United States Government Accountability Office

Report to Congressional Requesters

June 2017

MEDICAID EXPANSION

Behavioral Health Treatment Use in Selected States in 2014

GAO-17-529

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GAO Highlights

Highlights of GAO-17-529, a report to congressional requesters

Why GAO Did This Study

Behavioral health conditions disproportionately affect low-income populations. Treatment can improve individuals' symptoms and help avoid negative outcomes. The expansion of Medicaid to cover low-income adults in some states—authorized by PPACA—may have increased the demand for such treatment. However, little is known about the extent to which Medicaid expansion enrollees experienced behavioral health conditions or utilized treatment during the first year of expansion in 2014.

GAO was asked to provide information about the utilization of behavioral health treatment among Medicaid expansion enrollees during the first year of expansion in 2014. For selected states in 2014, this report describes (1) the population of Medicaid expansion enrollees with behavioral health diagnoses, and (2) the use of behavioral health treatment among Medicaid expansion enrollees.

GAO selected four expansion states—Iowa, New York, Washington, and West Virginia—based on, among other criteria, availability and reliability of Medicaid enrollment and utilization data. GAO analyzed Medicaid data on behavioral health diagnoses and treatment use for expansion enrollees for 2014, the most recent year available. GAO also reviewed documents and interviewed Medicaid officials from all selected states to understand how data were recorded, and how treatment for expansion enrollees compared with what was available prior to expansion. The Department of Health and Human Services provided technical comments on a draft of this report, which GAO incorporated as appropriate.

View GAO-17-529. For more information, contact Carolyn L. Yocom at (202) 512-7114 or yocomc@gao.gov.

What GAO Found

In four selected states, from 17 to 25 percent of enrollees who were covered by state expansions of Medicaid—authorized by the Patient Protection and Affordable Care Act (PPACA)—had diagnosed behavioral health conditions (mental health and substance use conditions) in 2014. Mental health conditions were more common than substance use conditions; from 11 to 20 percent of expansion enrollees were diagnosed with a mental health condition, compared with 6 to 8 percent diagnosed with a substance use condition. The most common mental health condition category was mood disorders, such as depression. For substance use, substance-related conditions (e.g., addiction to drugs like opioids) were more prevalent than alcohol-related conditions.

From 20 to 34 percent of expansion enrollees in the four selected states received behavioral health treatment in 2014, which includes outpatient services such as psychotherapy or prescription drugs. Treatment rates exceeded rates of diagnosed conditions, in part, because prescription drugs are not recorded with diagnosis codes. Thus, enrollees who only used behavioral health prescription drugs—and no outpatient services—were not counted in the diagnosis totals.

- The two most commonly used behavioral health service categories were psychotherapy services (visits with a provider aimed at reducing and managing symptoms) and diagnostic services, such as diagnostic evaluations.
- Antidepressants were the most commonly used behavioral health prescription drug category; over two-thirds of expansion enrollees who used a behavioral health drug took an antidepressant.

Use of Behavioral Health Treatment among Medicaid Expansion Enrollees in Selected States, 2014

Type of behavioral health treatment	Percentage of expansion enrollees			
	Iowa	New York	Washington	West Virginia
Any behavioral health treatment (services or drugs)	34	20	26	33
Behavioral health services	16	13	9	11
Behavioral health drugs	30	16	23	31
Both services and drugs	12	8	7	9

Source: GAO analysis of Medicaid data. | GAO-17-529

Officials in three of the four selected states said that expansion enrollees likely had greater access to behavioral health treatment after enrolling in Medicaid. Officials from Iowa, Washington, and West Virginia reported that, compared to being uninsured, expansion enrollees could more easily access treatment, such as community-based mental health services and behavioral health prescription drugs. Officials in New York said expansion enrollees experienced less of a change, because most of its enrollees were previously eligible for Medicaid.

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Abbreviations

ADHD	attention-deficit/hyperactivity disorder
CMS	Centers for Medicare & Medicaid Services
HHS	Department of Health and Human Services
FDA	Food and Drug Administration
FPL	federal poverty level
MSIS	Medicaid Statistical Information System
MAT	medication-assisted treatment
PPACA	Patient Protection and Affordable Care Act
SAMHSA	Substance Abuse and Mental Health Services Administration

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U.S. GOVERNMENT ACCOUNTABILITY OFFICE
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June 22, 2017

The Honorable Frank Pallone, Jr.
Ranking Member
Committee on Energy and Commerce
House of Representatives

The Honorable Diana DeGette
Ranking Member
Subcommittee on Oversight and Investigations
Committee on Energy and Commerce
House of Representatives

The Honorable Joseph P. Kennedy, III
House of Representatives

Research has shown that low-income individuals disproportionately experience behavioral health conditions. Such conditions include those related to mental health, such as depression, and to substance use, such as alcohol use disorder. In particular, research has shown that individuals enrolled in Medicaid—a joint federal-state program that finances health care coverage for certain low-income and medically needy individuals—experience a higher rate of behavioral health conditions than those with private insurance.[1] Access to behavioral health treatment—including both behavioral health services and prescription drugs—is important because of the consequences of untreated conditions, which may include worsening health, increased medical costs, and negative effects on employment and workplace performance.

As of January 1, 2014, states have the option to expand eligibility for the Medicaid program—as allowed by the Patient Protection and Affordable Care Act (PPACA)—to certain adults with incomes up to 138 percent of

[1]See Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, *2015 National Survey on Drug Use and Health: Detailed Tables* (Rockville, Md.: September 2016).

the federal poverty level (FPL).[2] PPACA requires states that choose to expand Medicaid to provide enrollees with benefit plans that include behavioral health treatment, and therefore Medicaid programs in these states may have experienced increased demand for behavioral health treatment.[3] However, little is known about the extent to which expansion enrollees had diagnosed behavioral health conditions, or what types of behavioral health services and related prescription drugs enrollees received during the first year of Medicaid expansion in 2014.[4]

Given the importance of access to treatment for individuals with behavioral health conditions, and the likely increased demand on Medicaid programs in expansion states, you asked us to provide information about the utilization of behavioral health treatment among Medicaid expansion enrollees during the first year of expansion in 2014. This report describes

1. the population of Medicaid expansion enrollees with behavioral health diagnoses in selected states in 2014, and

[2]Under PPACA, enacted on March 23, 2010, states may opt to expand their Medicaid programs to cover nonelderly, nonpregnant adults who are not eligible for Medicare, and whose income does not exceed 133 percent of the FPL beginning January 1, 2014. Pub. L. No. 111-148, 124 Stat. 119 (2010), as amended by the Health Care and Education Reconciliation Act of 2010 (HCERA), Pub. L. No. 111-152, 124 Stat. 1029 (2010). For purposes of this report, references to PPACA include the amendments made by HCERA. PPACA also provides for a 5 percent disregard when calculating income for determining Medicaid eligibility, which effectively increases this income level to 138 percent of the FPL. PPACA also permitted an early expansion option, whereby states could expand eligibility for this population (or a subset of this population) starting on April 1, 2010.

[3]Our prior work found that states that chose not to expand Medicaid targeted state-funded behavioral health treatment to uninsured adults with the most serious behavioral health needs or established waiting lists for treatment. See GAO, *Behavioral Health: Options for Low-Income Adults to Receive Treatment in Selected States,* GAO-15-449 (Washington, D.C.: June 19, 2015).

[4]We define Medicaid expansion enrollees as nonpregnant adults aged 19 through 64 years who were not eligible for Medicare and whose income did not exceed 138 percent of the FPL. We included both newly eligible and not newly eligible enrollees. Newly eligible expansion enrollees are those individuals who would not have been eligible for full Medicaid benefits under the state's eligibility rules that were in effect on December 1, 2009, and whose coverage began after their state opted to expand Medicaid as authorized by PPACA. Newly eligible expansion enrollees also include individuals, who as of December 1, 2009, received limited Medicaid benefits under a state demonstration or waiver; or were enrolled in a state-only funded health care program. Not newly eligible expansion enrollees would have been eligible for Medicaid based on the state's eligibility rules that were in effect on December 1, 2009, such as under a pre-existing state demonstration or waiver, in states that subsequently opted to expand Medicaid as authorized under PPACA.

2. the use of behavioral health treatment among Medicaid expansion enrollees in selected states in 2014.

To describe the population of Medicaid expansion enrollees with behavioral health diagnoses in selected states in 2014, we selected four states (Iowa, New York, Washington, and West Virginia) that met the following criteria: (1) were among the 25 states that chose to expand Medicaid as allowed under PPACA as of January 1, 2014; (2) had enrollment and utilization data for expansion enrollees in the Medicaid Statistical Information System (MSIS) for all of calendar year 2014 that were sufficiently reliable for the purpose of our reporting objectives; and (3) had available information and documentation on Medicaid behavioral health benefits, and how enrollment, service utilization, and prescription drug data were recorded for expansion enrollees in MSIS.[5] Our selected states were the only four states that met these criteria as of January 2016, and they are not representative of all states and their Medicaid programs.[6] In addition, a number of state-specific factors—such as differences in population health status and provider supply—could contribute to variation across our selected states, but attributing this variation to such factors was beyond the scope of this study. For each state, we analyzed enrollment and service utilization data to (1) identify all expansion enrollees (both newly and not newly eligible), (2) determine the extent to which they had diagnosed behavioral health conditions, and (3) describe characteristics of enrollees with these conditions. We considered an enrollee to have a diagnosed behavioral health condition if that enrollee received any outpatient services with a recorded diagnosis code for a behavioral health condition in 2014.[7] Among the substance-related conditions, we also identified opioid abuse and dependence as a unique

[5]Service utilization data comprise claims and encounters for medical services reimbursed by the Medicaid program. Claims are records of medical services paid for on a fee-for-service basis, whereas encounters represent services provided under managed care arrangements. Under a fee-for-service model, states pay providers for each covered service for which the providers bill the state. Under a managed care model, states contract with managed care organizations to provide or arrange for medical services, and prospectively pay the plans a fixed monthly fee per enrollee.

[6]As of January 2016, the most recent year for which one or more states had complete data in MSIS was 2014.

