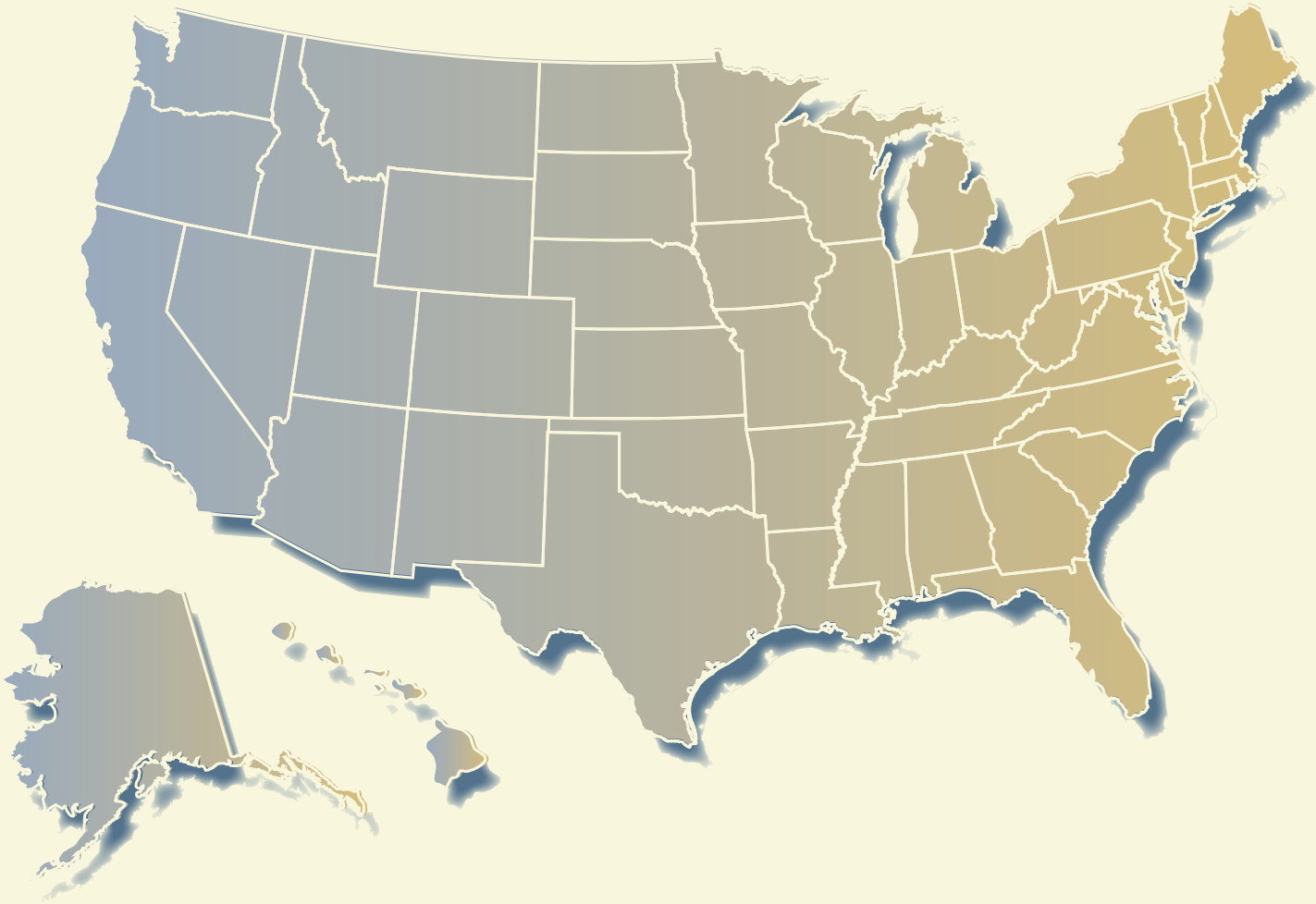
State-Level Spending on Mental Health Services & Substance Abuse Treatment 1997 – 2005



State-Level Spending

on

Mental Health Services

and

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1997-2005

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

State Profiles

The following State profiles contain estimates of MHSA treatment spending per resident by the State of patient residence. Each State is presented separately in a two-page presentation to discourage ranking of per-resident spending among States. This is because differences between estimates with different values may not be statistically significant.

