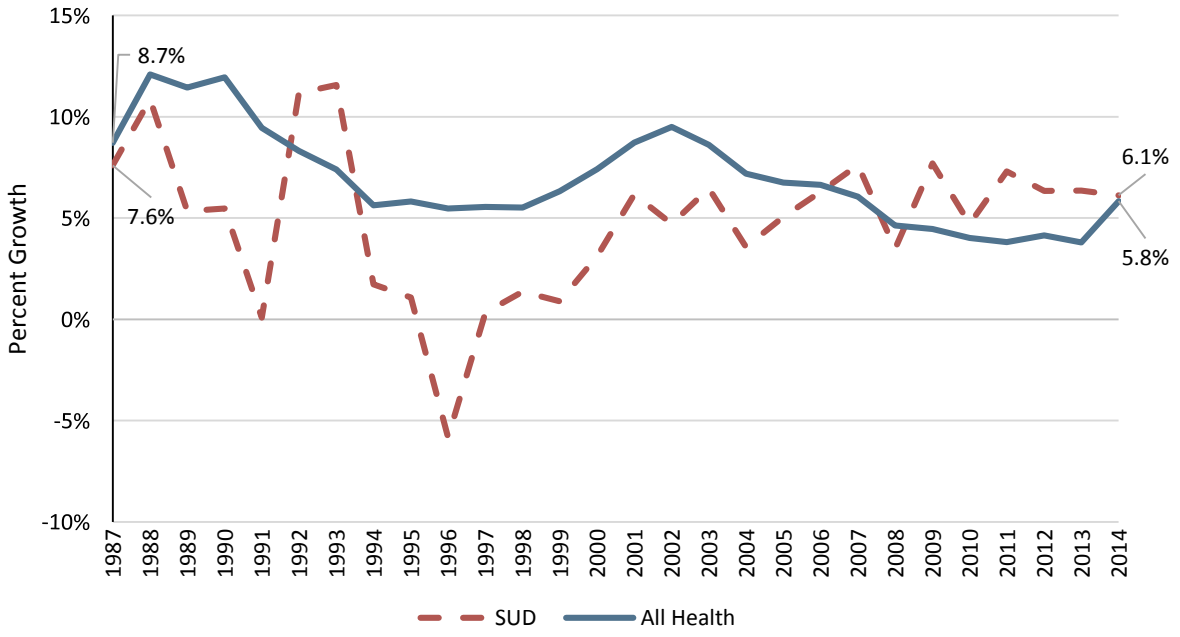


- From 1986–2014, the share of spending on inpatient MH treatment decreased from 41 percent of MH spending to 16 percent. From 2008–2014, the share decreased from 18 percent to 16 percent.
- From 1986–2014, residential treatment spending decreased from 22 percent to 12 percent of MH spending. From 2008–2014, it decreased from 14 percent to 16 percent. Spending on outpatient treatment spending increased from 24 percent of all MH treatment spending in 1986 to 35 percent in 2014. From 2008–2014, it increased from 32 percent to 35 percent.
- From 1986–2014, prescription drug spending increased from 8 percent of MH spending to 27 percent. From 2008–2014, it decreased from 29 percent to 27 percent.
- From 1986–2014, insurance administration spending (i.e., for costs related to running public and private insurance plans) slowly and steadily increased from 5 percent of all MH spending to 9 percent.

Substance Use Disorders: Spending by Payment Source

Exhibit 20. In Recent Years, Growth in Substance Use Disorder Treatment Exceeded Growth in All Health Spending

Percent Growth in Spending on SUD and All Health Treatment, 1986–2014

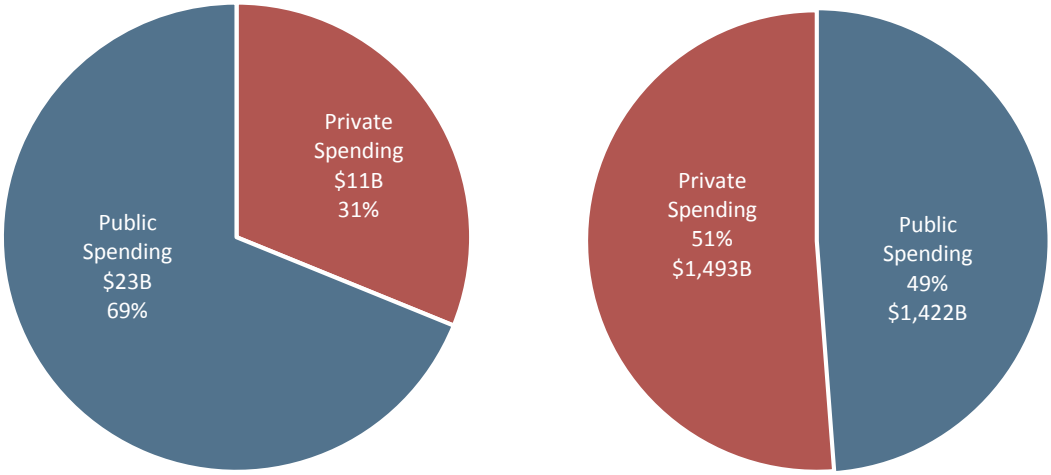


Note: The x-axis does not include 1986 because growth rates, which represent change across time, are not applicable for the first year.

- Across all years from 1986–2014, SUD spending grew on average by 4.8 percent, which was slower than the spending growth for all health (6.9 percent) and for MH (6.4 percent).
- From 1986-2009, growth in SUD spending typically lagged behind all health spending (4.5 percent versus 7.5 percent). But after 2009, growth in SUD spending exceeded all health spending (6.2 percent versus 4.3 percent).

Exhibit 21. In 2014, Compared With All Health Treatment, Substance Use Disorder Treatment Depended Substantially More on Public Spending

Spending (in Billions) on SUD and All Health Treatment, 2014



SUD Treatment Spending
$34 Billion

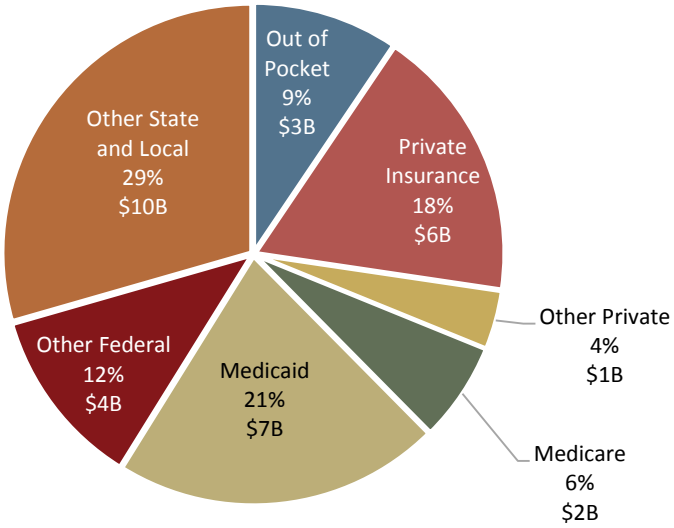
All Health Spending
$2,915 Billion

Note: Details are presented in Table A.2.

- In 2014, public spending accounted for 69 percent ($23 billion) of the $34 billion spent for SUD treatment, compared with 49 percent ($1,422 billion) of public sources spent for all health.
- Private spending accounted for 31 percent ($11 billion) of the $34 billion spent for SUD treatment, compared with 51 percent ($1,493 billion) of private sources spent for all health.

Exhibit 22. In 2014, 45 Percent of Substance Use Disorder Treatment Was Paid for by Private Insurance, Medicaid, and Medicare

Distribution of Spending (in Billions) on SUD Treatment by Payment Source, 2014

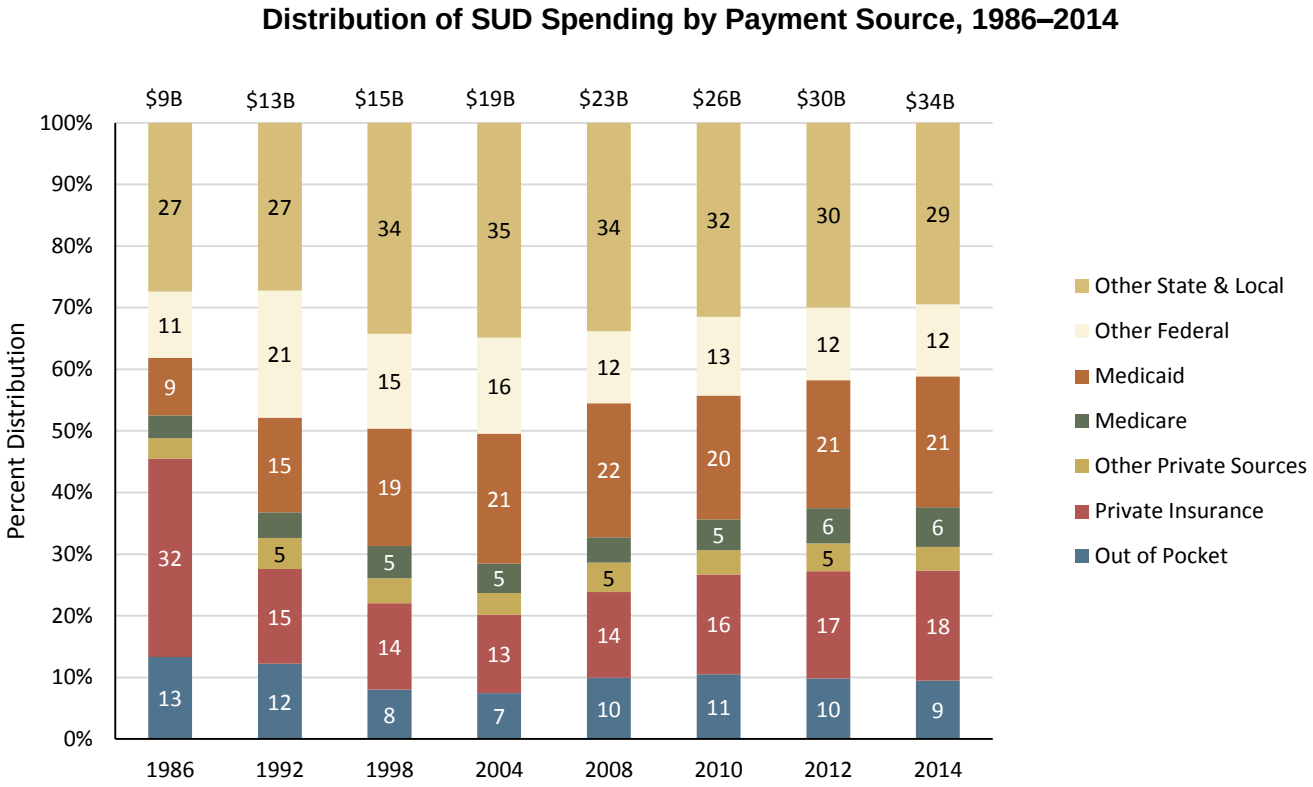


Total SUD Treatment Spending
$34 Billion

Note: Percentages do not sum to 100 percent because of rounding. Details are presented in Table A.2.

- In 2014, 45 percent of SUD treatment was paid for by private insurance, Medicare, and Medicaid.
- Other state and local governments accounted for 29 percent of all SUD treatment spending.
- Other federal government spending accounted for 12 percent of SUD treatment spending. Other federal spending included SUD block grants from SAMHSA, which accounted for 4 percent of all SUD spending (not shown in graph).
- Out-of-pocket spending accounted for 9 percent and other private for 4 percent of all SUD spending.

Exhibit 23. Shares of Substance Use Disorder Spending From Private Insurance Fell Substantially From 1986–2004, but Then Rose From 2004–2014

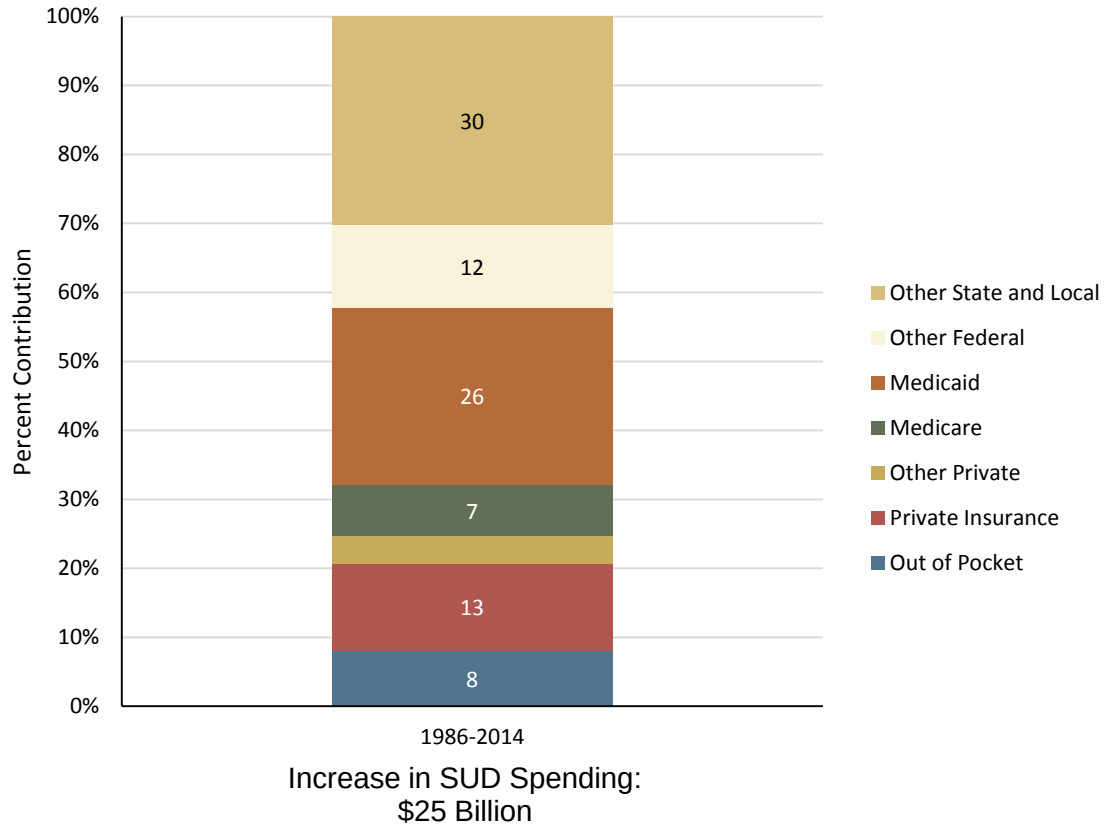


Note: Bar segments less than 5 percent are not labeled. Percentages do not sum to 100 percent because of rounding. Details are presented in Table A.7.

- From 1986–2004, the private insurance share of SUD spending dropped dramatically from 32 percent to 13 percent. From 2004–2014, this share increased from 13 percent to 18 percent.
- From 1986–2014, the proportion of spending by Medicaid increased from 9 percent to 21 percent.
- From 1986–2014, the share of out-of-pocket spending remained relatively constant, ranging from 7 percent to 13 percent.
- The share of other state and local spending increased from 27 percent in 1986 to 35 percent in 2004 before declining to 29 percent in 2014.

Exhibit 24. From 1986–2014, Other State and Local Payment Sources and Medicaid Contributed the Most to Increases in Substance Use Disorder Spending

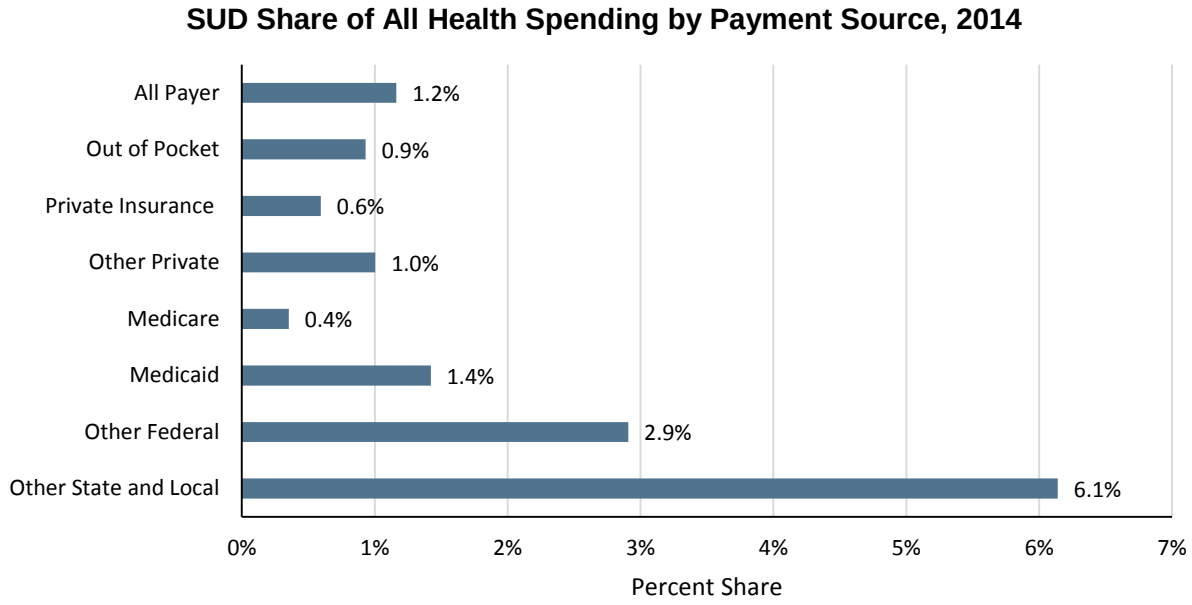
Contribution to Increase in SUD Spending by Payment Source, 1986–2014



Note: Bar segments less than 5 percent are not labeled. Percentages do not sum to 100 percent

- From 1986–2014, other state and local government spending was responsible for 30 percent of the growth in SUD treatment spending; this payment source accounted for the largest share of SUD spending in every year from 1987–2014.
- Medicaid contributed 26 percent and private insurance spending contributed 13 percent to this increase in SUD treatment spending. From 1986–2014, 12 percent of the increase in SUD treatment spending was attributed to federal payment sources, such as SAMHSA block grants.