[7]We used behavioral health condition codes from the International Classification of Diseases, Ninth Revision, range of 291.0 – 314.9. We selected these codes based on a review of published research reports and studies that examined behavioral health utilization. Unless otherwise noted, we considered both primary and secondary diagnoses when determining whether enrollees had a diagnosed behavioral health condition.

category, and we selected these codes based on prior research on opioid use in Medicaid.[8] Because we measured behavioral health conditions based on outpatient service utilization data, our estimates do not include individuals with conditions who did not use outpatient services during 2014—such as individuals who used no services or who only used inpatient services—or those who used only behavioral health prescription drugs.[9] For the group of enrollees with a behavioral health condition, we used enrollment data to describe their characteristics; specifically, we examined age, gender, and geographic (i.e., urban vs. rural) location.[10]

To describe the use of behavioral health treatment among Medicaid expansion enrollees in selected states in 2014, we used enrollment, service utilization, and prescription drug data for the same four selected states. We defined behavioral health treatment as the receipt of behavioral health services, behavioral health prescription drugs, or both. We defined behavioral health services as outpatient screening, assessment, diagnostic, treatment, rehabilitation, and habilitation services used primarily or exclusively to evaluate and address the needs of individuals with behavioral health conditions. To identify behavioral health services, we reviewed the following for each state: (1) Medicaid provider manuals and other coverage documentation that contained the procedure codes and descriptions for covered services, and (2) a list of all services that were provided to expansion enrollees in calendar year 2014 that were recorded with a primary diagnosis of a behavioral health condition. We selected codes from these two sources that we determined to be behavioral-health specific based on their descriptions.[11] Consequently, lists of services are different for each state based on their coverage and

[8]See A. J. Gordon et al., "Patterns and Quality of Buprenorphine Opioid Agonist Treatment in a Large Medicaid Program," *Journal of Addiction Medicine*, vol. 9, no. 6 (2015). Opioid abuse and dependence diagnoses were of interest due to the rising number of opioid-related overdose deaths and other public health impacts of opioid use.

[9]From 3 to 7 percent of expansion enrollees in selected states used a behavioral health drug in 2014, but did not have a behavioral health diagnosis recorded on an outpatient service. MSIS prescription drug data do not include diagnosis codes.

[10]We defined geographic location based on enrollees' zip code of residence using the most recent available rural-urban commuting area codes from the Department of Health and Human Services and the Department of Agriculture.

[11]We identified services as behavioral-health-specific if their descriptions indicated that they were primarily or exclusively used to evaluate and address behavioral health conditions.

utilization of services in 2014.[12] We also analyzed behavioral health service use by category; for this analysis, we divided the top 25 most-used behavioral health services by state into categories, such as diagnostic services and psychotherapy services, based on their descriptions. We excluded all inpatient and laboratory services from our analysis.[13] In addition, because our analysis was limited to Medicaid service utilization data, our results do not reflect the use of behavioral health services not paid for by Medicaid, such as state- or grant-funded services.[14]

To more fully examine service utilization patterns among expansion enrollees, we also examined evaluation and management services—more general medical visits with a physician or other medical provider—because some individuals may have received behavioral health treatment during these visits, including services provided by a psychiatrist. We limited our analysis of evaluation and management services to those visits recorded with a primary diagnosis of a behavioral health condition. However, because of the uncertainty of the extent to which behavioral health treatment was provided as part of evaluation and management services, we do not count them as behavioral health services, or include them in our overall definition of behavioral health treatment.

We also examined outpatient emergency room visits—for any condition, not just a behavioral health condition—among expansion enrollees with and without a behavioral health diagnosis. Emergency room visits were of interest, because prior research has suggested that individuals who have a behavioral health condition may access emergency care more frequently than those without such conditions.[15]

[12]Each state was provided with the opportunity to review and comment on the list of services selected for analysis, and we made revisions as appropriate.

[13]We excluded inpatient services because Medicaid generally does not allow for the payment of claims for inpatient or residential behavioral health treatment for adults ages 21 to 64 years provided in certain settings. Consequently, data for services provided in these settings would not have been available for analysis. We excluded laboratory services primarily because we determined that it would be difficult to count these services accurately in a way that was consistent across states.

[14]States may fund services for Medicaid enrollees that Medicaid does not cover, or services for uninsured adults who are not Medicaid-eligible, by using general revenues or federal grants. See GAO-15-449.

[15]See, e.g., J. Castner et al., “Frequent Emergency Department Utilization and Behavioral Health Diagnoses,” *Nursing Research*, vol. 64, no. 1 (2015).

To examine behavioral health prescription drug use, we examined Medicaid data for prescription drugs provided to expansion enrollees in 2014. We defined behavioral health prescription drugs as Food and Drug Administration (FDA)-approved drugs used, on- or off-label, to treat adults with behavioral health conditions in the United States as of 2014.[16] To identify these drugs, we worked with a contractor, QuintilesIMS, who developed a list of behavioral health drugs based on information on how drugs are classified by therapeutic use, survey data on prescribing patterns, and expert clinical opinion. We categorized the list of drugs into 12 categories, such as antidepressants, based on our prior work and consultation with QuintilesIMS. See appendix I for the list of behavioral health prescription drugs we included in our analysis.

We conducted interviews with officials from our selected states to discuss behavioral health benefits for Medicaid expansion enrollees; how enrollment, service utilization, and prescription drug data were recorded in MSIS; officials' perspectives on the results of our analysis; and whether Medicaid expansion affected the availability of behavioral health treatment for expansion enrollees, relative to what was available for low-income, uninsured adults prior to the first year of expansion in 2014. We also interviewed a physician group specializing in addiction medicine and consulted with clinical experts from QuintilesIMS for additional perspectives on our results.

We assessed the reliability of MSIS data by interviewing knowledgeable federal and state officials; reviewing related documentation, such as studies that assessed the completeness and quality of Medicaid data; comparing the results of our analysis to published figures from the Centers for Medicare & Medicaid Services (CMS), which oversees Medicaid at the federal level; and testing the data for logical errors. Based on this work, we determined that the data were sufficiently reliable for the purposes of our reporting objectives. For further details on our scope and methodology, including our data reliability assessment, see appendix II.

We conducted our performance audit from November 2015 through June 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for

[16]The term off-label means prescribed for conditions and in populations that are not included in FDA-approved drug labeling.

our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Behavioral Health Conditions

Behavioral health conditions—including those related to mental health and substance use—affect a substantial number of adults in the United States. The Substance Abuse and Mental Health Services Administration (SAMHSA) estimated that in 2015 about 43 million adults (18 percent) had a mental health condition—including about 10 million adults (4 percent) with a serious mental illness—and about 20 million (8 percent) had a substance use condition. Examples of common mental health conditions include anxiety disorders, such as phobias and post-traumatic stress disorder, and mood disorders, such as depression and bipolar disorder. Examples of common substance use conditions include alcohol use disorder and opioid use disorder. There is substantial overlap between individuals with mental health and substance use conditions; about 8 million adults had both types of conditions, also referred to as co-occurring conditions. Individuals with behavioral health conditions also experience higher rates of physical health conditions.[17] Low-income individuals, such as those enrolled in Medicaid, are at greater risk for developing behavioral health conditions. In 2015, a greater percentage of individuals covered by Medicaid experienced mental health conditions and co-occurring conditions than individuals with private insurance.[18]

Behavioral Health Treatment

Treatment for behavioral health conditions can help individuals reduce their symptoms, improve their ability to function, and avoid the potential consequences of untreated conditions, such as worsening health, reduced educational attainment, loss of employment, and involvement with the justice system. Treatment for behavioral health conditions can include behavioral health services, prescription drugs, or a combination of both. Behavioral health services include diagnostic services, which

[17]For example, the Medicaid and CHIP Payment and Access Commission found that adult Medicaid enrollees with a behavioral health diagnosis were more likely to have a chronic medical condition, such as heart disease or diabetes, than those without a behavioral health diagnosis. See Medicaid and CHIP Payment and Access Commission, *Report to the Congress on Medicaid and CHIP* (Washington, D.C.: June 2015).

[18]See SAMHSA, Center for Behavioral Health Statistics and Quality, *2015 National Survey on Drug Use and Health: Detailed Tables* (Rockville, Md.: September 2016).

involve the collection and evaluation of information to determine the nature and extent of behavioral health problems, and psychosocial therapies, such as psychotherapy. Psychotherapy—also referred to as counseling or "talk therapy"—typically involves regular visits with a provider focused on helping individuals understand, reduce, and manage their symptoms. Prescription drugs may also be used to treat both mental health and substance use conditions. SAMHSA estimated that in 2015, more adults used a mental health medication (12 percent) than received outpatient mental health treatment (7 percent).[19] A common type of drug used to treat mental health conditions is antidepressants, which treat depression as well as other conditions, such as anxiety. For certain substance use conditions, individuals may receive medication-assisted treatment (MAT), which involves the use of medications in conjunction with behavioral health services, such as psychotherapy. According to SAMHSA, the use of medications like methadone, buprenorphine, and naltrexone for individuals with opioid use disorders can help them more fully engage in their recovery.

One potential barrier to accessing treatment is a shortage of qualified behavioral health professionals, particularly in rural areas. According to the Health Resources and Services Administration, there were more than 4,500 mental health professional shortage areas in the United States as of April 2017, containing about a third of the American population (about 109 million people). Over half of these shortage areas were in rural or partially rural locations. We previously reported that states were taking a number of steps to address behavioral health workforce shortages, such as providing Medicaid reimbursement for telehealth services.[20] Telehealth services allow a patient in a rural location to interact with a medical provider through interactive video conferencing. Research has suggested that telehealth services are particularly effective for specialties such as mental health that involve mostly verbal interaction rather than physical examination.[21]

[19]See SAMHSA, Center for Behavioral Health Statistics and Quality, *Key Substance Use and Mental Health Indicators in the United States: Results from the 2015 National Survey on Drug Use and Health*, HHS Publication No. SMA 16-4984, NSDUH Series H-51 (Rockville, Md.: 2016).

[20]See GAO-15-449.

[21]M. Gilman & J. Stensland, "Telehealth and Medicare: Payment Policy, Current Use, and Prospects for Growth," *Medicare & Medicaid Research Review*: vol. 3, no. 4 (Baltimore, Md.: 2013).

Medicaid

CMS and states jointly fund and administer the Medicaid program, and states have flexibility within broad federal parameters for designing and implementing their Medicaid programs. For example, state Medicaid programs must cover certain mandatory populations and benefits, but states may choose to also cover other optional populations and benefits. Traditionally, Medicaid did not require states to include behavioral health services in their Medicaid programs; however, all state Medicaid programs provided some behavioral health services. Likewise, states were not required to include coverage for prescription drugs in their Medicaid programs, but all states did. Under PPACA, most expansion enrollees must be covered under an alternative benefit plan, which must cover 10 essential health benefits categories. Mental health and substance use services, including behavioral health treatment, and prescription drugs are 2 of the 10 essential health benefits categories. Medicaid is the largest source of funding for behavioral health treatment in the nation, with spending estimated at about $53 billion for 2014.[22]

Prior to 2014—when states had the option to expand Medicaid to all adults up to 138 percent of the FPL—states had varying levels of coverage available for low-income, uninsured adults. For example, the four states we selected had the following coverage available.

- Iowa had coverage available for low-income adults up to 200 percent of the FPL under a Medicaid waiver, but coverage did not include behavioral health treatment.[23]
- New York provided Medicaid benefits to low-income, childless adults up to 100 percent of the FPL.[24] Enrollees with incomes up to about 78 percent of the FPL were served through traditional Medicaid. Enrollees above this income level and up to 100 percent of the FPL were covered under New York's Family Health Plus program, which was implemented in 2001 through a Medicaid waiver.

