



## ***Rhode Island Behavioral Health Project: Cost Report***

*Submitted to:*

Rhode Island

Executive Office of Health and Human Services

Department of Health

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Office of the Health Insurance Commissioner

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## EXECUTIVE SUMMARY

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Rhode Island's vision is to ensure that all of its residents have the opportunity to achieve the best possible mental health and well-being within healthy local communities that promote empowerment, inclusion, and shared responsibility. To meet this vision, Rhode Island must have a complete view of its behavioral health system. This must include information on Rhode Islanders' service needs, how services are financed, where services are used, the quantity and costs of services, and the societal cost of untreated or undertreated behavioral illness.

This report describes spending for behavioral health services. It is one of four main reports of the Behavioral Health Project: (1) Demand Report, (2) Cost Report, (3) Supply Report, and (4) Final Report. In collaboration with Rhode Island, Truven Health Analytics used a lifespan approach to understand the need for and use of behavioral health services across various age groups. The lifespan approach acknowledges the evidentiary links of mental and substance use disorders across an individual's life, beginning with risk factors that emerge in infancy and childhood, continuing with those that have the greatest influence on adolescents and young adults, and ending with those that are most common in late adulthood. An adequate supply of age-appropriate interventions and treatment can help curb the impact of behavioral health disorders, provided that the best treatment practices are available within local communities.

To understand the costs for behavioral health treatment and services in Rhode Island, we analyzed a number of nationally and state-representative administrative and claims data sets as well as information obtained directly from state agencies and organizations. We compared behavioral health costs in Rhode Island with those of the other New England states. We focused on data from 2011 through 2013 or the most complete and recently available years. For these analyses, we report primarily on information from Medicaid Management Information System (MMIS), private insurance claims from three major Rhode Island insurers, Truven Health MarketScan™ Research Database private insurance claims, Medicare claims, Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID), IMS Health data on prescriptions filled, data from the National Association of State Mental Health Program Directors (NASMHPD) National Research Institute (NRI) on spending controlled by state mental health authorities, data from state agencies and other organizations providing treatment to the behavioral health population, and the U.S. Census Bureau's quinquennial Economic Census and the Service Annual Survey.



Overall, our findings indicate that Rhode Island devoted an estimated \$853 million to behavioral health treatment in 2013, which was approximately 1.6 percent of its gross domestic product and exceeded the national average of 1.2 percent. In the same year, more than one-third (38 percent) of all spending on behavioral health treatment in Rhode Island was for the purchase of prescription drugs—a share that is expected to fall as patents expire and generic versions become widely available.

Medicaid was the single largest payer of behavioral health treatment in 2013, funding one-third of all treatment spending for mental health and one-fifth of spending for substance use disorders. Very little was spent on treatment for children younger than 5 years. Medicaid spending on behavioral health treatment in Rhode Island averaged \$1,147 per enrollee in 2013. Ten percent of Rhode Island’s private insurance spending was on behavioral health treatment, which is a lower proportion than the 16.6 percent of Medicaid spending devoted to these services. In 2012, spending per enrollee or per population on behavioral health treatment among Rhode Island residents with Medicaid, private insurance, and Medicare coverage generally was higher than spending in any other New England state.

High use of inpatient hospitalizations and greater spending on prescription drugs contributed to the higher Rhode Island spending levels. These results may indicate that spending on low-cost alternative treatment in multi-service mental health organizations is less well funded in Rhode Island than in other New England states.

In addition to the direct costs of treatment, an estimated \$789 million from Rhode Island’s 2015 state budget will be attributable to the indirect costs of mental and substance use disorders; this accounts for approximately 9.5 percent of the budget. Indirect costs include costs for the social welfare and criminal justice systems as well as the costs for other social services provided to individuals with mental and substance use disorders.<sup>1</sup> These costs also may be attributable in part to untreated mental or substance use disorders.

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<sup>1</sup> Office of National Drug Control Policy. The Economic Costs of Drug Abuse in the United States, 1992-2002. Publication No. 207303. Washington, DC: Executive Office of the President; 2004.

## INTRODUCTION AND PURPOSE OF STUDY

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Rhode Island’s vision is to ensure that all of its residents have the opportunity to achieve the best possible mental health and well-being within healthy local communities that promote empowerment, inclusion, and shared responsibility. To achieve this vision, the Rhode Island Behavioral Health Project was initiated in September 2014 to develop a baseline picture of its residents’ experiences with the mental and substance use disorder treatment system. Providing access to treatment at appropriate times during one’s lifespan and delivering it in an effective and cost-efficient way to residents with behavioral health problems can improve outcomes and form the cornerstone for healthy and productive communities.

The Rhode Island Behavioral Health Project assembles information on three main dimensions:

- (1) The *demand* or need for behavioral health treatment
- (2) The *cost* of behavioral health treatment
- (3) The *supply* of professionals and facilities to meet behavioral health treatment needs.

Each of these dimensions is presented in a separate report and later integrated and summarized into a plan for action to improve access to and delivery of behavioral health treatment in Rhode Island. The information in this report addresses *costs*.

In the latest report prepared by the Substance Abuse and Mental Health Services Administration (SAMHSA) on treatment spending for behavioral health conditions by state,<sup>2</sup> treatment spending per Rhode Island resident was \$692 in 2005. At that time, Rhode Island’s profile of factors potentially associated with high behavioral health spending included an above-average percentage of the Supplemental Security Income (SSI) population with serious mental illness, a substantially above-average rate of illicit drug use, and treatment spending on hospitalization that was substantially above the national average. Indicators of behavioral health issues in Rhode Island that were below

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<sup>2</sup> Substance Abuse and Mental Health Services Administration. State-Level Spending on Mental Health Services and Substance Abuse Treatment, 1997-2005. HHS Publication No. (SMA) 12-4672. Rockville, MD: Center for Mental Health Services and Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration, 2012. Available at <http://store.samhsa.gov/product/State-Level-Spending-on-Mental-Health-Services-Substance-Abuse-Treatment-1997-2005/SMA12-4702>.

or substantially below the national average included the state's suicide rate, rate of alcohol-related traffic fatalities, and rates of violent crime and property crime.

In collaboration with Rhode Island, Truven Health Analytics assembled and examined recent spending information to present comprehensive measures of spending on behavioral health treatment and its trends. These measures include the following:

- Overall spending on mental health and substance use treatment
- Changes in mental health and substance use treatment spending between 2010 and 2014
- Spending by provider type
- Spending by source of payment
- Spending by age for specific payers
- Spending per population or per enrollee compared with spending in other New England states
- The overarching economic cost of illness related to mental and substance use disorders that reach beyond treatment alone; that is, its effects on Rhode Island families and communities.

These measures will allow Rhode Island policymakers to consider the following:

- Whether appropriate amounts of resources are devoted to mental health and substance use treatment, especially as it is distributed among age groups
- Whether effective and cost-efficient treatment settings are being accessed
- Whether the state has achieved an optimum distribution among spending on prevention compared with treatment.

## **COST REPORT METHODS**

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In this Rhode Island Behavioral Health Cost Report, Truven Health measures overall spending on treatment for mental and substance use disorders (also referred to as behavioral health conditions), compares these costs among New England states and nationally on a per population or per enrollment basis, and examines expenditures by age group for major payers, including Medicaid, Medicare, and private insurance. These measures will provide information about the resources expended to treat mental and substance use disorders and assist policymakers in their decision making.

To conduct these analyses, Truven Health primarily used the following data sources:

- State agency and state organization data on funding and grants for behavioral health treatment and support
- Medicaid Management Information System (MMIS) fee-for-service claims and managed care costs
- Medicare fee-for-service claims and Medicare Advantage costs from two Rhode Island insurers
- Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID)
- IMS Health Inc. data on number of and costs for prescriptions filled in Rhode Island
- National Association of State Mental Health Program Directors (NASMHPD) National Research Institute (NRI) survey on spending controlled by state mental health authorities for mental health treatment centers and specialty (psychiatric) hospitals
- U.S. Census Bureau's Economic Census and Service Annual Survey revenue data for specific providers in Rhode Island and nationally, and July 1 population figures to create per population estimates.

These data sources are described in Appendix A.

Although we made every attempt to capture spending information for all types of treatment and from various payers, not all agencies were able to provide a full range of provider, payer, or age-specific spending. For that reason, the total spending is likely to be undercounted to a small extent, given that behavioral health care also takes place in general health care settings. For example, it has been estimated that only 14 percent of individuals reporting symptoms of depression or substance abuse typically see specialty behavioral health providers (psychiatrists, psychologists, and social workers).<sup>3</sup>

We defined the conditions covered by spending presented in this report as a portion of the Mental Disorders chapter listed in the the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM). For *mental health conditions*, we included ICD-9-CM codes for schizophrenic disorders (295); episodic mood disorders (296); delusional disorders (297); other nonorganic psychoses (298); pervasive developmental disorders (299); anxiety, dissociative, and somatoform disorders (300); personality disorders (301); sexual and gender identity disorders (302); physiological malfunction arising from mental factors (306); special symptoms or syndromes, not

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<sup>3</sup> Druss, B. G., & Rosenheck, R. A. (1999). Patterns of health care costs associated with depression and substance abuse in a national sample. *Psychiatric Services* 50(2):214-218. .

elsewhere classified (307); acute reaction to stress (208); adjustment reaction (309); specific nonpsychotic mental disorders due to brain damage (310); depressive disorders, not elsewhere classified (311); disturbance of conduct, not elsewhere classified (312); disturbance of emotions specific to childhood and adolescence (313); hyperkinetic syndrome of childhood (314); and mental disorders complicating pregnancy, childbirth, or puerperium (648.4). For *substance use disorders*, we included ICD-9-CM codes for alcohol-induced mental disorders (291); drug-induced mental disorders (292); alcohol dependence syndrome (303); drug dependence (304); nondependent use of alcohol (305.0); nondependent use of cannabis, hallucinogens, sedatives, hypnotics or anxiolytics, opioids, cocaine, amphetamine or related acting sympathomimetics, antidepressants, and other mixed or unspecified drugs (305.2–305.9); and drug dependence complicating pregnancy, childbirth, or puerperium (648.3). We excluded treatment costs for dementias (290); tobacco use disorder (305.1); specific delays in development (315); psychic factors associated with diseases classified elsewhere (316); and mental retardation (317-319). These ICD-9-CM codes primarily were used in tabulating claims information for private insurance, Medicaid, and Medicare.

Prescription drugs primarily used to treat mental health conditions were identified by therapeutic class. In cases where a therapeutic class includes medications not used to treat behavioral health conditions, we applied national ratios that identified the proportion of spending on medication used to treat these conditions.

All data are reported in state fiscal years that span July through June of each year. Where data are reported as calendar years, these values were adjusted to state fiscal years by summing the current and previous calendar years and dividing by two. Although Rhode Island specifically was interested in the costs for the community support population, most data sources could not separately identify community support population claims. Spending includes all data available at the time the report was prepared.

## KEY FINDINGS

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In this section, we present the results of our analyses. The first section provides an overview of spending on behavioral health treatment. Additional sections report on mental health and substance use treatment spending for specific providers, by sources of payment, by age group for major insurers, and for comparisons among New England states.

## Spending Overview for Behavioral Health Treatment

*Rhode Island devoted 1.6 percent of its Gross Domestic Product to behavioral health treatment in 2013, exceeding the national average of 1.2 percent.*

Rhode Island spent approximately \$853 million on mental health and substance use treatment on behalf of its residents in 2013. This spending includes costs associated with inpatient hospitalization, outpatient treatment in hospitals, offices of physicians and other professionals, and clinics (including specialty mental health and substance abuse clinics), nursing home stays, transportation, and prescription drugs. This figure excludes spending from treatment programs paid through state and federal agencies or organizations providing services to students; prisoners, probationers, parolees and individuals facing judiciary proceedings; veterans; and the homeless. Administrative costs associated with the payment of claims by insurers also are included when available.

In 2013, behavioral treatment costs for Rhode Island residents reached about \$812 per resident (Figure 1). Between 2011 and 2013, spending increased from \$831 million to \$853 million at an annual rate of 1.4 percent. Spending grew more quickly for substance use disorders (4.7 percent average annual rate) than for mental health (1.5 percent), probably because of the growing opioid epidemic.

**Figure 1. Rhode Island Spending on Behavioral Health Treatment Increased at an Annual Rate of 1.4 Percent from 2011 and 2013**



Abbreviations: MH, mental health; M/SUD, mental and substance use disorders  
Source: Author calculations.

To place this spending into context, national spending on mental health and substance use treatment amounted to 1.2 percent of the gross domestic product (GDP).<sup>4</sup> GDP is a measure of the national productive capacity. In Rhode Island, mental health and substance use treatment spending comprised 1.6 percent of the state GDP, which is a measure of the productive capacity in a state (Table 1).

<sup>4</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). Projections of National Expenditures for Treatment of Mental and Substance Use Disorders, 2010-2020. Department of Health and Human Services Publication No. SMA-14-4883. Rockville, MD: SAMHSA; 2014. Available at: <http://store.samhsa.gov/product/Projections-of-National-Expenditures-for-Treatment-of-Mental-and-Substance-Use-Disorders-2010-2020/SMA14-4883>.

**Table 1. Rhode Island Spent 1.6 Percent of its State Gross Domestic Product on Treatment of Mental and Substance Use Disorders in 2013—Higher Than the Nationwide Average of 1.2 Percent**

Measure	2011	2012	2013
RI GDP (\$ millions)	49,921	51,566	53,184
RI M/SUD treatment spending (\$ millions)	831	823	853
RI M/SUD spending share of GDP (%)	1.6	1.6	1.6
US gross domestic product (\$ billions)	15,517.9	16,163.2	16,768.1
US M/SUD treatment spending (\$ billions)	189.6	195.5	202.7
US M/SUD spending share of GDP (%)	1.2	1.2	1.2

Abbreviations: GDP, gross domestic product; M/SUD, mental and substance use disorders; RI, Rhode Island; US, United States

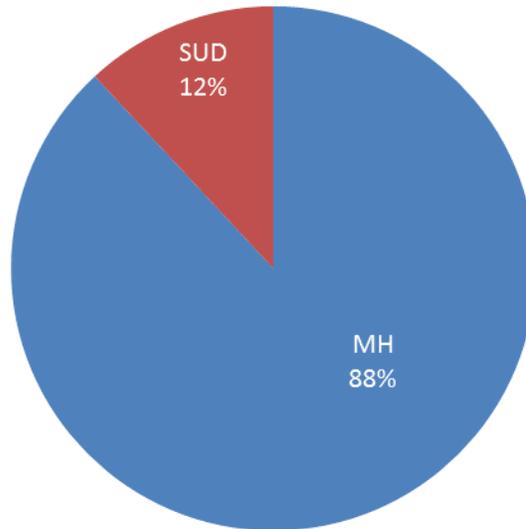
Sources: U.S. Department of Commerce, Bureau of Economic Analysis, GDP data downloaded from <http://www.bea.gov/regional/index.htm> on February 26, 2015. Substance Abuse and Mental Health Services Administration. Projections of National Expenditures for Treatment of Mental and Substance Use Disorders, 2010-2020. HHS Publication No. SMA-14-4883. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014. Available at: <http://store.samhsa.gov/product/Projections-of-National-Expenditures-for-Treatment-of-Mental-and-Substance-Use-Disorders-2010-2020/SMA14-4883>.

Most of the behavioral health treatment costs (88 percent, or \$755 million) in 2013 were for treatment of mental health conditions (Figure 2). Treatment of substance use disorders amounted to 12 percent, or \$99 million. The share for SUD treatment was slightly smaller than recent national data suggest (14 percent in 2013).<sup>5</sup>

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<sup>5</sup> Substance Abuse and Mental Health Services Administration, 2014.

**Figure 2. Mental Health Treatment Accounted for 88 Percent and Substance Use Treatment for 12 Percent of Rhode Island’s Behavioral Health Spending, 2013**



M/SUD Spending = \$853 Million in 2013

Abbreviations: MH, mental health; M/SUD, mental and substance use disorders; SUD, substance use disorders

Source: Author calculations

**Summary.** Rhode Island’s spending on treatment for behavioral health conditions amounted to \$853 million in 2013, which was an amount equal to 1.6 percent of its gross domestic product and higher than the nationwide 1.2 percent share of the gross domestic product. This spending grew slowly between 2011 and 2013 at a 1.4 percent annual rate. Most behavioral health spending (88 percent) was for mental health treatment. The share spent on treatment of substance use disorders (12 percent) was slightly lower than the national average share (14 percent).

### **Behavioral Health Treatment Spending: Providers**

*In 2013, more than one-third (38 percent) of all spending on behavioral health treatment in Rhode Island was for the purchase of prescription drugs—a share that was higher than the national average but is expected to fall as patents expire and generic versions of the drug become widely available.*

Nationwide in 2013, one-quarter of all spending on mental health and substance use treatment was on prescription drugs. For services alone, almost two-thirds of all spending on behavioral health treatment was on specialty providers, including

psychiatric hospitals, psychiatrists, other non-physician mental health specialists such as psychologists and social workers, and mental health and substance abuse clinics.<sup>6</sup> Mental health and substance abuse clinics includes specialty mental health and substance abuse outpatient and residential clinics and general medical clinics such as Federally Qualified Health Centers.