MHSA treatment spending varied considerably across States, both in total dollars and in the proportion of all-health spending that was devoted to MHSA services. Spending levels in each State reflect a variety of factors, including the unique needs of the population, the accessibility of behavioral health care facilities and providers, the size of the behavioral health workforce, and the availability of funding.

To frame the estimates of MHSA spending, data on various State-level contextual measures are also presented and described below. These reference measures have complex relationships with MHSA treatment spending, so their effect on or result from MHSA spending is not always straightforward. Nevertheless, they provide additional background for interpreting differences in spending across geographic areas. In the graphics that follow, each measure is presented relative to the U.S. average.[1]

All-Health Spending per State Resident: *Total*

All-health spending provides a context for spending on behavioral health. States with high levels of all-health spending per resident are more likely to have high levels of MHSA treatment spending per resident; conversely, States with low levels of all-health spending per resident are more likely to have low levels of MHSA treatment spending per resident.

Economy: *Personal Income per State Resident*

Personal income per State resident[2] is an indicator of the amount of money available to spend on all health and behavioral health care as well as a gauge of health care costs in a specific area. It includes not only wages earned, but also the value of Social Security, Medicare, and Medicaid benefits. Like health care spending, personal income per person varies widely by State. States with higher personal income will typically spend a higher proportion of their income on health care. States with lower personal income will experience more competition among basic needs for personal income resources, driving down the share of income devoted to health spending. Personal income also reflects the wage structure of a State because wages are a significant portion of

[1] Relative to the U.S. average, values were defined as: *substantially below* (less than 70 percent), *below* (between 70 and 90 percent), *close to* (between 90 and 110 percent), *above* (between 110 percent and 130 percent), or *substantially above* (over 130 percent).
[2] http://www.bea.gov/regional/pdf/spi2009/Complete_Methodology.pdf

personal income. Areas with lower personal income tend to have lower average wages for providers of health care treatment.

Government: ***State Government Revenue and State Mental Health Agency Revenue per State Resident***

In 2005, Medicaid and other State and local government sources accounted for 47 percent of all nationwide MHSA treatment funding (Substance Abuse and Mental Health Service Administration, 2010b). State and local governments manage a larger share of MHSA treatment spending through Medicaid and State-funded behavioral health agencies and other programs than any other single payer. States policies vary widely in generosity and can affect available treatment resources through the breadth of the State's Medicaid benefits, their ability to subsidize general and psychiatric hospitals and specialty clinics, and their funding of the State's MHSA agencies.

Access to Mental Health Treatment: ***Mental Health Personnel per State Resident, Percent of Population Not Living in Mental Health Professional Shortage Areas***

Nationally, 78.2 percent of MHSA treatment dollars are spent on specialty providers (Substance Abuse and Mental Health Service Administration, 2010b). The availability of a specialty workforce within a State, whether measured by behavioral health personnel per population or by the extent of behavioral health shortage areas within a State, will impact access to care and the level of spending on such providers (Cunningham, 2009).

MHSA-Related Outcomes: ***Suicide Rate, Rate of Illicit Drug Use, Rate of Alcohol-Related Traffic Fatalities, Incarceration Rate, Violent Crime Rate, Property Crime Rate***

Lower rates of State MHSA treatment spending in total and per person are associated with higher rates of suicide, crime, and incarceration. Veteran's Administration data showed a facility-level association between per person outpatient mental health spending and suicide rates (Desai, Rosencheck, and Desai, 2008). A study examining the relationship between State Mental Health Agency (SMHA) spending and treatment outcomes found evidence of an association between SMHA spending and reduced risk of incarceration (Hendryx, 2008). Finally, individuals discharged from drug use treatment programs reported significantly decreased post-treatment rates of crime compared to pre-treatment rates (Schildhaus et al., 2000).