Exhibit 25. In 2014, Substance Use Disorder Spending Accounted for Only 1 Percent of All Health Spending and a Substantially Smaller Share of All Private Insurance and Medicare Spending



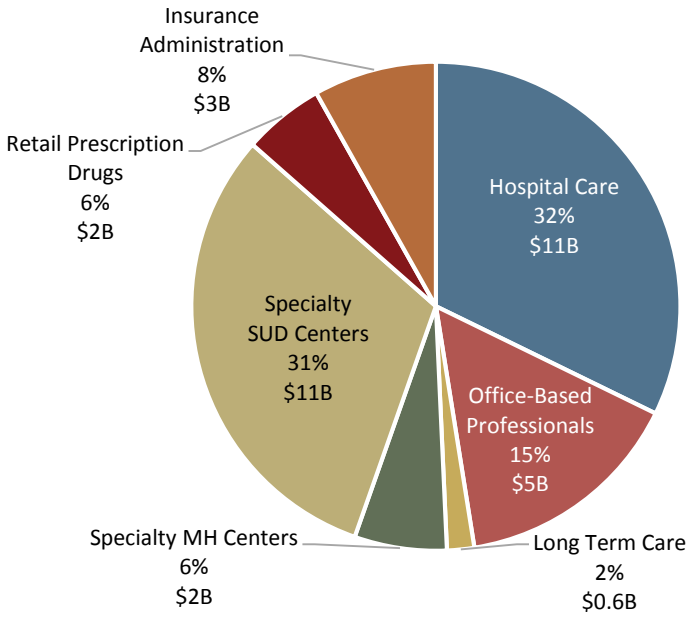
Note: Details are presented in Table A.2

- SUD spending accounted for only 1.2 percent of all health spending in 2014. However, the SUD share differed by payment source, with public payment sources generally having higher shares than private payment sources.
  - SUD shares of all health spending for other state and local (6.1 percent) and other federal (2.9 percent) payment sources were higher than the SUD all-payer source share.
  - The SUD shares of all health spending for private insurance (0.6 percent), other private payment sources (1.0 percent), out-of-pocket spending (0.9 percent), and Medicare (0.4 percent) were lower than the SUD all-payer source share.
  - The SUD share of all health spending for Medicaid payments (1.4 percent) was slightly higher than the all payer source share.

Substance Use Disorders: Spending by Provider, Setting, and Specialty Type

Exhibit 26. In 2014, the Largest Portion of Substance Use Disorder Spending (37 Percent) Went to Specialty Mental Health and Substance Use Disorder Treatment Centers

Distribution of SUD Spending (in Billions) by Provider Type, 2014



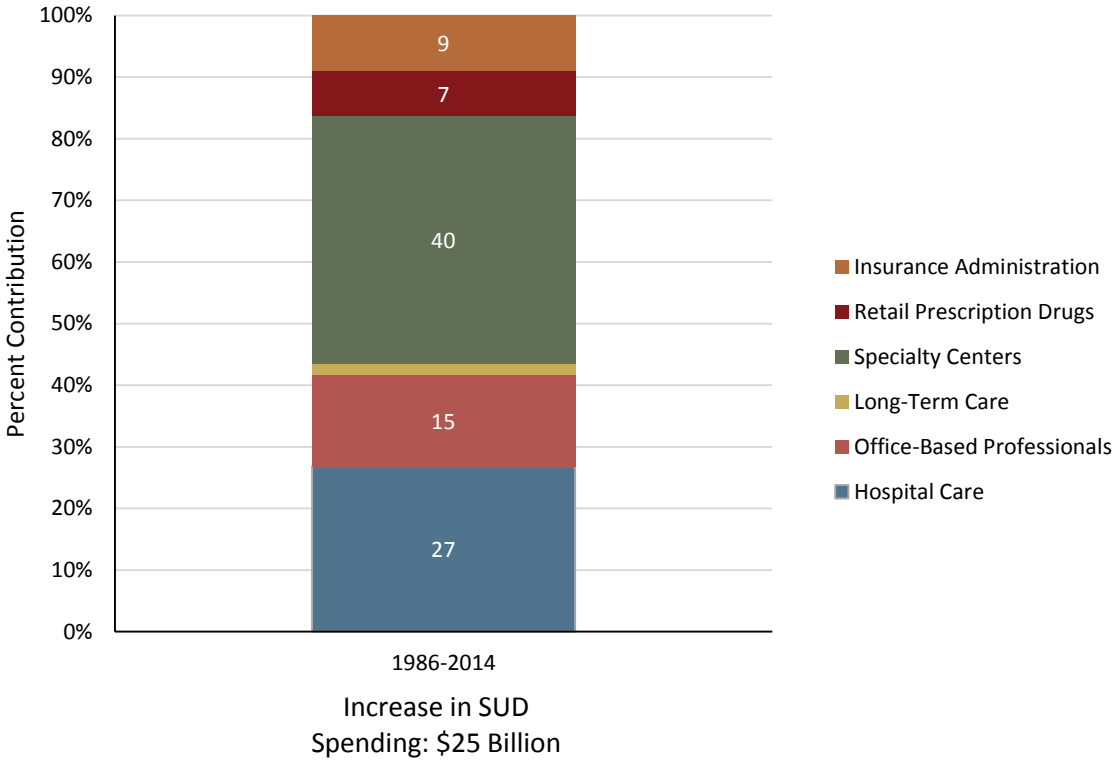
Total SUD Treatment Spending, $34 Billion

Note: Percentages do not sum to 100 percent because of rounding. Details are presented in Table A.3

- In 2014, specialty SUD and MH centers accounted for 37 percent of all SUD spending. Specialty SUD centers were responsible for 31 percent of SUD treatment spending; specialty MH centers were responsible for 6 percent.
- Treatment in hospitals accounted for 32 percent of SUD treatment spending.
- Office-based professionals received 15 percent of all SUD treatment spending. Psychiatrists and other nonpsychiatric physicians accounted for 5 percent of all SUD treatment spending. SUD treatment depends more on care from nonpsychiatric physicians (4 percent of SUD spending) than on care from psychiatrists (1 percent of SUD spending).
- In 2014, spending on prescription drugs accounted for 5 percent of SUD treatment spending, which was substantially smaller than the 27 percent of all MH spending for prescription drugs.
- Long-term care, which comprises freestanding nursing homes and freestanding home health centers, accounted for 2 percent of SUD treatment spending.

Exhibit 27. From 1986–2014, Specialty Substance Use Disorder Treatment Centers Accounted for 40 Percent of the Increase in Substance Use Disorder Spending

Contribution to the Increase in SUD Spending by Provider Type, 1986–2014

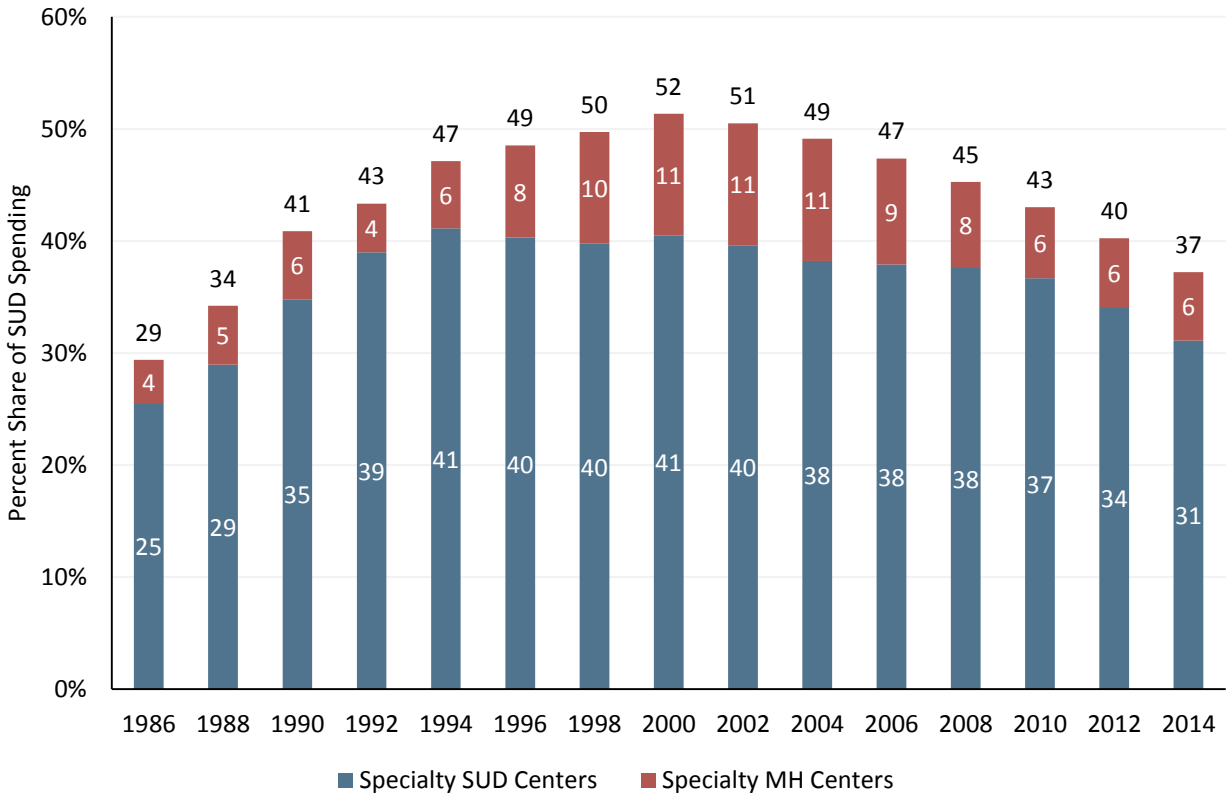


Note: Bar segments less than 5 percent are not labeled. Percentages do not sum to 100 percent.

- From 1986–2014, spending on specialty centers accounted for 40 percent of the increase in total SUD expenditures.
- Spending on care in hospitals accounted for 27 percent of the increase in SUD spending.
- Office-based professionals (physicians and other SUD professionals) accounted for 15 percent of the increase in SUD spending.
- Spending on prescription drugs accounted for 7 percent of the increase in SUD spending.
- Long-term care, which comprises freestanding nursing homes and freestanding home health centers, accounted for 2 percent of the increase in SUD spending.

Exhibit 28. Until 2002, the Substance Use Disorder Spending Share Surged for Specialty Substance Use Disorder and Mental Health Centers; Spending Shares Decreased Through 2014

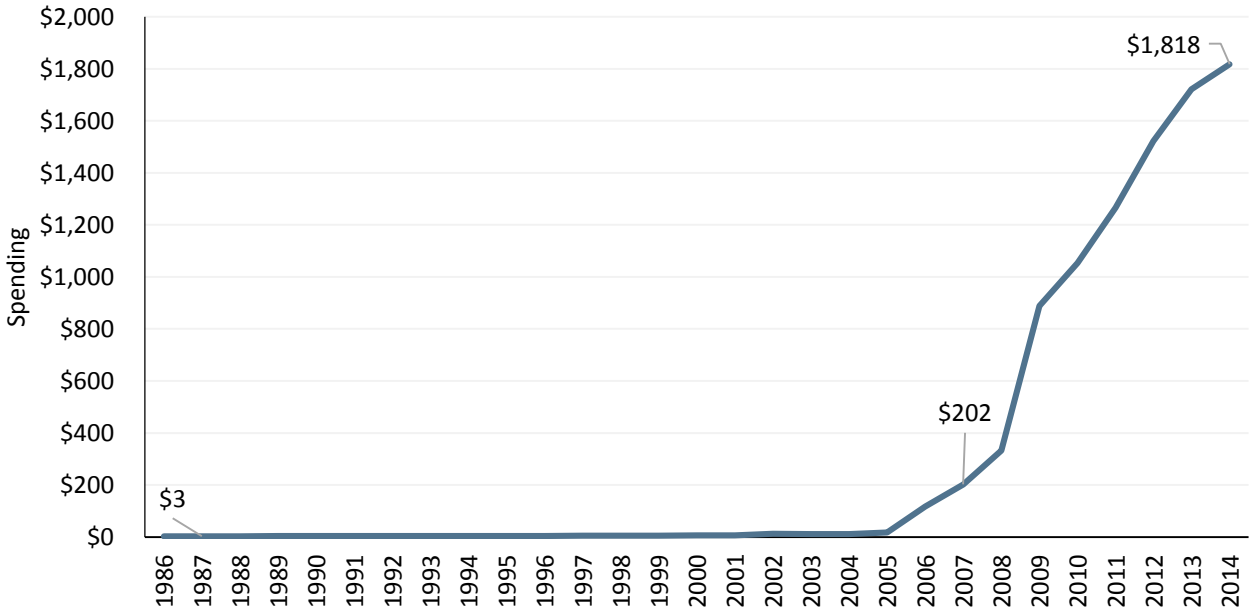
Share of SUD Spending for Center-Based Providers, 1986–2014



- The share of SUD treatment spending for specialty center services (mostly outpatient and residential) increased from 29 percent in 1986 to 51 percent from 1999–2002 (not shown in graph), then declined to 37 percent in 2014.
- The share of SUD treatment spending for specialty center services (mostly outpatient and residential) increased from 29 percent in 1986 to 52 percent in 2000, then declined to 37 percent in 2014.
- Specialty MH centers were responsible for a larger share of spending in 2014 (6 percent) than in 1986 (4 percent).

Exhibit 29. From 2002–2014, Growth in Substance Use Disorder Treatment Spending on Prescription Medications Increased Substantially

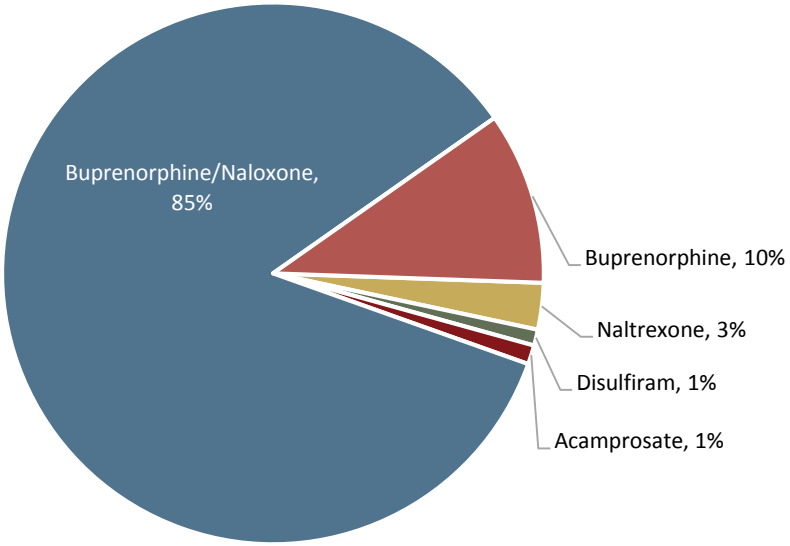
SUD Spending (in Millions) on Prescription Medications, 1986–2014



- In 1986, only $3 million was spent on medications for SUD treatment; by 2014, spending increased to $1,818 million.
- Some of the increase in spending is attributed to new SUD treatment medications that were introduced to the market from 2002–2006. These medications included acamprosate and extended-release naltrexone for alcohol dependence and buprenorphine and buprenorphine/naloxone for opiate addictions. The main driver of the rise in spending was increased use of buprenorphine and buprenorphine/naloxone, medicines to treat opioid use disorders.

Exhibit 30. In 2014, Spending on Drugs to Treat Opioid Addiction Represented the Majority of Spending for Substance Use Disorder Prescription Drugs[7]

SUD Spending on Prescription Drugs by Drug Type, 2014



Total Spending on SUD Medications
$1.8 Billion

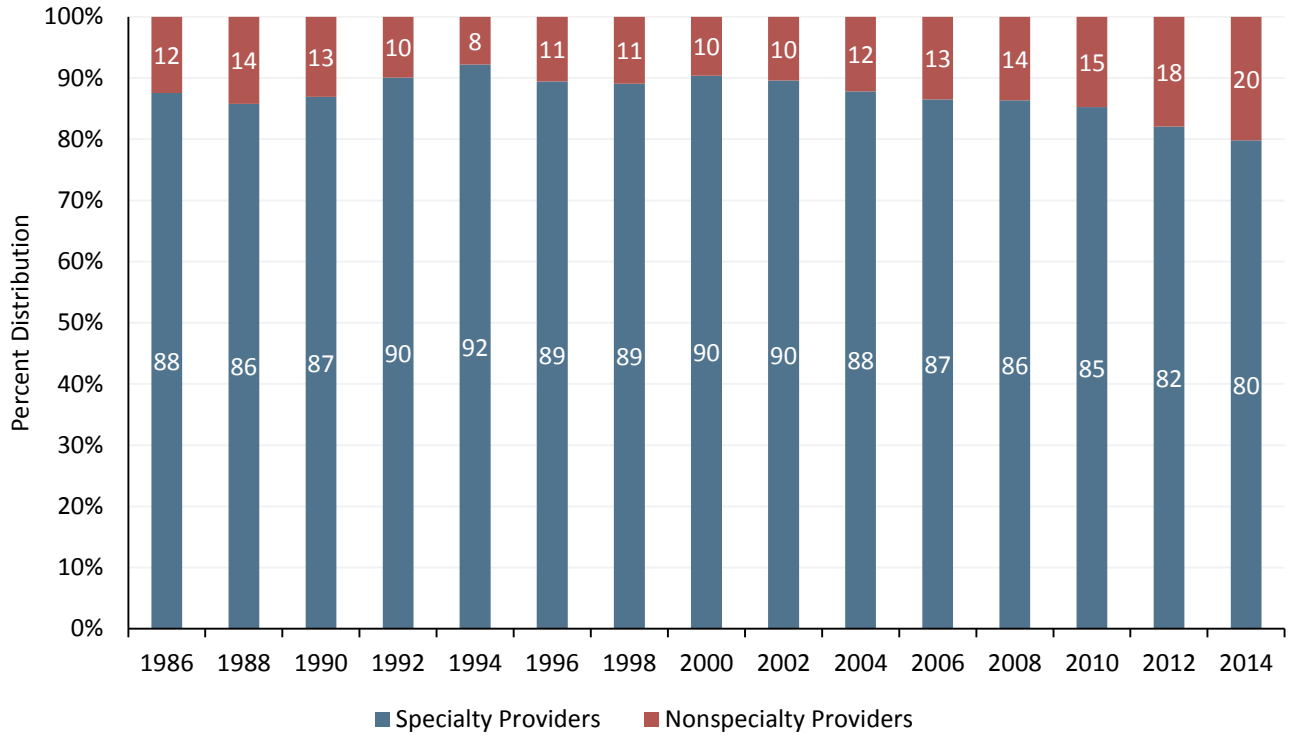
- In 2014, the largest portion of spending on SUD prescription medications was for treatment of opioid addiction.
- Approximately 4 percent of SUD drug spending was for prescription drugs to treat alcohol use disorders. These included acamprosate, disulfiram, and naltrexone (1 percent, 1 percent, and 3 percent, respectively).[8]
- The remaining 96 percent of spending on SUD prescription medications was for treatment of opioid use disorders. These included buprenorphine and buprenorphine/naloxone (10 percent and 85 percent of all spending on SUD medications, respectively).