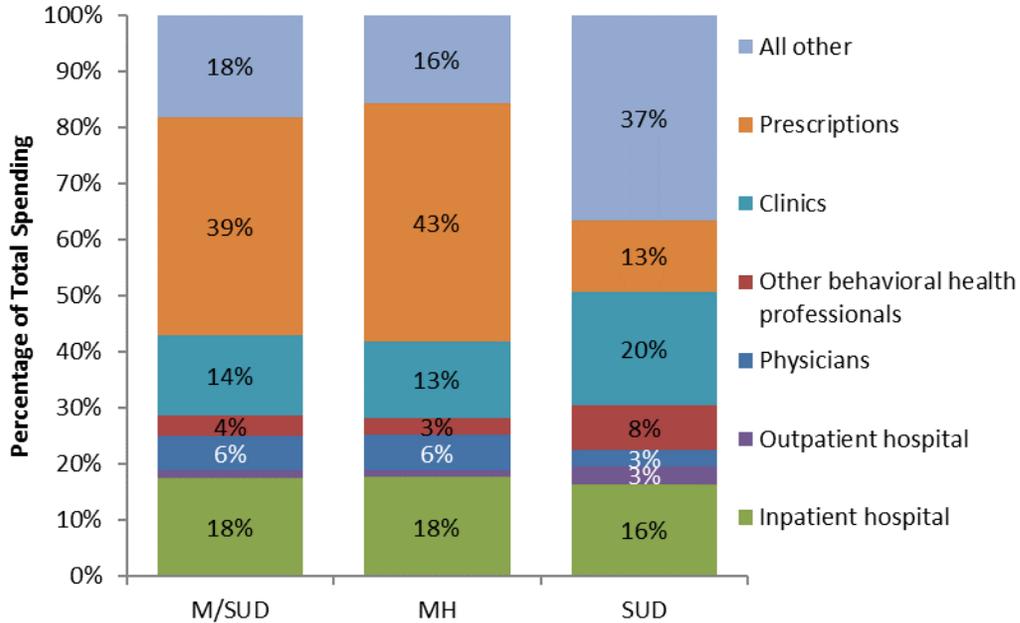
In Rhode Island in 2013, 38 percent of all spending on mental health and substance use treatment was for prescription drugs (Figure 3). Inpatient hospitalizations accounted for 17 percent of all spending, and treatment in clinics accounted for 14 percent. Another 6 percent was spent on physician treatment and 4 percent on treatment by other behavioral health professionals such as psychologists, clinical social workers, and counselors in private office settings. All other spending (19 percent) included the cost of nursing home care; transportation services; home health care; programs run by state agencies and the federal government that target specific populations (including services for prisoners, parolees, and individuals facing judicial proceedings; students; the homeless; and veterans); and administrative costs of private health insurance plans.

Although the share of spending for prescription drugs was very high (42 percent) for mental health conditions, it was much smaller (13 percent) for substance use disorders, for which available medications and their use were much less prevalent. Spending on treatment services (other than prescription drugs) was concentrated in inpatient hospitals, programs targeting specific populations (all other), and clinics for both mental and substance use disorders. Unlike general medical conditions, only a small percentage of spending on treatment for mental and substance use disorders was for physician services (6 percent for mental disorders and 3 percent for substance use disorders).

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<sup>6</sup> Substance Abuse and Mental Health Services Administration, 2014.

**Figure 3. Spending Distribution Among Rhode Island Providers Differed Markedly Between Mental and Substance Use Treatment, 2013**



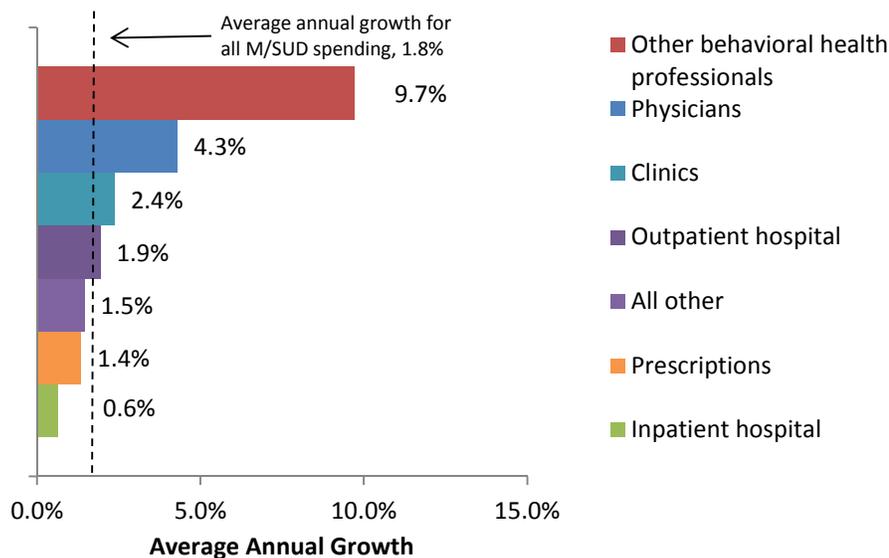
Abbreviations: MH, mental health; M/SUD, mental and substance use disorders; SUD, substance use disorders

Note: *All other* includes home health, case management, nursing home, transportation, and spending by state agencies on others that target population groups such as students; prisoners, parolees and individuals facing judicial proceeding; veterans; and the homeless.

Source: Author calculations.

Over the 3-year period from 2011 through 2013, spending on mental health and substance use treatment grew at a 1.4 percent average annual rate. However, annualized growth varied by provider type, from 0.6 percent for inpatient hospitalizations and clinics to 9.7 percent for other behavioral health professionals (Figure 4). Factors such as patient preference, availability of professionals, design and capacity of provider networks, insurer payment rates, and the amount of state funding and federal and private grants and philanthropy can influence the rate of growth.

**Figure 4. Average Annual Growth in Rhode Island Spending Among Providers for Behavioral Health Treatment, 2011–2013**



Abbreviation: M/SUD, mental and substance use disorder

Note: *All other* includes home health, case management, nursing home, transportation, and spending by state agencies on others that target population groups such as students, prisoners and parolees, veterans, and the homeless.

Source: Author calculations.

Although prescription drug costs were the largest share of costs for behavioral health treatment in 2013, growth in nationwide spending on behavioral health medications has been and is expected to continue slowing over the next few years. This is reflected in the 1.4 percent average annual increase in prescription drug spending in Rhode Island between 2011 and 2013. The main factor affecting prescription drug cost deceleration is the loss of patent protection among many important groups of medications used to treat behavioral health conditions.<sup>7</sup> This has allowed for the entry of generic

<sup>7</sup> Substance Abuse and Mental Health Services Administration, 2014.

equivalents at greatly reduced prices. It is expected that slower growth will reduce the future share of behavioral health spending for the purchase of prescription medications.

**Summary.** Spending for treatment of mental health conditions was primarily for prescription medications, inpatient hospitalizations, programs targeting specific populations, and clinics. Although some of the spending patterns for substance use disorder treatment were similar to those for mental health, a smaller proportion of spending was for prescription medications and larger proportions were for targeted programs for specific populations and clinic services.

## **Behavioral Health Treatment Spending—Payers**

*Medicaid is the single largest payer of behavioral health treatment, funding one-third of all treatment spending for mental health conditions and one-fifth for substance use disorders in 2013.*

This section discusses spending for behavioral health treatment for four major payer groups: Medicaid, private insurance, Medicare, and all other payers. Data on Medicaid includes both fee-for-service and managed care costs. Private insurance includes the spending for three major insurers of Rhode Island residents: Blue Cross Blue Shield, United Healthcare, and Tufts Health Plan. For Medicare, the amounts reflect fee-for-service spending and costs for Medicare Advantage plans from Blue Cross Blue Shield and United Healthcare. The all other payer category includes state and federal government funding, out-of-pocket spending by consumers for insurance copayments and deductibles and for non-covered services, and private insurance spending other than from the three major insurance plans (Blue Cross Blue Shield, United Healthcare, and Tufts Health Plan) serving Rhode Island residents.

### *Medicaid Spending*

Medicaid was the single largest payer for behavioral health treatment in Rhode Island. In 2013, Medicaid financed \$270 million in treatment spending, an amount equal to 33 percent of all mental health treatment and 19 percent of all treatment for substance use disorders (Figures 5 and 6). This is comparable to national figures that showed Medicaid paying for 28 percent of mental health and 22 percent of substance use

disorder treatment.<sup>8</sup> In 2014, mental health and substance use treatment spending also accounted for a large proportion (16.5 percent) of all Medicaid spending (Figure 7).

### *Private Insurance Spending*

Nationwide in 2013, private insurance financed 16 percent of mental health spending and 17 percent of spending for treatment of substance use disorders. In 2013, the three largest private health insurers of Rhode Island residents (BlueCross Blue Shield, United Healthcare, Tufts Health Plan) paid \$150.7 million for behavioral health treatment—\$130.3 million for mental health conditions, and \$20.3 million for substance use disorders. This spending amounted to 17 percent of all mental health spending and 20 percent of all spending on substance use disorders. Of all treatment spending by Rhode Island’s private insurers, 9 percent was for mental health conditions and 1 percent for substance use disorders.

### *Medicare Spending*

Nationwide in 2013, Medicare paid for 14 percent of mental health spending and 5 percent of spending for treatment of substance use disorders. In Rhode Island in 2013, Medicare spent \$73.4 million on behavioral health treatment. Medicare was responsible for paying for 8 percent of all mental health treatment spending and 10 percent of spending for substance use disorder treatment in Rhode Island. Behavioral health spending was a smaller portion of Medicare spending for all diagnoses compared to Medicaid and private insurance; Medicare spent only 4 percent on mental health treatment and less than 1 percent on treating substance use disorders in Rhode Island.

### *All Other Payer Spending*

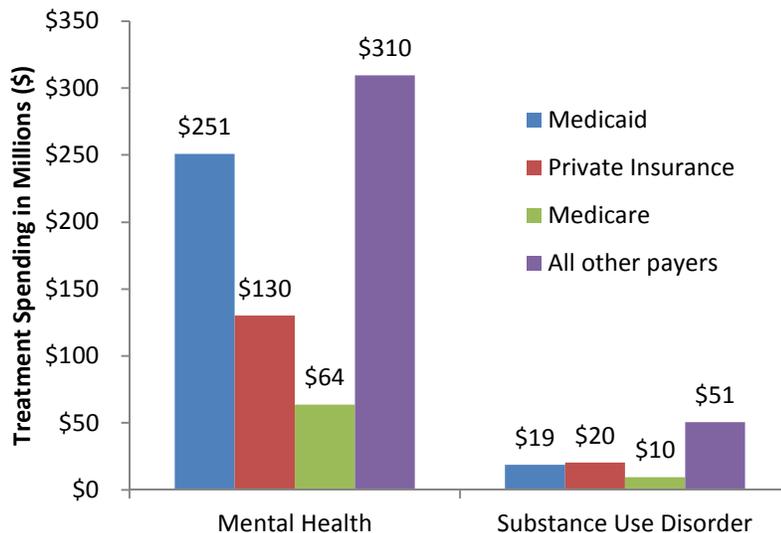
Nationwide in 2013, all other payers were responsible for 41 percent of mental health spending and 51 percent of spending on substance use disorder treatment. In Rhode Island, all other payers included spending by federal, state, and local governments; spending out of pocket by consumers directly for treatment or for insurance copayments and deductibles; other private insurance payments made by plans other than the three from which we gathered information; and philanthropic spending—a slightly wider scope than measured in the nationwide figures. Of these payers, spending by state and local governments is expected to be the largest share of the other spending category. See Table 5 in the Appendix for a description of these payers.

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<sup>8</sup> Substance Abuse and Mental Health Services Administration, 2014.

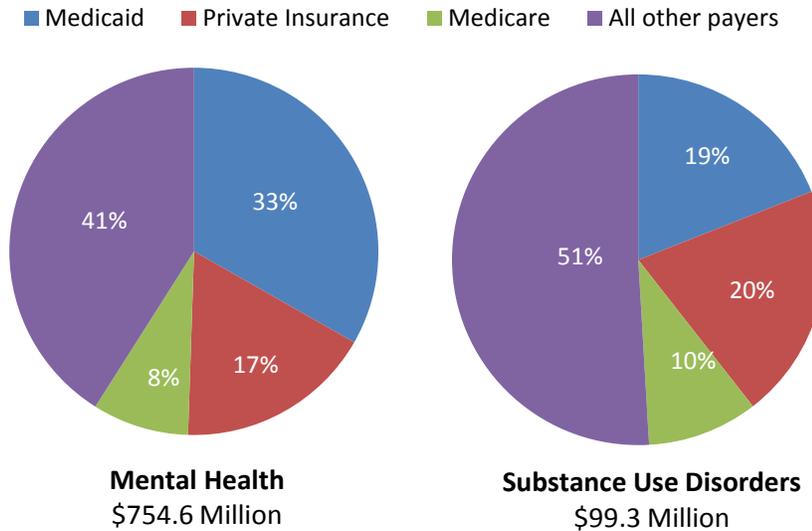
Altogether, all other payer spending in Rhode Island amounted to \$310 million for mental health treatment and \$51 million for treating substance use disorders. Comparable nationwide figures showed all other payers responsible for 33 percent of mental health spending and 56 percent of substance abuse treatment spending, accounting for approximately \$59 billion and \$17 billion in 2014, respectively. The majority of nationwide spending on treatment for substance use disorders by other payers came from state and local governments (30 percent out of 56 percent), which is also likely the case in Rhode Island.

**Figure 5. Medicaid Was the Single Largest Payer for Mental Health Treatment in Rhode Island, 2013**



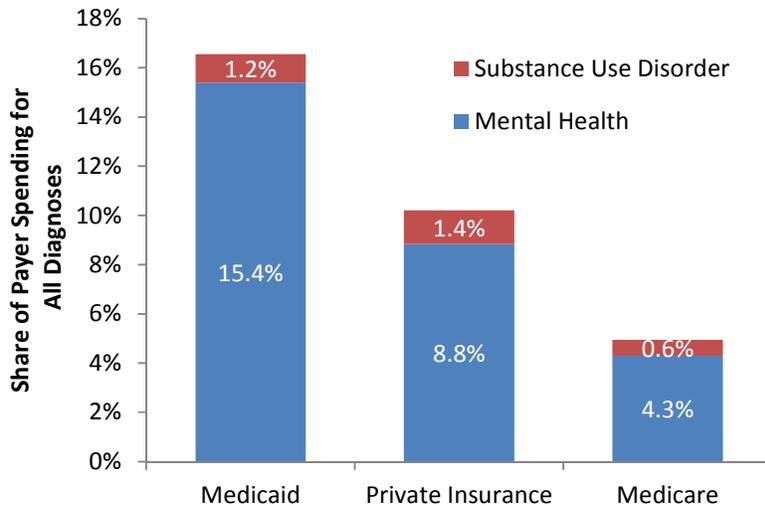
Note: *All other payers* include state and federal government spending, out-of-pocket spending, and private insurance spending other than from the three identified plans. Sources: Rhode Island Medicaid Management Information System claims, three major private insurance plans, and Medicare Standard Analytic Files, 2013.

**Figure 6. Medicare, Private insurance, and Medicaid Paid for Over Half of the Total Costs of Mental Health and Substance Use Treatment in Rhode Island, 2013**



Notes: *All other payers* include state and federal government spending, out-of-pocket spending, and private insurance spending other than from the three identified plans. Sources: Rhode Island Medicaid Management Information System claims, three major private insurance plans, and Medicare Standard Analytic Files, 2013.

**Figure 7. Behavioral Health Spending in Rhode Island Accounted for 16.6 Percent of Medicaid, 10.2 Percent of Private Insurance, and 4.9 Percent of Medicare Spending, 2013**

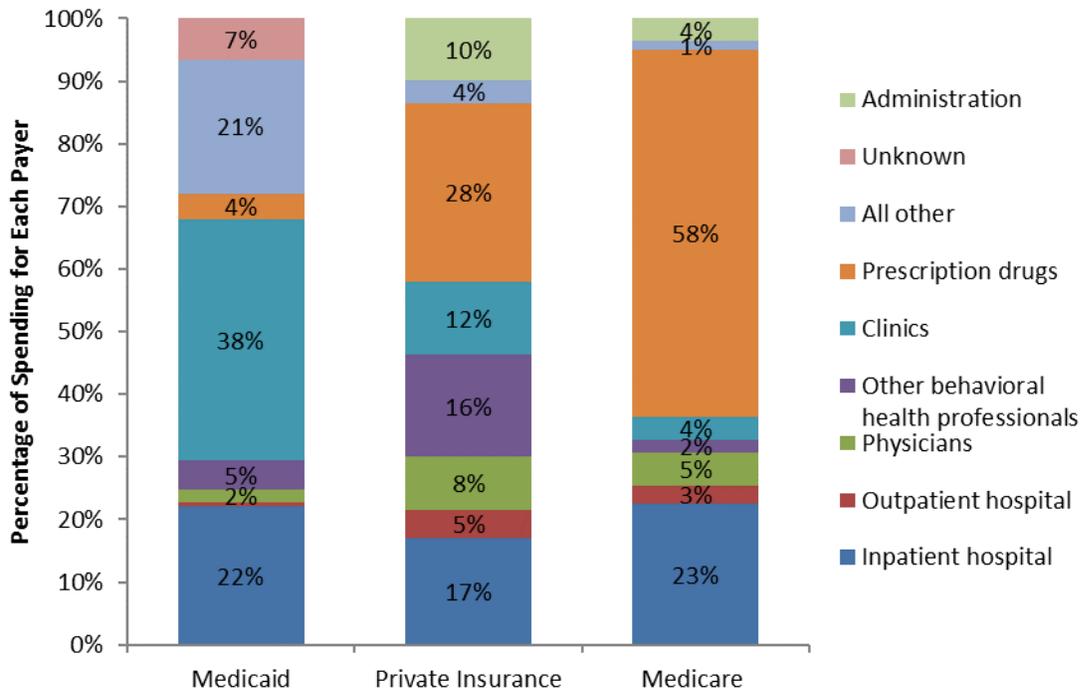


Sources: Rhode Island Medicaid Management Information System claims, three major private insurance plans, and Medicare Standard Analytic Files, 2013.

*Spending Distributions by Payer and Provider Type*

The distribution of behavioral health spending by provider type within each payer varied considerably. In 2013, Rhode Island Medicaid spending was concentrated on payments to clinics, inpatient hospitals, and all other spending types; private insurance spending primarily was on prescription drugs, inpatient hospitals, and behavioral health professionals other than physicians; and Medicare primarily was on inpatient hospitals, prescription drugs, and physicians (Figure 8).

**Figure 8. Distribution of Behavioral Health Spending in Rhode Island by Medicaid, Private Insurance, and Medicare, 2013\***



Sources: Rhode Island Medicaid Management Information System claims, three major private insurance plans, and Medicare Standard Analytic Files, 2013.