Insurance Coverage: ***Percent of Population with Medicaid, Percent of Population Uninsured***

Insurance coverage and access to care are closely linked (Hoffman, 2009). A large proportion of people with mental illness and substance use disorders are enrolled in Medicaid, affording access to treatment for low-income patients and making Medicaid a significant payer of behavioral health treatment service. Medicaid paid for 28 percent of mental health and 21 percent of substance abuse treatment in 2005 (Mark et al., 2011). Those who do not have insurance and cannot afford to pay for care out-of-pocket face barriers to treatment, or wait until their conditions are acute before seeking treatment from a safety net provider. For individuals 12 years and older with substance abuse conditions who needed but did not receive treatment in 2006 through 2009, one-third cited cost considerations and lack of health insurance as the reason for foregoing treatment (Substance Abuse and Mental Health Services Administration, 2010c). For patients with a behavioral health condition visiting a community hospital emergency department in 2007, the uninsured were significantly less likely to be admitted for an inpatient hospital stay than those who had insurance

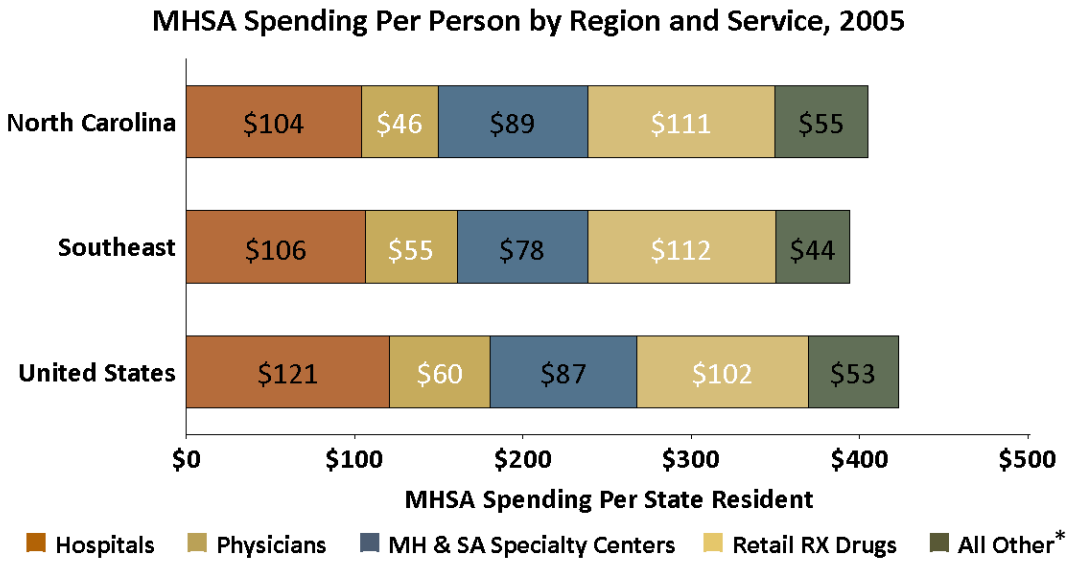
(Owens, Mutter, and Stocks, 2007). Once admitted, patients with behavioral health conditions in 2008 were 2-4 times more likely than patients with other medical conditions to be uninsured (Weir et al., 2010).

Demographics: ***Percent of Population Under 200% of Federal Poverty Level, Percent of Population Age 18–44 Years, Percent of Social Security Income Population with Serious Mental Illness, Percent of Population that is Minority***

The incidence of severe psychological distress in adults and behavioral health conditions in children is higher for individuals in families living below the poverty level (National Center for Health Statistics, 2008; Science Daily, 2006). The incidence of behavioral health conditions also varies with age; treatment of substance abuse conditions is more prevalent for young adults and many serious mental conditions emerge in early adulthood (Substance Abuse and Mental Health Services Administration, 2010c; National Institute of Mental Illness, 2010). Many persons with severe mental illness will receive Social Security Income because of their disability (Jans, Stoddard, and Kraus, 2004), so the share of the population with these benefits is a strong indicator of need within the State. African Americans and American Indians/Alaskan Natives are more likely to have behavioral health conditions than other segments of the population (Substance Abuse and Mental Health Services Administration, 2010c; Centers for Disease Control and Prevention, 2007). In addition, racial and ethnic minorities are more likely to experience disparities in access to quality treatment (Atdjian and Vega, 2005).

North Carolina Mental Health and Substance Abuse Treatment Spending

In 2005, an estimated $3.5 billion was spent on MHSA treatment in North Carolina, or about 2.8% of all MHSA treatment spending in the United States. This translates into $405 spent per person in North Carolina, similar to the national average of $423 per person and close to the Southeast regional average of $394 per person.