[7] Methadone is not included because it is not provided by prescription. Costs for methadone treatment are captured in the estimates of specialty SUD treatment centers.

[8] Additional information about medication-assisted treatment can be found on the SAMHSA website at: http://www.samhsa.gov/medication-assisted-treatment/treatment

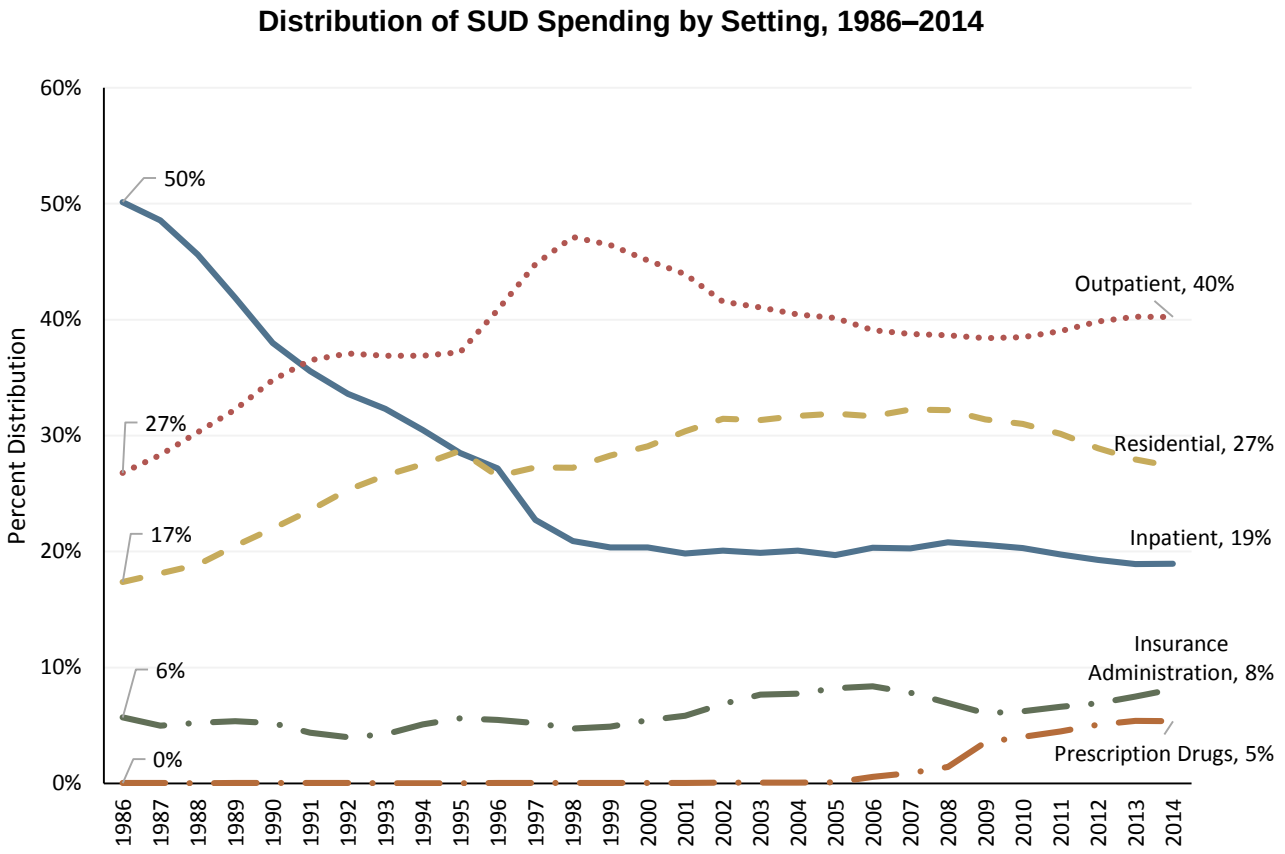
Exhibit 31. In 2014, Specialty Providers Received the Majority of Substance Use Disorder Spending Paid to Providers

Distribution of SUD Treatment Spending by Specialty and Nonspecialty Providers, 1986–2014



- In 1986, 88 percent of SUD treatment spending was dedicated to specialty providers (which included psychiatric units of general hospitals, specialty psychiatric hospitals, psychiatrists, other MH professionals such as psychologists and MH social workers, and specialty MH and SUD centers providing mostly outpatient and residential treatment services).
- In 1994–1995, the share for specialty providers rose to 92 percent then gradually fell to 80 percent by 2014, the lowest percentage in SUD provider spending over this time period.
- From 1986–2014, the share of SUD spending increased from 12 percent to 20 percent for nonspecialty providers (which included nonpsychiatric physicians, inpatient medical or surgical units and outpatient departments [including emergency departments] of general hospitals, home health, and nursing homes). It should be noted that visits in which nonbehavioral health specialists prescribed SUD medications but did not identify SUD as a primary diagnosis on the medical record or insurance claim were not included in the expenditure estimates.

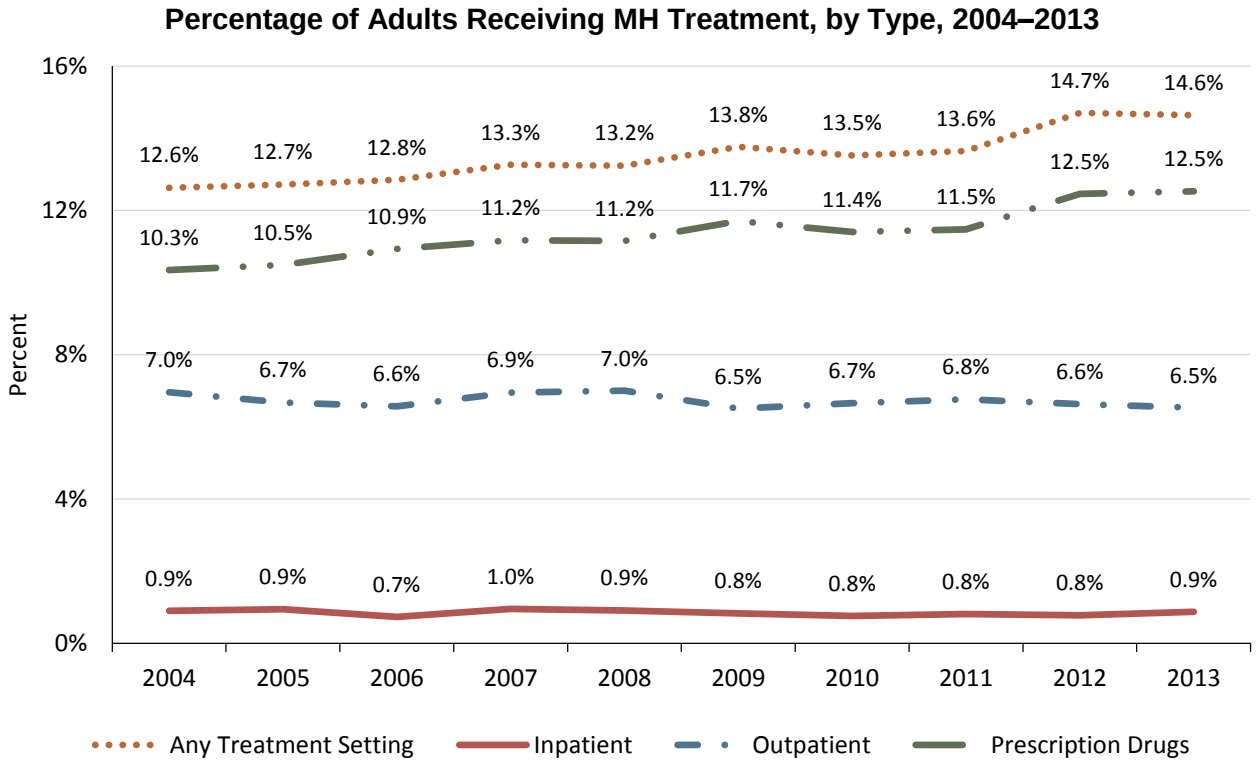
Exhibit 32. From 1986–2014, the Share of Substance Use Disorder Outpatient Treatment and Medication Expenditures Increased; the Share of Substance Use Disorder Inpatient Treatment Expenditures Decreased



- From 1986–2014, spending on inpatient SUD treatment decreased from 50 percent of all SUD spending to 19 percent. From 2008–2014, it decreased from 21 percent to 19 percent.
- From 1986–2014, spending on outpatient treatment increased from 27 percent of all SUD spending to 40 percent. From 2008–2014, it increased from 39 percent to 40 percent.
- From 1986–2014, spending on residential treatment increased from 17 percent to 27 percent of all SUD spending. From 2008–2014, it decreased from 32 percent to 27 percent.
- From 1986–2014, prescription drug spending increased from less than one percent of all SUD spending to 5 percent. From 2008–2014, it increased from 1 percent to 5 percent.
- From 1986–2014, insurance administration spending (i.e., costs related to running public and private insurance plans) slowly and steadily increased from 5 percent to 8 percent of all SUD spending.

Trends in Mental Health and Substance Use Disorder Treatment Utilization

Exhibit 33. From 2004–2013, the Percentage of Adults Receiving Mental Health Treatment Grew Steadily

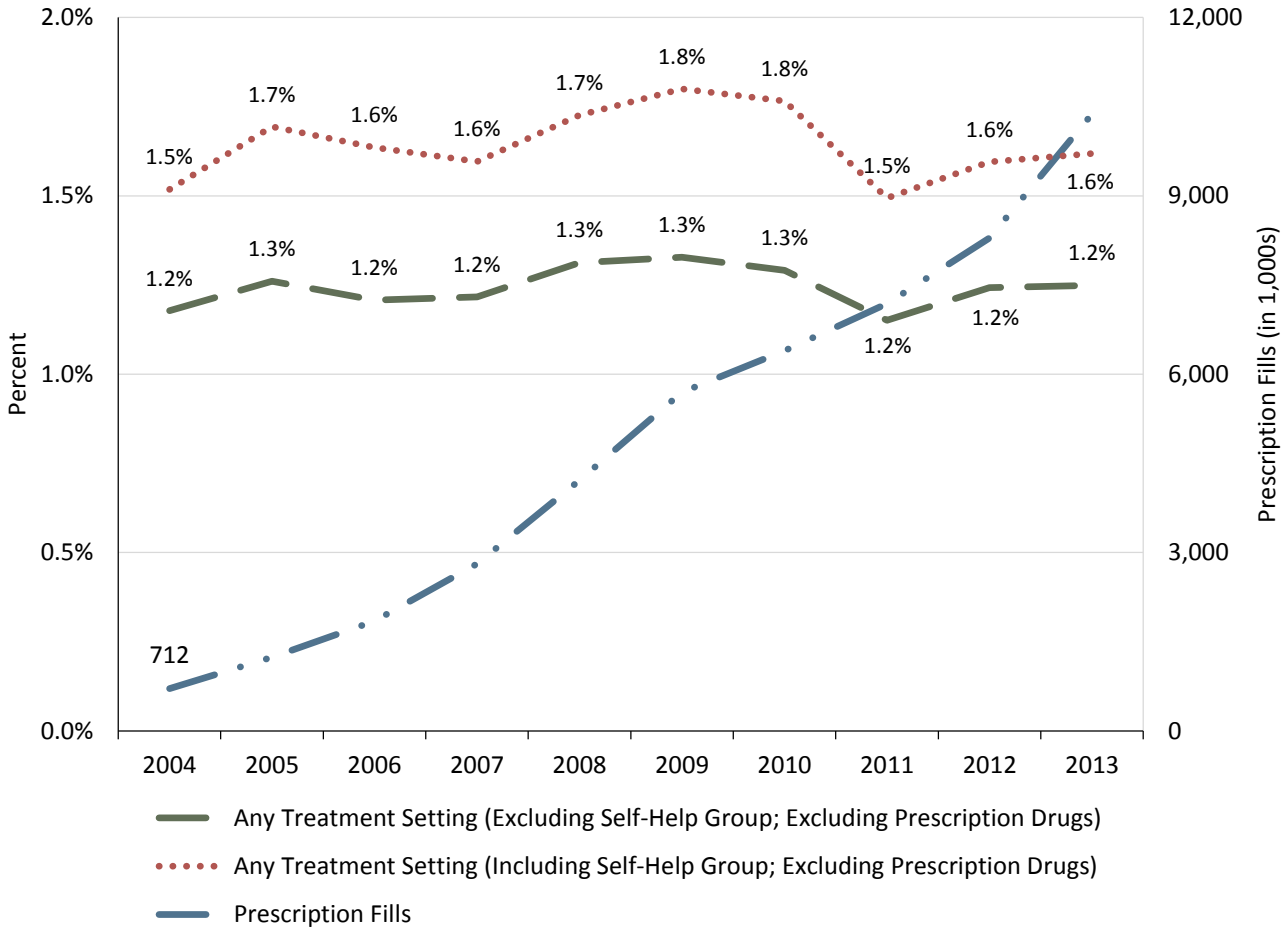


Note: *Adults* refers to civilian, noninstitutionalized individuals aged 18 years and older.

- From 2004–2013, the percentage of adults receiving any type of mental health treatment grew steadily from 12.6 percent to 14.6 percent.
- The growth in the percentage of adults receiving MH treatment was driven by an increase in the use of prescription medications. The share of the adult population using MH prescription medications increased from 10.3 percent in 2004 to 12.5 percent in 2013.
- From 2004–2013, the percentage of adults receiving outpatient and inpatient MH services remained fairly stable.

Exhibit 34. From 2004–2013, the Percentage of Adults Receiving Substance Use Disorders Treatment Did Not Change Appreciably, but Treatment with Prescription Medications Increased Substantially

Percentage of Adults Receiving SUD Treatment and Total SUD Prescription Fills, 2004–2013

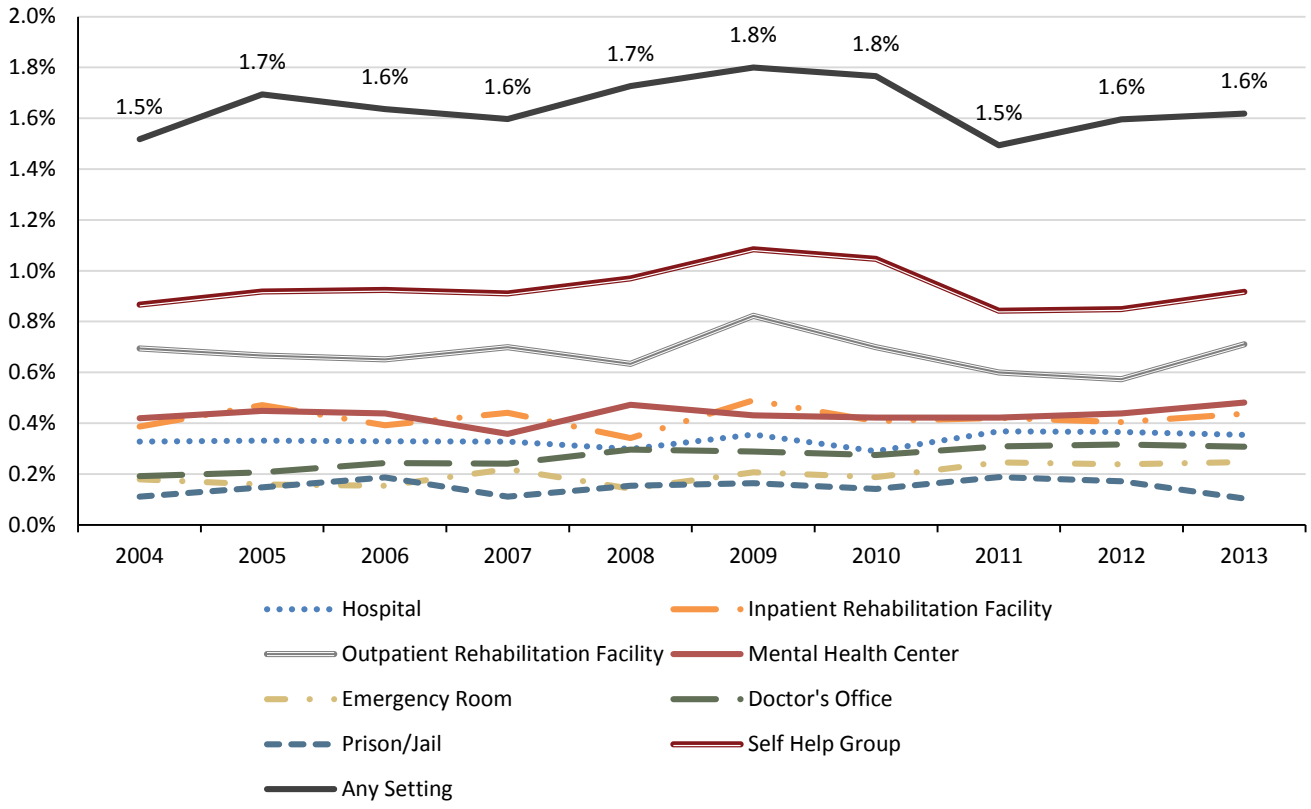


Note: *Adults* refers to civilian, noninstitutionalized individuals aged 18 years and older.