**\*Note: Due to anomalies in the Medicaid data, the percentage of spending on prescription drugs may be inaccurate and should not be cited.**

**Summary.** In 2013, Medicaid was the single most important payer for treatment of mental and substance use disorders in Rhode Island. Nationwide during the same year, Medicaid paid for 17 percent of spending on all diagnoses and for 27 percent of all behavioral health spending.<sup>9</sup> In Rhode Island, Medicaid’s responsibility for covering mental health and substance use treatment costs was 32 percent—slightly higher than

<sup>9</sup> Substance Abuse and Mental Health Services Administration, 2014.

the national share. Private insurance paid for 18 percent of treatment costs (compared with 25 percent nationwide) and Medicare for 9 percent (compared with 13 percent nationwide). In Rhode Island, the lower share of spending from private insurance may be due in part to missing payments from other insurance plans.

## **Behavioral Health Treatment Spending: Patient Age**

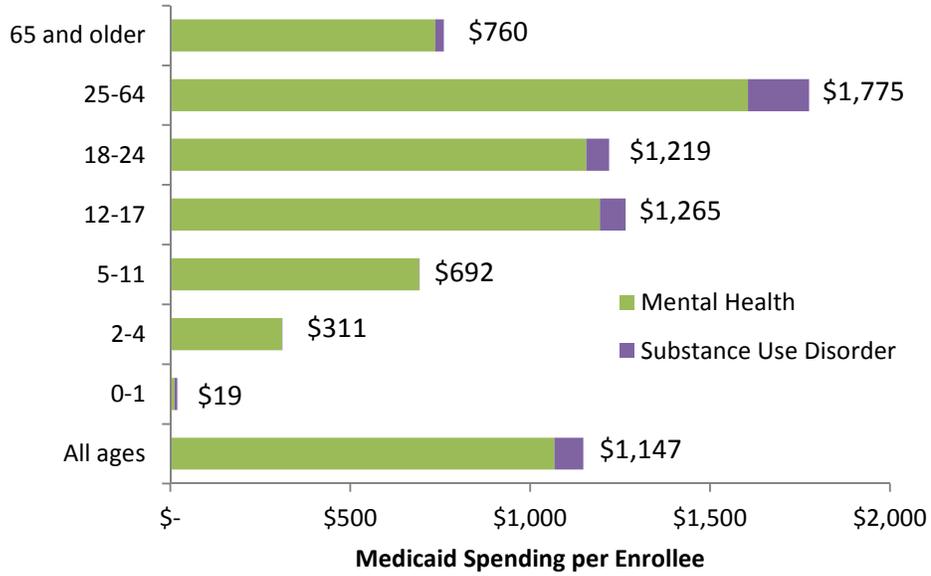
*Among Medicaid and private insurance payers, the largest share of all spending by age group for behavioral health treatment was for individuals aged 12–17 years. These payers spent very little on treatment for children younger than 5 years.*

In this section, we discuss spending by patient age for the major payers of Medicaid, private insurance, and Medicare. Spending on behavioral health treatment varied considerably by major payer and by age group. This is because each payer focuses on a specific population group whose demand for behavioral health treatment will differ markedly. For Medicaid, the covered population group primarily includes children, pregnant women, parents, older adults, and individuals with disabilities; for private insurance, it includes families covered by employer-sponsored insurance and individuals purchasing policies directly from insurers; and for Medicare, it includes people aged 65 years and older and disabled residents.

### *Medicaid Spending*

Medicaid spending on behavioral health treatment in Rhode Island averaged \$1,147 per enrollee in 2013. Spending per enrollee was highest for adults aged 25–64 years (\$1,775), followed by adolescents aged 12–17 years (1,265) and adults aged 18–24 years (\$1,219) (Figure 9). These figures include Medicaid spending on dual eligibles. The vast majority of spending in each age group was for mental health treatment. For individuals aged 25–64, spending on treatment for substance use disorders (\$169 per enrollee) was twice the all-age average (\$80) and the highest for any age group.

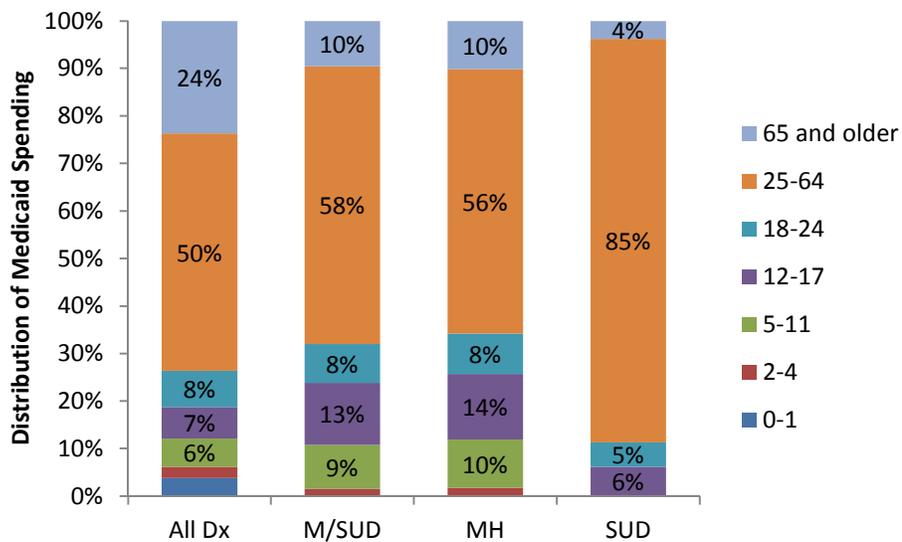
**Figure 9. Rhode Island’s Medicaid Spent More on Behavioral Health Treatment for Adults Aged 25–64 and Children Aged 5–17 Than the All-Age Average, 2013**



Note: Per enrollee spending is calculated using average monthly enrollment.  
Source: Rhode Island Medicaid Management Information System claims, 2013.

For treatment of substance use disorders, spending was concentrated on adults aged 25–64 years, who accounted for 85 percent of all Medicaid substance use treatment spending, compared with 50 percent of all diagnoses spending (Figure 10). For mental health treatment, individuals aged 65 years and older spent disproportionately less on behavioral health treatment than on all diagnoses.

**Figure 10. Rhode Island’s Medicaid Spent a Disproportionately Large Share on Behavioral Health Treatment for Children and Adolescents Aged 5–17 Years and Adults Aged 25–64 Years, 2013**

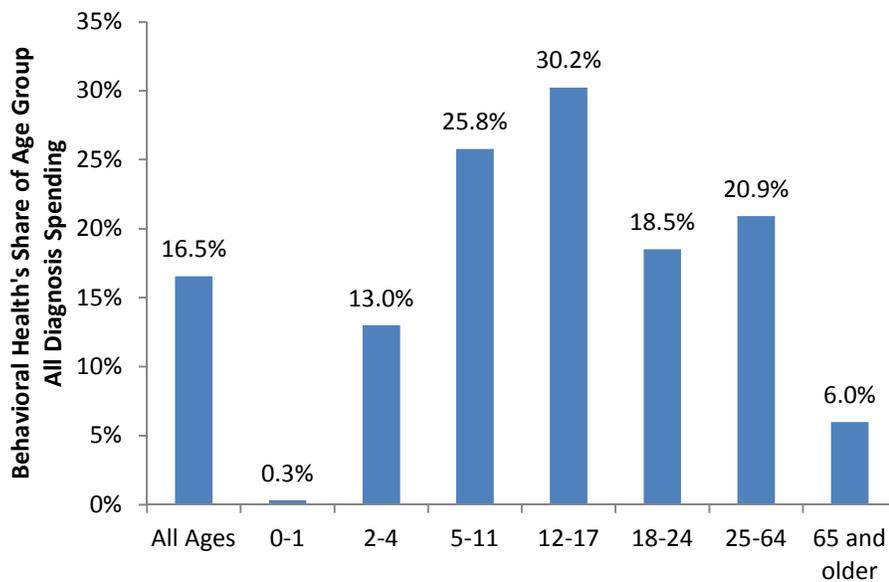


Abbreviations: Dx, diagnoses; MH, mental health; M/SUD, mental and substance use disorders; SUD, substance use disorders

Source: Rhode Island Medicaid Management Information System claims, 2013.

In 2013, 16.5 percent of Rhode Island’s total Medicaid spending was on behavioral health treatment. This percentage varied by age group, with behavioral health spending for adolescents aged 12–17 years accounting for 30 percent of all spending for that age group, followed by children aged 5–11 years at 26 percent (Figure 11).

**Figure 11. Rhode Island’s Medicaid Spending on Behavioral Health Was 16.5 Percent of Its Spending for All Ages and 30 Percent of Spending for Recipients Aged 12–17, 2013**

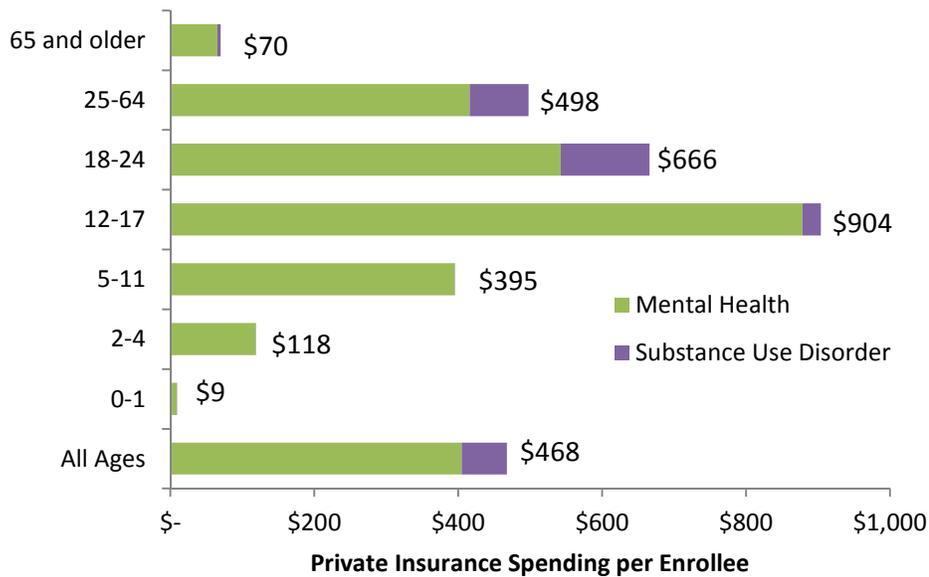


Source: Rhode Island Medicaid Management Information System claims, 2013.

*Private Insurance Spending*

In 2013, private insurance spending on behavioral health treatment in Rhode Island averaged \$468 per enrollee. Spending per enrollee was highest for adolescents aged 12–17 years (\$904) (Figure 12). The vast majority of spending in each age group was for mental health treatment. For individuals aged 18–24 years, spending on treatment for substance use disorders (\$123 per enrollee) was twice the all-age average (\$63).

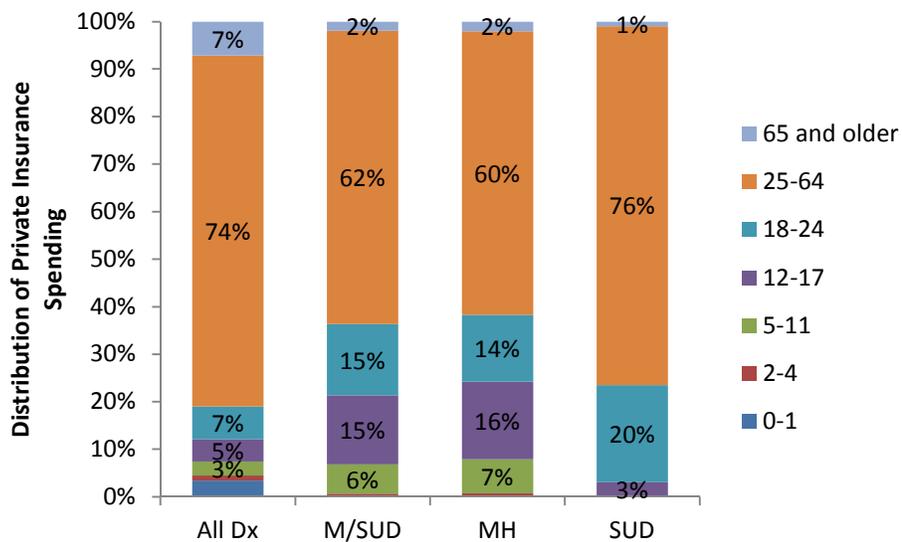
**Figure 12. Private Insurance in Rhode Island Spent More on Behavioral Health Treatment for Adolescents Aged 12–17 Years and on Young Adults Aged 18–24 Years Than the All-Age Average, 2013**



Source: Blue Cross Blue Shield, United Healthcare, and Tufts Health Plan, 2013.

For mental health treatment, the distribution of spending by age group showed disproportionately higher spending for individuals aged 12–17 years and 18–24 years compared with spending for all diagnoses (Figure 13). For treatment of substance use disorders, spending was concentrated on adults aged 25–64 years, who accounted for 76 percent of all private insurance substance use treatment spending, compared with 74 percent of all diagnoses spending. Within this adult age group, spending on substance use treatment was particularly high for individuals aged 18–24 years (20 percent for substance use disorders and 7 percent for all diagnoses).

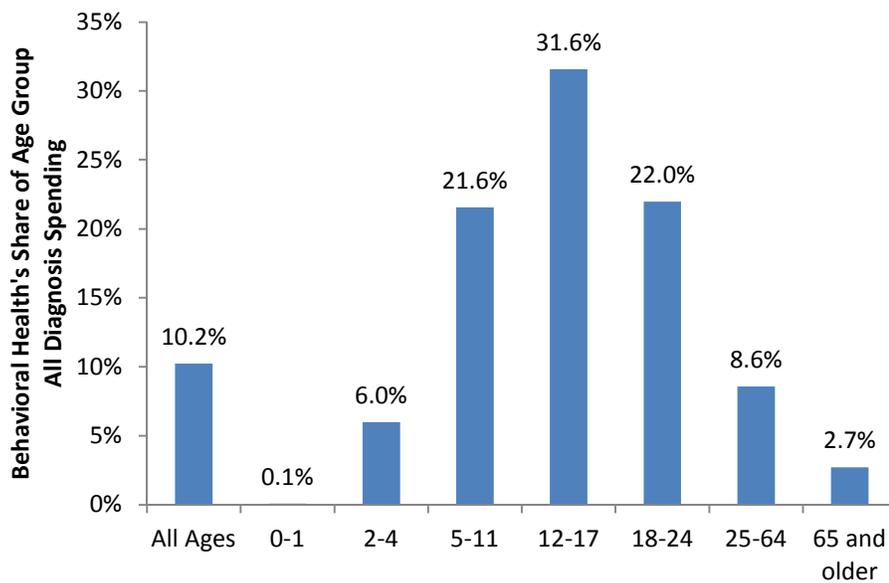
**Figure 13. Private Insurance in Rhode Island Individuals Spent a Disproportionately Large Share on Behavioral Health Treatment for Individuals Aged 25–64 years, 2013**



Source: Blue Cross Blue Shield, United Healthcare, and Tufts Health Plan, 2013.

In Rhode Island in 2013, 10 percent of Rhode Island’s private insurance spending was on behavioral health treatment, which is a lower proportion than we found for Medicaid. As with Medicaid, the percentage varied by age group and was particularly high for adolescents aged 12–17 years (32 percent), children aged 5–11 years (22 percent), and young adults aged 18–24 years (22 percent) (Figure 14).

**Figure 14. Private Insurance Spending on Behavioral Health in Rhode Island Was 10 Percent of Spending for All Ages and 32 Percent of Spending for Recipients Aged 12–17 Years, 2013**

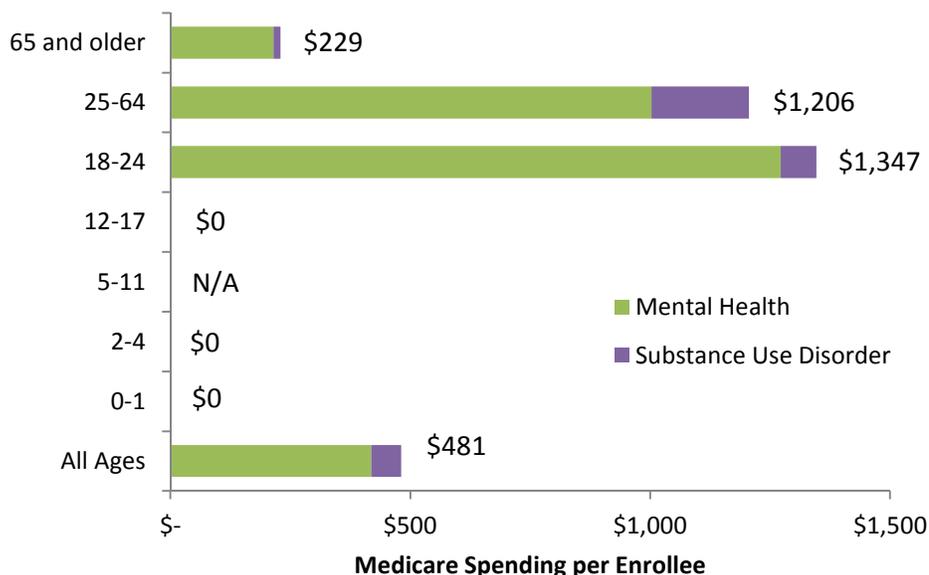


### Medicare Spending

Medicare enrollees include individuals aged 65 years and older as well as populations receiving Social Security Disability Insurance (SSDI). In 2013, Medicare spending on behavioral health treatment averaged \$481 per enrollee. There was very little Medicare spending for individuals younger than 25 years, mainly because so few individuals in this age group qualify for Medicare because of disability. However, mental disability is a qualifying condition for Medicare disability, which likely accounted for the large amount of spending per enrollee for adults aged 18–64 years.

Medicare spending per enrollee on behavioral health treatment was highest for adults aged 18–24 years and 25–64 years (\$1,347 and \$1,206, respectively), but considerably lower for individuals aged 65 years and older (\$229) (Figure 15). For adults aged 25–64 years, spending on treatment for substance use disorders (\$203 per enrollee) was twice the all-age average (\$62).