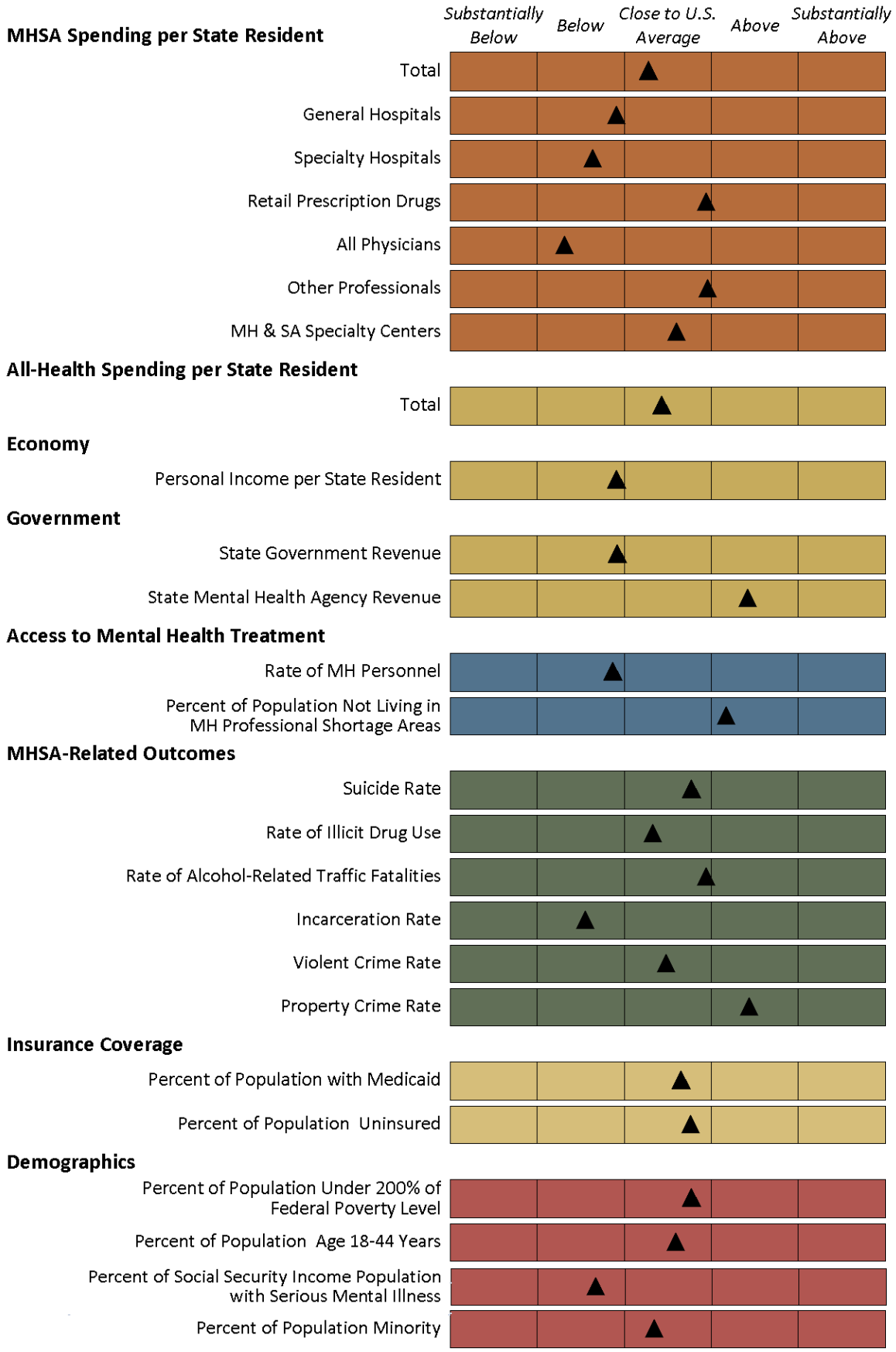
*Includes Other Professionals, Nursing Home and Home Health Services.

As shown above, in North Carolina, $111 per person was spent on retail prescription drugs for MHSA treatment, while $104 per person went to hospital-based services. MH and SA specialty centers, physicians, and all other services respectively accounted for per person spending of $89, $46 and $55.