[22]See SAMHSA, *Behavioral Health Spending and Use Accounts, 1986–2014,* HHS Publication No. SMA-16-4975 (Rockville, Md.: August 2016).

[23]With CMS's approval, states may use Medicaid waivers—which allow states to set aside certain, otherwise applicable federal Medicaid requirements—to provide health care to individuals who would not otherwise be eligible for those benefits under the state's Medicaid program.

[24]New York provided Medicaid benefits to adults with children up to 150 percent of the FPL.

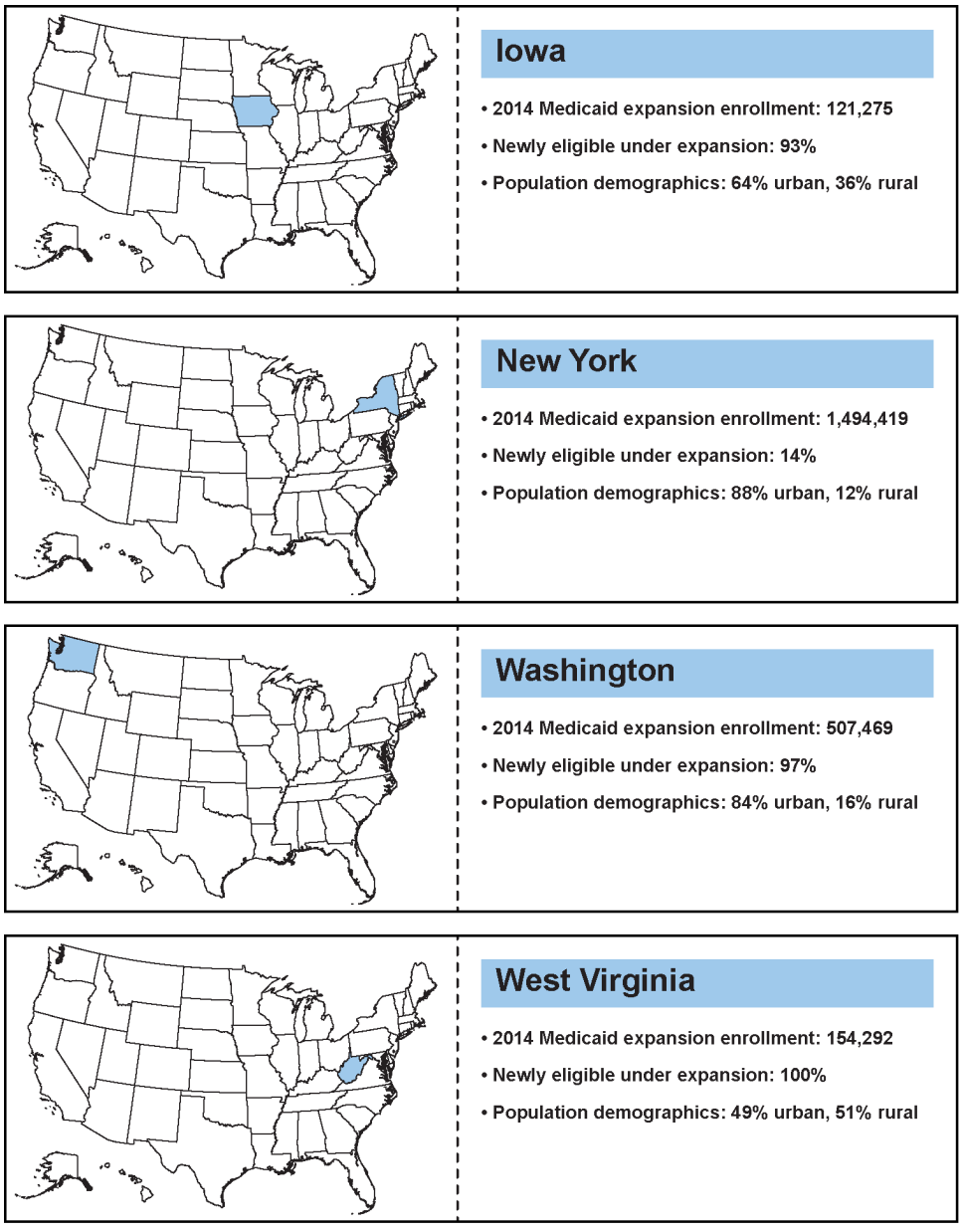
- Washington expanded Medicaid as of January 3, 2011, as part of PPACA's early expansion option.[25] Although the state covered enrollees up to 138 percent of the FPL, enrollment was limited to around 41,000 individuals who were previously enrolled in Basic Health, a state-funded health coverage program for adults up to 200 percent of the FPL with capped enrollment.
- West Virginia did not have Medicaid coverage for low-income, childless adults prior to its Medicaid expansion in 2014.[26]

As a result, the extent to which expansion enrollees were newly eligible for Medicaid coverage in 2014 varied among our selected states. For example, while most Medicaid expansion enrollees in New York were previously eligible for coverage under the state's pre-PPACA Medicaid program, all expansion enrollees in West Virginia were newly eligible. See figure 1 for information on the size of each state's Medicaid expansion population, the percent who were newly eligible, as well as other state characteristics.

[25]PPACA's early expansion option allowed states to expand eligibility for low-income adults (or a subset of these adults) starting on April 1, 2010.

[26]West Virginia did have coverage for parents with dependent children up to 31 percent of the FPL prior to 2014.

Figure 1: Characteristics of Selected Medicaid Expansion States



Sources: Centers for Medicare & Medicaid Services (CMS) and U.S. Census Bureau (data); Map Resources (map). | GAO-17-529

Notes: We analyzed state-reported enrollment data for December 2014 from CMS. We calculated the percentage of expansion enrollees who were newly eligible by dividing the number of newly eligible enrollees by the total number of expansion enrollees. Newly eligible expansion enrollees are those individuals who would not have been eligible for full Medicaid benefits under the state's eligibility rules that were in effect on December 1, 2009, and whose coverage began after their state opted to expand Medicaid as authorized by the Patient Protection and Affordable Care Act. Newly eligible

expansion enrollees also include individuals, who as of December 1, 2009, received limited Medicaid benefits under a state demonstration or waiver; or were enrolled in a state-only funded health care program. Percentages of urban and rural residents by state are based on 2010 Census data.

States that expanded Medicaid could choose different delivery systems to provide benefits to expansion enrollees, such as fee-for-service or managed care. Under a fee-for-service model, states pay providers for each covered service for which the providers bill the state. Under a managed care model, states contract with managed care organizations to provide or arrange for medical services, and prospectively pay the plans a fixed monthly fee per enrollee. States that provide Medicaid benefits through managed care may contract with separate companies to manage medical and behavioral health benefits, often referred to as "carving out" behavioral health benefits. See table 1 for information on Medicaid coverage of physical and behavioral health benefits for expansion enrollees in our selected states for 2014.

Table 1: Coverage of Behavioral Health Benefits for Medicaid Expansion Enrollees in Selected States, 2014

	Delivery systems			
State	**Physical health services**	**Mental health services**	**Substance use services**	**Behavioral health prescription drugs**
Iowa	Fee-for-service or managed care	Carved out; managed care	Carved out; managed care	Fee-for-service
New York	Managed care	Partially carved out; fee-for-service	Partially carved out; fee-for-service	Managed care
Washington	Managed care	Partially carved out; managed care	Managed care	Managed care
West Virginia	Fee-for-service	Fee-for-service	Fee-for-service	Fee-for-service

Source: GAO interviews with state officials and analysis of state Medicaid programs. | GAO-17-529

Note: The term "carve out" refers to states with Medicaid managed care contracts that choose to have a separate company manage or administer behavioral health benefits apart from medical or other benefits. "Partially carved out" refers to states that chose to include some behavioral health services in their managed care contracts, while carving out others.

Funding for Behavioral Health Treatment

Although Medicaid is the largest source of funding for behavioral health treatment in the nation, states have historically also had a large role in funding behavioral health services through programs other than Medicaid, especially for low-income, uninsured adults.[27] In addition, states may use SAMHSA-administered mental health and substance use block grants to design and support a variety of treatments for individuals with behavioral health conditions.[28] As we previously reported, some states that did not expand Medicaid provided behavioral health treatment to priority populations to focus care on adults with the most serious conditions and used waitlists for those with more modest behavioral health needs. We also reported that the Medicaid expansion states we examined generally reported an increase in the availability of behavioral health treatment for previously uninsured low-income adults who enrolled in Medicaid, particularly in states that had no prior coverage available for this population.[29]

[27]In contrast to Medicaid, for which payment of benefits to eligible persons is required by law, state general funding for the treatment of uninsured and underinsured residents is discretionary. The extent to which state-funded treatment is provided may depend on the availability of funding.

[28]According to SAMHSA, in state fiscal year 2012, state general funds accounted for 45 percent of state mental health and 40 percent of state substance use agency budgets. SAMHSA block grants accounted for 1 percent of state mental health and 34 percent of state substance use agency budgets. See SAMHSA, *Funding and Characteristics of Single State Agencies for Substance Abuse Services and State Mental Health Agencies, 2013*, HHS Pub. No. (SMA) 15-4926 (Rockville, Md.: 2015).

[29]See GAO-15-449.

From 17 to 25 Percent of Expansion Enrollees in Selected States Had a Behavioral Health Diagnosis; Enrollees' Gender and Age Were Similar across the States

Across our four selected states in 2014, from 17 to 25 percent of expansion enrollees were diagnosed with a behavioral health condition. Diagnoses of mental health conditions were more common than diagnoses of substance use conditions. The distribution of expansion enrollees with a behavioral health diagnosis by gender and age was generally similar across states.

From 17 to 25 Percent of Expansion Enrollees had a Behavioral Health Diagnosis in Selected States, Most Commonly a Mental Health Condition

Behavioral health diagnoses among expansion enrollees ranged from 17 to 25 percent across our selected states in 2014, with mental health conditions being more common than substance use conditions. From 11 to 20 percent of expansion enrollees were diagnosed with a mental health condition, compared with 6 to 8 percent diagnosed with a substance use condition. (See table 2.) However, patterns of specific mental health and substance use diagnoses were similar across selected states. The most common mental health condition categories were mood disorders, such as depression, and anxiety disorders, such as panic disorder. Among expansion enrollees diagnosed with a substance use condition, a greater percentage were diagnosed with a substance-related condition, such as cocaine dependence, compared with alcohol-related conditions. From 1 to 3 percent of all expansion enrollees were diagnosed with opioid abuse or dependence, a subset of substance-related conditions. (See app. III for more information on this group of enrollees.)