- SUD treatment refers to treatment received to reduce or stop drug or alcohol use or for medical problems associated with drug or alcohol use. It includes treatment received at any location, such as a hospital (inpatient), rehabilitation facility (inpatient or outpatient), mental health center, emergency room, private doctor's office, or prison/jail with or without self-help groups.
- From 2004–2013, the percentage of adults receiving SUD treatment in any setting remained fairly stable, ranging from 1.5 percent to 1.8 percent. When adults who only attended self-help groups were excluded, the percentage ranged from 1.2 percent to 1.3 percent.
- From 2004–2013, the volume of prescription fills for SUD treatment medications increased substantially, from 712 thousand to 10,377 thousand prescription fills.

Exhibit 35. From 2004–2013, Mutual Support Groups Were the Most Common Setting in Which Adults Received Substance Use Disorder Treatment and Recovery Support

Percentage of Adults Receiving SUD Treatment, by Setting, 2004–2013

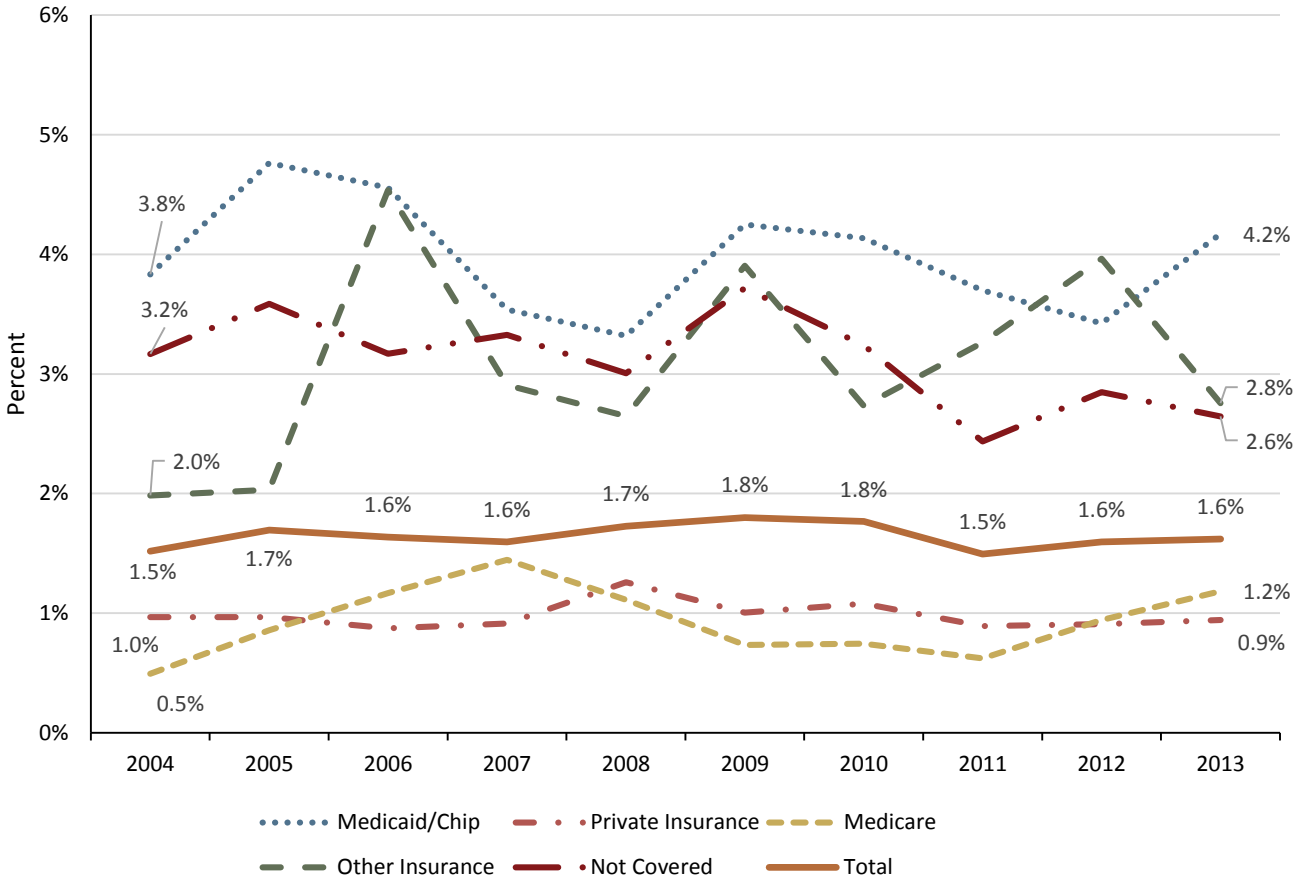


Notes: *Adults* refers to civilian, noninstitutionalized individuals aged 18 years and older. Individuals may have received treatment in multiple settings.

- In 2013, mutual support groups, such as Alcoholics Anonymous or Narcotics Anonymous, and outpatient rehabilitation facilities were the most common settings in which adults received SUD treatment/recovery support, with 0.9 percent and 0.7 percent of adults receiving in these two settings, respectively.

Exhibit 36. From 2004–2013, Receipt of Substance Use Disorder Treatment Was More Common Among Individuals with Medicaid and Those without Insurance Than Among Individuals with Private Insurance

Percentage of Adults Receiving SUD Treatment in Any Location and by Insurance Type, 2004–2013

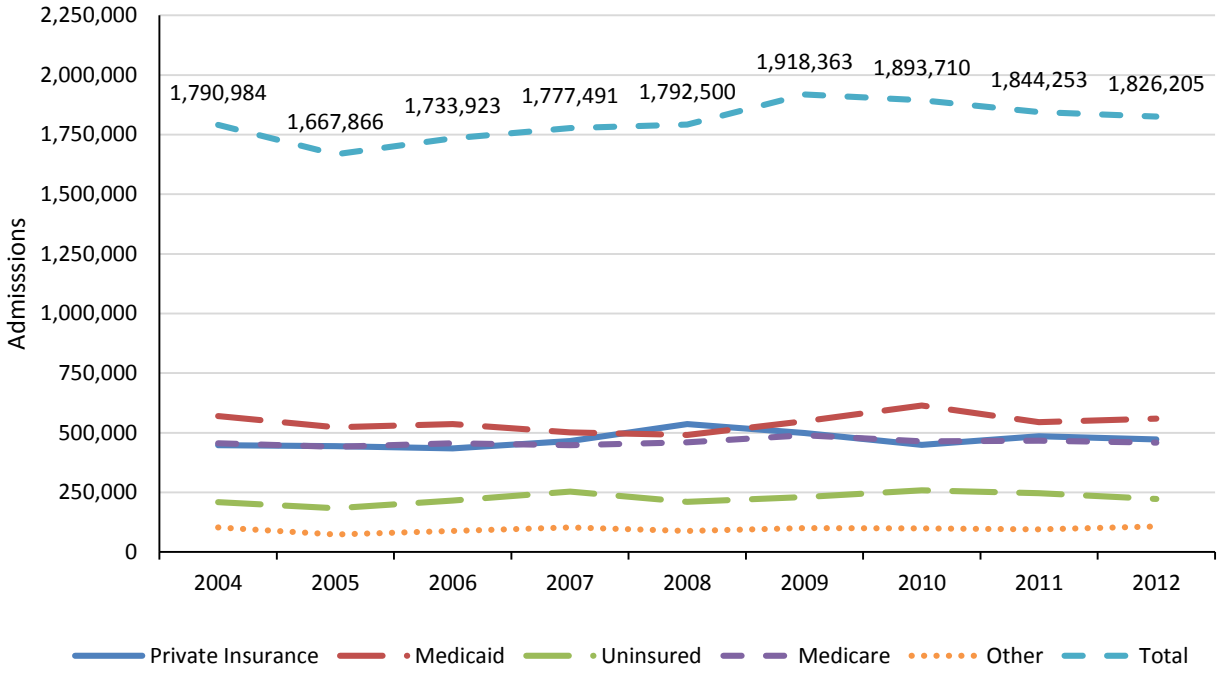


Notes: *Adults* refers to civilian, noninstitutionalized individuals aged 18 years and older. Other insurance types include Worker's Compensation, CHAMPUS, CHAMPVA, Title V, and other government programs.

- In 2013, receipt of SUD treatment was most common among adults with Medicaid/CHIP (4.2 percent), those with other insurance (2.8 percent), and those not covered by insurance (2.6 percent). Individuals with private insurance (0.9 percent) and Medicare (1.2 percent) had the lowest rate of substance use treatment.

Exhibit 37. From 2004–2012, General Hospital Inpatient Admissions for Mental Health and Substance Use Disorder Treatment Peaked in 2009 and Then Declined Steadily

Hospital Inpatient Admissions by Insurance Type for MH/SUD Treatment, 2004–2012

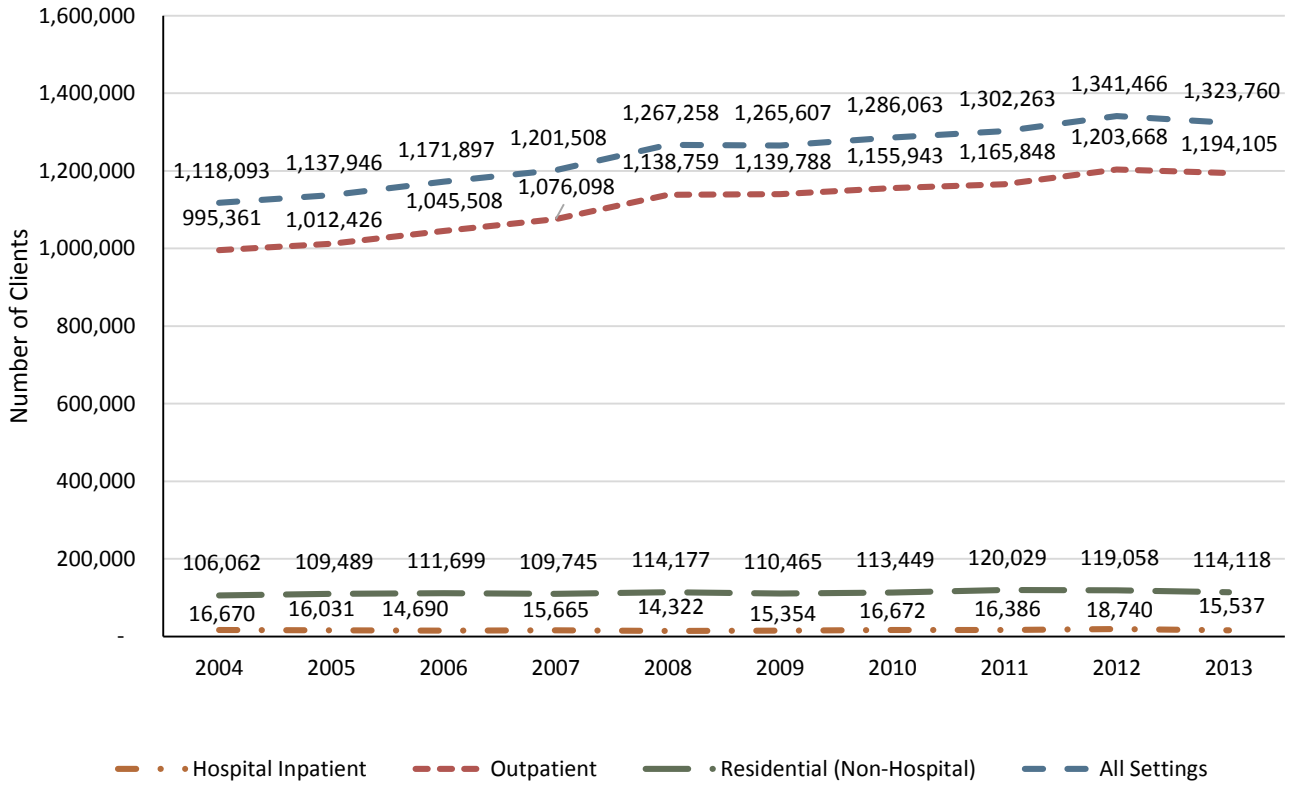


Note: Other insurance types include Worker's Compensation, CHAMPUS, CHAMPVA, Title V, and other government programs.

- Hospital admissions for MH/SUD treatment declined from 1,791 thousand in 2004 to 1,668 thousand in 2005, then steadily rose to 1,918 thousand in 2009. Admissions then declined at an average annual rate of 1.6 percent over the next 3 years, falling to 1,826 thousand in 2012. The 7.3 percent gain between 2008–2009 may reflect an increased need for behavioral health services during the Great Recession.
- MH/SUD admissions for individuals with private insurance and Medicaid tended to move in opposite directions. In 2008, private insurance admissions peaked at 536 thousand and Medicaid admissions bottomed out at 490 thousand. The trend reversed in 2010, then reversed again in 2011. These findings may be due to the Great Recession; individuals who lost their employer-sponsored private insurance became eligible for Medicaid until the recovery reversed these trends. Also, the MHPEA might have contributed to the slight increase in private insurance spending in 2011 and 2012.
- Admission patterns for the uninsured broadly mirrored those of Medicaid, but with smaller absolute deviations. This trend may have been influenced by reluctance on the part of the uninsured to seek treatment.

Exhibit 38. From 2004–2013, the Single-Day Census of Clients Receiving Outpatient Care in Facilities Providing Substance Use Disorder Treatment Increased; the Number Receiving Hospital Inpatient and Residential Treatment Remained Steady

Single-Day Census Client Counts at Facilities Providing SUD Treatment, 2004–2013

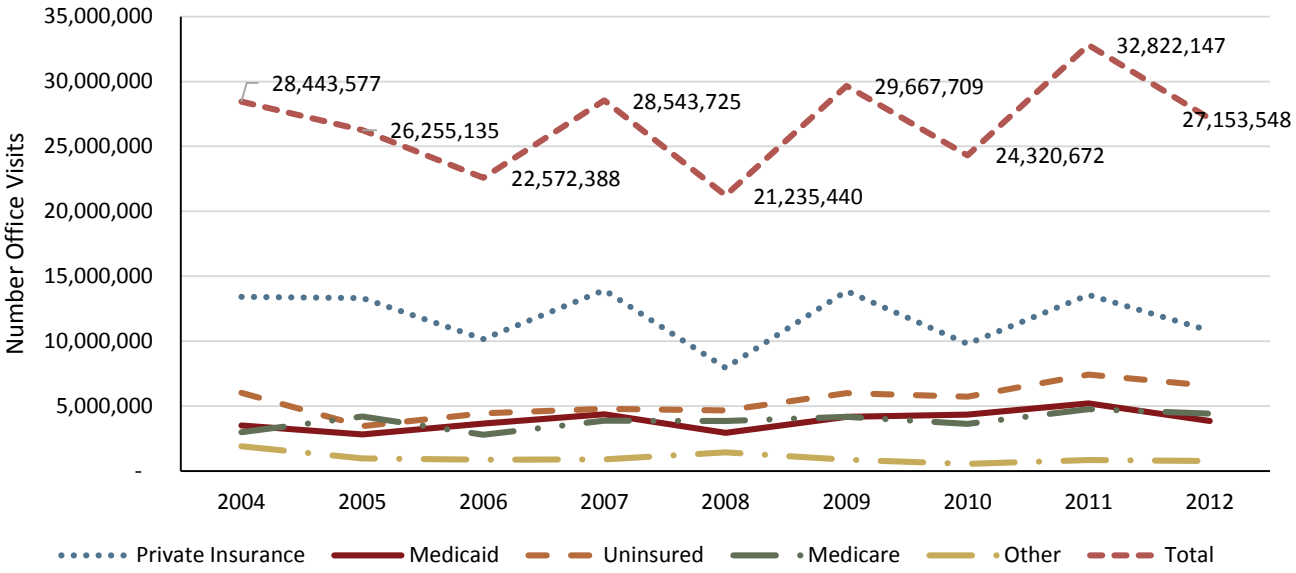


Note: Client counts are inflated for facility nonresponse rates.

- Outpatient total client counts for a typical day at facilities offering SUD treatment increased steadily—from approximately 995 thousand in 2004 to 1,194 thousand in 2013—corresponding to an average annual growth rate of 1.0 percent.
- Hospital inpatient and residential (nonhospital, rehabilitation) total client counts for a typical day did not show a clear pattern throughout this time period.

Exhibit 39. From 2004–2012, Office Visits to Psychiatrists for Mental Health Treatment Appear to Have Declined through 2008 but Then Risen Through 2012

Number of MH Office Visits to Psychiatrists by Insurance Type, 2004–2012



Note: Other insurance types include Worker's Compensation, CHAMPUS, CHAMPVA, Title V, and other government programs.

- Office visits include visits to offices of nonfederally employed physicians classified by the American Medical Association or the American Osteopathic Association as "office-based, patient care." Since 2006, visits to physicians practicing in community health centers have also been included. Visits made solely for administrative purposes as well as house calls, telephone calls, and other nonoffice setting visits are excluded. The scope of this analysis is restricted to visits to physicians whose specialty is psychiatry.
- From 2004–2008, MH office visits to psychiatrists fell from 28,444 thousand to 21,235 thousand, but then increased to 27,154 thousand by 2012. However, these estimates are volatile and subject to substantial sampling variability.
- Among the privately insured, the number of office visits to psychiatrists fell from 13,429 thousand in 2004 to 7,941 thousand in 2008 and then increased to 10,794 thousand in 2012.
- Among those covered by Medicaid, the number of visits fell from 3,517 thousand in 2004 to 2,939 thousand in 2008 and then increased to 3,867 thousand in 2012.
- Contrary to the trends for visits covered by insurance types other than Medicare, MH office visits to psychiatrists by Medicare beneficiaries rose from 2,995 thousand in 2004 to 3,860 thousand in 2008. Visits for Medicare beneficiaries reached 4,421 thousand in 2012.
- Visits by uninsured individuals fell from 6,033 thousand in 2004 to 4,668 thousand in 2008 and then increased to 6,562 thousand in 2012.