The next page provides a profile of characteristics related to spending, access and outcomes for MHSA conditions, along with measures of resources, insurance coverage, and demographics for the State population. For each measure, the arrow indicates how the North Carolina rate compares to the national average.

- MHSA Treatment Access in North Carolina
  - The rate of MH personnel per person was below the U.S. average.
  - The percent of the population not living in MH professional shortage areas was above the U.S. average.
- MHSA-Related Outcomes in North Carolina
  - The suicide rate was close to the U.S. average.
  - The percent of the population using illicit drugs was close to the U.S. average.
  - The rate of alcohol-related traffic fatalities was close to the U.S. average.
  - The incarceration rate was below the U.S. average.
  - The violent crime rate was close to the U.S. average.
  - The property crime rate was above the U.S. average.

North Carolina Profile



Appendix Table C1. State Estimates Data Sources, continued

Provider Categories	Data Sources						Use
	Survey/ Administrative Data	Data Element	Data Used				
			Nation	Region	State	Years Used	
General Hospitals, All Treatment (Specialty and Nonspecialty)	Economic Census (EC): General Medical/Surgical Hospitals	Receipts/Revenues			x	1997, 2002, 2007	Primary data source for the general hospital all-health estimate.
	Non-Federal Hospitals						
	Medicare Cost Reports (MCR)	Estimated Hospital Revenues Hospital IP & OP Expenses			x	1997-2007	Used to interpolate between years of EC data; used to estimate hospital revenues when EC data were not disclosed.
	AHRQ Medical Expenditure Panel Survey (MEPS)	National General Hospital Expenditures by Setting (IP, OP, ED)	x			1997-2007	Used to distribute EC general hospital revenue by setting (IP, OP, and ED).
	AHRQ HCUP State Inpatient Databases (SID)	Estimated Costs for IP MHSA Stays by State (Selected States)			x	1997, 2002, 2007	Used to determine the MHSA share of total IP general hospital revenue.
	AHRQ HCUP Nationwide Emergency Department Sample (NEDS)	Share of ED Treat and Release Visits with First-listed MHSA DX by Region		x		2006, 2007	Used to determine the MHSA share of total ED general hospital revenue.
	National Hospital Ambulatory Medical Care Survey (NHAMCS)	National Share of ED Visits for MHSA DX; National Share of OP Visits for MHSA DX	x			1997-2004	Used to extrapolate NEDS ED data backwards; used to determine the MHSA share of total OP general hospital revenue.
	Department of Veterans Affairs (DVA)						
	Department of Veterans Affairs (DVA)	Spending on MHSA Treatment in DVA Hospitals			x	2007-2009	Used to determine MHSA spending in Federal facilities.
	Consolidated Funds Report, U.S. Bureau of the Census	DVA Wages and Salaries			x	1997-2007	Used to extrapolate DVA spending in earlier years.
General Hospitals, Specialty Units	Medicare Cost Reports (MCR)	Estimated Hospital Revenues Hospital IP & OP Expenses MHSA Specialty Unit Expenses			x	1997-2007	Primary data source for the general hospital, specialty unit estimate.
General Hospitals, Nonspecialty Care			x	x	x	1997-2007	Difference: State-level General Hospital, All Treatment and General Hospital, Specialty Unit Spending Estimates