Table 2: Diagnosed Behavioral Health Conditions among Expansion Enrollees in Selected States, 2014

	Percentage of expansion enrollees (number of enrollees[a])			
Type of behavioral health diagnosis	**Iowa (131,967)**	**New York (1,759,414)**	**Washington (566,193)**	**West Virginia (197,071)**
Any behavioral health diagnosis[b]	25	17	24	24
Mental health diagnosis	20	11	17	20
Substance use condition diagnosis[c]	8	7	8	6
Opioid abuse/dependence diagnosis	1	3	1	3
Both mental health and substance use conditions[c]	5	3	4	3

Source: GAO analysis of Medicaid program data. | GAO-17-529

Note: We considered an enrollee to have a diagnosed behavioral health condition if that enrollee received any outpatient services with a recorded diagnosis code for a behavioral health condition in 2014. Our estimates do not include individuals with conditions who did not use outpatient services during 2014, or those who used only behavioral health prescription drugs.

[a]Number of enrollees is the total number of expansion enrollees who were enrolled for at least one month during 2014.

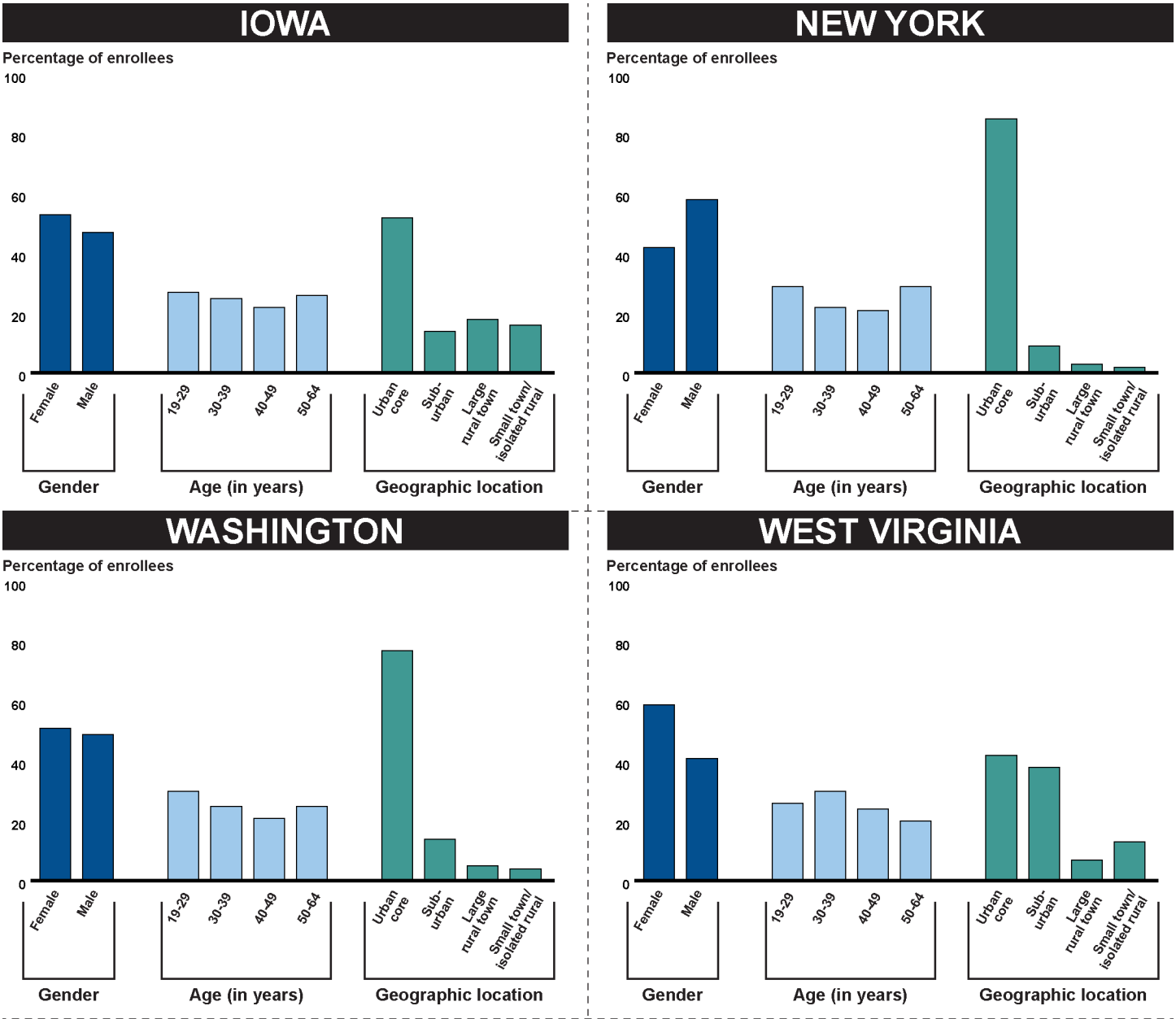
[b]Any behavioral health diagnosis refers to all mental health and substance use diagnosis codes that were within the scope of our study. This includes opioid abuse and dependence, and tobacco use disorder.

[c]Does not include tobacco use disorder.

Age and Gender of Expansion Enrollees with a Behavioral Health Diagnosis Were Generally Similar across Selected States, while Enrollees' Geographic Location Varied

The distribution of expansion enrollees with diagnosed behavioral health conditions by age and gender was generally similar across the selected states. Expansion enrollees with diagnosed behavioral health conditions were fairly evenly divided among age groups across all selected states. (See fig. 2.) Women accounted for a larger percentage of enrollees with diagnosed behavioral health conditions in three of the four selected states—Iowa, Washington, and West Virginia. In New York, men accounted for 58 percent of expansion enrollees with diagnosed behavioral health conditions.

Figure 2: Demographic Characteristics of Expansion Enrollees with Diagnosed Behavioral Health Conditions in Selected States, 2014



Source: GAO analysis of Medicaid program data. | GAO-17-529

Note: We considered an enrollee to have a diagnosed behavioral health condition if that enrollee received any outpatient services with a recorded diagnosis code for a behavioral health condition in 2014. Our estimates do not include individuals with conditions who did not use outpatient services during 2014, or those who used only behavioral health prescription drugs.

Geographic location of enrollees in selected states varied, with some states having a greater proportion of rural enrollees. The geographic location of expansion enrollees diagnosed with behavioral health conditions was consistent with the more general urban/rural distribution of residents in these states. State officials discussed efforts to meet the behavioral health needs of rural residents, who may have difficulty accessing care, because of the need to travel long distances to access relatively fewer providers. For example, officials in Iowa, Washington, and West Virginia discussed the important role of telehealth services in allowing rural residents to access care for behavioral health conditions. Officials in Iowa also noted that the state has provided funding to help rural communities establish the infrastructure needed to host psychiatric telehealth appointments. In West Virginia, as of July 1, 2014, 85 percent of procedure codes in the Medicaid program were eligible for reimbursement when provided via telehealth. West Virginia officials also emphasized the role of Federally Qualified Health Centers, which can provide a "one-stop shop" for both medical and behavioral health treatment for residents in rural areas who have to travel long distances to access care.[30]

From 20 to 34 Percent of Expansion Enrollees in Selected States Received Behavioral Health Treatment; Psychotherapy and Antidepressant Medications Were Most Common

Use of behavioral health treatment—services and drugs to address mental health and substance use conditions—ranged from 20 to 34 percent in selected states in 2014. Among expansion enrollees who used a behavioral health service, the two most commonly used service categories were psychotherapy services and diagnostic services. Antidepressants were the most commonly used category among expansion enrollees who used a behavioral health drug.

[30]Federally Qualified Health Centers are urban or rural centers that provide comprehensive community-based primary care services to individuals regardless of their ability to pay.

Expansion Enrollee Use of Behavioral Health Treatment Ranged from 20 to 34 Percent in Selected States, and Medicaid Expansion Generally Increased Treatment Availability

Use of behavioral health treatment ranged from 20 percent of expansion enrollees in New York to 34 percent in Iowa. (See table 3.) These rates exceeded the rates of diagnosed conditions presented above, in part, because prescription drugs are not recorded with diagnosis codes. Thus, enrollees who only used behavioral health prescription drugs—and no outpatient services—were not counted in the diagnosis totals.[31]

Rates of behavioral health prescription drug use were higher than the use of services across the four selected states. The higher rates of prescription drug use suggest that some enrollees received drugs without also receiving behavioral health services. Officials from one state commented that this may be appropriate for some conditions, such as mild depression, where a prescription drug may be adequate without accompanying counseling. In addition, some enrollees may have received evaluation and management services, which may have included treatment for behavioral health conditions, but which are not included in our measure of behavioral health treatment.[32]

[31]Other potential reasons for this difference include (1) providers not recording a behavioral health diagnosis for an enrollee treated for multiple conditions at the same visit (e.g., due to a lack of space on a claim or encounter form); and (2) enrollees receiving behavioral health screening or evaluation services, which are counted as behavioral health services, but which may result in a provider determining that an enrollee does not have a diagnosable behavioral health condition.

[32]Evaluation and management services are general medical visits with a physician or other medical provider that may address a wide range of physical or mental health conditions. We analyzed evaluation and management services that were recorded with a primary diagnosis of a behavioral health condition in an effort to capture behavioral health treatment that expansion enrollees may have received during these visits. However, because of the uncertainty of the extent to which behavioral health treatment was provided as part of evaluation and management services, we do not count them as behavioral health services, or include them in our overall definition of behavioral health treatment.

Table 3: Use of Behavioral Health Treatment among Expansion Enrollees in Selected States, 2014

	Percentage of expansion enrollees (number of expansion enrollees[a])			
Type of behavioral health treatment	Iowa (85,669)	New York (1,222,309)	Washington (399,785)	West Virginia (132,137)
Any behavioral health treatment[b]	34	20	26	33
Behavioral health services	16	13	9	11
Behavioral health drugs	30	16	23	31
Both services and drugs	12	8	7	9

Source: GAO analysis of Medicaid program data. | GAO-17-529

Note: Percentages are weighted by expansion enrollees' length of enrollment in 2014.

[a]The number of expansion enrollees is expressed as person years, which is the total number of enrollment months for expansion enrollees divided by 12.

[b]Any behavioral health treatment refers to the receipt of behavioral health services, behavioral health prescription drugs, or both.

Officials we spoke with from three of the selected states told us that expansion enrollees likely had greater access to behavioral health treatment after enrolling in Medicaid.

- Iowa officials noted that some county-based mental health agencies, which were responsible for serving uninsured residents as of 2014, had waiting lists for mental health services prior to the state expanding Medicaid.[33]
- Washington officials said that Medicaid expansion had resulted in a significant increase in access to services for enrollees, particularly for less acute, community-based services for people who needed ongoing therapy. Officials explained that uninsured residents not eligible for Medicaid would generally rely on the state's Regional Support Networks—managed care entities responsible for providing mental health services for uninsured residents—generally provided crisis services, or services for individuals with serious and persistent mental illnesses. Officials also noted that the expansion had resulted in more consistent access to behavioral health prescription drugs, because Medicaid covers such prescriptions with no copayment.[34]

[33]By contrast, Medicaid enrollees would have been able to seek care through Iowa Medicaid's behavioral health managed care carve-out plan, which contracted with a range of behavioral health providers.