**Figure 15. Medicare Spent More on Behavioral Health Treatment for Adults Aged 18–64 Years than for Medicare Enrollees of All Ages in Rhode Island, 2013**



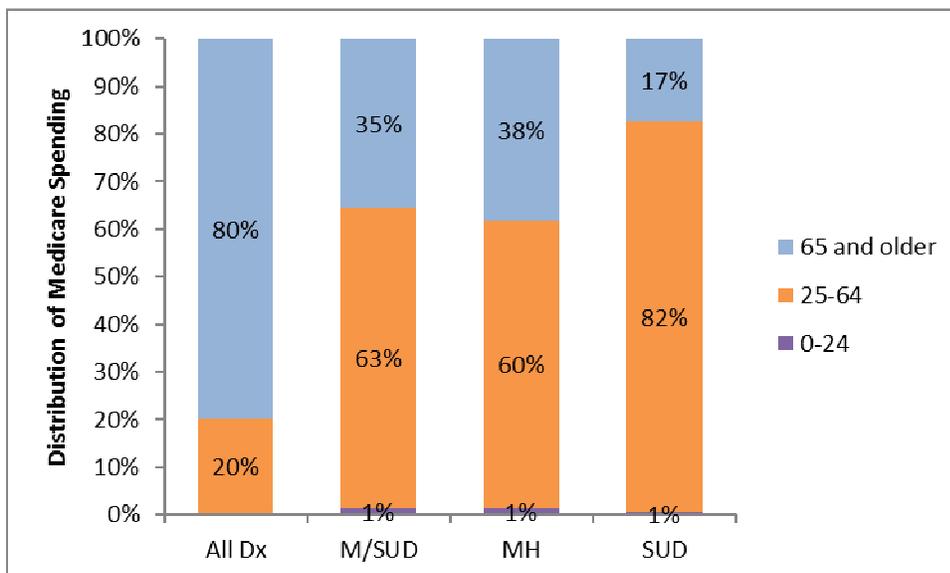
Note: N/A represents values that cannot be disclosed because of the small number of claims.

Source: Medicare Standard Analytic Files, 2012 and 2013.

For mental health treatment, the distribution of Medicare spending by age group was substantially different from the distribution of spending for all diagnoses (Figure 16).

Individuals aged 25–64 years accounted for three times the share of mental health spending and four times the share of spending on treatment of substance use disorders compared with individuals aged 65 years and older. Again, this difference is likely attributable to the qualifying requirement of disability for adults aged 25–64 years compared with individuals aged 65 and older, who qualify for Medicare based on age alone.

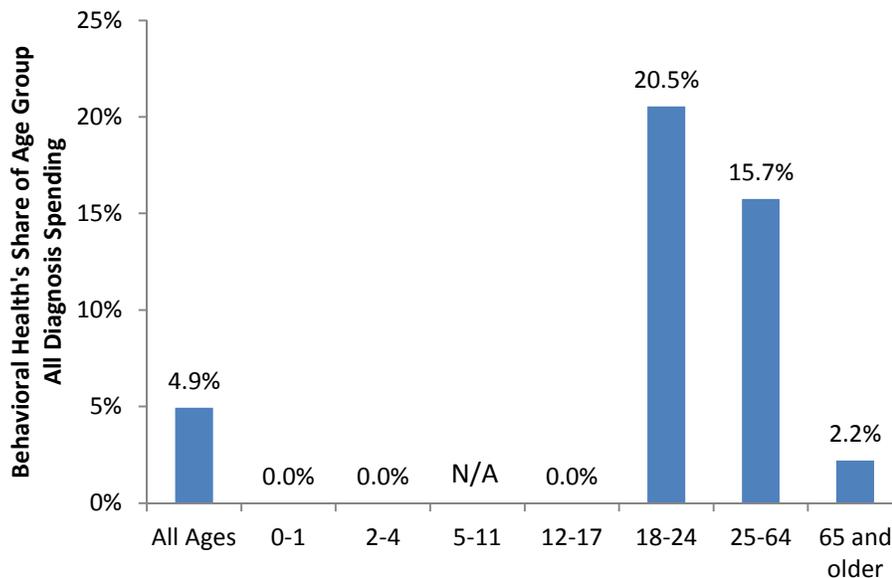
**Figure 16. Medicare Spent a Disproportionately Large Share on Behavioral Health Treatment for Individuals Aged 25–64 in Rhode Island, 2013**



Source: Medicare Standard Analytic Files, 2012 and 2013.

In Rhode Island in 2013, only 5 percent of Medicare spending was for behavioral health treatment, which was considerably lower than the share spent by Medicaid (17 percent) and private insurance (10 percent). This percentage varied by age group, consuming 21 percent of all Medicare spending for adults aged 18–24 years and 16 percent for adults aged 25–64 years, compared with 2 percent for adults aged 65 years and older (Figure 17).

**Figure 17. Medicare Spending on Behavioral Health Was 5 Percent of All-Age Medicare Spending and 21 Percent of Medicare Spending for Enrollees Aged 18–24 Years in Rhode Island, 2013**



Note: N/A represents values that cannot be disclosed because of the small number of claims.

Source: Medicare Standard Analytic Files, 2012 and 2013.

**Summary.** Spending by age group for treatment of mental health and substance use is concentrated in adolescents aged 12–17 years, young adults aged 18–24 years, and adults aged 25–64 years. Spending on behavioral health conditions per enrollee in these age groups was \$498 to \$904 for Medicaid, \$1,219 to \$1,775 for private insurance, and \$1,206 to \$1,347 for Medicare. As a share of total spending within each age group, behavioral health spending amounted to 16 percent to 32 percent of payer spending for all conditions. The high amount of spending and high share of spending for each age group make spending on behavioral health conditions a priority for each payer.

## **Behavioral Health Treatment Spending: Comparison Among New England States**

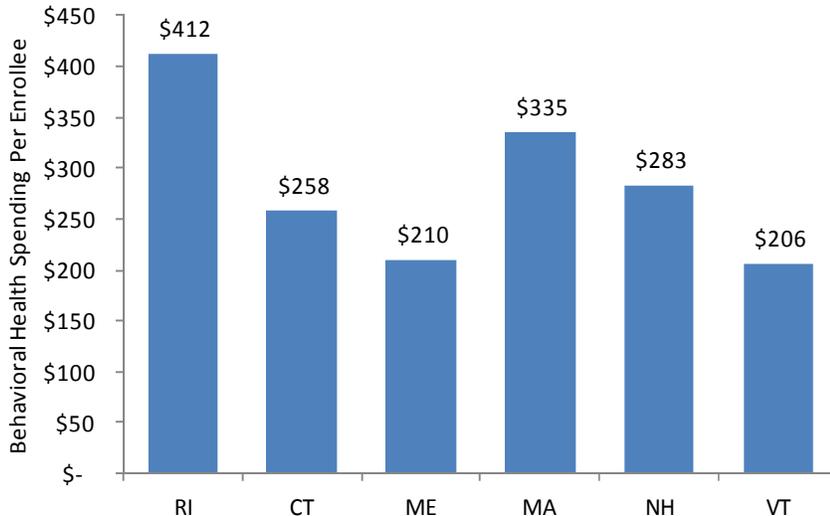
*Spending per enrollee or per population on behavioral health treatment among Rhode Island residents with Medicaid, private insurance, and Medicare coverage generally was higher than in any other New England state in 2012. High use of inpatient hospitalizations and greater spending on prescription drugs contributed to the high spending levels.*

In this section, we discuss findings that compare spending in Rhode Island and its neighboring New England states for behavioral health treatment. These findings compare behavioral health spending by private insurance and Medicare as well as by funds controlled by state mental health agencies for multi-service mental health organizations and specialty psychiatric hospitals. We also draw state comparisons for spending on hospitalizations and prescription drugs.

### *Private Health Insurance Spending*

The Truven Health MarketScan™ Commercial Claims and Encounters Database provides information on state-level spending for private health insurance through employer self-insured plans. In fiscal year 2012, MarketScan data reveal that Rhode Island residents with private health insurance ranked highest among New England states in spending on behavioral health treatment; their spending was two times higher than the two New England states with the lowest spending levels (Maine and Vermont) (Figure 18).

**Figure 18. Behavioral Health Spending per Private Insurance Enrollee In Rhode Island Was Higher than in Any Other New England State, FY 2012**

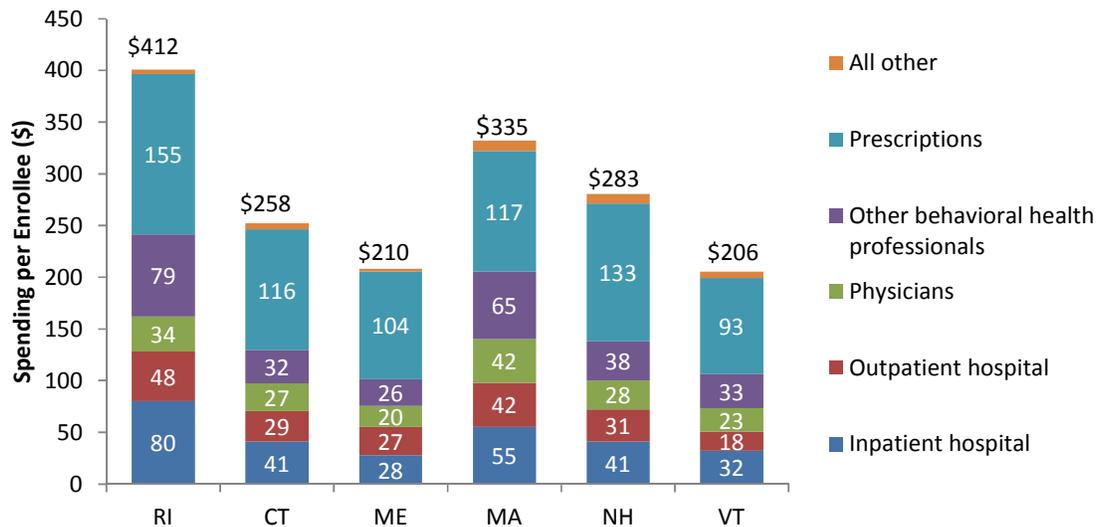


Abbreviations: CT, Connecticut; MA, Massachusetts; ME, Maine; NH, New Hampshire; RI, Rhode Island; VT, Vermont

Source: Truven Health MarketScan Commercial Claims and Encounters Database

Compared with other New England states, hospitalizations and prescription drugs appear to be important contributors to the high private health insurance behavioral health costs per enrollee in Rhode Island. These two components of spending accounted for 82 percent of the difference in spending between Rhode Island and Massachusetts—the New England state with the second highest level of spending per enrollee. However, payments for hospital stays or prescription drugs do not appear to be the only reasons for high private insurance spending. With only one exception (physician spending in Massachusetts), private health insurance spending per enrollee for every provider was higher in Rhode Island than in any other New England state (Figure 19).

**Figure 19. Private Insurance Spending per Enrollee on Behavioral Health Treatment in Rhode Island Was Highest Among New England States for Almost Every Provider Category, FY 2012**



Abbreviations: CT, Connecticut; MA, Massachusetts; ME, Maine; NH, New Hampshire; RI, Rhode Island; VT, Vermont

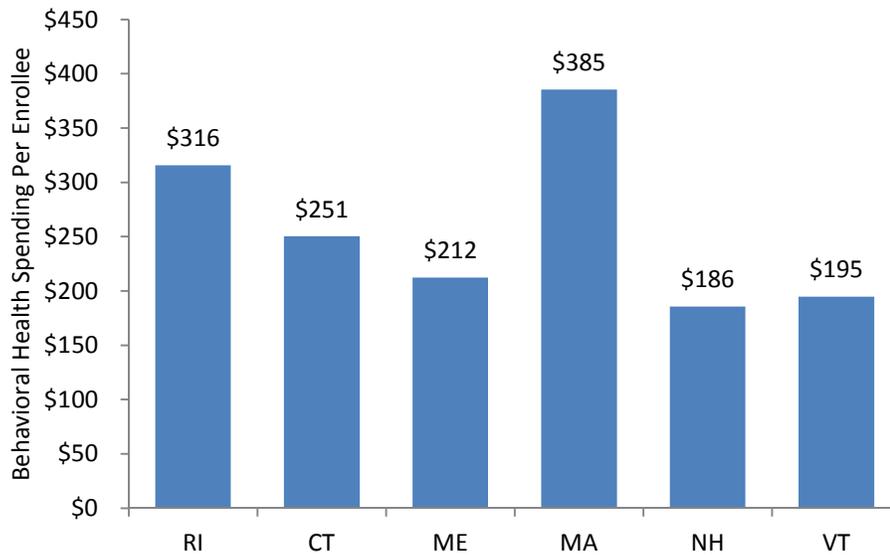
Source: Truven Health MarketScan Commercial Claims and Encounters Database

### Medicare Spending

Among New England states in 2012, Rhode Island ranked second to Massachusetts in Medicare spending per enrollee for behavioral health treatment (excluding prescription drugs).<sup>10</sup> Medicare per enrollee spending in Rhode Island was 18 percent lower than the level in Massachusetts, but 21 percent higher than in Connecticut and 33–41 percent higher than Maine, New Hampshire, and Vermont (Figure 20).

<sup>10</sup> Data on Medicare prescription drug spending were not available for this study.

**Figure 20. Spending per Medicare Enrollee on Behavioral Health Treatment in Rhode Island Ranked Second Among New England States, FY 2012**

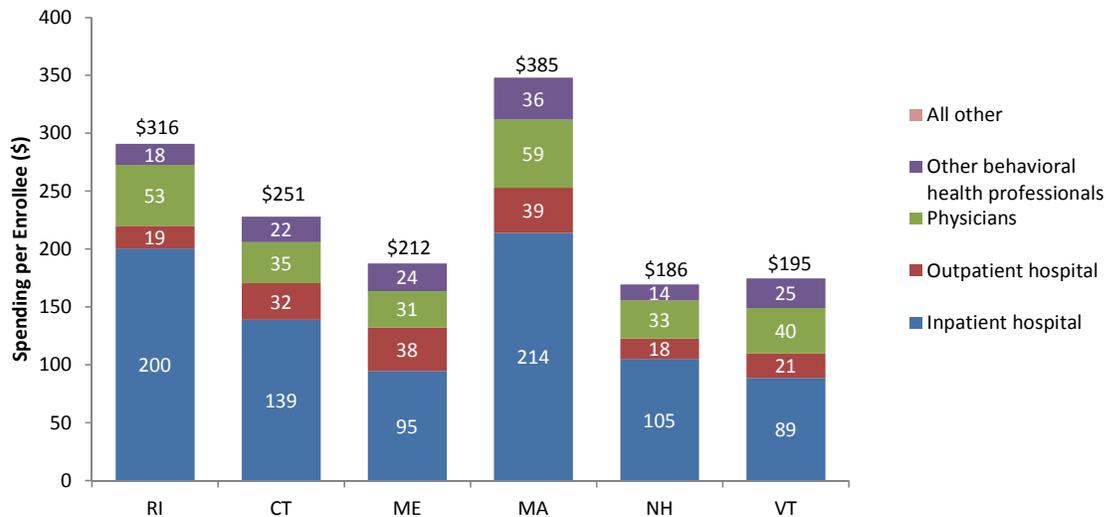


Abbreviations: CT, Connecticut; MA, Massachusetts; ME, Maine; NH, New Hampshire; RI, Rhode Island; VT, Vermont

Source: Medicare Standard Analytic Files

Spending on hospitalizations was the main driver of the differences between Rhode Island and Massachusetts and the other New England states in Medicare behavioral health spending. Average spending per enrollee on behavioral health inpatient hospitalization alone accounted for more than the entire difference in overall behavioral health spending between Rhode Island and the next highest New England state (Connecticut) (Figure 21).

**Figure 21. Inpatient Hospital Spending Made Up 63 percent of All Medicare Behavioral Health Spending per Rhode Island Enrollee and Ranked Second Only to Massachusetts in Hospital Spending per Enrollee, FY 2012**



Abbreviations: CT, Connecticut; MA, Massachusetts; ME, Maine; NH, New Hampshire; RI, Rhode Island; VT, Vermont

Source: Medicare Standard Analytic Files

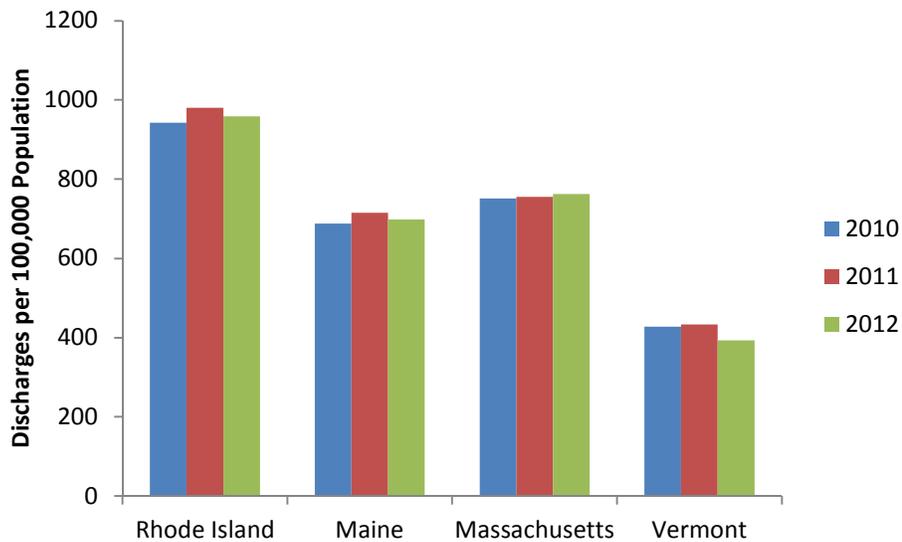
### *Inpatient Hospitalization Use Rates and Costs*

Higher costs can be attributed to many factors. As noted in the New England state comparisons of private health insurance and Medicare spending, one important factor is the rate of inpatient hospitalization, which is one of the most expensive treatment options for behavioral health patients. The Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) provide information on the number of discharges from community hospitals. We used these data to calculate admission rates per population and average costs. HCUP SID data only cover costs in community hospitals and do not include spending for hospitalizations in specialty psychiatric hospitals.