References

Coffey, R. M., Mark, T. L., King, E., Harwood, H., McKusick, D., Genuardi J, & Buck, J. A. (2000). *National expenditures for mental health and substance abuse treatment, 1997* (HHS Pub. No. SMA 00-3499). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Institute of Medicine. (2006). *Improving the quality of health care for mental and substance-use conditions*. Washington, DC: The National Academies Press.

Levit, K. R, Mark, T. L., Coffey, R. M., Frankel, S., Santora, P., Vandivort-Warren, R., & Malone K. (2013). Federal spending on behavioral health accelerated during recession as individuals lost employer insurance. *Health Affairs (Millwood), 32*(5), 952–962.

Mark, T. L., & Coffey, R. M. (2004). The decline in receipt of substance abuse treatment by the privately insured, 1992–2001. *Health Affairs (Millwood), 23*(6), 157–162.

Mark, T., Coffey, R., King, E., Harwood, H., McKusick, D., Genuardi, J., & Buck, J. A. (2000). Spending on mental health and substance abuse treatment, 1987–1997. *Health Affairs (Millwood), 19*(4), 108–120.

Mark, T., Coffey, R. M., McKusick, D., Harwood, H., King, E., Bouchery, E., & Dilonardo, J. (2005). *National expenditures for mental health service and substance abuse treatment 1991–2001* (HHS Pub. No. SMA 05-3999). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Mark, T. L., Coffey, R. M., Vandivort-Warren, R., Harwood, H. J., King, E.C., & MHSA Spending Estimates Team. (2005). U.S. spending for mental health and substance abuse treatment, 1991–2001. *Health Affairs (Millwood), Web Exclusives*, W5-133–W5-142.

Mark, T. L., Kassed, C., Levit, K., & Vandivort-Warren, R. (2012). An analysis of the slowdown in growth of spending for psychiatric drugs, 1986–2008. *Psychiatric Services, 63*(1), 13–18.

Mark, T. L., Levit, K. R., Coffey, R. M., McKusick, D. R., Harwood, H. J., King, E. C., …Ryan, K. (2007). *National expenditures for mental health services and substance abuse treatment, 1993–2003*. (HHS Publication No. SMA 07-4227). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Mark, T. L., Levit, K. R., Vandivort-Warren, R., Buck, J. A., & Coffey, R. M. (2011). Changes in US spending on mental health and substance abuse treatment, 1986–2005, and implications for policy. *Health Affairs (Millwood), 30*(2), 284–292.

Mark, T. L., Levit, K. R., Yee, T., & Chow, C. M. (2014). Spending on mental and substance use disorders projected to grow more slowly than all health spending through 2020. *Health Affairs (Millwood), 33*(8), 1407–1415.

Mark, T. L., McKusick, D., King, E., Harwood, R., & Genuardi, J. (1998). *National expenditures for mental health, alcohol and other drug abuse treatment, 1996*. Rockville, MD: Substance Abuse and Mental Health Services Administration.

McKusick, D., Mark, T. L., King, E., Harwood, R., Buck, J. A., Dilonardo, J., & Genuardi, J. S. (1998). Spending for mental health and substance abuse treatment, 1996. *Health Affairs (Millwood)*, *17*(5), 147–157.

Substance Abuse and Mental Health Services Administration. (2010). *National expenditures for mental health services and substance abuse treatment, 1986–2005* (HHS Publication No. SMA 10-4612). Rockville, MD: Author.

Substance Abuse and Mental health Services Administration. (2013). *National expenditures for mental health services and substance abuse treatment, 1986-2009* (HHS Publication No. SMA-13-4740). Rockville, MD: Author.

Substance Abuse and Mental Health Services Administration. (2014). *Projections of national expenditures for treatment of mental and substance use disorders, 2010–2020* (HHS Publication No. SMA-14-4883). Rockville, MD: Author.

Appendix A: Tables

Table A.1. Spending by Provider: Levels and Percent Distribution for Mental Health and Substance Use Disorders (MH/SUD), Mental Health (MH), Substance Use Disorders (SUD), and All Health, 2014

	MH/SUD		MH		SUD		All Health[a]	
Type of Provider	**$, Millions**	**%**	**$, Millions**	**%**	**$, Millions**	**%**	**$, Millions**	**%**
Total	219,980	100	186,089	100	33,891	100	2,915,343	100
Total all service providers and products[a]	201,280	91	170,147	91	31,133	91	2,674,957	92
Total all service providers[b]	148,360	67	119,044	64	29,316	87	2,267,145	78
All hospitals	60,336	27	49,414	27	10,922	32	978,328	34
General hospitals	40,739	19	32,226	17	8,513	25	ND	ND
General hospital, specialty units[c]	25,344	12	20,714	11	4,631	14	ND	ND
General hospitals, nonspecialty units	15,395	7	11,513	6	3,882	11	ND	ND
Specialty hospitals	19,597	9	17,188	9	2,409	7	ND	ND
All physicians	21,812	10	19,984	11	1,828	5	615,044	21
Psychiatrists	10,540	5	10,142	5	399	1	ND	ND
Nonpsychiatric physicians	11,271	5	9,843	5	1,429	4	ND	ND
Other professionals[d]	14,505	7	11,162	6	3,343	10	85,533	3
Freestanding nursing homes	9,431	4	9,061	5	370	1	160,212	5
Freestanding home health	3,367	2	3,127	2	240	1	81,854	3
Other personal and public health	38,909	18	26,295	14	12,614	37	153,012	5
Specialty MH centers[e]	28,365	13	26,295	14	2,069	6	ND	ND
Specialty SUD centers[f]	10,544	5	–	–	10,544	31	ND	ND
Retail prescription drugs	52,920	24	51,102	27	1,818	5	305,129	10
Insurance administration	18,700	9	15,942	9	2,757	8	240,386	8

Note: Dashes indicate no spending in a category. ND indicates no data available. Because of rounding, numbers and percentages may not sum to category totals.

[a] Excludes insurance administration.

[b] All health includes spending for dentists and other nondurable and durable medical products.

[c] All spending for psychiatric services in Department of Veterans Affairs hospitals is included in general hospital specialty unit providers.

[d] Includes psychologists, counselors, and social workers.

[e] Includes residential treatment centers for children.

[f] Includes other facilities for treating SUDs.

Source: Substance Abuse and Mental Health Services Administration (SAMHSA) Behavioral Health Spending and Use Accounts; Centers for Medicare & Medicaid Services, Office of Actuary, National Health Expenditure Accounts

Table A.2. Spending by Payment Source: Levels and Percent Distribution for Mental Health and Substance Use Disorders (MH/SUD), Mental Health (MH), Substance Use Disorders (SUD), and All Health, 2014

	MH/SUD		MH		SUD		All Health	
Type of Payer	**$, Millions**	**%**	**$, Millions**	**%**	**$, Millions**	**%**	**$, Millions**	**%**
Total	219,980	100	186,089	100	33,891	100	2,915,343	100
Total private	86,334	39	75,776	41	10,558	31	1,492,618	51
Out of pocket	22,310	10	19,107	10	3,203	9	343,778	12
Private insurance	58,064	26	52,000	28	6,064	18	1,020,275	35
Other private	5,960	3	4,669	3	1,291	4	128,565	4
Total public	133,646	61	110,313	59	23,333	69	1,422,725	49
Medicare	30,284	14	28,103	15	2,181	6	616,776	21
Medicaid	53,027	24	45,820	25	7,207	21	507,024	17
Other federal[a]	14,419	7	10,454	6	3,965	12	136,402	5
Other state and local[a]	35,917	16	25,937	14	9,980	29	162,522	6

Note: Because of rounding, numbers and percentages may not sum to category totals.

[a] Substance Abuse and Mental Health Services Administration (SAMHSA) block grants to "state and local" agencies are part of "other federal" government spending.

Source: SAMHSA Behavioral Health Spending and Use Accounts; Centers for Medicare & Medicaid Services, Office of Actuary, National Health Expenditure Accounts

Table A.3. Spending by Specialty and Nonspecialty Providers: Levels, Percentage of Total Expenditures, and Percentage Within Sector for Mental Health and Substance Use Disorders (MH/SUD), Mental Health (MH), and Substance Use Disorders (SUD), 2014

	MH/SUD			MH			SUD		
Type of Provider	$, Millions	Percent of Total Expenditures	Percent Within Sectors	$, Millions	Percent of Total Expenditures	Percent Within Sectors	$, Millions	Percent of Total Expenditures	Percent Within Sectors
Total	219,980	100	NA	186,089	100	NA	33,891	100	NA
Specialty sector providers	108,896	50	100	85,501	46	100	23,395	69	100
General hospital, specialty units[a]	25,344	12	23	20,714	11	24	4,631	14	20
Specialty hospitals	19,597	9	18	17,188	9	20	2,409	7	10
Psychiatrists	10,540	5	10	10,142	5	12	399	1	2
Other professionals[b]	14,505	7	13	11,162	6	13	3,343	10	14
Specialty MH centers[c]	28,365	13	26	26,295	14	31	2,069	6	9
Specialty SUD centers[d]	10,544	5	10	–	–	–	10,544	31	45
General sector providers	39,464	18	100	33,544	18	100	5,920	17	100
General hospitals, nonspecialty care[e]	15,395	7	39	11,513	6	34	3,882	11	66
Nonpsychiatric physicians	11,271	5	29	9,843	5	29	1,429	4	24
Freestanding nursing homes	9,431	4	24	9,061	5	27	370	1	6
Freestanding home health	3,367	2	9	3,127	2	9	240	1	4
Retail prescription drugs	52,920	24	NA	51,102	27	NA	1,818	5	NA
Insurance administration	18,700	9	NA	15,942	9	NA	2,757	8	NA

Note: Dashes indicate no spending in a category. NA indicates not applicable. Because of rounding, numbers and percentages may not sum to category totals.

[a] Includes specialty units of general hospitals; spending for psychiatric services in Department of Veterans Affairs hospitals is included in general hospital specialty unit providers.

[b] Includes psychologists, counselors, and social workers.

[c] Includes residential treatment centers for children.

[d] Includes other facilities for treating SUDs.

[e] Includes general hospital nonspecialty units but excludes nonspecialty units of Veterans Affairs hospitals.

Source: Substance Abuse and Mental Health Services Administration (SAMHSA) Behavioral Health Spending and Use Accounts

Table A.4. Mental Health and Substance Use Disorder (MH/SUD) Spending by Provider and Setting: Levels and Percent Distribution, Selected Years

Type of Provider	$, Millions						Percent Distribution					
	1986	1992	1998	2004	2009	2014	1986	1992	1998	2004	2009	2014
Total	41,526	65,328	83,669	130,176	170,259	219,980	100	100	100	100	100	100
Total all service providers and products	39,488	62,352	79,241	119,627	158,501	201,280	95	95	95	92	93	91
Total all service providers	36,922	57,811	67,566	87,651	115,585	148,360	89	88	81	67	68	67
All hospitals	17,779	24,946	26,429	34,434	45,423	60,336	43	38	32	26	27	27
General hospitals	8,119	11,876	14,908	20,314	27,735	40,739	20	18	18	16	16	19
General hospitals, specialty units[a]	5,612	9,048	10,922	13,751	18,964	25,344	14	14	13	11	11	12
General hospitals, nonspecialty units	2,507	2,828	3,986	6,563	8,771	15,395	6	4	5	5	5	7
Specialty hospitals	9,660	13,070	11,521	14,120	17,688	19,597	23	20	14	11	10	9
All physicians	4,667	7,875	10,280	13,757	16,958	21,812	11	12	12	11	10	10
Psychiatrists	2,645	4,668	5,773	7,762	8,467	10,540	6	7	7	6	5	5
Nonpsychiatric physicians	2,022	3,207	4,507	5,995	8,490	11,271	5	5	5	5	5	5
Other professionals[b]	2,169	4,540	5,391	7,372	10,461	14,505	5	7	6	6	6	7
Freestanding nursing homes	5,119	6,132	5,448	6,588	8,079	9,431	12	9	7	5	5	4
Freestanding home health	106	290	792	1,238	2,640	3,367	<1	<1	1	1	2	2
Other personal and public health	7,082	14,028	19,226	24,262	32,024	38,909	17	21	23	19	19	18
Specialty MH centers[c]	4,763	8,806	13,376	17,090	22,819	28,365	11	13	16	13	13	13
Specialty SUD centers[d]	2,319	5,221	5,850	7,173	9,205	10,544	6	8	7	6	5	5
Retail prescription drugs	2,566	4,542	11,675	31,976	42,916	52,920	6	7	14	25	25	24
Insurance administration	2,037	2,976	4,428	10,549	11,758	18,700	5	5	5	8	7	9
Addendum by Specialization of Provider												
Specialty providers[e]	27,168	45,353	52,833	67,267	87,605	108,896	74	78	78	77	76	73
Nonspecialty providers[f]	9,754	12,458	14,733	20,384	27,980	39,464	26	22	22	23	24	27

Note: Because of rounding, numbers and percentages may not sum to category totals.

[a] All spending for psychiatric services in Department of Veterans Affairs hospitals is included in general hospital specialty units.

[b] Includes psychologists, counselors, and social workers.

[c] Includes residential treatment centers for children.

[d] Includes other facilities for treating SUDs.

[e] Includes specialty units of general hospitals, specialty hospitals, psychiatrists, other professionals, specialty MH centers, and specialty SUD centers.

[f] Includes nonspecialty units in general hospitals, nonpsychiatric physicians, home health and nursing homes.

Source: Substance Abuse and Mental Health Services Administration (SAMHSA) Behavioral Health Spending and Use Accounts

Table A.5. Mental Health (MH) Spending by Provider and Setting: Levels and Percent Distribution, Selected Years

Type of Provider	$, Millions						Percent Distribution					
	1986	1992	1998	2004	2009	2014	1986	1992	1998	2004	2009	2014
Total	32,444	51,936	68,956	111,412	145,126	186,089	100	100	100	100	100	100
Total all service providers and products	30,924	49,492	65,223	102,318	134,894	170,147	95	95	95	92	93	91
Total all service providers	28,360	44,954	53,552	70,353	92,866	119,044	87	87	78	63	64	64
All hospitals	13,527	20,354	22,056	29,217	37,732	49,414	42	39	32	26	26	27
General hospitals	5,276	8,621	12,024	16,284	22,124	32,226	16	17	17	15	15	17
General hospital, specialty units[a]	3,053	6,197	8,696	10,919	15,308	20,714	9	12	13	10	11	11
General hospitals, nonspecialty units	2,223	2,425	3,328	5,365	6,816	11,513	7	5	5	5	5	6
Specialty hospitals	8,251	11,733	10,032	12,932	15,608	17,188	25	23	15	12	11	9
All physicians	3,810	6,923	9,411	12,905	15,925	19,984	12	13	14	12	11	11
Psychiatrists	2,438	4,366	5,518	7,496	8,281	10,142	8	8	8	7	6	5
Nonpsychiatric physicians	1,373	2,557	3,893	5,409	7,644	9,843	4	5	6	5	5	5
Other professionals[b]	1,519	3,255	4,198	5,685	7,879	11,162	5	6	6	5	5	6
Freestanding nursing homes	4,989	5,917	5,212	6,331	7,761	9,061	15	11	8	6	5	5
Freestanding home health	103	281	767	1,169	2,482	3,127	–	1	1	1	2	2
Other personal and public health	4,412	8,224	11,908	15,045	21,088	26,295	14	16	17	14	15	14
Specialty MH centers[c]	4,412	8,224	11,908	15,045	21,088	26,295	14	16	17	14	15	14
Specialty SUD centers[d]	–	–	–	–	–	–	–	–	–	–	–	–
Retail prescription drugs	2,564	4,538	11,670	31,965	42,027	51,102	8	9	17	29	29	27
Insurance administration	1,520	2,444	3,733	9,094	10,233	15,942	5	5	5	8	7	9
Addendum by Specialization of Provider												
Specialty providers[e]	19,673	33,775	40,352	52,077	68,164	85,501	69	75	75	74	74	72
Nonspecialty providers[f]	8,688	11,180	13,200	18,274	24,703	33,544	31	25	25	26	26	28

Note: Dashes indicate no spending in a category. Because of rounding, numbers and percentages may not sum to category totals.

[a] All spending for psychiatric services in Department of Veterans Affairs hospitals is included in general hospital specialty unit providers.

[b] Includes psychologists, counselors, and social workers.

[c] Includes residential treatment centers for children.

[d] Includes other facilities for treating SUDs.

[e] Includes specialty units of general hospitals, specialty hospitals, psychiatrists, other professionals, specialty MH centers, and specialty SUD centers.

[f] Includes nonspecialty units in general hospitals, nonpsychiatric physicians, home health and nursing homes.