Appendix Table C1. State Estimates Data Sources, continued

Provider Categories	Data Sources						Use
	Survey/ Administrative Data	Data Element	Data Used			Years Used	
			Nation	Region	State		
Specialty Hospitals	All Ownership Categories (For Profit, Nonprofit, State and Local Government)						
	AHA Annual Survey	By State: Facilities by Ownership, Admissions by Facility Ownership, Expenses by Facility Ownership, Imputed Expenses by Facility Ownership			x	2000-2005	Used to 1) impute wages for States with non-disclosed BLS wage data, 2) adjust BLS data into revenue-level data, and 3) inflate State government spending to include State and local government spending.
	Private Ownership (For Profit, Nonprofit)						
	BLS Quarterly Census of Employment and Wages: Psychiatric and Substance Abuse Hospitals	BLS Quarterly Census of Employment and Wages (Privately Owned Facilities)			x	1997-2007	Primary data source for the PRIVATELY owned specialty hospital estimate.
	Economic Census (EC): Psychiatric and Substance Abuse Hospitals	Receipts/Revenues; Payroll			x	1997, 2002, 2007	Used in conjunction with AHA data to adjust BLS wages and salaries to revenue-level data through the use of a State-specific revenue-to-wage ratio.
	State and Local Government Ownership						
	State Mental Health Agency Revenues and Expenditures for Mental Health Services (from NASMHPD Research Institute [NRI])	State Psychiatric Hospital Expenditures by Payer Source			x	1997, 2001-2005	Primary data source for the PUBLICALLY owned specialty hospital estimate.
Psychiatrists	Economic Census (EC): Offices of Physicians, Mental Health Specialists Only (Psychiatrists)	Receipts/Revenues			x	1997, 2002, 2007	Primary data source for the psychiatrist estimate.
	Area Resource File (ARF)	Counts of Non-Federal MDs by Specialty from the American Medical Association			x	1995-2005	Used to impute psychiatrist spending when EC data were not disclosed.
Nonpsychiatric Physicians	Economic Census (EC): Offices of Physicians (except Mental Health Specialists) and All Other Outpatient Care Centers	Receipts/Revenues			x	1997, 2002, 2007	Primary data source for the nonpsychiatric physician estimate.
All Physicians					x	1997-2007	Sum: State-level Psychiatrists and Nonpsychiatric Physicians Spending Estimates
Other Professionals (MHSA Only)	Economic Census (EC): Offices of Mental Health Practitioners (except Physicians)	Receipts/Revenues			x	1997, 2002, 2007	Primary data source for the other professional estimate.

Appendix Table C1. State Estimates Data Sources, continued

Provider Categories	Data Sources						Use
	Survey/ Administrative Data	Data Element	Data Used			Years Used	
			Nation	Region	State		
Specialty MH and SA Centers	All Ownership Categories (For Profit, Nonprofit, State and Local Government)						
	National Survey on Substance Abuse Treatment Services (N-SSATS)	By State and Public/Private Facility Type: OP Client Counts; Residential Client Counts	x		x	2000, 2004, 2005	Primary data source for the PUBLICALLY owned specialty center estimate. Used to break out control total according to facility ownership type.
	Inventory of Mental Health Organizations (IMHO)	By State and Public/Private Facility Type: OP Client Counts; Residential Client Counts	x		x	2004	Primary data source for the PUBLICALLY owned specialty center estimate. Used to break out control total according to facility ownership type.
	Private Ownership (For Profit, Nonprofit)						
	BLS Quarterly Census of Employment and Wages: Residential Mental Health and Substance Abuse Facilities and Outpatient Mental Health and Substance Abuse Centers	Wages (Privately Owned Facilities)			x	1997-2005	Primary data source for the PRIVATELY owned specialty center estimate.
	Economic Census (EC): Residential Mental Health and Substance Abuse Facilities and Outpatient Mental Health and Substance Abuse Centers	Receipts/Revenues; Payroll		x		1997, 2002, 2007	Used to adjust BLS private wages and salaries to revenues through the use of a regional revenue-to-wage ratio.
	Public Ownership						
	State Mental Health Agency Revenues and Expenditures for Mental Health Services (from NASMHPD Research Institute [NRI])	State Community Program Expenditures			x	1997, 2001-2005	Used to extrapolate IMHO and N-SSATS data to other years.
Nursing Homes	Centers for Medicare & Medicaid Services National Health Expenditure Accounts State Estimates	All Nursing Home Expenditures			x	1997-2004	Primary data source for nursing home estimates.
	Census Population	Census Population 65 and Over			x	1996-2005	Used to extrapolate from 2004 to 2005.
Home Health	Centers for Medicare & Medicaid Services National Health Expenditure Accounts State Estimates	Expenses			x	1997-2004	Primary data source for home health estimates.
	Census Population	Census Population 65 and Over			x	1996-2005	Used to extrapolate from 2004 to 2005.
Prescription Drugs	IMS Health	State-level Pharmacy Retail Sales by Drug Class			x	2009	Primary data source for prescription drug estimates.
	IMS Health	Sales Totals by Drug Class	x			2002-2006, 2009	Used as national control for each drug class to control for the changing mix of major drug products over time.
	State-level All Physicians Spending Estimates	Revenues			x	1997-2007	Used to extrapolate IMS data in earlier years.