[34]A copayment is a fixed amount an enrollee must pay for a covered service or prescription drug.

Uninsured residents, according to the officials, would have been limited to charity programs from drug manufacturers or block-grant-funded prescriptions, neither of which consistently funds medications for everyone who needs them. Officials noted that consistent access to medications can make a big difference for individuals whose conditions are stable on medications, but unstable off medications.

- West Virginia officials said that access to behavioral health prescription drugs, particularly MAT for substance use conditions, increased for Medicaid expansion enrollees. West Virginia's charity care program for uninsured residents does not pay for behavioral health prescription drugs. Officials said that some uninsured residents may have relied on family members or may have sold personal belongings to afford their medications prior to Medicaid expansion.

By contrast, there was less of a change for expansion enrollees in New York. Due to New York's Medicaid waiver program, which covered low-income childless adults up to 100 percent of the FPL, most Medicaid expansion enrollees in New York were already eligible for Medicaid prior to 2014. One state official said that these enrollees would not have experienced a change in access to treatment, because New York's expansion coverage was modeled on its existing Medicaid coverage.[35] The official said that newly eligible enrollees who were previously uninsured would have had access to state-licensed and funded behavioral health programs prior to enrollment. However, the official said that New York did not generally pay for behavioral health prescription drugs for uninsured individuals.

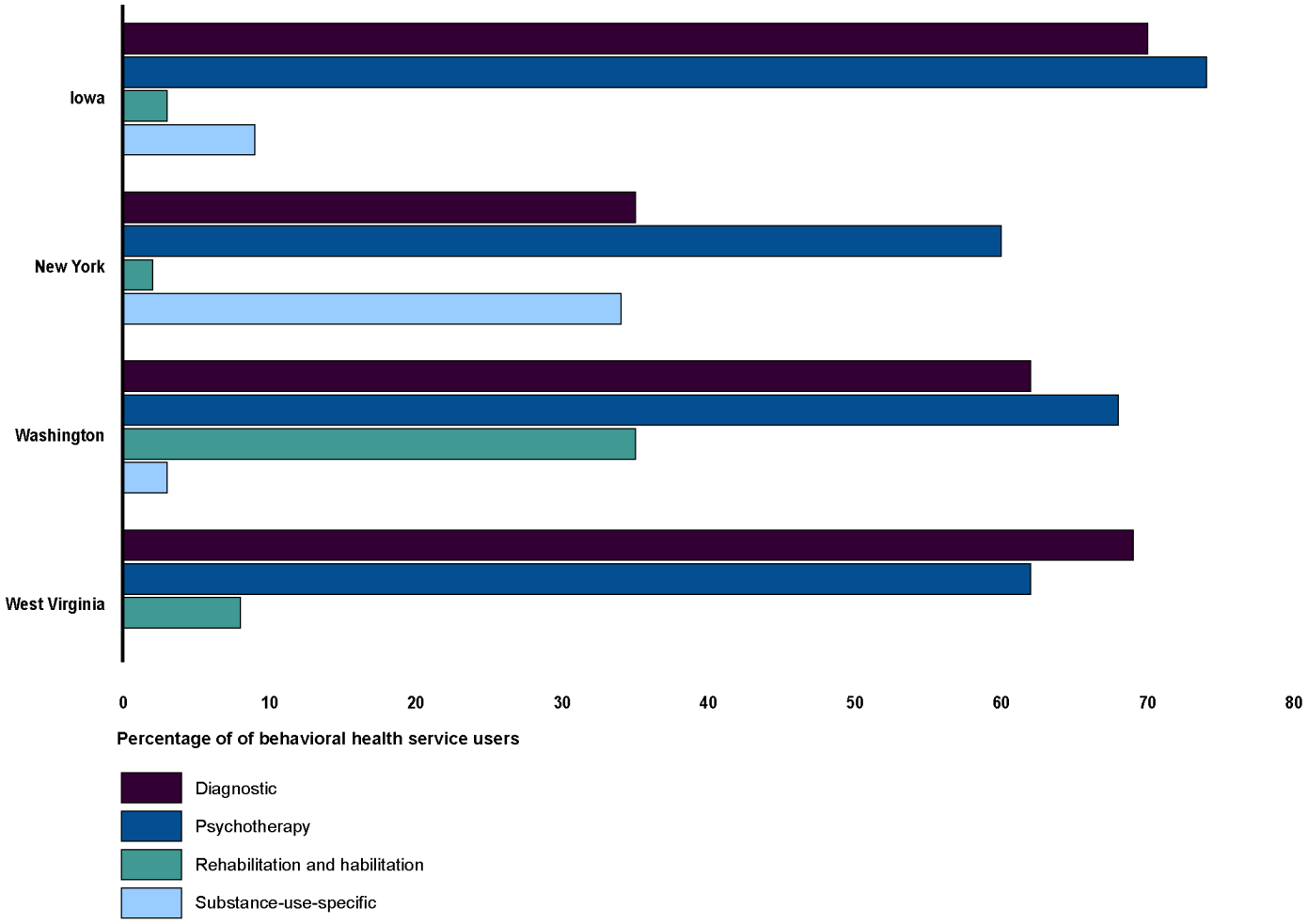
The Most Commonly Used Behavioral Health Service Categories were Psychotherapy and Diagnostic Services

Among the 9 to 16 percent of expansion enrollees who used a behavioral health service in the four selected states, the two most commonly used service categories were psychotherapy—regular visits with a provider to help a patient understand, reduce, and manage symptoms—and diagnostic services. Diagnostic services involve sessions with a provider designed to collect information to determine whether a patient has a behavioral health condition and to make a diagnosis, if appropriate. (See fig. 3.) In New York, substance-use-specific services were almost as common as diagnostic services. New York officials noted that the state has a more extensive array of specialty substance use services available

[35]Enrollees in New York's Family Health Plus program were subject to limits on the number of behavioral-health-related visits. For these individuals, enrolling in Medicaid would have resulted in the removal of those coverage limitations.

than other states. For example, New York covers methadone administration through Medicaid, whereas West Virginia does not. Diagnostic services may have been less used in New York than in other states, because most of the expansion enrollees were not newly eligible; consequently, enrollees with behavioral health needs may have already been seen by a Medicaid provider and received a diagnosis prior to 2014.

Figure 3: Use of Behavioral Health Services by Category among Enrollees Who Used One or More Services, 2014



Source: GAO analysis of Medicaid program data. | GAO-17-529

Notes: These results are based on the top 25 behavioral health services in each state as measured by the percentage of enrollees who used them. The top 25 behavioral health services account for over 95 percent of all behavioral health services used in selected states. The percentages of enrollees who used services from each category do not add to 100 percent, because enrollees could have used services from more than one category. Percentages are weighted by expansion enrollees' length of enrollment.

We also examined use of evaluation and management services—more general medical visits with a physician or other medical provider—and found that 8 to 17 percent of expansion enrollees used this type of service. Although, by definition, evaluation and management services may address a wide range of physical or behavioral health conditions, we examined these services because some individuals may have received behavioral health treatment during these visits, including services provided by a psychiatrist.[36] An evaluation and management visit with a psychiatrist, for example, may include prescribing or monitoring the effects of behavioral health prescription drugs. Evaluation and management services also encompass services provided by primary care physicians, who are often the first point of contact for individuals with conditions like depression.[37]

Our examination of emergency room use, which involved comparing rates of use among expansion enrollees with and without behavioral health diagnoses, found that up to 3 times as many enrollees with a behavioral health diagnosis had an emergency room visit compared to enrollees without such a diagnosis.[38] From 42 to 57 percent of individuals with a behavioral health condition had an emergency room visit, compared with 13 to 32 percent of individuals without a behavioral health condition. (See table 4.) Most emergency room visits among enrollees with behavioral health conditions were not primarily for a behavioral health condition (81 to 92 percent across selected states). Our finding that emergency room use is more common among enrollees with behavioral health conditions is consistent with previous research, including research showing that Medicaid enrollees with a behavioral health condition typically have more complex health needs, including comorbid physical health conditions.[39]

[36]In 2013, CMS made changes that affected how psychiatry services could be billed, eliminating psychotherapy with medical services and pharmacologic management codes, among others. According to the American Psychiatric Association, this led to an increase in psychiatrists billing for evaluation and management services.

[37]See T.F. Bishop et al., "Care management processes used less often for depression than for other chronic conditions in U.S. primary care practices," *Health Affairs*, vol. 35, no.3 (2016).

[38]For the purposes of our analysis, we defined emergency room visits as evaluation and management services provided in an emergency room setting.

[39]See Medicaid and CHIP Payment and Access Commission, *Report to the Congress on Medicaid and CHIP* (Washington, D.C.: June 2015).

Table 4: Use of Emergency Room Visits among Expansion Enrollees in Selected States, 2014

Emergency room visits by enrollee type	Iowa	New York	Washington	West Virginia
Percent of expansion enrollees who had an emergency room visit (number of enrollees[a])				
For enrollees with a diagnosed behavioral health condition	54 (14,265)	42 (103,333)	51 (56,683)	57 (21,064)
For enrollees without a diagnosed behavioral health condition	22 (13,313)	13 (125,607)	18 (52,737)	32 (30,348)
Number of emergency room visits per user per year				
For enrollees with a diagnosed behavioral health condition	6	3	6	6
For enrollees without a diagnosed behavioral health condition	4	2	4	4

Source: GAO analysis of Medicaid program data. | GAO-17-529

Notes: Percentages are weighted by expansion enrollees' length of enrollment in 2014. We considered an enrollee to have a diagnosed behavioral health condition if that enrollee received any outpatient services with a recorded diagnosis code for a behavioral health condition in 2014. Our estimates do not include individuals with conditions who did not use outpatient services during 2014, or those who used only behavioral health prescription drugs. Emergency room visits comprise evaluation and management services provided in an emergency room setting.