Source: Substance Abuse and Mental Health Services Administration (SAMHSA) Behavioral Health Spending and Use Accounts

Table A.6. Substance Use Disorder (SUD) Spending by Provider and Setting: Levels and Percent Distribution, Selected Years

Type of Provider and Site of Service	$, Millions						Percent Distribution					
	1986	1992	1998	2004	2009	2014	1986	1992	1998	2004	2009	2014
Total	9,082	13,392	14,713	18,764	25,132	33,891	100	100	100	100	100	100
Total all service providers and products	8,565	12,860	14,018	17,310	23,607	31,133	95	95	95	92	93	91
Total all service providers	8,562	12,856	14,013	17,298	22,718	29,316	94	96	95	92	90	87
All hospitals	4,252	4,592	4,372	5,217	7,691	10,922	47	34	30	28	31	32
General hospitals	2,843	3,255	2,884	4,029	5,611	8,513	31	24	20	21	22	25
General hospital, specialty units[a]	2,558	2,851	2,226	2,831	3,656	4,631	28	21	15	15	15	14
General hospitals, nonspecialty units	284	404	658	1,198	1,955	3,882	3	3	4	6	8	11
Specialty hospitals	1,409	1,337	1,488	1,187	2,080	2,409	16	10	10	6	8	7
All physicians	857	952	869	852	1,033	1,828	9	7	6	5	4	5
Psychiatrists	207	302	255	265	186	399	2	2	2	1	1	1
Nonpsychiatric physicians	649	650	614	586	847	1,429	7	5	4	3	3	4
Other professionals[b]	651	1,285	1,192	1,687	2,582	3,343	7	10	8	9	10	10
Freestanding nursing homes	130	215	237	257	317	370	1	2	2	1	1	1
Freestanding home health	3	9	25	69	158	240	<1	<1	<1	<1	1	1
Other personal and public health	2,670	5,804	7,318	9,217	10,937	12,614	29	43	50	49	44	37
Specialty MH centers[c]	351	582	1,469	2,045	1,732	2,069	4	4	10	11	7	6
Specialty SUD centers[d]	2,319	5,221	5,850	7,173	9,205	10,544	25	39	40	38	37	31
Retail prescription drugs	3	4	5	11	889	1,818	<1	<1	<1	<1	4	5
Insurance administration	517	532	695	1,455	1,525	2,757	6	4	5	8	6	8
Addendum by Specialization of Provider												
Specialty providers[e]	7,495	11,579	12,480	15,188	19,441	23,395	88	90	89	88	87	80
Nonspecialty providers[f]	1,067	1,278	1,534	2,110	3,277	5,920	12	10	11	12	13	20

Note: Because of rounding, numbers and percentages may not sum to category totals.

[a] All spending for psychiatric services in Department of Veteran Affairs hospitals is included in general hospital specialty unit providers.

[b] Includes psychologists, counselors, and social workers.

[c] Includes residential treatment centers for children.

[d] Includes other facilities for treating SUDs.

[e] Includes specialty units of general hospitals, specialty hospitals, psychiatrists, other professionals, specialty MH centers, and specialty SUD centers.

[f] Includes nonspecialty units in general hospitals, nonpsychiatric physicians, home health and nursing homes.

Source: Substance Abuse and Mental Health Services Administration (SAMHSA) Behavioral Health Spending and Use Accounts

Table A.7. Mental Health and Substance Use Disorder (MH/SUD), Mental Health (MH) and Substance Use Disorder (SUD) Spending by Payment Source: Levels and Percent Distribution, Selected Years

	$, Millions							Percent Distribution						
Type of Payment Source	**1986**	**1992**	**1998**	**2004**	**2008**	**2011**	**2014**	**1986**	**1992**	**1998**	**2004**	**2008**	**2011**	**2014**
Total MH/SUD	41,526	65,328	83,669	130,176	162,616	188,459	219,980	100	100	100	100	100	100	100
Total private, MH/SUD	18,467	24,826	30,401	50,794	64,078	75,059	86,334	44	38	36	39	39	40	39
Out of pocket	6,901	8,527	9,918	14,646	17,825	20,112	22,310	17	13	12	11	11	11	10
Private insurance	9,499	12,703	17,824	32,406	41,102	49,635	58,064	23	19	21	25	25	26	26
Other private	2,066	3,596	2,659	3,741	5,150	5,313	5,960	5	6	3	3	3	3	3
Total public, MH/SUD	23,059	40,502	53,268	79,383	98,538	113,400	133,646	56	62	64	61	61	60	61
Medicare	2,397	4,646	7,121	8,521	17,293	23,666	30,284	6	7	9	7	11	13	14
Medicaid	6,441	13,072	19,299	36,331	41,277	46,314	53,027	16	20	23	28	25	25	24
Other federal[a]	2,990	5,336	5,768	8,275	9,654	12,299	14,419	7	8	7	6	6	7	7
Other state and local[a]	11,231	17,447	21,080	26,255	30,315	31,121	35,917	27	27	25	20	19	17	16
Total MH	32,444	51,936	68,956	111,412	139,281	160,221	186,089	100	100	100	100	100	100	100
Total private, MH	14,032	20,456	26,567	46,345	57,402	66,252	75,776	43	39	39	42	41	41	41
Out of pocket	5,693	6,891	8,738	13,253	15,507	17,210	19,107	18	13	13	12	11	11	10
Private insurance	6,573	10,644	15,765	30,020	37,855	44,912	52,000	20	20	23	27	27	28	28
Other private	1,766	2,921	2,064	3,073	4,039	4,131	4,669	5	6	3	3	3	3	3
Total public, MH	18,412	31,480	42,389	65,067	81,879	93,968	110,313	57	61	61	58	59	59	59
Medicare	2,064	4,088	6,344	7,626	16,332	22,236	28,103	6	8	9	7	12	14	15
Medicaid	5,590	11,016	16,497	32,374	36,198	40,525	45,820	17	21	24	29	26	25	25
Other federal[a]	2,013	2,573	3,507	5,359	6,933	8,876	10,454	6	5	5	5	5	6	6
Other state and local[a]	8,745	13,803	16,040	19,708	22,416	22,332	25,937	27	27	23	18	16	14	14
Total SUD	9,082	13,392	14,713	18,764	23,335	28,238	33,891	100	100	100	100	100	100	100
Total private, SUD	4,435	4,370	3,834	4,448	6,676	8,806	10,558	49	33	26	24	29	31	31
Out of pocket	1,207	1,636	1,179	1,393	2,318	2,902	3,203	13	12	8	7	10	10	9
Private insurance	2,927	2,059	2,059	2,386	3,247	4,723	6,064	32	15	14	13	14	17	18
Other private	301	675	596	669	1,111	1,182	1,291	3	5	4	4	5	4	4
Total public, SUD	4,647	9,022	10,879	14,316	16,659	19,432	23,333	51	67	74	76	71	69	69
Medicare	333	558	777	895	961	1,430	2,181	4	4	5	5	4	5	6
Medicaid	850	2,057	2,802	3,957	5,078	5,789	7,207	9	15	19	21	22	21	21
Other federal[a]	978	2,764	2,262	2,917	2,721	3,423	3,965	11	21	15	16	12	12	12
Other state and local[a]	2,486	3,644	5,039	6,547	7,899	8,790	9,980	27	27	34	35	34	31	29
Total, all health	444,384	801,009	1,129,549	1,788,184	2,258,879	2,547,966	2,915,343	100	100	100	100	100	100	100
Total private, all health	262,408	456,594	626,688	981,965	1,194,747	1,318,777	1,492,618	59	57	55	55	53	52	51
Out of pocket	104,034	144,233	179,079	251,669	300,870	317,311	343,778	23	18	16	14	13	12	12
Private insurance	136,025	275,557	388,274	659,981	808,026	899,358	1,020,275	31	34	34	37	36	35	35
Other private	22,349	36,804	59,335	70,315	85,851	102,108	128,565	5	5	5	4	4	4	4
Total public, all health	181,976	344,415	502,861	806,219	1,064,132	1,229,189	1,422,725	41	43	45	45	47	48	49
Medicare	76,830	135,997	209,420	311,158	467,065	544,677	616,776	17	17	19	17	21	21	21
Medicaid	45,382	108,186	169,217	292,771	347,391	410,631	507,024	10	14	15	16	15	16	17
Other federal[a]	21,033	33,716	41,367	79,442	102,378	124,378	136,402	5	4	4	4	5	5	5
Other state and local[a]	38,731	66,516	82,857	122,848	147,298	149,503	162,522	9	8	7	7	7	6	6

Note: Because of rounding, numbers and percentages may not sum to category totals.

[a] Substance Abuse and Mental Health Services Administration (SAMHSA) block grants to "state and local" agencies are part of "other federal" government spending.

Source: SAMHSA Behavioral Health Spending and Use Accounts; Centers for Medicare & Medicaid Services, Office of Actuary, National Health Expenditure Accounts

Table A.8. Average Annual Growth by Payment Source for Mental Health and Substance Use Disorders (MH/SUD), Mental Health (MH), Substance Use Disorders (SUD), and All Health, Selected Periods

Type of Payment Source	Percentage of Average Annual Growth																							
	MH/SUD						MH						SUD						All Health					
	1986 – 1992	1992 – 1998	1998 – 2004	2004 – 2008	2008 – 2011	2011 – 2014	1986 – 1992	1992 – 1998	1998 – 2004	2004 – 2008	2008 – 2011	2011 – 2014	1986 – 1992	1992 – 1998	1998 – 2004	2004 – 2008	2008 – 2011	2011 – 2014	1986 – 1992	1992 – 1998	1998 – 2004	2004 – 2008	2008 – 2011	2011 – 2014
Total	7.8	4.2	7.6	5.7	5.0	5.3	8.2	4.8	8.3	5.7	4.9	5.1	6.7	1.6	4.1	5.6	6.4	6.3	10.3	5.9	8.0	6.0	4.1	4.6
Total, private	5.1	3.4	8.9	6.0	5.4	4.8	6.5	4.5	9.7	5.5	4.7	4.6	–0.2	–2.2	2.5	10.7	7.9	6.2	9.7	5.4	7.8	5.0	3.3	4.2
Out of pocket	3.6	2.5	6.7	5.0	4.1	3.5	3.2	4.0	7.2	4.0	3.5	3.5	5.2	–5.3	2.8	13.6	5.5	3.4	5.6	3.7	5.8	4.6	1.8	2.7
Private insurance	5.0	5.8	10.5	6.1	6.5	5.4	8.4	6.8	11.3	6.0	5.4	5.0	–5.7	<0.1	2.5	8.0	11.0	8.7	12.5	5.9	9.2	5.2	3.6	4.3
Other private	9.7	–4.9	5.9	8.3	1.0	3.9	8.7	–5.6	6.9	7.1	2.4	4.2	14.4	–2.1	2.0	13.5	2.5	3.0	8.7	8.3	2.9	5.1	6.0	8.0
Total, public	9.8	4.7	6.9	5.6	4.8	5.6	9.4	5.1	7.4	5.9	5.1	5.5	11.7	3.2	4.7	3.9	5.8	6.3	11.2	6.5	8.2	7.2	4.9	5.0
Medicare	11.7	7.4	3.0	19.4	11.0	8.6	12.1	7.6	3.1	21.0	9.5	8.1	9.0	5.7	2.4	1.8	14.6	15.1	10.0	7.5	6.8	10.7	5.3	4.2
Medicaid	12.5	6.7	11.1	3.2	3.9	4.6	12.0	7.0	11.9	2.8	4.0	4.2	15.9	5.3	5.9	6.4	6.0	7.6	15.6	7.7	9.6	4.4	5.7	7.3
Other federal	10.1	1.3	6.2	3.9	8.4	5.4	4.2	5.3	7.3	6.7	7.1	5.6	18.9	–3.3	4.3	–1.7	6.5	5.0	8.2	3.5	11.5	6.5	6.7	3.1
Other state and local	7.6	3.2	3.7	3.7	0.9	4.9	7.9	2.5	3.5	3.3	2.5	5.1	6.6	5.6	4.5	4.8	4.0	4.3	9.4	3.7	6.8	4.6	0.5	2.8

Source: Substance Abuse and Mental Health Services Administration (SAMHSA) Behavioral Health Spending and Use Accounts, 2014; Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Expenditure Accounts

Appendix B: Behavioral Health Spending and Use Accounts Structure and Definitions

This appendix presents the structure used in the Substance Abuse and Mental Health Services Administration (SAMHSA) Behavioral Health Spending and Use Accounts (BHSUA) to estimate treatment spending for mental health (MH) and for substance use disorders (SUDs). It also describes the classification system used as a basis for that structure and defines many of the concepts used in the BHSUA. It draws heavily on the definitions used for the National Health Expenditure Accounts (NHEA) that are posted on the Centers for Medicare & Medicaid Services (CMS) NHEA website.[9]

Behavioral Health Spending and Use Accounts Structure

The BHSUA measured aggregate spending on the treatment of mental and/or substance use disorders (MH/SUDs). Historical estimates were constructed in four dimensions:

- Diagnosis
  - MH disorders
  - SUDs
- Providers and products
  - Hospital care: general and specialty hospitals[10]
  - Physician services: psychiatrists and other physicians[11]
  - Other professional services: psychologists, clinical social workers, and others
  - Nursing home care
  - Home health care
  - Center-based providers
    - Specialty MH centers
    - Specialty SUD centers
  - Prescription drugs
  - Insurance administration
- Setting
  - Inpatient
  - Outpatient
  - Residential
- Payment Source
  - Private insurance
  - Out of pocket
  - Other private: foundation and other charity
  - Medicare
  - Medicaid, both state and federal share; includes State Children's Health Insurance Program

[9] Centers for Medicare & Medicaid Services. *National Health Expenditures Accounts: Methodology Paper, 2013*. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/downloads/dsm-13.pdf

[10] Hospital care was estimated separately for *specialty* psychiatric and chemical dependency hospitals and, within general hospitals, separately for *specialty unit* and nonspecialty care.

[11] Physician services were estimated separately for psychiatric physicians and for nonpsychiatric physicians.

(SCHIP) that is run through Medicaid programs
- Other federal: Department of Defense (DoD), Department of Veterans Affairs (VA), and SAMHSA MH and Substance Abuse Block Grants
- Other state and local: state and local general revenue; includes SCHIP operated as a program separate from Medicaid.

Expenditures in the BHSUA measured the amounts spent to (1) provide services to specific individuals who have diagnoses related to MH or SUDs; (2) pay for prescription medications with indications for treatments related to those diagnoses; (3) cover the costs of insurers to administer various public and private insurance programs, and (4) cover the costs of philanthropic organizations to administer their programs. There currently is no measure of MH and SUD research or investment in structures or equipment that are used in providing treatment, which is unlike the CMS NHEA.

Classification System

The classification system for private establishments (i.e., generally single locations of production of services) is laid out in the North American Industrial Classification System (NAICS) by the federal government. Sector 62 defines establishments in the Health Care and Social Assistance area. For public entities, classification of government operations parallels the NAICS system, such as the operation of public MH and SUD chemical dependency clinics. The NAICS groups the private sector establishments according to similar production processes. Each establishment is assigned a code that identifies the main nature of its operation within the broader industrial classification scheme. For the health care and social assistance industry, the NAICS also is structured to capture the continuum of medical and social care. The NAICS structure for health care and social assistance ranges from medical care facilities providing acute care (offices and clinics of physicians and hospitals) to less acute medical care facilities (residential treatment centers, nursing homes, and continuing care facilities) to social assistance facilities providing little or no medical care.

The NHEA historically included only facilities providing medical care in the estimates; establishments providing social assistance were excluded. This meant that services provided by residential treatment centers were not included in the all health accounts. In the 2009 comprehensive revisions to the NHEA, spending was broadened to encompass residential treatment facilities that included residential SUD and MH facilities. This change means that some residential treatment centers that previously were not included in the BHSUA are now included, raising the overall level of MH/SUD spending. Residential facilities provide therapeutic services, including assessments, counseling, medication management, group and individual counseling services, and a structured, therapeutic environment that is removed from people, places, or situations that contribute to the patient's dysfunction. Table B.1 details how the NAICS crosswalks to the BHSUA and the National Health Expenditure Accounts.

Table B.1. North American Industry Classification System for Health Care Services Crosswalk to the BHSUA and the National Health Expenditure Accounts

NAICS Code	NAICS Industry Title	MH/SUD Expenditure Account Category	NHEA Category
6211	Office of Physicians	Physician Services	Physician and Clinical Services
621111	Offices of Physicians (except Mental Health Specialists)	Nonpsychiatric Physician Services	
621112	Offices of Physicians, Mental Health Specialists	Psychiatrists	
6213	Offices of Other Health Practitioners	Other Professional Services	Other Professional Services
62133	Offices of Mental Health Practitioners	Other Professional Services	
6214	Outpatient Care Centers	Physician Services, except Outpatient MH and SUD Centers	Physician and Clinical Services
62142	Outpatient MH and SUD Centers	Specialty MH Centers–part; Specialty SUD Centers–part	
6216	Home Health Care Agencies	Home Health Care	Home Health Care
6221, 6223	General Medical/Surgical Hospitals; Specialty Hospitals (except Psychiatric and SUD Hospitals)	General Hospitals	Hospital Care
6222	Psychiatric and SUD Hospitals	Specialty (Psychiatric and Substance Abuse) Hospitals	
6231	Nursing Care facilities	Nursing Home Care	Nursing Home Care
623311	Continuing Care Retirement Communities (with onsite nursing home facilities)		
62322	Residential Mental Health and SUD Facilities	Specialty MH Centers–part; Specialty SUD Centers–part	Other Health, Residential, and Personal Care

Abbreviations: BHSUA, Behavioral Health Spending and Use Accounts; MH, mental health; SUD, substance use disorder

Source: Centers for Medicare & Medicaid Services. *National Health Expenditures Accounts: Methodology Paper, 2010*. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/downloads/dsm-11.pdf

In addition, two categories of spending are not defined by NAICS. Unlike other spending categories where the establishment's primary function is medical care, this spending is for services or products delivered by nonmedical establishments. The first category is spending on the purchase of prescription drugs. This category represents products sold in retail establishments such as community pharmacies, mass merchandise retailers, grocery stores, or through mail order pharmacies. The second category is insurance administration, which covers the cost of running various government health care programs, the net cost[12] of private health insurance, and the administrative costs associated with operating philanthropic organizations that provide donations for health care.

[12] *Net cost* was the difference between the insurance premium cost and the benefits incurred. It included all costs associated with administering health insurance (e.g., commissions, bill processing, reserves), dividends paid to stockholders, and other taxes and costs.

Definitions

The following list provides definitions of provider, payment source, and setting categories used with the MH and SUD spending accounts. The NAICS codes referenced in these definitions can be found on Table B.1.