Analysis of the SID data showed that Rhode Island’s discharge rate for mental and substance disorders was 26 percent higher than the next highest New England state (Massachusetts) and almost 150 percent higher than Vermont (Figure 22).<sup>11</sup>

<sup>11</sup> Many Vermont residents use hospitals in other states (primarily in New Hampshire), resulting in an abnormally low discharge rate from Vermont hospitals.

**Figure 22. Hospitalizations per 100,000 Population for Mental and Substance Use Disorders Were Higher in Rhode Island than in Maine, Massachusetts, or Vermont, 2010–2012**



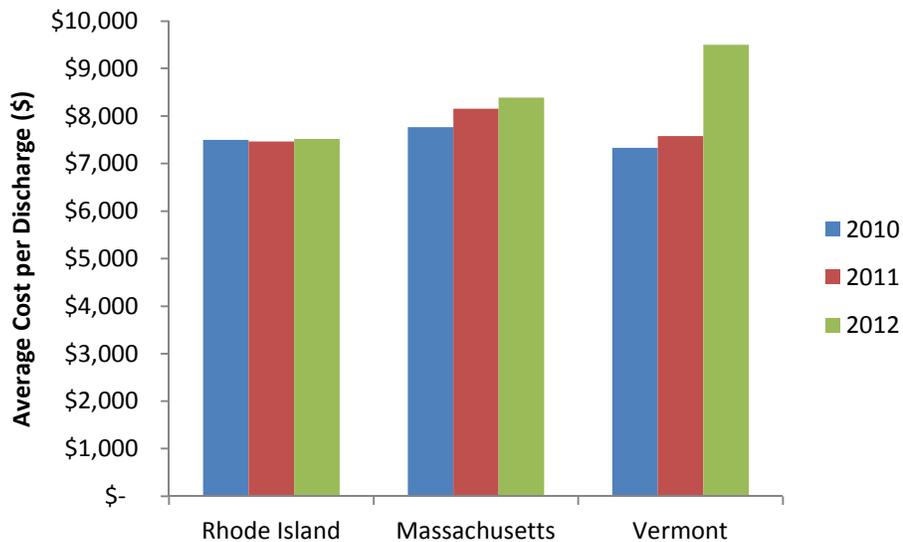
Note: Data are not available for Connecticut and New Hampshire

Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project.

Data downloaded from <http://hcupnet.ahrq.gov/> on December 16, 2014.

The high Rhode Island rates for behavioral health hospitalizations is somewhat offset by the cost per discharge for a behavioral health admission, which was slightly lower in Rhode Island than in Massachusetts or Vermont (Figure 23). In 2011, Rhode Island’s cost per behavioral health discharge was 9 percent less than the cost in Massachusetts and 2 percent less than the cost in Vermont.

**Figure 23. Average Cost of Hospitalizations for Mental and Substance Use Disorders Was Slightly Lower in Rhode Island than in Massachusetts or Vermont, 2010–2012**



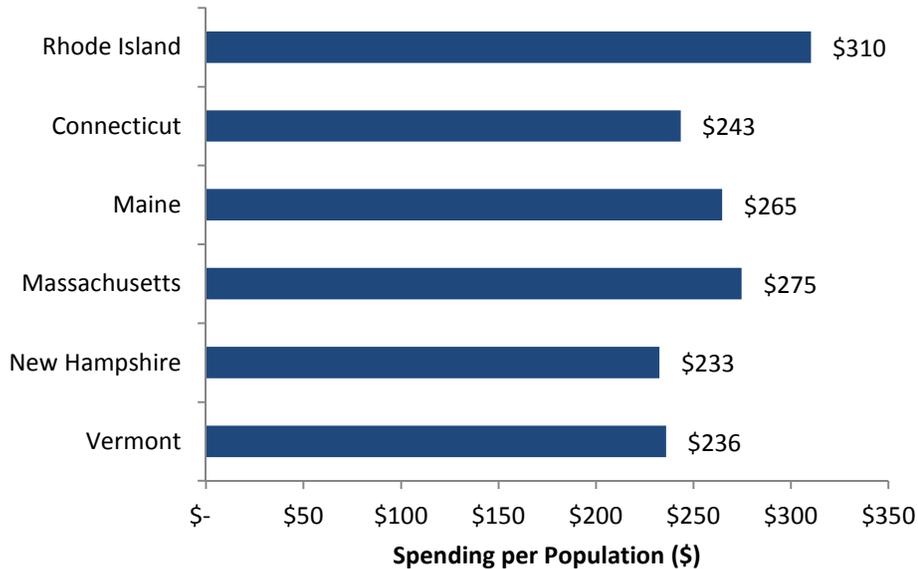
Note: Data is not available for Connecticut, Maine, and New Hampshire.

Source: U.S. Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project. Downloaded from <http://hcupnet.ahrq.gov/> on December 16, 2014.

### *Prescription Drug Spending*

We analyzed cost differences in spending for prescription drugs across the New England states. We used data on counts of prescriptions filled by state combined with the nationwide average cost of medications by therapeutic class from IMS Health Inc. to estimate the cost of prescription drugs used to treat mental and substance use disorders. Figure 24 illustrates the cost of prescription medications per population in Rhode Island compared with other New England states. The cost per population for prescription drugs to treat mental health and substance use conditions in Rhode Island was 11 percent higher than the next highest state average (Massachusetts) and 25 percent higher than the lowest state average (New Hampshire).

**Figure 24. Spending per Population on Prescription Drugs Used to Treat Mental and Substance Use Disorders Was Higher in Rhode Island than in any Other New England State, 2012**



Source: IMS Health Inc. counts of prescriptions filled by state and nationwide average cost of drugs by therapeutic class.

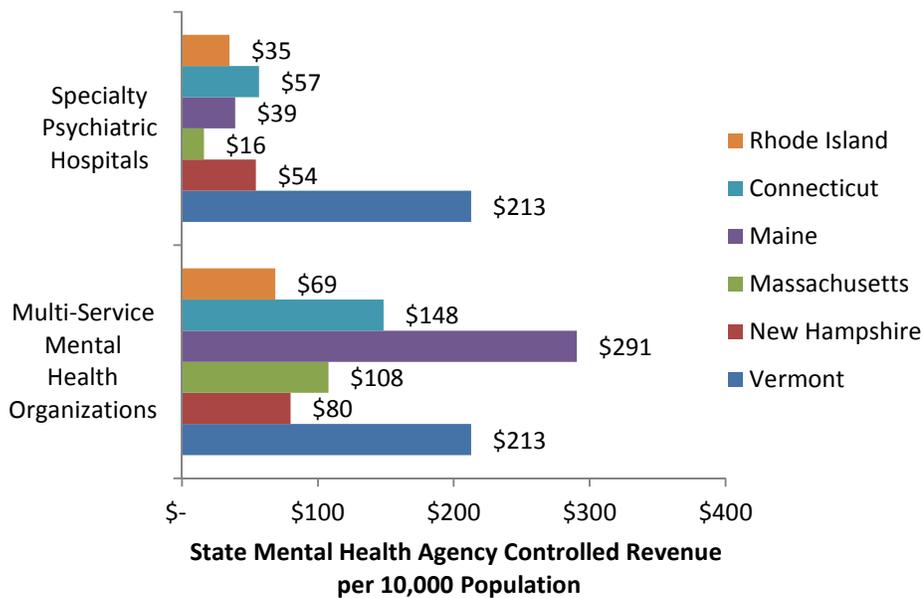
*State Mental Health Agency Spending on Multi-service Mental Health Organizations and Specialty Psychiatric Hospitals Spending*

The National Association of State Mental Health Program Directors National Research Institute (NASMHPD-NRI) collects information from states on spending for two broad categories of providers: (1) multi-service mental health organizations that provide specialized outpatient and residential treatment and (2) specialty psychiatric hospitals. The spending includes all revenue under the control of state mental health agencies, including state and local funds, self-pay, insurance payments, and other revenue. The validity of the data is dependent upon state agency reporting and is largely dependent on whether the mental health agency in each state controls the revenues for the specialty provider facilities.

NASMHPD-NRI survey results for 2012 show that Rhode Island’s reported state-controlled revenues were the lowest among New England states for multi-service mental health organizations and second lowest for specialty psychiatric hospitals (Figure 25). These results may indicate that spending on low-cost alternative treatment in

multi-service mental health organizations is less well funded in Rhode Island than in other New England states.

**Figure 25. Revenue Controlled by Rhode Island’s State Mental Health Agency per 10,000 Population Is Low Compared with Other New England States, 2012**



Source: National Association of State Mental Health Program Directors—National Research Institute, 2012.

**Summary.** These data draw important comparisons between Rhode Island and its New England neighbors. First, costs for behavioral health treatment were higher in Rhode Island than in most neighboring states for private insurance and second highest in the region for Medicare. Second, high hospitalization costs were the main drivers of high spending in Rhode Island. This was reported consistently among a variety of data sources, including private insurance and Medicare claims and HCUP SID reports. HCUP information also showed that the rate of inpatient hospitalization in Rhode Island exceeded the rate in several other New England states, including Massachusetts. Third, private insurance claims and IMS prescription drug data showed that spending on prescription drugs also was a leading contributor to higher Rhode Island behavioral health spending.

Revenue controlled by the state mental health agency in multi-service mental health organizations in Rhode Island ranked lowest among New England states. Multi-service mental health organizations can provide outpatient and residential treatment options in

settings that can be less costly than inpatient hospitalizations and private professional office settings.

## Effects of Indirect Costs for Behavioral Health Conditions on Rhode Island's State Budget

Societal costs stemming from behavioral health conditions can include additional costs to the social welfare system, criminal justice system, and the costs of other social services provided to individuals with mental health and substance use conditions.<sup>12</sup> These costs are generally referred to as indirect costs or the cost of illness which are wholly or partially attributable to untreated mental health conditions or substance use disorders. They exclude the direct costs of treatment behavioral health conditions, discussed in the prior section.

In total, an estimated \$789 million from Rhode Island's 2015 state budget will be attributable to the indirect cost of mental health conditions and substance use disorders; this accounts for approximately 9.5 percent of the budget. Substance use disorder indirect costs for Rhode Island are estimated to be \$513 million, or 5.84 percent of the total Rhode Island budget, for the enacted budget of 2015.<sup>13</sup> Indirect costs attributed to mental illness are estimated to be \$276 million, which is 3.15 percent of the total Rhode Island enacted budget for the year 2015.

### Indirect Cost of Illness on Rhode Island's State Budget

#### *Substance Use Disorders*

The Rhode Island substance use disorder indirect cost of illness was calculated using national estimates of federal spending for indirect costs. These indirect costs were estimated using data from the Department of Health and Human Services (HHS) and Department of Public Safety,<sup>14</sup> which are the two federal departments that are most relevant to spending for substance use disorders. Indirect federal spending on

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<sup>12</sup> Office of National Drug Control Policy. The Economic Costs of Drug Abuse in the United States, 1992-2002. Publication No. 207303. Washington, DC: Executive Office of the President; 2004.

<sup>13</sup> State of Rhode Island and Providence Plantations Budget as Enacted, Fiscal Year 2015. <http://www.budget.ri.gov/Documents/Prior%20Year%20Budgets/Operating%20Budget%202015/FY%2015%20Budget%20as%20Enacted.pdf>

<sup>14</sup> The National Center on Addiction and Substance Abuse at Columbia University. Shoveling Up II: The Impact of Substance Abuse of Federal, State, and Local Budgets. May, 2009. Available at <http://www.casacolumbia.org/addiction-research/reports/shoveling-ii-impact-substance-abuse-federal-state-and-local-budgets>

substance use disorders for HHS was 32.3 percent of the total budget, and indirect federal spending for public safety was 70 percent of the total budget.

Available state data in select Rhode Island agencies under HHS (child and family assistance, human services) and public safety (corrections, public safety) were used to calculate indirect costs to the state for substance use disorders. The federal spending percentage was applied to the Rhode Island state budget for these agencies and summed to determine the total indirect costs for Rhode Island, which were \$513 million or 5.84 percent of the total Rhode Island budget for the enacted budget of 2015<sup>15</sup> (Table 2).

**Table 2. Indirect Costs of Treating Substance Use Disorders**

Agency	2015 State Budget Total for Division	Amount of State Budget Attributed to Indirect Costs
<b>Department of Human Services</b>		
Children, Youth and Families, \$	210,636,391	67,996,468
Human Services, \$	649,786,890	209,760,588
<b>Total to Human Services, \$</b>	<b>860,423,281</b>	<b>277,757,056</b>
<b>Department of Public Safety</b>		
Corrections, \$	209,326,500	146,531,845
Public Safety, \$	126,554,846	88,590,384
<b>Total to Public Safety, \$</b>	<b>335,881,346</b>	<b>235,122,229</b>
<b>Total indirect costs to Rhode Island, \$</b>		<b>512,879,285</b>
<b>Total Rhode Island state budget, \$</b>		<b>8,780,195,341</b>
<b>Total percentage of state budget</b>		<b>5.84</b>

### *Mental Disorders*

There has been a significant decline in the number of inpatient psychiatric facilities since the 1960's; as a result, jails and prisons have become the primary housing facility for individuals who have a mental illness.<sup>16</sup> As many as three times more seriously mentally

<sup>15</sup> State of Rhode Island and Providence Plantations Budget as Enacted, Fiscal Year 2015.  
<http://www.budget.ri.gov/Documents/Prior%20Year%20Budgets/Operating%20Budget%202015/FY%202015%20Budget%20as%20Enacted.pdf>

<sup>16</sup> Torrey EF, Kennard AD, Eslinger D, Lamb R, Pavle J. More Mentally Ill Persons are in Jails and Prisons than Hospitals: a Survey of the States. Alexandria, VA: National Sheriffs' Association, Treatment Advocacy Center; May, 2010.  
[www.treatmentadvocacycenter.org/storage/documents/final\\_jails\\_v\\_hospitals\\_study.pdf](http://www.treatmentadvocacycenter.org/storage/documents/final_jails_v_hospitals_study.pdf)

ill persons are in jail and prisons than in hospitals.<sup>17</sup> As a result, arrest rates for the mentally ill population are significantly higher than the general population.<sup>18</sup> Reports state that 25–40 percent of people with a mental illness will have some type of connection with the criminal justice system in their lifetimes.<sup>19</sup> Individuals with serious mental illness are estimated to have a high likelihood of becoming involved with the criminal justice system and are estimated to be incarcerated at rates that are as many as four times higher than the general population.<sup>20</sup>

In a 2006 Special Report, the Bureau of Justice estimated that 705,600 (56.2 percent) of inmates in state prisons, 70,200 (44.8 percent) of inmates in federal prisons, and 479,900 (64.3 percent) of inmates in local jails had at least one mental health problem.<sup>21</sup> Additionally, rates of recidivism are prevalent for those with mental health problems, as 61 and 44 percent of inmates have had previous violent offenses in state prisons and local jails, respectively. Over 50 percent of individuals with a mental health problem reported at least three prior incarcerations.<sup>22</sup>

The indirect cost to Rhode Island attributed to mental disorders was calculated by replicating an analysis of the annual indirect costs of serious mental illness in Florida for the year 2011.<sup>23</sup> The Florida analysis concluded that of the total costs for serious mental illness, 2 percent of the Department of Health and Human Services indirect costs could

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<sup>17</sup> Torrey EF, Fuller DA, Geller J, Jacobs C, Ragosta K. No Room at the Inn: Trends and Consequences of Closing Public Psychiatric Hospitals. Treatment Advocacy Center. Arlington, VA; 2012.

[http://www.tacreports.org/storage/documents/no\\_room\\_at\\_the\\_inn-2012.pdf](http://www.tacreports.org/storage/documents/no_room_at_the_inn-2012.pdf)

<sup>18</sup> Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey replication. Archives of General Psychiatry. 2005;62(6):593-602.

<sup>19</sup> National Alliance on Mental Illness. Spending Money in All the Wrong Places: Jails and Prisons.

[http://www2.nami.org/Content/NavigationMenu/Inform\\_Yourself/About\\_Public\\_Policy/Policy\\_Research\\_Institute/Policy\\_makers\\_Toolkit/Spending\\_Money\\_in\\_all\\_the\\_Wrong\\_Places\\_Jails.pdf](http://www2.nami.org/Content/NavigationMenu/Inform_Yourself/About_Public_Policy/Policy_Research_Institute/Policy_makers_Toolkit/Spending_Money_in_all_the_Wrong_Places_Jails.pdf)

<sup>20</sup> Steadman HJ, Osher FC, Robbins PC, Case B, Samuels S. Prevalence of serious mental illness among jail inmates. Psychiatric Services. 2009;60:761–765. <http://dx.doi.org/10.1176/ps.2009.60.6.761>

<sup>21</sup> James DJ, Glaze LE. Mental Health Problems of Prison and Jail Inmates. U.S. Department of Justice: Bureau of Justice Statistics Special Report; revised December, 2006.

<http://www.bjs.gov/content/pub/pdf/mhppji.pdf>

<sup>22</sup> National Alliance on Mental Illness. Spending Money in All the Wrong Places: Jails and Prisons.

[http://www2.nami.org/Content/NavigationMenu/Inform\\_Yourself/About\\_Public\\_Policy/Policy\\_Research\\_Institute/Policy\\_makers\\_Toolkit/Spending\\_Money\\_in\\_all\\_the\\_Wrong\\_Places\\_Jails.pdf](http://www2.nami.org/Content/NavigationMenu/Inform_Yourself/About_Public_Policy/Policy_Research_Institute/Policy_makers_Toolkit/Spending_Money_in_all_the_Wrong_Places_Jails.pdf)

<sup>23</sup> Shern D. Examining the Efficacy of Florida’s Publically Funded Mental Health Services. Mental Health and Substance Abuse Science Summit; 2012.

[http://www.fccmh.org/news/summit\\_docs/FloridasPublicallyFundedMental.pdf](http://www.fccmh.org/news/summit_docs/FloridasPublicallyFundedMental.pdf)

be attributed to Social Security Disability Insurance, which is a common source of income for individuals who have a disabling mental illness that disrupts potential employment.<sup>24</sup> By estimating 2 percent of the Rhode Island HHS, our analysis determined that the total amount of the indirect costs to Rhode Island is \$245,845,470 or, 2.8 percent of the total Rhode Island budget for the enacted budget of 2015.