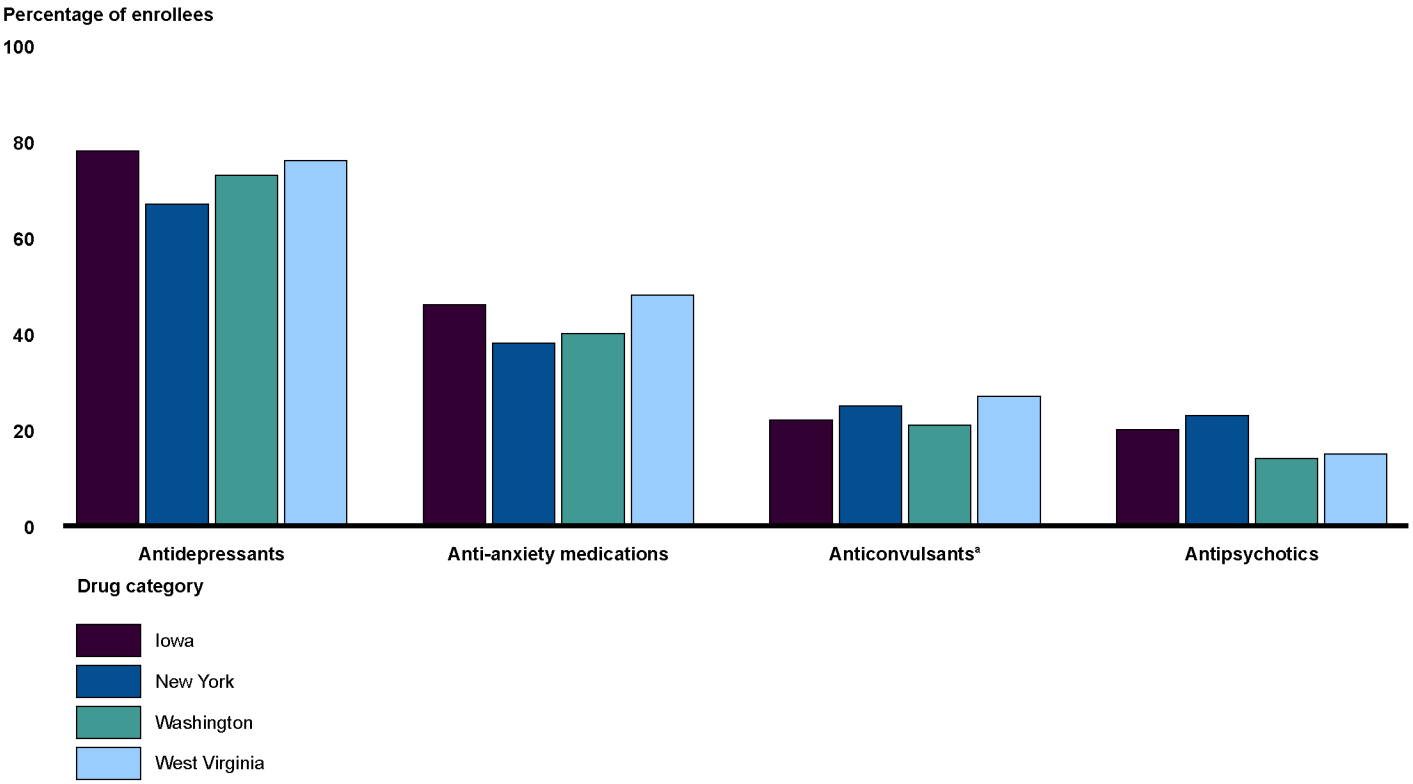
[a]The number of enrollees is expressed as person years, which is the total number of enrollment months divided by 12.

Antidepressants Were the Most Frequently Used Category among Users of Behavioral Health Drugs

Among expansion enrollees who used a behavioral health drug, antidepressants were the most commonly used category, and patterns of use by drug category were similar across our four selected states. From 67 to 78 percent of expansion enrollees who used a behavioral health drug took an antidepressant. Anti-anxiety medications, anticonvulsants, and antipsychotics were the next most commonly used categories, respectively, in three of the four selected states.[40] (See fig. 4.) Together, these four drug categories accounted for upwards of 80 percent of total prescriptions in each state. The fifth most common drug category varied by state and included sedative/hypnotic medications in Iowa, smoking cessation medications in New York, and attention-deficit/hyperactivity disorder (ADHD) medications in West Virginia.

[40]In Washington, slightly more enrollees used a drug from the sedative/hypnotic medications category (15 percent) than the antipsychotics category (14 percent). For Washington, the top five categories, in order, are antidepressants, anti-anxiety medications, anticonvulsants, sedative/hypnotic medications, and antipsychotics. Anticonvulsants—medications originally developed to treat seizures—can be used as mood stabilizers for conditions such as bipolar disorder.

Figure 4: Use of Behavioral Health Drugs by Category among Enrollees Who Used One or More Drugs, 2014



Source: GAO analysis of Medicaid program data. | GAO-17-529

Notes: The percentages of enrollees who used drugs from each category do not add to 100 percent, because enrollees could have used drugs from more than one category. Use of the eight other drug categories is not shown. Percentages are weighted by expansion enrollees' length of enrollment.

[a]Anticonvulsants are medications originally developed to treat seizures that can also be used as mood stabilizers for conditions such as bipolar disorder.

Use of behavioral health prescription drugs was greater among women and enrollees aged 30 and over. (See table 5.) In all four selected states, a greater percentage of women received behavioral health prescription drugs than did men, ranging from 2 percentage points greater in New York to 13 percentage points greater in West Virginia. Use of behavioral health drugs was 8 to 12 percentage points greater among enrollees aged 30 and above compared with enrollees aged 19 to 29 across the four states. Clinical experts from QuintilesIMS noted that women in general have greater rates of prescription drug use, including non-behavioral-health drugs, and are also generally more likely to seek medical care than men. They also noted that although many behavioral health conditions first occur in late adolescence and early adulthood,

there is a time lag between development of symptoms and treatment that may partially explain why more individuals aged 30 and over received drug treatment.[41]

Table 5: Use of Behavioral Health Prescription Drugs among Expansion Enrollees in Selected States by Demographics, 2014

	Percentage of expansion enrollees (number of enrollees[a])			
Demographic group	**Iowa**	**New York**	**Washington**	**West Virginia**
Gender				
Female	35	17	27	37
	(15,224)	(95,796)	(54,676)	(25,963)
Male	25	15	20	24
	(10,604)	(96,121)	(38,679)	(14,454)
Age				
19-29	22	10	17	22
	(5,492)	(43,266)	(21,316)	(8,426)
30 and over	34	18	26	34
	(20,335)	(148,650)	(72,039)	(31,991)

Source: GAO analysis of Medicaid program data. | GAO-17-529

Note: Percentages are weighted by expansion enrollees' length of enrollment.

[a]The number of enrollees is expressed as person years, which is the total number of enrollment months divided by 12.

Patterns of behavioral health prescription drug use by category also varied by gender and age in selected states.

- **Gender:** Among the drug categories with the biggest gender differences were antidepressants, used by more women than men, and antipsychotics, used by more men than women.[42] Clinical experts from QuintilesIMS noted that the prevalence of depression is

[41]Research studies have estimated that 75 percent of behavioral health conditions are developed by age 24, but that there is a median gap of 11 years between onset of symptoms and initial treatment contact. See R.C. Kessler et al., "Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication," *Archives of General Psychiatry*, vol. 62 (2005); and P. Wang et al., "Delays in Initial Treatment Contact after First Onset of a Mental Disorder," *Health Services Research*, vol. 39 (2004).

[42]While antipsychotics showed the biggest gender difference (used by more men than women) in Iowa and Washington, substance use disorder medications showed the biggest gender difference in New York and West Virginia.

significantly higher in women than in men; in men there are more concerns about agitation and behavior management, which can be treated with antipsychotics.

- **Age:** Among the drug categories with the biggest age differences were ADHD medications, which had greater use among 19 to 29 year olds compared with enrollees aged 30 and older, and sedative/hypnotic medications, used by more enrollees aged 30 and over compared with enrollees aged 19 to 29.[43] QuintilesIMS clinical experts said that the prevalence of ADHD declines rapidly in the late teen years, which may explain the lower use of these drugs in the older age group. The sedative/hypnotic drug category includes drugs that address insomnia, which is a condition that increases with age; this may partially explain the higher use of these drugs in the 30 and over age group.[44]

Over a quarter of expansion enrollees in the selected states who took a behavioral health prescription drug in 2014 took drugs from three or more different drug categories. From 25 to 31 percent of enrollees in selected states who took a behavioral health drug took drugs from three or more drug categories, and 4 to 6 percent took drugs from five or more categories. These enrollees may have used drugs from multiple categories at the same time to treat their conditions (concomitant use), or they may have filled prescriptions for these drugs at different points in time during 2014. QuintilesIMS clinical experts noted that a common example of concomitant use is taking both an antidepressant and a sleep medication, which are often prescribed together during initial treatment for depression. Regarding the use of different categories of drugs over time, experts said that sometimes when a patient does not improve after taking a drug, a physician may switch the patient to a drug from a different category. For example, a patient with bipolar disorder who is initially treated with an anticonvulsant may be switched to an antipsychotic if symptoms do not adequately resolve. We also found that more enrollees aged 30 and over used drugs from three or more categories than enrollees aged 19 to 29, which our clinical experts said could be partly

[43]While sedative/hypnotic medications showed the biggest age difference (used by more enrollees aged 30 and over) in Iowa and New York, antidepressants and anti-anxiety medications showed the biggest age differences in Washington and West Virginia, respectively.

[44]See T. Roth, "Insomnia: Definition, Prevalence, Etiology, and Consequences," *Journal of Clinical Sleep Medicine*, vol. 3 (2007).

because some behavioral health conditions become more difficult to treat with age, which may result in more drugs being prescribed.

Agency Comments

We provided a draft of this report to the Department of Health and Human Services (HHS) for review. HHS provided technical comments, which we incorporated as appropriate.

As discussed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days after its issuance date. At that time, we will send copies of this report to the Secretary of Health and Human Services and other interested parties. In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.

If you or your staff members have any questions, please contact me at (202) 512-7114 or yocomc@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Major contributors to this report are listed in appendix IV.