Diagnoses

We defined spending for MH and SUD services measured in these accounts by diagnostic codes found in the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) as *mental disorders* (i.e., codes in sections 290 through 319; see Table B.2).[13] We excluded a subset of these mental disorders as being outside the scope of this project: dementias (290), transient mental disorders caused by conditions classified elsewhere (293), persistent mental disorders caused by conditions classified elsewhere (294), nondependent use of drugs–tobacco abuse disorder (305.1), specific delays in development (315), and mental retardation (317–319). We also excluded cerebral degenerations (e.g., Alzheimer's disease, 331.0), and psychic factors associated with diseases classified elsewhere (316). We included two pregnancy-related complications: complications mainly related to pregnancy–drug dependence (648.3) and mental disorders (648.4).

The allocation of MH and SUD spending for services was based on principal or primary diagnosis and did not include spending associated with secondary diagnoses. The diagnostic categories selected generally reflect what payers (insurers) consider as MH/SUDs. They excluded costs not directly related to treatment, such as those stemming from lower productivity, missed workdays, and/or drug-related crimes. They also excluded expenditures on non-MH and non-SUD conditions that were caused by M/SUDs, such as liver cirrhosis.

[13] Services provided on or after October 1, 2015 are coded using the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM). ICD-10 codes did not apply for these estimates.

Table B.2. ICD-9 Codes Included in Mental Health (MH) and Substance Use Disorder (SUD) Diagnoses

ICD-9 Code	ICD-9 Disease Category	Included in MH/SUD
290–319	Mental Disorders	
290–299	Psychoses	
291	Alcohol-induced mental disorders	SUD (alcohol)
292	Drug-induced disorders	SUD (drug)
295	Schizophrenic disorders	MH
296	Episodic mood disorders	MH
297	Delusional disorders	MH
298	Other nonorganic psychoses	MH
299	Pervasive developmental disorders	MH
300–314	Neurotic disorders, personality disorders, and other nonpsychotic mental disorders	
300	Anxiety, dissociative and somatoform disorders	MH
301	Personality disorders	MH
302	Sexual and gender identity disorders	MH
303	Alcohol dependence syndrome	SUD (alcohol)
304	Drug dependence	SUD (drug)
305.0	Alcohol abuse	SUD (alcohol)
305.2–305.9	Nondependent abuse of drugs—except tobacco abuse disorder (305.1)	SUD (drug)
306	Physiological malfunction arising from mental factors	MH
307	Special symptoms and syndromes, not elsewhere classified	MH
308	Acute reaction to stress	MH
309	Adjustment reaction	MH
310	Specific nonpsychotic mental disorders due to brain damage	MH
311	Depressive disorder, not elsewhere classified	MH
312	Disturbance of conduct, not elsewhere classified	MH
313	Disturbance of emotions to childhood and adolescence	MH
314	Hyperkinetic syndrome of childhood	MH
648.3	Complications mainly related to pregnancy—drug dependence	SUD (drug)
648.4	Complications mainly related to pregnancy—mental disorders	MH

Source: International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)

In contrast to other services, which are determined to be treatment primarily a mental health or substance use disorder based on the primary diagnosis, prescription databases do not indicate the primary diagnosis for which the medication was prescribed. Therefore, we assumed that a medication was for the treatment of a mental health or substance use disorder if its primary indication was a mental health or substance use condition.

We used the following classifications of mental health:

- Benzodiazepines, anxiolytics, sedatives, and hypnotics
- Antipsychotics and antimanics
- Antidepressants
- Analeptics (attention deficit hyperactivity disorder [ADHD] medications)
- Some anticonvulsants, such as clonazepam, gabapentin, or lamotrigine

We also incorporated the following medications indicated for substance use disorder treatment:

- Buprenorphine
- Buprenorphine/naloxone
- Acamprosate
- Disulfiram
- Naltrexone

We captured spending on methadone as part of spending for the provider where methadone is dispensed, rather than with SUD prescription drug spending.

Providers

The definitions below borrow liberally from two CMS National Health Expenditure Accounts documents[14,15] and from the U.S. Bureau of the Census NAICS website.[16] Providers of service are classified according to the major types of services they furnish. These services are listed in Table B.1. In addition to the major types of services they deliver, providers often perform other functions. For example, a hospital primarily provides inpatient health care services, but it also may operate a home health agency or nursing home wing and provide physician services through staff physicians in clinics and outpatient departments. We made the classification of spending on the basis of the primary services provided, even though the provider also may fill other functions. The reason for this classification scheme is that providers often furnish the data used to estimate spending. These providers seldom categorize spending by function, which would be necessary information to produce a "functional" display of spending.

Hospital care includes all billed services provided to patients by public and private general medical/surgical and psychiatric and SUD specialty hospitals.

- **General hospitals** are community medical/surgical and specialty hospitals (other than MH and SUD specialty hospitals) providing diagnostic and medical treatment to inpatients, including inpatient psychiatric care in specialized treatment units of general hospitals, detoxification, and other MH and SUD treatment services.
    - **General hospital specialty mental health and substance use disorder units** are any unites in general medical/surgical hospital or nonpsychiatric and nonsubstance abuse specialty hospitals that as designated as MH or SUD *specialty unit* specifically designated for the treatment of patients with MH/SUD diagnoses. Inpatient care in VA hospitals is included in this category. .
    - **General hospital nonspecialty care** is any general medical or surgical hospital, or nonpsychiatric and nonsubstance abuse specialty hospital.Outpatient treatment in

[14] Centers for Medicare & Medicaid Services. (n.d.) *National Health Expenditure Accounts: Methodology paper, 2013*. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/downloads/dsm-13.pdf

[15] Centers for Medicare & Medicaid Services. (n.d.) *Quick definitions for National Health Expenditure Accounts (NHEA) categories*. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/quickref.pdf

[16] U.S. Census Bureau. (n.d.) North American Industry Classification System. (NAICS Website). Retrieved from http://www.census.gov/eos/www/naics/

emergency rooms is included in this category. For purposes of these estimates, we only counted spending for patients with primary diagnoses of mental illness or substance use in this category.

- **Specialty hospitals** are establishments that are designated as primarily engaged in providing diagnostic, medical treatment, and monitoring services for patients who have MH/SUDs.

Office-based professional care as a summary category includes physician services and other professional services.

- **Physician services** include independently billed services provided in establishments operated by Doctors of Medicine (M.D.) and Doctors of Osteopathy (D.O.), and outpatient care centers (except specialty MH and SUD clinics). This category also includes services rendered by a physician in hospitals, if the physician bills independently for those services.
    - **Psychiatrists** include independently billing private or group practices of health practitioners with the degree of M.D. or D.O. who primarily are engaged in the practice of psychiatry or psychoanalysis, plus the independently-billed portion of medical laboratory services.
- **Other professional services** cover services provided in establishments operated by health practitioners other than physicians and dentists. These professional services include those provided by private-duty nurses, chiropractors, podiatrists, optometrists, and physical, occupational, and speech therapists; for the MH and substance use field, these include services of psychologists, psychoanalysts, psychotherapists, clinical social workers, professional counselors and SUD counselors, and marriage and family therapists. For the BHSUA, these are establishments primarily engaged in the diagnosis and treatment of mental, emotional, and behavioral disorders and/or the diagnosis and treatment of individual or group social dysfunction brought about by such causes as mental illness, alcohol and substance abuse, physical and emotional trauma, or stress.

Long-term care as a summary category includes home health and nursing home care.

- **Home health care** covers medical care provided in the home by private and public freestanding home health agencies (HHAs). The *freestanding* designation means that the agency is not facility-based—that is, based out of a hospital, nursing home, or other type of provider whose primary mission is something other than home health services. Medical equipment sales or rentals billed through HHAs were included. Nonmedical types of home care (e.g., Meals on Wheels, chore-worker services, friendly visits, or other custodial services) were excluded.
- **Nursing home care** covers services provided in private and public freestanding nursing home facilities. The *freestanding* designation means that the nursing home is not based out of a hospital or other type of provider whose primary mission is something other than nursing home care. These facilities include nursing and rehabilitative services generally for an extended period of time by staffs of registered or licensed practical nurses with physician consultation or oversight. Services provided in nursing facilities operated by the VA also were included.

Center-based providers include specialty MH centers and specialty SUD centers.

- **Specialty MH centers** are facilities that are designated as primary providing outpatient and/or residential MH services and/or co-occurring MH and SUD treatment to individuals with mental illness or with dual MH and SUD diagnoses.
- **Specialty SUD centers** are facilities that are designated as primarily providing substance abuse residential or outpatient services, or both, to individuals with substance use disorder diagnoses. Residential facilities include residential substance abuse facilities providing residential care, detoxification, and treatment for patients with SUDs. These establishments provide rehabilitation, social and counseling services, supervision, room, and board, but only include incidental medical services. Outpatient treatment centers and clinics, which generally do not provide residential care, include establishments with medical and/or nonmedical staff primarily engaged in providing outpatient diagnostic, detoxification, and treatment services related to SUDs. They may provide counseling staff, information on a wide range of SUD issues, and referral services for more intensive treatment programs, if necessary.

Prescription drugs included the sales of psychotherapeutic and SUD medications sold through retail outlets such as community pharmacies; pharmacies in mass merchandise stores, grocery stores, and department stores; and mail-order pharmacies. Excluded were sales through hospital pharmacies, exclusive-to-patient health maintenance organizations (HMOs), and nursing home pharmacies, which were instead counted with the establishment (hospital, physicians' offices, or nursing home) where the pharmacy is located. The classifications of psychotherapeutic drugs used in this study were benzodiazepines, anxiolytics, sedatives, and hypnotics; antipsychotics and antimanics; antidepressants; analeptics (ADHD medications); and some anticonvulsants. The study also incorporated substance use disorder medications: buprenorphine, acamprosate, disulfiram, and naltrexone.

Adjustments were made to prescription drug spending for rebates. This adjustment measured rebates that were returned to the insurer directly from the manufacturer after the pharmacy transaction took place at a retail pharmacy, thereby reducing the true cost. These rebates serve as incentives for insurers to include particular drugs on an insurer's formulary, thus helping the manufacturer increase its volume of sales.

Insurance administration covered spending for the cost of running various government health care insurance programs. It also covered the net cost of private health insurance (the difference between premiums earned by insurers and the claims or losses incurred for which insurers become liable). The net cost of private insurance included claims processing costs, reserves to cover future liabilities, advertising costs, premium taxes, investor dividends, and profits of insurance companies, among others.

Payment Sources

Private Payments. Any payments made through private health insurance, out of pocket, or other private sources.

- **Private health insurance** includes: (1) benefits paid by private insurance to providers of service or for prescription drugs, and (2) the net cost of private insurance—the difference between health premiums earned and benefits incurred—that was included in the category of *insurance administration*. The net cost of private insurance included costs associated with bill processing,

advertising, sales commissions, other administrative costs, net additions to reserves, rate credits and dividends, premium taxes, and profits or losses, among other items.

- **Out-of-pocket** payments included direct spending by consumers for health care goods and services, including coinsurance, deductibles, and any amounts paid for health care services that were not covered by public or private insurance, and service purchased by persons without any health. Health insurance premiums paid by individuals were not covered here, but were counted as part of private health insurance.
- **Other private** included spending from philanthropic and foundation sources and from nonpatient revenues. Nonpatient revenues are monies received for nonhealth purposes, such as from the operation of gift shops, parking lots, cafeterias, and educational programs, or from returns on investments.

Public Payments. Any payments made on behalf of enrollees in Medicare or Medicaid or through other programs run by the federal or individual state government agencies.

- **Medicare** is a federal government program that provides health insurance coverage to eligible individuals who are aged and disabled. It is composed of four parts: Part A—coverage of institutional services, including inpatient hospital services, nursing home care, initial home health visits, and hospice care; Part B—coverage for physicians and other professional services, outpatient clinic or hospital services, laboratory services, rehabilitation therapy, and home health visits not covered by Part A, among other services; Part C—Medicare Advantage program providing coverage through private plans; and Part D—coverage for prescription drugs, starting in 2006.[17] Medicare payments include payments made through fee-for-service (Part A and Part B) and managed care (Part C and Part D) plans.
- **Medicaid** is a program jointly funded by the federal and state governments that provides health care coverage to certain classes of individuals with limited income and resources. Within federal guidelines, state governments set eligibility standards, determine services provided, set reimbursement rates, and administer the program. Spending represents both federal and state portions unless otherwise specified. Medicaid payments also include payments made through fee-for-service and managed care plans. This line also includes Children's Health insurance Program (CHIP) spending that is administered as part of the Medicaid program.
- **Other federal** includes spending provided through the Veterans Administration (VA) and Department of Defense (DoD), treatment spending through MH and substance abuse block grants administered by SAMHSA, and treatment under the Indian Health Service, among other federal payment sources. It also includes any federal CHIP spending that is administered separately from the Medicaid program.
- **Other state and local** includes programs funded primarily through state and local offices of MH and SUDs, but it also may include funding from other state and local sources such as general assistance or state and local hospital subsidies. It also includes any state and local SCHIP spending that is administered separately from the Medicaid program.

[17] For more information, see *Medicare & You 2015.* Retrieved from www.medicare.gov/Library/PDFNavigation/PDFInterim.asp?Language=English&Type=Pub&PubID=10050

Settings

Inpatient services cover inpatient care provided in an acute medical care unit or setting, which is usually a hospital.

Outpatient services include care provided in an ambulatory setting, such as in a hospital outpatient department or emergency room, and in physicians' and other medical professionals' offices and clinics, including specialty MH and SUD centers.

Residential services include those from a 24-hour-care setting that provides therapeutic care to patients using licensed mental or behavioral health professionals. All nursing home care, whether provided in a freestanding or hospital-based nursing home, is counted as residential care.

Note: Neither insurance administration nor prescription drugs were classified by setting.

Appendix C: Methods

This appendix describes the methods and data sources used to produce the Substance Abuse and Mental Health Services Administration (SAMHSA) Behavioral Health Spending and Use Accounts (BHSUA) for 1986–2014. The BHSUA measure spending for mental health and substance use disorder (MH/SUD) treatment by provider type, payment source, and treatment setting. The initial report, issued in 1998, was the first effort to measure disease-specific spending in a comprehensive way using concepts similar to those used in the National Health Expenditure Accounts (NHEA). Subsequent reports provided updates to these estimates. This current effort has produced updates through 2014.

Overview of Methods and Algorithms For Determining Spending

The estimates integrate national data sources from various government agencies and private organizations. Data were analyzed using both actuarial and statistical techniques. Complex issues must be addressed when combining the data to produce comprehensive estimates, such as assuring consistency across data sources, avoiding duplicate accounting, and adjusting for incomplete observations in sample surveys.

Expert Advice. Over many years, the methods for the estimation of national MH/SUD expenditures drew extensively upon suggestions from reviewers and a technical panel of experts. The advisors included experts in mental illness, substance use disorders, expenditure estimation, actuarial methods, health services research, and health economics. Experts on state programs (including the National Association of State Alcohol/Drug Abuse Directors and the National Association of State Mental Health Program Directors) also reviewed the methods and provided advice

Overview of Methods. The approach taken to estimate national MH/SUD spending was designed to be consistent with the NHEA. The NHEA constitutes the framework for which the Centers for Medicare & Medicaid Services (CMS) constructs the estimates of spending for all health care. The framework is a two-dimensional matrix. Along one dimension is health care providers or products that constitute the U.S. health care industry; the other dimension is composed of sources of funds used to purchase this health care.

CMS has a long history and substantial expertise in estimating national spending. The estimates of MH/SUD spending for nonspecialty providers were carved out of estimates of total national health consumption expenditures developed by CMS. We developed separate estimates from SAMHSA data for specialty MH/SUD facilities. We removed duplicate expenditures between the two sectors (specialty and nonspecialty providers). Then, we summed sector estimates to obtain total national spending for mental health (MH), substance use disorder (SUD), and total MH/SUD in the United States from 1986 through 2014. Finally, we compared MH and SUD expenditures to all personal health care spending, government public health expenditures, and spending on administration, which are referred to as *health consumption expenditures* in the national health expenditure accounts or as *all health expenditures* in this report.

Strengths of the Approach. The major benefit of developing estimates to be consistent with the NHEA is that it allows for an analysis of and comparison between MH/SUD and all health spending. When the same methods, underlying data sources, and estimates are used for both calculations, the results are consistent and can be used to produce meaningful comparisons. In addition, both MH/SUD

and all health spending can be followed over time as public programs and the health care system change. Furthermore, spending by clinical problem—MH disorders and/or SUDs—can be studied to understand the patterns of public and private spending on these problems, and the participation by types of providers can be monitored as treatment patterns change.

Basic Calculations. Table C.1 summarizes the methods for estimating MH/SUD expenditures for the MH and SUD specialty facilities and other providers. The specialty facility expenditure estimates were drawn predominantly from specialty surveys by facility type and by payment source. We followed three major steps for the basic calculations. First, we subtracted spending on mental disorders (dementia, tobacco addiction, mental impairment, and mental developmental delays) that were beyond the scope of these estimates from total revenues by facility. Second, we estimated revenues for providers who delivered multiple modes of care (inpatient, outpatient, and residential treatment) by modality, using patient counts by modality and the average revenue per patient for single-modality providers specified by ownership type and region. Third, we summarized total revenues by type of provider (for example, specialty MH centers or specialty SUD centers) and by payment source and diagnosis.