The average total cost of housing one prisoner in Rhode Island is \$49,133 per year.<sup>25</sup> Using the most recent data available from the Rhode Island Department of Corrections, we calculated that the number of individuals with a mental health diagnosis in Rhode Island prisons totaled 544 in 2014. Therefore, in 2014 the total indirect cost of illness for mental health conditions for the Rhode Island Department of Corrections was \$26,728,352, or 0.3 percent of the total state budget. By multiplying the number of individuals with a mental health diagnosis by the cost of one average prisoner, our assumption is that this will eliminate the cost of the treatment a prisoner with a mental health diagnosis would use while incarcerated. This is an essential step to assess the indirect costs of mental illness in Rhode Island.

Summing the estimated indirect costs of untreated mental illness from the Rhode Island HHS and Rhode Island Department of Corrections totals \$276,165,720, which is 12.8 percent of the total Department of Corrections budget and 3.15 percent of the total Rhode Island enacted budget for the year 2015 (Table 3).

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<sup>24</sup> National Alliance on Mental Illness. Social Security Benefits. Updated July 2009.

[http://www2.nami.org/Content/ContentGroups/Helpline1/Social\\_Security\\_and\\_Disability\\_Benefits.htm](http://www2.nami.org/Content/ContentGroups/Helpline1/Social_Security_and_Disability_Benefits.htm)

<sup>25</sup> Vera Institute of Justice. The Price of Prisons | Rhode Island: What Incarceration Costs Taxpayers Fact Sheet. New York, NY. January 2012. <http://www.vera.org/files/price-of-prisons-rhode-island-fact-sheet.pdf>

**Table 3. Indirect Costs of Treating Mental Health Conditions**

<b>Agency</b>	<b>Amount of State Budget Attributed to Indirect Costs</b>
<b>Department of Human Services</b>	
Disability benefits, \$	249,437,368
Total to Human Services, \$	249,437,368
<b>Department of Corrections</b>	
Average cost per prisoner, \$	49,133
Estimated number of individuals in state jails with mental health diagnosis	544
Total to Department of Corrections, \$	26,728,352
<b>Total indirect costs to state, \$</b>	<b>276,165,720</b>
<b>Total state budget, \$</b>	<b>8,780,195,341</b>
<b>Total percentage of state budget</b>	<b>3.15</b>

## CONCLUSIONS

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Overall, our findings indicate that Rhode Island’s spending on treatment for behavioral health conditions grew slowly between 2011 and 2013 at a 1.8 percent annual rate. Most behavioral health spending (88 percent) was for mental health treatment. The share spent on treatment of substance use disorders (12 percent) was slightly lower than the national average share (14 percent). As the Medicaid population continues to expand, spending on behavioral health services will likely see an uptick in coming years.

Analyses on the demand for behavioral health services in the states found that compared with other neighboring states, Rhode Island has a higher prevalence of behavioral health disorders and higher use of mental health and substance use services. As anticipated, because of the higher need, treatment costs in Rhode Island across private insurance, Medicare, and Medicaid enrollees ranked the highest or second highest compared to other New England states. Higher rates of hospitalizations and use of prescription drugs appear to be important contributors to the difference in treatment costs across states.

Findings from an examination of the supply of behavioral health services noted that Rhode Island has fewer substance abuse and mental health counselors compared to the national average. This may explain in part why spending for treatment of mental health conditions and substance use disorders primarily went to prescription medications and inpatient hospitalizations. While it is not uncommon for medications and inpatient hospitalization to account for a substantial share of spending for behavioral health treatment, it may be worth considering how resources in the State are directed towards providers in outpatient hospital and clinic settings. In addition, given that the largest share of spending for behavioral health treatment in Medicaid and private insurance was for individuals aged 12–17 years, increased attention to access for counseling services for this age group may be one way to slowly draw spending trends away from inpatient hospitalizations and prescription drugs.

While an examination of spending by itself provides trends and levels, these results need to be assessed in terms of whether needs are being met. In the Final Report for this project we will address these implications in more detail, and will integrate them further with results from the Demand and Cost Reports.

## APPENDIX A: DATA SOURCE SUMMARIES

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### **Medicare Standard Analytic Files (Claims)**

Released by CMS, the Medicare Standard Analytic Files contain actual beneficiary-specific information on claims paid by Medicare. Information about Standard Analytic Files, such as contents of the files and codebooks, can be found at the Research Data Assistance Center (ResDAC). The ResDAC website link is [www.resdac.org](http://www.resdac.org). The ResDAC team can be reached by email at [resdac@umn.edu](mailto:resdac@umn.edu). Further information can be found on the CMS website at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/IdentifiableDataFiles/StandardAnalyticalFiles.html>.

### **Healthcare Cost and Utilization Project State Inpatient Databases**

The State Inpatient Databases (SID) are part of the family of databases developed for the Healthcare Cost and Utilization Project (HCUP). The SID are developed annually through a Federal-State-Industry partnership sponsored by the Agency for Healthcare Research and Quality. The SID capture hospital inpatient stays in 47 participating states. The databases contain a core set of clinical and nonclinical information (such as costs) for all patients, including individuals covered by Medicare, Medicaid, private insurance or the uninsured. Further information about HCUP SID can be found at <http://www.hcup-us.ahrq.gov/sidoverview.jsp>. The tool for accessing HCUP SID and other HCUP data can be found at <http://hcupnet.ahrq.gov/>.

### **IMS Health National Prescription Audit**

The IMS Health National Prescription Audit (NPA) is an industry standard source of national prescription activity for all pharmaceutical products. The NPA measures the demand for prescription drugs, including what the provider prescribes in the retail setting and what is ultimately dispensed to consumers. Data can be analyzed and stratified by patient age, patient sex, co-payment, and four methods of payment. NPA provides data at a national level; data on counts of prescriptions filled are summarized into the NPA and made available at more granular geographic levels through the IMS Health Xponent database. Further information can be found at [http://www.imshealth.com/deployedfiles/ims/global/content/insights/researchers/npa\\_data\\_brief.pdf](http://www.imshealth.com/deployedfiles/ims/global/content/insights/researchers/npa_data_brief.pdf).

### **Medicaid Management Information System**

The Medicaid Management Information System (MMIS) is the state mechanized claims processing and information retrieval system for Medicaid. The MMIS is an integrated group of procedures and computer processing operations (subsystems) developed by each state to meet principal objectives for reporting to the federal government. The objectives of the MMIS reporting include the Title XIX program control and administrative costs; services to recipients and providers, including inquiries; operations of claims control and computer capabilities; and management reporting for planning and control. The MMIS may be operated by a contractor or by the state; this feature varies by state. Rhode Island MMIS information was used for this project.

Further information can be found at <https://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/MMIS/index.html?redirect=/MMIS>.

### **National Association of State Mental Health Program Directors National Research Institute Survey**

The National Research Institute (NRI) obtains data through a survey of states on revenue controlled by the state mental health authorities. Data reports are available on the NRI website by year and contain information organized by state. Examples of data reports include *Expenditures at State Mental Hospitals, by Age Group and State* and *FY 2002, FY 2011, and FY 2012 SMHA-Controlled Revenues for State Hospitals and Community Programs*. Further information can be found at [http://www.nri-incdata.org/http://media.wix.com/ugd/186708\\_c6beb833346b45429322cc4421d83aa1.pdf](http://www.nri-incdata.org/http://media.wix.com/ugd/186708_c6beb833346b45429322cc4421d83aa1.pdf).

### **Economic Census – Revenue Data for Rhode Island**

The Economic Census is the U.S. Government's official 5-year measure of American business activity and the economy. It is conducted by the U.S. Census Bureau, and response is required by law. Data are available by industry nationally and by state for certain industries, including selected health care industries. Data searches are available through the Economic Census website. The data currently used in the Rhode Island behavioral health report are for 2007. State-specific data for 2012 are not yet available. Further information can be found at [http://www.census.gov/econ/census/http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN\\_2002\\_US\\_62A1&prodType=table](http://www.census.gov/econ/census/http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2002_US_62A1&prodType=table).

### **Census Bureau Service Annual Survey**

The Service Annual Survey (SAS) provides estimates of revenue and other measures for most traditional service industries, including health care. It is available annually to supplement the Economic Census, which is released every 5 years. The survey collects



data from companies whose primary business or operation is to provide services to individuals, businesses, and governments. Data collected includes operating revenue for both taxable and tax-exempt firms and organizations; sources of revenue and expenses by type for selected industries; operating expenses for tax-exempt firms; and selected industry-specific items. The data are available as national statistics; no state-level information is included. This national information was used to extrapolate state Economic Census revenues from 2007 through 2013. Further information can be found at <https://www.census.gov/services/index.html>.

### **Truven Health MarketScan Private Insurance Information**

Created by Truven Health Analytics, MarketScan Research Databases contain health insurance claims associated with more than 196 million patient lives since 1995, including 63 million inpatient hospital discharges and fully integrated claims data at the patient level. The database contains claims from self-insured employers and from some health insurance plans. The core databases are available by plan type: commercial, Medicare supplemental, and Medicaid (only the commercial database was used for this study). Databases are available annually. Further information can be found at [https://truvenhealth.sharepoint.com/sites/kn/\\_layouts/15/WopiFrame.aspx?sourcedoc={24F521BB-5FA4-4087-8EC8-C3CAD284D583}&file=2014%20MarketScan%20Databases%20Master%20Overview%20Deck.ppt&action=default&DefaultItemOpen=1](https://truvenhealth.sharepoint.com/sites/kn/_layouts/15/WopiFrame.aspx?sourcedoc={24F521BB-5FA4-4087-8EC8-C3CAD284D583}&file=2014%20MarketScan%20Databases%20Master%20Overview%20Deck.ppt&action=default&DefaultItemOpen=1).

### **State Government Agency and Private Organization Information**

Information was obtained from a wide variety of state government agencies and organizations with responsibility for providing, funding, or tracking spending and treatment of behavioral health conditions. The Rhode Island agencies included the Pretrial Service Unit; Department of Corrections (Prisons; Probation and Parole Units); Behavioral Health, Development Disabilities, and Hospitals (BHDDH); and Office of the Health Insurance Commissioner (OHIC). State organizations included the Providence Center, Riverwood/Housing First and Providence College (information on the homeless), SMART Management (methadone programs), CODAC Behavioral Healthcare (substance use treatment), Rhode Island Health Center Association, and Fellowship Health Resources, Inc. Information from the U.S. Department of Veterans Affairs was also used.

## APPENDIX B: TABLES

**Table 1. Rhode Island and United States Spending on Treatment for Mental and Substance Use Disorders, Gross Domestic Product, and Spending as a Share of Gross Domestic Product, 2011–2013**

Item	2011	2012	2013
<b>Rhode Island</b>			
Total M/SUD spending (\$000,000)	831	823	853
Total MH spending (\$000,000)	732	726	752
Total SUD spending (\$000,000)	98	97	102
Gross domestic product (\$000,000)	49,921	51,566	53,184
M/SUD spending as a share of GDP (%)	1.6	1.6	1.6
<b>United States</b>			
Total M/SUD spending (\$000,000)	189,634	195,478	202,741
Total MH spending (\$000,000)	163,022	167,588	173,472
Total SUD spending (\$000,000)	26,613	27,890	29,270
Gross domestic product (\$000,000)	15,517,900	16,163,200	16,768,100
M/SUD spending as a share of GDP (%)	1.2	1.2	1.2

Note: M/SUD is mental and substance use disorders, MH is mental health, and SUD is substance use disorders.

Sources: U.S. Department of Commerce, Bureau of Economic Analysis, GDP data downloaded from <http://www.bea.gov/regional/index.htm> on February 26, 2015. Substance Abuse and Mental Health Services Administration. Projections of National Expenditures for Treatment of Mental and Substance Use Disorders, 2010-2020. HHS Publication No. SMA-14-4883. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014. Available at: <http://store.samhsa.gov/product/Projections-of-National-Expenditures-for-Treatment-of-Mental-and-Substance-Use-Disorders-2010-2020/SMA14-4883>.

**Table 2. Rhode Island and United States Spending on Treatment for Mental and Substance Use Disorders and Distribution of Spending, 2011–2013**

Item	2011	2012	2013
<b>Spending (\$000,000)</b>			
<b>Rhode Island</b>			
Total M/SUD spending	831	823	853
Total MH spending	732	726	752
Total SUD spending	98	97	102
<b>United States</b>			
Total M/SUD spending	189,634	195,478	202,741
Total MH spending	163,022	167,588	173,472
Total SUD spending	26,613	27,890	29,270
<b>Spending Distribution (%)</b>			
<b>Rhode Island</b>			
Total M/SUD spending	100	100	100
Total MH spending	89	89	88
Total SUD spending	11	11	12
<b>United States</b>			
Total M/SUD spending	100	100	100
Total MH spending	86	86	86
Total SUD spending	14	14	14

Note: M/SUD is mental and substance use disorders, MH is mental health, and SUD is substance use disorders.

Sources: U.S. Department of Commerce, Bureau of Economic Analysis, GDP data downloaded from <http://www.bea.gov/regional/index.htm> on February 26, 2015. Substance Abuse and Mental Health Services Administration. Projections of National Expenditures for Treatment of Mental and Substance Use Disorders, 2010-2020. HHS Publication No. SMA-14-4883. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014. Available at: <http://store.samhsa.gov/product/Projections-of-National-Expenditures-for-Treatment-of-Mental-and-Substance-Use-Disorders-2010-2020/SMA14-4883>.



**Table 3. Rhode Island Spending by Provider on Treatment for Mental and Substance Use Disorders: Amounts, Distribution, and Spending per Population, 2011–2013**

Provider Type	Spending per Population (\$)								
	Mental and Substance Use Disorders			Mental Health			Substance Use Disorders		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
<b>Amount (\$000)</b>									
Total spending	\$830,735	\$822,725	\$853,342	\$732,453	\$726,118	\$751,663	\$98,282	\$96,607	\$101,679
Hospital inpatient <sup>1</sup>	\$145,189	\$145,788	\$147,048	\$128,835	\$128,168	\$130,377	\$16,354	\$17,620	\$16,671
Outpatient	\$203,318	\$205,868	\$219,411	\$175,218	\$173,695	\$184,091	\$28,099	\$32,173	\$35,320
Hospital	\$11,085	\$11,548	\$11,519	\$8,310	\$8,297	\$8,307	\$2,775	\$3,251	\$3,212
Practitioners offices	\$72,002	\$76,024	\$81,247	\$62,694	\$65,868	\$70,169	\$9,307	\$10,156	\$11,079
Physicians <sup>2</sup>	\$46,885	\$48,505	\$51,013	\$44,060	\$45,550	\$47,935	\$2,826	\$2,955	\$3,078
Other Professionals <sup>3</sup>	\$25,116	\$27,519	\$30,235	\$18,635	\$20,318	\$22,234	\$6,482	\$7,201	\$8,001
Clinics <sup>4</sup>	\$114,691	\$112,316	\$120,211	\$98,954	\$93,853	\$99,508	\$15,736	\$18,464	\$20,703
Home health care	\$5,540	\$5,980	\$6,433	\$5,259	\$5,677	\$6,107	\$281	\$303	\$326
Nursing home care	\$14,593	\$9,456	\$18,162	\$13,449	\$8,788	\$17,245	\$1,144	\$668	\$917
Transportation	\$3,941	\$3,664	\$4,731	\$3,245	\$2,983	\$3,912	\$696	\$682	\$819
Prescription drugs	\$318,765	\$325,849	\$327,484	\$308,702	\$314,696	\$314,586	\$10,064	\$11,153	\$12,898
Other Federal and State programs <sup>5</sup>	\$126,779	\$113,808	\$1118,458	\$86,791	\$81,576	\$85,239	\$39,988	\$32,232	\$33,219

Footnotes at end of table.

**Table 3—Continued. Rhode Island Spending by Provider on Treatment for Mental and Substance Use Disorders: Amounts, Distribution, and Spending per Population, 2011–2013**

Provider Type	Spending per Population (\$)								
	Mental and Substance Use Disorders			Mental Health			Substance Use Disorders		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
<b>Percent distribution (%)</b>									
Total spending	100	100	100	100	100	100	100	100	100
Hospital inpatient <sup>1</sup>	18	18	17	18	18	17	18	19	17
Outpatient	25	25	26	24	24	24	31	34	36
Hospital	1	1	1	1	1	1	3	3	3
Practitioners offices	9	9	10	9	9	9	10	11	11
Physicians <sup>2</sup>	6	6	6	6	6	6	3	3	3
Other Professionals <sup>3</sup>	3	3	4	3	3	3	7	8	8
Clinics <sup>4</sup>	14	14	14	14	13	13	17	20	21
Home health care	1	1	1	1	1	1	0	0	0
Nursing home care	2	1	2	2	1	2	1	1	1
Transportation	0	0	1	0	0	1	1	1	1
Prescription drugs	39	40	38	42	43	42	11	12	13
Other Federal and State programs <sup>5</sup>	17	16	16	14	14	14	38	34	33

Footnotes at end of table.

**Table 3—Continued. Rhode Island Spending by Provider on Treatment for Mental and Substance Use Disorders: Amounts, Distribution, and Spending per Population, 2011–2013**

Provider Type	Spending per Population (\$)								
	Mental and Substance Use Disorders			Mental Health			Substance Use Disorders		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
Total	830	823	853	732	726	752	86	90	94
Hospital inpatient <sup>1</sup>	138	139	140	123	122	124	16	17	16
Outpatient	194	196	209	167	165	175	27	31	34
Hospital	11	11	11	8	8	8	3	3	3
Practitioners offices	69	72	77	60	63	67	9	10	11
Physicians <sup>2</sup>	45	46	49	42	43	46	3	3	3
Other Professionals <sup>3</sup>	24	26	29	18	19	21	6	7	8
Clinics <sup>4</sup>	109	107	114	94	89	95	15	18	20
Home health care	5	6	6	5	5	6	0	0	0
Nursing home care	14	9	17	13	8	16	1	1	1
Transportation	4	3	4	3	3	4	1	1	1
Prescription drugs	303	310	311	294	300	299	10	11	12
Other Federal and State programs <sup>5</sup>	131	126	130	99	96	99	33	31	31

<sup>1</sup> Includes spending in community hospitals and psychiatric hospitals.