Carolyn L. Yocom
Director, Health Care

Appendix I: Behavioral Health Prescription Drugs Included in Utilization Analyses, by Category

Drug category	Drug ingredient	Limits on inclusion in utilization analyses
Anti-anxiety medication	Alprazolam	-
Anti-anxiety medication	Buspirone	-
Anti-anxiety medication	Chlordiazepoxide	Limited to enrollees with related diagnoses
Anti-anxiety medication	Clobazam	Limited to enrollees with related diagnoses
Anti-anxiety medication	Clonazepam	Limited to oral medications; limited to enrollees with related diagnoses
Anti-anxiety medication	Clorazepate	Limited to enrollees with related diagnoses
Anti-anxiety medication	Diazepam	Limited to enrollees with related diagnoses
Anti-anxiety medication	Hydroxyzine	Limited to enrollees with related diagnoses
Anti-anxiety medication	Lorazepam	Limited to enrollees with related diagnoses
Anti-anxiety medication	Meprobamate	Limited to enrollees with related diagnoses
Anti-anxiety medication	Oxazepam	-
Anticonvulsant	Carbamazepine	Limited to enrollees with related diagnoses
Anticonvulsant	Divalproex	Limited to enrollees with related diagnoses
Anticonvulsant	Gabapentin	Limited to enrollees with related diagnoses
Anticonvulsant	Lamotrigine	Limited to enrollees with related diagnoses
Anticonvulsant	Levetiracetam	Limited to oral medications; limited to enrollees with related diagnoses
Anticonvulsant	Oxcarbazepine	Limited to enrollees with related diagnoses
Anticonvulsant	Phenytoin	Limited to enrollees with related diagnoses
Anticonvulsant	Pregabalin	Limited to enrollees with related diagnoses
Anticonvulsant	Tiagabine	Limited to enrollees with related diagnoses
Anticonvulsant	Topiramate	Limited to enrollees with related diagnoses
Anticonvulsant	Valproic Acid	Limited to oral medications; limited to enrollees with related diagnoses
Anticonvulsant	Zonisamide	Limited to enrollees with related diagnoses
Antidepressant	Amitriptyline	Limited to enrollees with related diagnoses
Antidepressant	Amoxapine	Limited to enrollees with related diagnoses
Antidepressant	Bupropion[a]	-
Antidepressant	Citalopram	-
Antidepressant	Clomipramine	Limited to enrollees with related diagnoses
Antidepressant	Desipramine	Limited to enrollees with related diagnoses
Antidepressant	Desvenlafaxine	Limited to enrollees with related diagnoses
Antidepressant	Doxepin	Limited to enrollees with related diagnoses
Antidepressant	Duloxetine	Limited to enrollees with related diagnoses
Antidepressant	Escitalopram	-
Antidepressant	Fluoxetine	-

Drug category	Drug ingredient	Limits on inclusion in utilization analyses
Antidepressant	Fluvoxamine	-
Antidepressant	Imipramine	Limited to enrollees with related diagnoses
Antidepressant	Isocarboxazid	-
Antidepressant	Levomilnacipran	Limited to enrollees with related diagnoses
Antidepressant	Maprotiline	Limited to enrollees with related diagnoses
Antidepressant	Milnacipran	Limited to enrollees with related diagnoses
Antidepressant	Mirtazapine	Limited to enrollees with related diagnoses
Antidepressant	Nefazodone	-
Antidepressant	Nortriptyline	Limited to enrollees with related diagnoses
Antidepressant	Paroxetine	-
Antidepressant	Phenelzine	-
Antidepressant	Protriptyline	Limited to enrollees with related diagnoses
Antidepressant	Selegiline	Limited to transdermal patch
Antidepressant	Sertraline	-
Antidepressant	Tranylcypromine	-
Antidepressant	Trazodone	-
Antidepressant	Trimipramine	Limited to enrollees with related diagnoses
Antidepressant	Venlafaxine	Limited to enrollees with related diagnoses
Antidepressant	Vilazodone	-
Antidepressant	Vortioxetine	-
Antidepressant combination	Amitriptyline; chlordiazepoxide	-
Antidepressant combination	Amitriptyline; perphenazine	-
Antidepressant combination	Bupropion; naltrexone	Limited to enrollees with related diagnoses
Antidepressant combination	Fluoxetine; olanzapine	-
Anti-mania medications	Lithium	-
Antipsychotic	Aripiprazole	-
Antipsychotic	Asenapine	-
Antipsychotic	Chlorpromazine	-
Antipsychotic	Clozapine	-
Antipsychotic	Fluphenazine	-
Antipsychotic	Haloperidol	-
Antipsychotic	Iloperidone	-
Antipsychotic	Loxapine	-
Antipsychotic	Lurasidone	-
Antipsychotic	Molindone	-
Antipsychotic	Olanzapine	-
Antipsychotic	Paliperidone	-

Drug category	Drug ingredient	Limits on inclusion in utilization analyses
Antipsychotic	Perphenazine	-
Antipsychotic	Pimozide	-
Antipsychotic	Prochlorperazine	Limited to enrollees with related diagnoses
Antipsychotic	Quetiapine	-
Antipsychotic	Risperidone	-
Antipsychotic	Thioridazine	-
Antipsychotic	Thiothixene	-
Antipsychotic	Trifluoperazine	-
Antipsychotic	Ziprasidone	-
Attention-deficit/hyperactivity disorder (ADHD) medication	Amphetamine; dextroamphetamine	Limited to enrollees with related diagnoses
ADHD medication	Atomoxetine	-
ADHD medication	Clonidine	Limited to enrollees with related diagnoses
ADHD medication	Dexmethylphenidate	Limited to enrollees with related diagnoses
ADHD medication	Dextroamphetamine	Limited to enrollees with related diagnoses
ADHD medication	Guanfacine	Doses less than 4mg limited to enrollees with related diagnoses
ADHD medication	Lisdexamfetamine	-
ADHD medication	Methamphetamine	Limited to enrollees with related diagnoses
ADHD medication	Methylphenidate	Limited to enrollees with related diagnoses
Sedative/hypnotic medication	Amobarbital	Limited to enrollees with related diagnoses
Sedative/hypnotic medication	Butabarbital	Limited to enrollees with related diagnoses
Sedative/hypnotic medication	Estazolam	-
Sedative/hypnotic medication	Eszopiclone	-
Sedative/hypnotic medication	Flurazepam	-
Sedative/hypnotic medication	Methylphenobarbital	Limited to enrollees with related diagnoses
Sedative/hypnotic medication	Midazolam	Limited to enrollees with related diagnoses
Sedative/hypnotic medication	Phenobarbital	Limited to enrollees with related diagnoses
Sedative/hypnotic medication	Quazepam	-
Sedative/hypnotic medication	Ramelteon	-
Sedative/hypnotic medication	Secobarbital	Limited to enrollees with related diagnoses
Sedative/hypnotic medication	Suvorexant	-
Sedative/hypnotic medication	Temazepam	-
Sedative/hypnotic medication	Triazolam	Limited to enrollees with related diagnoses
Sedative/hypnotic medication	Zaleplon	-
Sedative/hypnotic medication	Zolpidem	Limited to enrollees with related diagnoses
Sexual function disorder medication	Alprostadil	Limited to enrollees with related diagnoses
Sexual function disorder medication	Avanafil	Limited to enrollees with related diagnoses

Drug category	Drug ingredient	Limits on inclusion in utilization analyses
Sexual function disorder medication	Sildenafil[b]	Limited to enrollees with related diagnoses
Sexual function disorder medication	Tadalafil[c]	Limited to enrollees with related diagnoses
Sexual function disorder medication	Testosterone	Limited to enrollees with related diagnoses
Sexual function disorder medication	Vardenafil	Limited to enrollees with related diagnoses
Smoking cessation medication	Nicotine	-
Smoking cessation medication	Varenicline	-
Substance use disorder medication[d]	Acamprosate	-
Substance use disorder medication	Buprenorphine	Limited to oral medications
Substance use disorder medication	Buprenorphine; naloxone	-
Substance use disorder medication	Disulfiram	-
Substance use disorder medication	Naloxone	Limited to enrollees with related diagnoses
Substance use disorder medication	Naltrexone	Limited to enrollees with related diagnoses
Other	Dextromethorphan; quinidine	Limited to enrollees with related diagnoses
Other	Mecamylamine	Limited to enrollees with related diagnoses
Other	Phentermine	Limited to enrollees with related diagnoses
Other	Pindolol	Limited to enrollees with related diagnoses
Other	Pramipexole	Limited to enrollees with related diagnoses
Other	Prazosin	Limited to enrollees with related diagnoses
Other	Promethazine	Limited to enrollees with related diagnoses

Source: GAO and QuintilesIMS | GAO-17-529

Note: The "—" indicates that these drugs were counted as behavioral health medications any time they were filled by an expansion enrollee.

[a]Bupropion was counted as an antidepressant except when packaged as the brand name drug Zyban, in which case it was counted as a smoking cessation medication.

[b]Sildenafil was excluded from analysis when packaged as the brand name drug Revatio, which is a pulmonary arterial hypertension medication.

[c]Tadalafil was excluded from analysis when packaged as the brand name drug Adcirca, which is a pulmonary arterial hypertension medication.

[d]Substance use disorder medications do not include methadone, because, under federal law, prescriptions cannot be issued for methadone when used for opioid addiction treatment. These medications can generally only be administered or dispensed within an opioid treatment program. Consequently, we did not analyze prescriptions for methadone, but we did include methadone administration as a behavioral health service for selected states that covered or used that service in 2014.

Appendix II: Scope and Methodology

To describe the population of Medicaid expansion enrollees with behavioral health diagnoses and their use of behavioral health treatment in 2014 in selected states, we analyzed enrollment, service utilization, and prescription drug data from the Medicaid Statistical Information System (MSIS) for calendar year 2014 for selected states.[1] Our analysis consisted of the following three steps: (1) state selection, including assessing the reliability and usability of MSIS data; (2) enrollee, service, and drug identification; and (3) utilization analysis.

Step 1: State Selection

We selected four states: Iowa, New York, Washington, and West Virginia. These were the only states that met the following criteria as of January 2016. The four selected states

1. were among the 25 states that expanded Medicaid as allowed under the Patient Protection and Affordable Care Act (PPACA) as of January 1, 2014;
2. had enrollment and utilization data for expansion enrollees in MSIS for all of calendar year 2014 that were sufficiently reliable for the purposes of our reporting objectives; and
3. had available information and documentation on Medicaid behavioral health benefits, and on how enrollment, service utilization, and prescription drug data were recorded for expansion enrollees.

There were eight expansion states with data for all of calendar year 2014 in MSIS as of January 2016. In addition to our selected states, we reviewed information from Arkansas, Connecticut, New Jersey, and Vermont, but ultimately did not select these states for review for the following reasons.

[1]MSIS is a national Medicaid eligibility and claims data set, and is the federal source of Medicaid expenditure data that can be linked to a specific enrollee. State Medicaid agencies are required to provide the Centers for Medicare & Medicaid Services, through MSIS, quarterly electronic files that contain information on Medicaid enrollment and use of services and prescription drugs for each Medicaid enrollee during a given calendar year. Enrollment data comprise one record for each person who was eligible for Medicaid for at least one day. Service utilization data comprise claims and encounters for medical services reimbursed by the Medicaid program. Claims are records of medical services paid for on a fee-for-service basis, whereas encounters represent services provided under managed care arrangements. Under a fee-for-service model, states pay providers for each covered service for which the providers bill the state. Under a managed care model, states contract with managed care organizations to provide or arrange for medical services, and prospectively pay the plans a fixed monthly fee per enrollee. Prescription drug data contain claims and encounters for filled prescriptions.