Table C.1. Overview of Methods for Estimating Mental Health and Substance Use Disorder (MH/SUD) Expenditures

Method Component	Specialty Institutions[a]	All Other Providers[b]
Data sources	Facility and organization surveys (facility-level reporting)	Encounter data (administrative claims and encounter-focused surveys)
Critical data elements	Total revenue by facility, modality of care, and payment source; client counts by facility, modality of care, and diagnosis; average salaries	Components of spending (service use and price) by provider type, payment source, and diagnosis
Basic calculations	Eliminated diagnoses out of scope (e.g., dementias, mental impairment and mental developmental delays, tobacco addiction)	Eliminated duplications with specialty providers
	Split multimodality revenue by modality on the basis of the cost of the product per patient for single-modality providers and patient counts by modality for multimodality facilities	Multiplied *components of spending* together for each diagnosis (mental health, alcohol, drug abuse, all other health disorders) and payment source to estimate diagnosis share of total health care expenditures by payment source
	Estimated total revenue by provider type, payment source, diagnosis	Multiplied national health care expenditures (excluding specialty MH/SUD specialty providers) by *diagnosis share*
Special calculations	Imputations for missing revenue = f(modality, ownership, region of the country, number of patient days) by facility	None
	Survey nonresponse adjustments	Survey nonresponse adjustments
	Extrapolations and interpolations for missing years of data	Extrapolations and interpolations for missing years of data
	Projections for missing years of data	Projections for missing years of data
	Smooth expenditure estimates across all years	Smooth expenditure estimates across all years
Results for 1986–2014	MH/SUD specialty expenditures by provider type, payment source, and setting (modality)	MH/SUD nonspecialty provider expenditures by provider type, payment source, and setting

[a] Includes methods for estimating spending in specialty hospitals, specialty MH centers, and specialty SUD centers whose underlying data through 2009 came from specialty provider surveys sponsored by SAMHSA. For later years, the U.S. Census Bureau's Services Annual Survey data provided baseline revenue estimates by payment source; client counts by diagnosis type were drawn from the National Survey of Substance Abuse Treatment Services (N-SSATS) and the National Mental Health Services Survey (N-MHSS); and growth in the average salary of substance abuse and behavioral disorder counselors was used as a proxy for inflation in spending per client.

[b] For inpatient psychiatric units in general hospitals, estimates were based on specialty unit data reported in Medicare Cost Reports submitted by hospitals to CMS; for psychiatric hospitals, we used revenues of psychiatric hospitals from the Census of Service Industry. For spending on retail prescription drugs for treatment of substance use disorders and mental illness, estimates were based on data supplied by IMS Health Inc.

We used the 2014 release of 2013 NHEA health care expenditures with NHEA projections for 2014 to develop MH/SUD expenditures for the other providers, consistent with the methods of the NHEA. The NHEA reports health care expenditures only for diagnoses. Because the NHEA encompass both specialty institutions and general health care services, we eliminated from the NHEA estimates most specialty institution MH/SUD providers (specialty MH and SUD hospitals, specialty MH centers, and

specialty SUD centers). This elimination avoided double-counting the specialty service expenditures, which we estimated separately using specialty facility surveys as noted above.

To distinguish MH/SUD from all-disease general health care expenditures, we estimated spending rates by type of diagnosis.[18] We used only the principal diagnosis to identify spending on MH and SUDs. We calculated spending proportions for MH and SUDs by multiplying utilization by average prices (accounting for discounts and cost sharing) for each diagnostic group and dividing by the sum of all diagnoses. For example, we examined the share of physician office visits that were for MH/SUD treatment using data from the National Ambulatory Medical Care Survey (NAMCS). We then looked at the ratio of average payments for physician office visits for MH/SUD compared to all diagnoses; we determined this ratio using data from the Medical Expenditure Panel Survey (MEPS) and Truven Health MarketScan® Research Databases (claims data). Once the ratio was determined, we multiplied the MH/SUD share of office visits by average payment ratio by payment source type (e.g., Medicare, private insurance). Finally, we applied ratios by payment source type of the NHEA Totals for Physician Expenditures for the final estimate.

We applied these proportions to the estimates from the NHEA to estimate the total MH and SUD national spending. We made these estimations within type of payment source and provider, as described next.

Calculations by type of payment source and provider. The public sector payment source categories were Medicare, Medicaid, state and local government sources excluding contributions to Medicaid, and federal sources other than Medicare and Medicaid (e.g., Department of Veterans Affairs, Department of Defense, and federal Block Grants from SAMHSA). Medicaid expenditures were combined federal, state, and local funds. The private sources were private insurance, out-of-pocket expenditures, and other private sources (e.g., philanthropy and other nonpatient revenues received by providers).

The provider categories were specialty MH and SUD hospitals, general hospitals with specialty units, general hospitals with services outside of specialty units, psychiatrists, nonpsychiatrist physicians, other nonphysician MH and SUD professionals (e.g., psychologists, psychotherapists, social workers, SUD counselors), freestanding home health agencies (HHAs), freestanding nursing homes, specialty MH centers, specialty SUD centers, and retail purchases of prescription drugs. Although the definition has differed across SAMHSA surveys and across time, *specialty MH centers* generally include any facility that is not hospital-based and provides a variety of MH services. Similarly, *specialty SUD centers* generally are clinics and residential treatment centers that specialize in treating substance use and dependence.

We also present MH/SUD estimates by grouping providers into specialty or nonspecialty categories. Specialty providers included specialty MH/SUD hospitals, general hospital specialty units, psychiatrists, other MH/SUD professionals, specialty MH centers, and specialty SUD centers. Nonspecialty providers included general hospitals with services outside of specialty units, nonpsychiatric physicians, HHAs, and nursing homes. The remaining two categories of spending, retail purchases of prescription drugs

[18] As a result, spending was not captured for nonpsychiatric physician visits in which a psychotherapeutic medication was prescribed but no MH diagnosis was included on the billing record.

and insurance administration, were not given a specialty/nonspecialty designation and are reported separately.

We further divided expenditures by provider and payment source into inpatient, outpatient, and residential care. In some cases, providers offered all three types of care. For example, hospital expenditures could comprise inpatient, outpatient, or residential services. We classified home health expenditures as outpatient expenditures only, and we classified nursing home expenditures as residential expenditures only. Expenditures on retail purchases of prescription drugs (a medical product rather than a provider) and insurance administration were not subdivided into these settings of service.

Overview of Methods and Algorithms For Determining Utilization

To provide information on use of medications to treat substance use disorders, we used data from the IMS Institute for Healthcare Informatics National Prescription Audit™. The National Prescription Audit draws nationally representative samples of prescription fill data from the universe of retail, standard mail service, specialty mail service, and long-term care pharmacies.

To gauge intensity of service use among individuals who used any mental health or substance use disorder service, we incorporated data from two additional sources that are maintained by the Agency for Healthcare Research and Quality: the household component of the Medical Expenditure Panel Survey (MEPS) and the Healthcare Cost and Utilization Project (HCUP) National Inpatient Sample. The MEPS household component surveys households to collect nationally representative data on health conditions and use of medical services among the U.S. civilian noninstitutionalized population. The National Inpatient Sample is a nationally representative sample of all inpatient admissions to U.S. community hospitals, excluding rehabilitation and long-term acute care hospitals). Other insurance types represented include Worker's Compensation, CHAMPUS, CHAMPVA, Title V, and other government programs.

We relied on the SAMHSA National Survey on Drug Use and Health (NSDUH) covering the period 2004–2013 as the primary data source to calculate trends in utilization of behavioral health treatment services. The NSDUH collects information from a nationally representative sample of the U.S. noninstitutionalized civilian population aged 12 years or older. We restricted our analyses of use to adults aged 18 years or older.

The NSDUH provides information on the proportion of the adult population that received any mental health treatment, as well as the type of treatment (i.e., inpatient, outpatient, or prescription medication). Adults refers to civilian, noninstitutionalized individuals aged 18 years and older. The survey also provides data on the receipt of substance use disorder treatment at specialty facilities. Substance use treatment at a specialty facility is defined as treatment received at drug or alcohol rehabilitation facilities (inpatient or outpatient), hospitals (inpatient services only), and mental health centers; it excludes treatment received in an emergency room, private doctor's office, self-help group, prison or jail, or hospital as an outpatient. The NSDUH does not collect information on use of medications to treat substance use disorders.

Data Source Descriptions

Tables C.2 and C.3 list the data sources used to develop the BHSUA, how they were used, and the years of data that contributed to the estimates. For specialty institutional providers, SAMHSA conducts censuses and surveys of facilities that treat MH/SUDs through the Survey/Inventory of Mental Health Organizations (SMHO/IMHO) and through the National Survey of Substance Abuse Treatment Services (N-SSATS, formerly called the Uniform Facilities Data Set [UFDS]). Facility and organization administrators answered these surveys and reported data at the aggregate facility level or organization level (for example, total number of Medicaid clients or total revenues for clients treated for SUD). For 2009, SAMHSA added a new survey—the SAMHSA Survey of Revenue and Expenses (SSRE)—to collect spending and payment source information by diagnosis and setting that was no longer collected by N-SSATS or by the successor survey to SMHO/IMHO (the National Mental Health Services Survey [N-MHSS]).

The 1998, 2000, and 2002 SMHOs were conducted in two-parts. In the first part, all organizations were asked a small number of questions about types of organizations, ownership, number of patients, and number of beds staffed during the reporting year. The second part included only a sample of facilities but obtained more detailed information, including total revenue and source of payment. However, the response rate to these revenue questions was poor, resulting in some erratic trends in total revenue and by payment source. In 2004, the format for this survey was revised so that total and payer revenue was collected from a census of facilities. A substantially higher response rate in 2004 than in 2000 and 2002 led to the decision to use only the data for 1998 and 2005 (projected from 2004 data), disregarding the 2000 and 2002 data points. For estimating expenditures in psychiatric hospitals and specialty MH centers, we used total revenue and payment source information from the 1998 and 2004 (projected to 2005) SMHO and the 2009 SSRE. For estimating overall expenditures in psychiatric units of general hospitals, we used Medicare Cost Report data on psychiatric units to establish the total expenditures for 1996–2013, relying on the distribution of spending by payment source from the SMHO for 1994, 1998, and 2005. We used data from earlier IMHO surveys to extend the psychiatric unit estimates to earlier years and to estimate payment sources.

For other providers, we used various data sources. These included administrative claims, cost data, and surveys that collect encounter-level or patient-level data. In some cases, these surveys sampled a first stage of providers and then a second stage of encounters between providers and patients. We could calculate expenditures for specific treatments such as MH, SUD, or all health care because diagnosis on each encounter or patient is included in these sources.

Table C.2. Data Sources for the Behavioral Health Spending Accounts

Data Source	Use in Spending Estimates	Years Used
Alcohol and Drug Services Study (ADSS)	Expenditures in substance use disorder (SUD) specialty organizations	1996
Inventory/Survey of Mental Healthcare Organizations (IMHO/SMHO)	Expenditures in mental health (MH) specialty organizations	1986, 1988, 1990, 1992, 1994, 1998, 2004, 2009
National Survey of Substance Abuse Treatment Services (NSSATS) / Uniform Facility Data Set (UFDS)	Expenditures in SUD specialty organizations	1987, 1990, 1991, 1993, 1995, 1996, 1998, 2000, 2002, 2003, 2004, 2005
SAMHSA Survey of Revenue and Expenses (SSRE)	Expenditures in specialty MH and SUD organizations	2009

Data Source	Use in Spending Estimates	Years Used
National Health Expenditure Accounts (NHEA)	• National health care expenditures by provider and payment source • Distribution of hospital-based nursing home, home health, and personal care agency payment shares of total community hospital payments	1986–2014
National Hospital Discharge Survey (NHDS)	Proportion of general hospital inpatient visits devoted to MH/SUD diagnoses	1986–1992 (for remaining years see HCUP below)
National Hospital Ambulatory Medical Care Survey (NHAMCS)	• Proportion of general hospital outpatient visits devoted to MH/SUD diagnoses • Proportion of emergency department visits devoted to MH/SUD diagnoses • Proportion of MH/SUD drug mentions during visits to general hospital outpatient and emergency departments devoted to MH/SUD diagnoses	• 1992–2011 • 1992–2011 • 1986–2002
National Ambulatory Medical Care Survey (NAMCS)	• Proportion of physician office visits devoted to MH/SUD diagnoses • Proportion of office visits attributable to visits to psychiatrists • Proportion of MH/SUD drug mentions during physician office visits	• 1985–2010, 2012 • 1985–2010, 2012 • 1985, 1992–2002
National Nursing Home Survey (NNHS)	Proportion of nursing home residents with MH/SUD diagnoses	1985, 1995, 1997, 1999, 2004
Bureau of Labor Statistics Quarterly Census of Employment and Wages	Growth in the product of the number of nursing home employees and their average weekly hours	2004–2014
National Home and Hospice Care Survey (NHHCS)	Proportion of home health users with MH/SUD diagnoses	1994, 1996, 1998, 2000, 2007
Truven Health MarketScan Research Databases	• Payment for MH/SUD nonpsychiatric physician visits and psychiatrist visits relative to all physician visits • Proportion of other provider bills (e.g., home health agencies) for MH/SUD diagnoses • Distribution of other professional services by setting	• 1996, 2000, 2003, 2006–2013 • 1996, 2000, 2003, 2006, 2009 • 1998, 2007, 2013
IMS Health Inc. data	Spending on prescription drugs for MH and SUD treatment	2002–2014
CMS-64s (financial reporting forms)	• Estimates of drug rebates • Medicaid spending growth for psychiatric hospitals	• 2002–2013 • 2006–2013
Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample	• Proportion of general hospital inpatient days for MH/SUD diagnoses • MH/SUD charges for inpatient hospitalizations by primary payment source • Charge differential between MH/SUD services and other health care services	• 1993–2012 • 1993–2012 • 1993–2012

Data Source	Use in Spending Estimates	Years Used
National Medical Expenditure Survey (NMES)	Distribution of payments among multiple payment sources for services	1987
Medical Expenditure Panel Survey (MEPS)	• Distribution of payments among multiple payment sources for services • Spending for psychologists and counselors • Distribution of spending by payment sources on drugs to treat mental illness	• 1996–2013 • 1996–2013 • 1996–2013
Economic Census, Health Care and Social Assistance Sector	• Data on number of establishments and receipts for offices of MH professionals (except physicians) • Estimates of specialty psychiatric hospital revenue total	• 1997, 2002, 2007, 2012 • 2007, 2012
Services Annual Survey	• Revenue from offices of other professionals (other than physicians) • Revenue for specialty psychiatric hospitals • Growth in revenue for outpatient specialty MH and SUD centers	• 1997–2013 • 2006–2014 quarterly data • 2005–2013
Department of Veterans Affairs	Spending on inpatient, outpatient, and residential MH and SUD treatment	Selected years 1993–2014
Medicare Cost Reports	Costs of psychiatric units in nonpsychiatric hospitals for MH	1996–2013
CMS Medicare and Medicaid Statistics (in published reports and special tabulations)	• Inpatient services provided by physicians by diagnostic group for Medicare patients • Relative Medicare payments for physician services in offices, hospital outpatient, and emergency departments • Medicare payments for home health by diagnosis	• 1992–2012 • 1992–2012 • 1992–2012
National Association of State Mental Health Program Directors National Research Institute	Medicaid funding of state and local specialty hospitals	2005–2012

Table C.3. Data Sources for the Behavioral Health Utilization Estimates

Data Source	Use in Utilization Estimates	Years Used
Substance Abuse and Mental Health Services Administration (SAMHSA): National Survey on Drug Use and Health (NSDUH)	• Percentage of adults receiving MH treatment, overall and by setting • Percentage of adults receiving SUD treatment, overall, by payment source and insurance type, and by setting, excluding prescription drugs	• 2004–2013 • 2004–2013
IMS Health: National Prescription Audit (NPA)	Number of SUD prescription fills	2004–2013
Agency for Healthcare Research and Quality (AHRQ): Healthcare Cost and Utilization Project (HCUP) National Inpatient Sample (NIS)	Number of MH/abuse inpatient admissions, overall and by payment source and insurance type	2008–2012
Substance Abuse and Mental Health Services Administration (SAMHSA): National Survey of Substance Abuse Treatment Services (N-SSATS)	Number of clients (single-day snapshots) in facilities providing SUD treatment, overall and by setting	2005–2013
Centers for Disease Control and Prevention (CDC): National Ambulatory Medical Care Survey (NAMCS)	Number of MH psychiatrist office visits, overall and by payment source and insurance type	2008–2012

Abbreviations: MH, mental health; SUD, substance use disorder

Special Calculations. We made several complex methodological adjustments to develop national spending estimates from the multiple and disparate data sets described in Table C.2. We devised methods to allocate spending by diagnosis for facility-level data where disease classifications differed across surveys. Specifically, when co-occurring alcohol and drug abuse was adopted as a survey classification for clients in SAMHSA surveys, we divided those co-existing SUD diagnoses expenditures between single-diagnosis care types. We imputed missing total revenues from MH and SUD facility surveys on the basis of numbers of clients and facility characteristics (ownership and region). Estimates from data sources with small samples and high variance in estimates from year-to-year were smoothed. Estimates based on incomplete survey response rates were adjusted. Missing years of survey data were interpolated and projected to 2014 when necessary. We estimated the costs of health insurance administration for MH/SUD coverage using the administrative cost share of total expenditures for each payment source from the NHEA.

Appendix D: Abbreviations

Abbreviation	Meaning (Sponsor)
ADHD	Attention deficit hyperactivity disorder
AHRQ	Agency for Healthcare Research and Quality
BHSUA	Behavioral Health Spending and Use Accounts
CMS	Centers for Medicare & Medicaid Services
D.O.	Doctor of Osteopathy
DOD	Department of Defense
HCUP	Healthcare Cost and Utilization Project
HHAs	Home health agencies
HHS	U.S. Department of Health and Human Services
HMO	Health maintenance organization
ICD-9-CM	International Classification of Diseases, Ninth Revision, Clinical Modification
IMHO	Inventory of Mental Health Organizations
M.D.	Medical Doctor
MEPS	Medical Expenditure Panel Survey
MH	Mental health
MH/SUD	Mental health and/or substance use disorder
NAICS	North American Industrial Classification System
NAMCS	National Ambulatory Medical Care Survey
NCHS	National Center for Health Statistics
NHEA	National Health Expenditure Accounts
NSDUH	National Survey of Drug Use and Health
N-SSATS	National Survey of Substance Abuse Treatment Services
SAMHSA	Substance Abuse and Mental Health Services Administration
SCHIP	State Children's Health Insurance Program
SMHO	Survey of Mental Health Organizations
SSRE	SAMHSA Survey of Revenue and Expenses
SUD	Substance use disorder
VA	Department of Veterans Affairs

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