<sup>2</sup> Includes all physicians, including psychiatrists.

<sup>3</sup> Includes psychologists, social workers, and counselors.

<sup>4</sup> Includes specialty mental health and substance abuse outpatient and residential clinics and general medical clinics such as Federally Qualified Health Centers.



<sup>5</sup> Includes programs for prisoners and parolees, students (including special education), the homeless, and veterans and administrative costs for some private insurance plans.

**Table 4. Growth in Rhode Island Spending by Provider on Treatment for Mental and Substance Use Disorders, 2011–2013**

Provider Type	Average Annual Growth, 2011-2013 (%)		
	Mental and Substance Use Disorders	Mental Health	Substance Use Disorders
Total spending	1.8	1.5	4.7
Hospital inpatient <sup>1</sup>	0.6	0.6	1.0
Outpatient	3.9	2.5	12.1
Hospital	1.9	0.0	7.6
Practitioners offices	6.2	5.8	9.1
Physicians <sup>2</sup>	4.3	4.3	4.4
Other Professionals <sup>3</sup>	9.7	9.2	11.1
Clinics <sup>4</sup>	2.4	0.3	14.7
Home health care	7.8	7.8	7.8
Nursing home care	11.6	13.2	-10.5
Transportation	9.6	9.8	8.4
Prescription drugs	1.4	0.9	13.2
Other Federal and State programs <sup>5</sup>	-0.2	0.5	-2.2

<sup>1</sup> Includes spending in community hospitals and psychiatric hospitals.

<sup>2</sup> Includes all physicians, including psychiatrists.

<sup>3</sup> Includes psychologists, social workers, and counselors.

<sup>4</sup> Includes specialty mental health and substance abuse outpatient and residential clinics and general medical clinics such as Federally Qualified Health Centers.

<sup>5</sup> Includes programs for prisoners and parolees, students (including special education), the homeless, and veterans and administrative costs for some private insurance plans.

**Table 5. Rhode Island Spending and Distribution by Payer, Share of All Diagnosis Spending, and Annualized Growth on Treatment for Mental and Substance Use Disorders Among Medicaid, Private Insurance, and Medicare, 2011–2013**

Diagnosis and Payer	Spending (\$000)			Percent Distribution (%)			Share of All Diagnoses Spending (%)			Annualized Growth (%)
	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011-2013
<b>Mental and Substance Use Disorders</b>	830,735	822,725	853,342	100	100	100				1.8
Medicaid	251,425	254,531	269,792	31	31	32	14.8	16.3	16.5	3.6
Private insurance <sup>1</sup>	147,970	161,052	150,658	18	20	18	10.2	10.5	10.2	0.9
Medicare <sup>2</sup>	70,570	73,645	73,370	9	9	9	4.8	5.0	4.9	2.0
All other <sup>3</sup>	353,450	333,906	360,120	43	41	42				0.9
<b>Mental Health</b>	732,453	726,118	751,663	100	100	100				1.5
Medicaid	236,340	238,289	250,933	32	33	33	13.9	15.3	15.4	3.0
Private insurance <sup>1</sup>	130,866	140,111	130,318	18	19	17	9.0	9.2	8.8	-0.2
Medicare <sup>2</sup>	62,185	64,775	63,842	8	9	8	4.2	4.4	4.3	1.3
All other	303,519	285,552	309,552	41	39	41				1.0
<b>Substance Use Disorders</b>	98,282	96,607	101,679	100	100	100				4.7
Medicaid	15,085	16,242	18,858	17	17	19	0.9	1.0	1.2	11.8
Private insurance <sup>1</sup>	17,104	20,940	20,339	19	22	20	1.2	1.4	1.4	9.0
Medicare <sup>2</sup>	8,385	8,870	9,528	9	9	10	0.6	0.6	0.6	6.6
All other	49,931	48,354	50,569	55	51	51				0.6
<b>All Diagnoses</b>										
Medicaid	1,701,371	1,560,647	1,630,336							-2.1
Private insurance <sup>1</sup>	1,450,379	1,529,986	1,474,627							0.8
Medicare <sup>2</sup>	1,473,959	1,475,473	1,484,889							0.4



<sup>1</sup> Includes payments from Blue Cross Blue Shield, United Healthcare, and Tufts Health Plan.

<sup>2</sup> Includes Medicare fee-for-service claims and Medicare Advantage costs from Blue Cross Blue Shield and United Healthcare.

<sup>3</sup> All other payers includes spending by federal, state, and local governments; spending out of pocket by consumers directly for treatment or for insurance copayments and deductibles; other private insurance payments made by plans other than the three from which we gathered information; and philanthropic spending. State and local government spending includes Providence VA Medical Center, state grants, special education (Rhode Island Department of Education), state substance abuse residential treatment programs, Department of Corrections, Judiciary Pre-Trial Services, Providence Center Recovery School and related programs, the Rhode Island Training School (RITS), and Rhode Island Pharmaceutical Assistance to the Elderly (RIPAE).

**Table 6. Rhode Island Medicaid Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, 2010–2014**

	Spending (\$000)					Percent Distribution (%)				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
<b>Mental and Substance Use Disorders</b>										
Total	248,684	251,425	254,531	269,792	288,636	100	100	100	100	100
Hospital inpatient <sup>1</sup>	61,707	58,266	57,576	59,711	95,894	25	23	23	22	33
General hospital inpatient	13,146	11,485	11,222	10,593	48,201	5	5	4	4	17
Psychiatric hospital inpatient	48,561	46,780	46,354	49,119	47,694	20	19	18	18	17
Outpatient	130,222	128,892	122,396	124,904	133,731	52	51	48	46	46
Hospital outpatient	1,667	1,236	1,271	1,490	12,590	1	0	0	1	4
General hospital outpatient	1,626	1,166	1,180	1,402	12,479	1	0	0	1	4
Psychiatric hospital outpatient	41	69	91	88	111	0	0	0	0	0
Practitioners offices	127,381	126,536	119,798	121,859	119,695	51	50	47	45	41
Physicians	5,496	13,370	12,468	5,653	10,304	2	5	5	2	4
Other professionals	14,975	10,691	10,366	12,430	7,991	6	4	4	5	3
Clinics	106,910	102,475	96,964	103,776	101,400	43	41	38	38	35
Community mental health centers	95,110	89,488	81,901	85,610	87,930	38	36	32	32	30
Community substance abuse centers	5,366	5,513	6,225	8,951	12,648	2	2	2	3	4
Other outpatient clinics	6,435	7,474	8,838	9,216	822	3	3	3	3	0
Home health care	1,174	1,120	1,327	1,555	1,446	0	0	1	1	1
Nursing home care	6,617	12,754	7,760	16,648	12,347	3	5	3	6	4
Transportation	3,091	1,992	1,680	2,458	1,380	1	1	1	1	0
Prescription drugs	24,060	20,623	17,353	11,436	9,420	10	8	7	4	3
Case management	14,587	8,288	11,477	16,648	14,606	6	3	5	6	5
Other	8,400	20,611	36,289	37,985	21,258	3	8	14	14	7

Footnotes at end of table.

**Table 6—Continued. Rhode Island Medicaid Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, 2010–2014**

	Spending (\$000)					Percent Distribution (%)				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
<b>Mental Health</b>										
Total	233,861	236,340	238,289	250,933	260,903	100	100	100	100	100
Hospital inpatient <sup>1</sup>	60,059	56,981	56,208	58,510	90,166	26	24	24	23	35
General hospital inpatient	11,875	10,550	10,302	9,738	42,888	5	4	4	4	16
Psychiatric hospital inpatient	48,185	46,431	45,905	48,772	47,278	21	20	19	19	18
Outpatient	119,645	118,938	112,164	113,226	116,367	51	50	47	45	45
Hospital outpatient	1,265	909	893	1,139	9,139	1	0	0	0	4
General hospital outpatient	1,229	843	807	1,054	9,032	1	0	0	0	3
Psychiatric hospital outpatient	36	65	86	85	107	0	0	0	0	0
Practitioners offices	117,276	116,993	110,071	110,598	105,840	50	50	46	44	41
Physicians	4,865	12,739	11,772	5,035	9,757	2	5	5	2	4
Other professionals	14,365	9,430	8,813	10,686	7,030	6	4	4	4	3
Clinics	98,046	94,824	89,486	94,877	89,054	42	40	38	38	34
Community mental health centers	92,631	88,314	81,202	84,787	87,312	40	37	34	34	33
Community substance abuse centers	63	150	760	2,232	1,141	0	0	0	1	0
Other outpatient clinics	5,352	6,361	7,523	7,858	600	2	3	3	3	0
Home health care	1,104	1,036	1,200	1,489	1,387	0	0	1	1	1
Nursing home care	6,210	11,884	7,333	15,941	11,616	3	5	3	6	4
Transportation	2,732	1,879	1,522	2,325	1,344	1	1	1	1	1
Prescription drugs	23,966	20,557	16,885	10,366	8,480	10	9	7	4	3
Case management	14,571	8,279	11,463	16,645	14,579	6	4	5	7	6
Other	6,677	17,822	32,714	33,921	18,351	3	8	14	14	7

Footnotes at end of table.

**Table 6—Continued. Rhode Island Medicaid Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, 2010–2014**

	Spending (\$000)					Percent Distribution (%)				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
<b>Substance Use Disorders</b>										
Total	14,823	15,085	16,242	18,858	27,734	100	100	100	100	100
Hospital inpatient <sup>1</sup>	1,648	1,285	1,368	1,201	5,728	11	9	8	6	21
General hospital inpatient	1,272	936	920	855	5,313	9	6	6	5	19
Psychiatric hospital inpatient	377	349	449	346	416	3	2	3	2	1
Outpatient	10,577	9,954	10,232	11,678	17,364	71	66	63	62	63
Hospital outpatient	402	327	378	351	3,451	3	2	2	2	12
General hospital outpatient	397	323	373	348	3,447	3	2	2	2	12
Psychiatric hospital outpatient	4	4	5	4	4	0	0	0	0	0
Practitioners offices	10,105	9,543	9,728	11,261	13,854	68	63	60	60	50
Physicians	631	632	697	618	548	4	4	4	3	2
Other professionals	610	1,260	1,553	1,744	961	4	8	10	9	3
Clinics	8,864	7,651	7,478	8,899	12,346	60	51	46	47	45
Community mental health centers	2,479	1,174	699	823	618	17	8	4	4	2
Community substance abuse centers	5,302	5,363	5,465	6,718	11,507	36	36	34	36	41
Other outpatient clinics	1,083	1,114	1,315	1,358	221	7	7	8	7	1
Home health care	70	84	127	66	59	0	1	1	0	0
Nursing home care	407	870	426	707	731	3	6	3	4	3
Transportation	359	113	157	133	37	2	1	1	1	0
Prescription drugs	93	66	469	1,070	940	1	0	3	6	3
Case management	16	8	14	3	26	0	0	0	0	0
Other	1,724	2,789	3,575	4,065	2,907	12	18	22	22	10

Footnotes at end of table.

**Table 6–Continued. Rhode Island Medicaid Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, 2010–2014**

	Spending (\$000)			Percent Distribution (%)		
	2011	2012	2013	2011	2012	2013
<b>All Diagnoses</b>						
Total	1,701,371	1,560,647	1,630,336	100	100	100
Hospital inpatient	196,935	203,843	198,496	12	13	12
General hospital inpatient	104,524	114,171	99,890	6	7	6
Psychiatric hospital inpatient	92,411	89,671	98,606	5	6	6
Outpatient	453,610	454,789	482,229	27	29	30
Hospital outpatient	25,041	23,647	29,093	1	2	2
General hospital outpatient	24,968	23,552	29,003	1	2	2
Psychiatric hospital outpatient	73	95	91	0	0	0
Practitioners offices	195,254	200,351	201,783	11	13	12
Physicians	83,843	83,402	75,980	5	5	5
Other professionals	111,410	116,948	125,803	7	7	8
Clinics	154,781	152,000	163,524	9	10	10
Community mental health centers	112,292	103,258	109,670	7	7	7
Community substance abuse centers	5,981	6,816	10,267	0	0	1
Other outpatient clinics	36,509	41,925	43,587	2	3	3
Home health care	78,534	78,792	87,829	5	5	5
Nursing home care	489,978	343,952	389,777	29	22	24
Transportation	17,173	11,892	14,162	1	1	1
Prescription drugs <sup>2</sup>	130,786	132,967	129,454	8	9	8
Case management	13,641	16,676	22,524	1	1	1
Other	399,248	396,529	393,694	23	25	24

<sup>1</sup> Due to anomalies in the Medicaid data, hospital inpatient spending figures in 2014 may be inaccurate and should not be cited.

<sup>2</sup> Includes mental health and substance use disorder medications only.

Source: Rhode Island Medicaid Management Information System (MMIS), 2010-2014.

**Table 7. Rhode Island Private Insurance Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, Mental Health, and All Diagnoses, 2010–2014**

	Spending (\$000)			Percent Distribution (%)		
	2011	2012	2013	2011	2012	2013
<b>Mental and Substance Use Disorders</b>						
Total spending <sup>1</sup>	147,970	161,052	150,658	100	100	100
Hospital inpatient <sup>2</sup>	26,559	27,474	25,682	18	17	17
Outpatient	61,089	63,776	61,680	41	40	41
Hospital <sup>2</sup>	7,085	7,367	6,820	5	5	5
Practitioners offices	54,004	56,408	54,848	36	35	36
Physicians <sup>3</sup>	11,940	12,387	12,696	8	8	8
Other professionals <sup>4</sup>	27,539	27,253	24,511	19	17	16
Outpatient clinics	14,525	16,768	17,641	10	10	12
Community mental health centers	4,736	5,155	5,893	3	3	4
Community substance abuse centers	2,249	2,403	2,967	2	1	2
All other outpatient clinics	7,540	9,211	8,782	5	6	6
Home health care	0	-	12	0	-	0
Nursing home care	20	59	106	0	0	0
Transportation	620	707	845	0	0	1
Prescription drugs	40,072	48,523	42,899	27	30	28
Other	2,421	3,826	4,569	2	2	3
Administrative costs <sup>5</sup>	17,188	16,687	14,876	12	10	10

Footnotes at end of table.



**Table 7–Continued. Rhode Island Private Insurance Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, Mental Health, and All Diagnoses, 2010–2014**

	Spending (\$000)			Percent Distribution (%)		
	2011	2012	2013	2011	2012	2013
<b>Mental Health</b>						
Total spending <sup>1</sup>	130,866	140,111	130,318	100	100	100
Hospital inpatient <sup>2</sup>	22,915	23,015	22,303	18	16	17
Outpatient	53,578	55,025	52,701	41	39	40
Hospital <sup>2</sup>	5,465	5,367	4,877	4	4	4
Practitioners offices	48,113	49,658	47,812	37	35	37
Physicians <sup>3</sup>	10,466	10,726	11,102	8	8	9
Other professionals <sup>4</sup>	26,851	26,612	23,968	21	19	18
Outpatient clinics	10,796	12,320	12,742	8	9	10
Community mental health centers	4,735	5,154	5,888	4	4	5
Community substance abuse centers	-	-	-	-	-	-
All other outpatient clinics	6,061	7,165	6,854	5	5	5
Home health care	-	-	12	-	-	0
Nursing home care	12	41	81	0	0	0
Transportation	397	444	505	0	0	0
Prescription drugs	37,398	44,826	38,617	29	32	30
Other	1,267	2,093	3,017	1	1	2
Administrative costs <sup>5</sup>	15,299	14,666	13,094	12	10	10

Footnotes at end of table.

**Table 7–Continued. Rhode Island Private Insurance Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, Mental Health, and All Diagnoses, 2010–2014**

	Spending (\$000)			Percent Distribution (%)		
	2011	2012	2013	2011	2012	2013
<b>Substance Use Disorders</b>						
Total spending <sup>1</sup>	17,104	20,940	20,339	100	100	100
Hospital inpatient <sup>2</sup>	3,644	4,458	3,379	21	21	17
Outpatient	7,511	8,751	8,980	44	42	44
Hospital <sup>2</sup>	1,620	2,000	1,944	9	10	10
Practitioners offices	5,891	6,750	7,036	34	32	35
Physicians <sup>3</sup>	1,474	1,661	1,594	9	8	8
Other professionals <sup>4</sup>	688	641	542	4	3	3
Outpatient clinics	3,730	4,449	4,900	22	21	24
Community mental health centers	2	1	5	0	0	0
Community substance abuse centers	2,249	2,403	2,967	13	11	15
All other outpatient clinics	1,479	2,045	1,928	9	10	9
Home health care	0	-	-	0	-	-
Nursing home care	8	18	25	0	0	0
Transportation	223	263	340	1	1	2
Prescription drugs	2,674	3,698	4,282	16	18	21
Other	1,153	1,732	1,552	7	8	8
Administrative costs <sup>5</sup>	1,890	2,021	1,782	11	10	9

Footnotes at end of table.

**Table 7–Continued. Rhode Island Private Insurance Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, Mental Health, and All Diagnoses, 2010–2014**

	Spending (\$000)			Percent Distribution (%)		
	2011	2012	2013	2011	2012	2013
<b>All Diagnoses</b>						
Total spending <sup>1</sup>	1,450,379	1,529,986	1,474,627	100	100	100
Hospital inpatient <sup>2</sup>	273,945	288,156	290,467	19	19	20
Outpatient	673,714	675,690	655,145	46	44	44
Hospital <sup>2</sup>	297,861	308,793	307,416	21	20	21
Practitioners offices	352,493	342,906	323,500	24	22	22
Physicians <sup>3</sup>	305,876	301,477	290,190	21	20	20
Other professionals <sup>4</sup>	46,617	41,430	33,311	3	3	2
Outpatient clinics	22,011	22,778	22,899	2	1	2
Community mental health centers	4,925	5,443	6,259	0	0	0
Community substance abuse centers	2,060	2,115	2,601	0	0	0
All other outpatient clinics	15,026	15,220	14,040	1	1	1
Home health care	1,349	1,213	1,329	0	0	0
Nursing home care	9,753	10,221	9,980	1	1	1
Transportation	3,799	4,009	4,096	0	0	0
Prescription drugs	228,280	293,327	276,915	16	19	19
Other	71,949	77,081	81,009	5	5	5
Administrative costs <sup>5</sup>	188,939	181,502	157,016	13	12	11

<sup>1</sup> Includes information from Blue Cross Blue Shield, United Healthcare, and Tufts Health Plan.

<sup>2</sup> Includes general (community) hospitals and specialty psychiatric hospitals.

<sup>3</sup> Includes psychiatrists and all other physicians.

<sup>4</sup> Includes psychologists, social workers, counselors, and case managers.

<sup>5</sup> Includes costs from Blue Cross Blue Shield and Tufts Health Plan only.

**Table 8. Rhode Island Medicare Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, Mental Health, and All Diagnoses, 2010–2014**

	Spending (\$000)			Percent Distribution (%)		
	2011	2012	2013	2011	2012	2013
<b>Mental and Substance Use Disorders</b>						
Total spending <sup>1</sup>	70,570	73,645	73,370	100	100	100
Hospital inpatient <sup>2</sup>	31,208	32,229	34,099	44	44	46
Outpatient	15,025	16,330	18,255	21	22	25
Hospital <sup>2</sup>	3,103	3,253	3,580	4	4	5
Practitioners offices	10,395	11,359	12,757	15	15	17
Physicians <sup>3</sup>	7,329	8,376	9,373	10	11	13
Other professionals <sup>4</sup>	3,066	2,982	3,384	4	4	5
Outpatient clinics	1,194	1,421	1,582	2	2	2
Community mental health centers	177	195	183	0	0	0
Community substance abuse centers	16	27	27	0	0	0
All other outpatient clinics	1,040	1,250	1,429	1	2	2
Home health care	294	246	278	0	0	0
Nursing home care	1,819	1,638	1,408	3	2	2
Transportation	1,329	1,277	1,428	2	2	2
Prescription drugs	19,969	20,802	16,923	28	28	23
Other	259	257	209	0	0	0
Administrative costs <sup>5</sup>	961	1,112	1,049	1	2	1

Footnotes at end of table.

**Table 8–Continued. Rhode Island Medicare Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, Mental Health, and All Diagnoses, 2010–2014**

	Spending (\$000)			Percent Distribution (%)		
	2011	2012	2013	2011	2012	2013
<b>Mental Health</b>						
Total spending <sup>1</sup>	62,185	64,775	63,842	100	100	100
Hospital inpatient <sup>2</sup>	26,628	27,542	29,274	43	43	46
Outpatient	12,290	13,199	14,792	20	20	23
Hospital <sup>2</sup>	2,195	2,321	2,597	4	4	4
Practitioners offices	8,735	9,334	10,418	14	14	16
Physicians <sup>3</sup>	5,718	6,395	7,072	9	10	11
Other professionals <sup>4</sup>	3,017	2,939	3,347	5	5	5
Outpatient clinics	1,154	1,363	1,528	2	2	2
Community mental health centers	177	195	182	0	0	0
Community substance abuse centers	-	-	-	-	-	-
All other outpatient clinics	977	1,168	1,346	2	2	2
Home health care	206	182	249	0	0	0
Nursing home care	1,554	1,414	1,223	2	2	2
Transportation	968	1,016	1,082	2	2	2
Prescription drugs	19,596	20,328	16,309	32	31	26
Other	235	220	166	0	0	0
Administrative costs <sup>5</sup>	914	1,055	996	1	2	2

Footnotes at end of table.

**Table 8–Continued. Rhode Island Medicare Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, Mental Health, and All Diagnoses, 2010–2014**

	Spending (\$000)			Percent Distribution (%)		
	2011	2012	2013	2011	2012	2013
<b>Substance Use Disorders</b>						
Total spending <sup>1</sup>	8,385	8,870	9,528	100	100	100
Hospital inpatient <sup>2</sup>	4,581	4,687	4,825	55	53	51
Outpatient	2,735	3,130	3,463	33	35	36
Hospital <sup>2</sup>	908	932	984	11	11	10
Practitioners offices	1,660	2,025	2,339	20	23	25
Physicians <sup>3</sup>	1,610	1,982	2,301	19	22	24
Other professionals <sup>4</sup>	50	43	38	1	0	0
Outpatient clinics	40	58	54	0	1	1
Community mental health centers	-	-	2	-	-	0
Community substance abuse centers	16	27	27	0	0	0
All other outpatient clinics	64	82	83	1	1	1
Home health care	88	65	29	1	1	0
Nursing home care	265	224	184	3	3	2
Transportation	361	261	346	4	3	4
Prescription drugs	373	474	614	4	5	6
Other	24	38	43	0	0	0
Administrative costs <sup>5</sup>	46	57	53	1	1	1

Footnotes at end of table.



**Table 8–Continued. Rhode Island Medicare Spending and Distribution by Provider on Treatment for Mental and Substance Use Disorders, Mental Health, and All Diagnoses, 2010–2014**

	Spending (\$000)			Percent Distribution (%)		
	2011	2012	2013	2011	2012	2013
<b>All Diagnoses</b>						
Total spending <sup>1</sup>	1,473,959	1,475,473	1,484,889	100	100	100
Hospital inpatient <sup>2</sup>	502,046	495,595	506,417	34	34	34
Outpatient	642,044	647,797	666,868	44	44	45
Hospital <sup>2</sup>	188,966	196,649	210,240	13	13	14
Practitioners offices	306,795	311,157	312,506	21	21	21
Physicians <sup>3</sup>	283,151	287,416	287,203	19	19	19
Other professionals <sup>4</sup>	23,644	23,740	25,303	2	2	2
Outpatient clinics	25,202	23,602	24,869	2	2	2
Community mental health centers	177	195	183	0	0	0
Community substance abuse centers	16	27	27	0	0	0
All other outpatient clinics	25,010	23,381	24,659	2	2	2
Home health care	121,081	116,390	119,252	8	8	8
Nursing home care	161,117	155,742	144,451	11	11	10
Transportation	27,491	27,164	27,874	2	2	2
Prescription drugs	86,276	93,246	84,684	6	6	6
Other	18,309	17,487	16,608	1	1	1
Administrative costs <sup>5</sup>	36,676	38,441	37,987	2	3	3

<sup>1</sup> Includes Medicare Advantage plan costs from Blue Cross Blue Shield and United Healthcare.

<sup>2</sup> Includes general (community) hospitals and specialty psychiatric hospitals.

<sup>3</sup> Includes psychiatrists and all other physicians.

<sup>4</sup> Includes psychologists, social workers, counselors, and case managers.



<sup>5</sup> Includes costs from Blue Cross Blue Shield only.



**Table 9. Rhode Island Medicaid Spending and Distribution by Age on Treatment for Mental and Substance Use Disorders, 2010–2014**

Age Group	Spending per Enrollee, 2012 (\$)				Spending as a Share of All-Age Spending (%) (Age Group Spending Relative to All Age Spending)				Share of All Health Spending for Age Group (%)		
	M/SUD	MH	SUD	All Diagnoses	M/SUD	MH	SUD	All Diagnoses	M/SUD	MH	SUD
All Ages	1,147	1,067	80	6,934	100	100	100	100	17	15	1
0-1	19	12	7	5,988	2	1	9	86	0	0	0
2-4	311	311	0	2,395	27	29	0	35	13	13	0
5-11	692	692	0	2,684	60	65	0	39	26	26	0
12-17	1,265	1,194	72	4,185	110	112	89	60	30	29	2
18-24	1,219	1,155	64	6,591	106	108	80	95	18	18	1
25-64	1,775	1,606	169	8,488	155	150	211	122	21	19	2
65 and older	760	736	24	12,682	66	69	30	183	6	6	0

Note: M/SUD is mental health and substance use disorder; MH is mental health; SUD is substance use disorder.

Source: Rhode Island Medicaid Management Information System. Includes spending from fee-for-service and managed care plans.

**Table 10. Rhode Island Private Insurance Spending and Distribution by Age on Treatment for Mental and Substance Use Disorders, 2010–2014**

Age Group	Spending per Enrollee, 2012 (\$)				Spending as a Share of All-Age Spending (%) (Age Group Spending Relative to All Age Spending)				Share of All Health Spending for Age Group (%)		
	M/SUD	MH	SUD	All Diagnoses	M/SUD	MH	SUD	All Diagnoses	M/SUD	MH	SUD
All Ages	468	405	63	4,578	100	100	100	100	10	9	1
0-1	9	9	0	10,639	2	2	0	232	0	0	0
2-4	118	118	0	1,976	25	29	0	43	6	6	0
5-11	395	395	0	1,833	85	98	0	40	22	22	0
12-17	904	878	26	2,864	193	217	41	63	32	31	1
18-24	666	542	123	3,032	142	134	195	66	22	18	4
25-64	498	416	82	5,817	106	103	130	127	9	7	1
65 and older	70	65	5	2,595	15	16	7	57	3	3	0

Note: M/SUD is mental health and substance use disorder; MH is mental health; SUD is substance use disorder.

Source: Insurance costs from Blue Cross Blue Shield, United Healthcare, and Tufts Health Plan.



**Table 11. Rhode Island Medicare Spending and Distribution by Age on Treatment for Mental and Substance Use Disorders, 2010–2014**

Age Group	Spending per Enrollee, 2012 (\$)				Spending as a Share of All-Age Spending (%) (Age Group Spending Relative to All Age Spending)				Share of All Health Spending for Age Group (%)		
	M/SUD	MH	SUD	All Diagnoses	M/SUD	MH	SUD	All Diagnoses	M/SUD	MH	SUD
All Ages	481	419	62	9,738	100	100	100	100	5	4	1
0-1	-	-	-	-	-	-	-	-	-	-	-
2-4	-	-	-	-	-	-	-	-	-	-	-
5-11	/S/	/S/	/S/	/S/	/S/	/S/	/S/	/S/	/S/	/S/	/S/
12-17	-	-	-	-	-	-	-	-	-	-	-
18-24	1,347	1,272	74	6,557	280	304	119	67	21	19	1
25-64	1,206	1,003	203	7,660	251	240	325	79	16	13	3
65 and older	229	215	15	10,464	48	51	23	107	2	2	0

Note: /S/ is suppressed because of the small number of claims.

Source: Medicare Standard Analytic Files (claims) and Medicare Advantage costs from Blue Cross Blue Shield and United Healthcare.

**Table 12. Spending per Enrollee on Treatment for Mental and Substance Use Disorders by Provider from Private Insurance and Medicare in New England States, 2012**

Mental and Substance Use Disorder Spending per Enrollee, 2012 (\$)							
Payer and State	Total All Providers	Inpatient Hospital	Outpatient Hospital	Physicians	Other Behavioral Health Professionals	Prescription Drugs	All Other <sup>1</sup>
<b>Private Insurance</b>							
Rhode Island	412	80	48	34	79	155	16
Connecticut	258	41	29	27	32	116	11
Maine	210	28	27	20	26	104	5
Massachusetts	335	55	42	42	65	117	12
New Hampshire	283	41	31	28	38	133	12
Vermont	206	32	18	23	33	93	7
<b>Medicare<sup>2</sup></b>							
Rhode Island	316	200	19	53	18		0
Connecticut	251	139	32	35	22		0
Maine	212	95	38	31	24		0
Massachusetts	385	214	39	59	36		0
New Hampshire	186	105	18	33	14		0
Vermont	195	89	21	40	25		0

<sup>1</sup> Includes spending for clinics, home health, nursing homes, transportation, and all other providers.

<sup>2</sup> Includes fee-for-service only. Prescription drug information was not available.

Sources: MarketScan Commercial Database; Medicare Standard Analytic Files.



**Table 13. Spending per Enrollee on Mental Health Treatment by Provider from Private Insurance and Medicare in New England States, 2012**

Mental Health Spending per Enrollee, 2012 (\$)								
Payer and State	Total All Providers	Inpatient Hospital	Outpatient Hospital	Physicians	Other Behavioral Health Professionals	Prescription Drugs	All Other <sup>1</sup>	
<b>Private Insurance</b>								
Rhode Island	358	66	34	26	77	145	11	
Connecticut	212	27	17	21	32	109	6	
Maine	184	21	18	18	26	97	4	
Massachusetts	290	41	28	36	64	111	10	
New Hampshire	247	29	18	25	37	129	10	
Vermont	179	26	12	17	32	87	5	
<b>Medicare<sup>2</sup></b>								
Rhode Island	259	168	13	39	18		21	
Connecticut	215	115	28	30	21		19	
Maine	179	78	30	24	23		22	
Massachusetts	315	173	31	42	36		33	
New Hampshire	165	92	15	31	14		15	
Vermont	160	75	17	24	25		18	

<sup>1</sup> Includes spending for clinics, home health, nursing homes, transportation, and all other providers.

<sup>2</sup> Includes fee-for-service only. Prescription drug information was not available.

Sources: MarketScan Commercial Database; Medicare Standard Analytic Files.



**Table 14. Spending per Enrollee on Treatment for Substance Use Disorders by Provider from Private Insurance and Medicare in New England States, 2012**

Substance Use Disorder Treatment Spending per Enrollee, 2012 (\$)							
Payer and State	Total All Providers	Inpatient Hospital	Outpatient Hospital	Physicians	Other Behavioral Health Professionals	Prescription Drugs	All Other <sup>1</sup>
<b>Private Insurance</b>							
Rhode Island	54	15	14	8	2	11	5
Connecticut	46	14	12	6	1	8	5
Maine	26	6	9	3	0	7	1
Massachusetts	45	14	14	7	1	6	3
New Hampshire	36	12	13	3	1	5	2
Vermont	28	6	6	6	1	6	2
<b>Medicare<sup>2</sup></b>							
Rhode Island	57	32	6	14	0		4
Connecticut	36	23	4	5	0		3
Maine	34	16	7	7	1		2
Massachusetts	70	41	8	17	1		4
New Hampshire	20	13	3	2	0		2
Vermont	35	14	4	15	0		3

<sup>1</sup> Includes spending for clinics, home health, nursing homes, transportation, and all other providers.

<sup>2</sup> Includes fee-for-service only. Prescription drug information was not available.

Sources: MarketScan Commercial Database; Medicare Standard Analytic Files.

**Table 15. Inpatient Hospital Discharges per 100,000 Population for Patients with Mental and Substance Use Disorders in New England States, 2010–2012**

Diagnosis and State	Discharges per 100,000 Population (N)		
	2010	2011	2012
<b>Mental and Substance Use Disorders</b>			
Rhode Island	943	981	959
Maine	688	715	698
Massachusetts	751	755	763
Vermont	428	433	393
<b>Mental Health</b>			
Rhode Island	720	750	725
Maine	366	393	373
Massachusetts	577	561	553
Vermont	312	324	287
<b>Substance Use Disorders</b>			
Rhode Island	223	230	234
Maine	322	323	326
Massachusetts	174	194	210
Vermont	116	110	107

Note: Data is not available for Connecticut and New Hampshire.

Source: U.S. Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project. Data downloaded from <http://hcupnet.ahrq.gov/> on December 16, 2014.

**Table 16. Average Cost per Hospital Discharges for Patients with Mental and Substance Use Disorders in New England States, 2010–2012**

<b>Diagnosis and State</b>	<b>Average Cost per Discharge (\$)</b>		
	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b>Mental and Substance Use Disorders</b>			
Rhode Island	7,493	7,459	7,517
Massachusetts	7,767	8,158	8,391
Vermont	7,330	7,577	9,495
<b>Mental Health</b>			
Massachusetts	8,336	8,974	9,287
Rhode Island	8,202	8,020	8,161
Vermont	7,852	8,156	10,549
<b>Substance Use Disorders</b>			
Rhode Island	5,204	5,630	5,525
Massachusetts	5,877	5,794	6,030
Vermont	5,933	5,868	6,664

Note: Data is not available for Connecticut and New Hampshire. Vermont costs for MH discharges rose in 2012, potentially because of the unexpected closure of the state psychiatric hospital because of flooding.

Source: U.S. Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project. Data downloaded from <http://hcupnet.ahrq.gov/> on December 16, 2014.



**Table 17. Average Prescription Drug Cost per Population for Medications Used to Treat Mental and Substance Use Disorders, New England States, 2012**

Diagnosis	Spending per Population for Prescription Drugs, 2012 (\$)					
	Rhode Island	Connecticut	Maine	Massachusetts	New Hampshire	Vermont
Mental Health and Substance Use Disorders	310	243	265	275	233	236
Mental Health	300	235	251	263	225	213
Substance Use Disorders	11	9	13	12	8	23

Source: IMS Health Inc. counts of prescriptions filled by state and nationwide average cost of drugs by therapeutic class.



**Table 18. State Mental Health Agency Controlled Spending per 100,000 Population for Multi-Service Mental Health Organizations and Specialty Psychiatric Hospitals, New England States, 2012**

	Spending per 100,000 Population, 2012 (\$)					
	Connecticut	Maine	Massachusetts	New Hampshire	Rhode Island	Vermont
<b>Multi-Service Mental Health Organizations</b>						
Total	14.84	29.06	10.77	7.99	6.88	21.28
State/local revenue	13.79	2.46	8.89	0.30	0.50	0.06
Federal Programs (including Medicaid) <sup>1</sup>	0.89	26.60	1.85	7.69	6.37	21.22
Other third parties	0.01	0.00	0.01	0.00	0.00	0.00
Out-of-pocket	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.16	0.00	0.02	0.00	0.00	0.00
<b>Specialty Hospitals</b>						
Total	0.00	0.00	0.00	0.00	0.00	0.00
State/local revenue	5.67	3.91	1.62	5.44	3.50	3.00
Federal Programs (including Medicaid) <sup>1</sup>	5.39	0.24	1.47	2.24	0.00	1.77
Other third parties	0.22	3.68	0.15	2.67	3.50	1.23
Out-of-pocket	0.05	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
	0.02	0.00	0.00	0.53	0.00	0.00

<sup>1</sup> Includes Medicaid, Medicare, SAMHSA block grants and other funding, social services block grants, and other federal spending.

Source: National Association of State Mental Health Program Directions—National Research Institute. Data from 2012 survey of states.