- Arkansas was not selected because it implemented its expansion through premium assistance, also known as the private option, whereby the state pays premiums to purchase private insurance for enrollees through a state or federal exchange. According to the Centers for Medicare & Medicaid Services (CMS), states are not required to submit data on the utilization of services or drugs for enrollees who receive premium assistance; consequently, no data were available for our utilization analyses.
- Connecticut was not selected because the enrollment data in MSIS for 2014 were not reliable enough for the purpose of identifying its population of expansion enrollees. CMS officials told us that Connecticut had entered enrollment data incorrectly for the expansion population in 2014.
- New Jersey was not selected due to the lack of available information on behavioral health benefits and how its data were recorded in MSIS.
- Vermont was not selected because its Medicaid program had coverage for adults with incomes up to 150 percent of the federal poverty level (FPL) that pre-dated the enactment of PPACA.

Iowa and New York were also missing key information in MSIS that we needed to identify all expansion enrollees, but we conducted our analyses after receiving the necessary data from the states directly. We limited our analysis of Iowa's data to individuals with incomes at or below 100 percent of the FPL, because individuals with higher incomes were served through premium assistance as of 2014; consequently, there were no utilization data available for them. Our selected states are not representative of all expansion states and their Medicaid programs. In addition, a number of state-specific factors—such as differences in population health status and provider supply—could contribute to variation across our selected states, but attributing this variation to such factors was beyond the scope of this study.

We assessed the reliability and usability of MSIS data for our purposes by interviewing knowledgeable federal and state officials; reviewing related documentation, such as studies that assessed the reliability of Medicaid data; comparing the results of our analysis of expansion enrollment to published enrollment figures from CMS; and testing the data for logical

errors and missing information.[2] Based on our assessment, we excluded data from Iowa for months in which expansion enrollees were served under comprehensive managed care, because the results of our reliability testing suggested missing data. This resulted in the exclusion of data from about 17 percent of expansion enrollees. We excluded data from Washington for months in which expansion enrollees were served under fee-for-service arrangements, because of missing diagnosis codes, which were needed for our analysis. This resulted in the exclusion of data from about 2 percent of expansion enrollees. Following these exclusions, we determined the data were sufficiently reliable for the purposes of our reporting objectives.

Step 2: Enrollee, Service, and Drug Identification

Based on enrollment information in MSIS, supplemented by state-provided information from Iowa and New York, we restricted our analysis to nonpregnant adults aged 19-64 who were not eligible for Medicare and whose income did not exceed 138 percent of the FPL, i.e., the "new adult group" under Section 1902(a)(10)(A)(i)(VIII) of the Social Security Act. We included both newly eligible and not newly eligible expansion enrollees who were enrolled for at least one month in calendar year 2014 (i.e., ever-enrolled).[3] We excluded the following individuals, who represented 3 percent or less of expansion enrollees across the four states:

1. Individuals who did not appear to be eligible for Medicaid expansion, because they were recorded as dually eligible for Medicare and

[2]For studies that assessed the reliability of Medicaid data, see Mathematica Policy Research*, Medicaid Policy Brief: Assessing the Usability of MAX 2008 Encounter Data for Enrollees in Comprehensive Managed Care 2008*, Brief 7 (Washington, D.C.: July 2012); *Medicaid Policy Brief: Assessing the Usability of Encounter Data for Enrollees in Comprehensive Managed Care Across MAX 2007–2009*, Brief 15 (Washington, D.C.: December 2012);and *Medicaid Policy Brief: The Availability and Usability of Behavioral Health Organization Encounter Data in MAX 2009*, Brief 14 (Washington, D.C.: July 2013).

[3]Newly eligible expansion enrollees are those individuals who would not have been eligible for full Medicaid benefits under the state's eligibility rules that were in effect on December 1, 2009, and whose coverage began after their state opted to expand Medicaid as authorized by PPACA. Newly eligible expansion enrollees also include individuals, who as of December 1, 2009, received limited Medicaid benefits under a state demonstration or waiver; or were enrolled in a state-only funded health care program. Not newly eligible expansion enrollees would have been eligible for Medicaid based on the state's eligibility rules that were in effect on December 1, 2009, such as under a pre-existing state demonstration or waiver, in states that subsequently opted to expand Medicaid as authorized under PPACA.

Medicaid; were younger than 19 years of age as of December 31, 2014; or were older than 64 years of age as of January 1, 2014; and

2. Individuals with multiple dates of birth, multiple values for gender; or multiple values for MSIS identification number.[4]

To describe the population of Medicaid expansion enrollees with behavioral health diagnoses in selected states in 2014, we analyzed enrollment and service utilization data in MSIS for each state. We considered an enrollee to have a diagnosed behavioral health condition if that enrollee received any outpatient services with a recorded diagnosis code for a behavioral health condition in 2014.[5] The presence of such diagnosis codes on claims does not necessarily indicate that a clinical interview was conducted. In addition, because we measured behavioral health conditions based on outpatient service utilization data, our estimates do not include individuals with conditions who did not use outpatient services during 2014—such as individuals who used no services or who only used inpatient services—or those who used only

[4]We excluded the following number of enrollees for each selected state based on these exclusions: 3,844 in Iowa, 32,673 in New York, 7,925 in Washington, and 4,745 in West Virginia.

[5]We used behavioral health condition codes from the International Classification of Diseases, Ninth Revision, Clinical Modification range of 291.0 – 314.9. We used the Ninth Revision codes rather than the newer Tenth Revision codes, because we analyzed calendar year 2014 data, and the Tenth Revision was not implemented in Medicaid until 2015. We selected these codes based on a review of five published research reports and studies that examined behavioral health utilization: (1) Department of Health and Human Services, Assistant Secretary for Planning and Evaluation, *Using MSIS Data to Analyze Mental Health Service Use and Expenditures for Medicaid Beneficiaries with Mental Illness in New Jersey in1999*, (Washington, D.C.: 2004); (2) S. Zuvekas, "Prescription Drugs and the Changing Patterns of Treatment for Mental Disorders, 1996-2001," *Health Affairs*, vol. 24, no. 1 (2005); (3) H.T. Ireys et al., "Medicaid Beneficiaries Using Mental Health or Substance Abuse Services in Fee-for-Service Plans in 13 States, 2003," *Psychiatric Services*, vol. 61, no. 9 (2010); (4) GAO, *Children's Mental Health: Concerns Remain about Appropriate Services for Children in Medicaid and Foster Care*, GAO-13-15 (Washington, D.C.: Dec. 10, 2012); and (5) Medicaid and CHIP Payment and Access Commission, *Report to the Congress on Medicaid and CHIP* (Washington, D.C.: June 2015). We defined "behavioral health conditions" as mental health and substance use codes that were used by three or more of the five studies. We defined "substance use conditions" as codes that were used by all three of the studies that included substance use in the scope of their studies and that provided the specific diagnosis codes they used for substance use. Unless otherwise noted, we considered both primary and secondary diagnoses when determining whether enrollees had a diagnosed behavioral health condition.

behavioral health prescription drugs.[6] Using the Agency for Healthcare Research and Quality's Clinical Classifications Software groupings, we further categorized mental health conditions into 11 categories:

1. adjustment disorders;
2. anxiety disorders;
3. attention-deficit, conduct, and disruptive behavior disorders;
4. delirium, dementia, and amnestic and other cognitive disorders;
5. developmental disorders;
6. disorders usually diagnosed in infancy, childhood, or adolescence;
7. impulse control disorders not elsewhere classified;
8. mood disorders;
9. personality disorders;
10. schizophrenia and other psychotic disorders; and
11. miscellaneous mental health disorders.

We further categorized substance use disorders into substance-related (i.e., addiction to drugs like cocaine or heroin) and alcohol-related disorders. Among the substance-related conditions, we also identified opioid abuse and dependence as a unique category, and we selected these codes based on prior research on opioid treatment use in Medicaid.[7] We considered enrollees to have a behavioral health condition if they had any diagnosis code within our selected range. Substance use conditions were all diagnosis codes within the Agency for Healthcare Research and Quality's substance-related and alcohol-related disorders categories, including opioid abuse and dependence, but excluding tobacco use disorder. While we considered tobacco use disorder to be a behavioral health condition, we did not consider it to be a substance use condition, which is consistent with how the Substance Abuse and Mental Health Services Administration collects and reports data on substance use. For the group of enrollees with a behavioral health condition, we

[6]From 3 to 7 percent of expansion enrollees in selected states used a behavioral health drug in 2014, but did not have a behavioral health diagnosis recorded on an outpatient service. MSIS prescription drug data do not include diagnosis codes.

[7]See A.J. Gordon et al., "Patterns and Quality of Buprenorphine Opioid Agonist Treatment in a Large Medicaid Program," *Journal of Addiction Medicine*, vol. 9, no. 6 (2015).

used enrollment data to describe their characteristics; specifically, we examined age, gender, and geographic location. We measured enrollees' age based on date of birth and latest month of enrollment in 2014. Gender was determined as recorded in the relevant MSIS data field. We defined geographic location based on enrollees' zip code of residence using the most recent available rural-urban commuting area codes from the Department of Health and Human Services and the Department of Agriculture. The set of rural-urban commuting area codes has 10 tiers along the spectrum of rurality, each of which is further broken down into secondary codes. We used the four-tiered data consolidation recommended for analysis by the Washington State Department of Health.[8]

To describe the use of behavioral health services among Medicaid expansion enrollees in selected states in 2014, we selected a set of behavioral health services for each state based on each state's coverage and utilization of services in 2014. We defined behavioral health services as outpatient screening, assessment, diagnostic, treatment, rehabilitation, and habilitation services used primarily or exclusively to evaluate and address the needs of individuals with behavioral health conditions. To identify behavioral health services, we reviewed the following for each state: (1) Medicaid provider manuals and other coverage documentation that contained the procedure codes and descriptions for covered services, and (2) a list of all services that were provided to expansion enrollees in calendar year 2014 that were recorded with a primary diagnosis of a behavioral health condition. We selected codes from these two sources that we determined to be behavioral-health-specific based on their descriptions.[9] We gave each state the opportunity to review and comment on the list of services selected for analysis, and made revisions as appropriate based on their input. To further examine behavioral health service use by category, we reviewed the top 25 most-used services (by

[8]See Washington State Department of Health, *Guidelines for Using Rural-Urban Classification Systems for Public Health Assessment,* revised February 2009.

[9]We identified services as behavioral-health-specific if their descriptions indicated that they were primarily or exclusively used to evaluate and address behavioral health conditions. In some cases, a single service code could be considered to be behavioral-health-specific in one state and not in another. For example, one state may require a diagnosis of a behavioral health condition to authorize reimbursement for a service, whereas another state may authorize reimbursement for the treatment of individuals with other types of conditions, such as intellectual or learning disabilities. In this case, we would consider the former to be behavioral-health specific, and we would exclude the latter.

number of enrollees who used the service at least once) for each state.[10] Based on service descriptions, we divided them into the following service categories: diagnostic services, psychotherapy services, rehabilitation and habilitation services, substance-use-specific services, and other services.

To more fully examine service utilization patterns among expansion enrollees, we also examined evaluation and management services—more general medical visits with a physician or other medical provider—because some individuals may have received behavioral health treatment during these visits, including services provided by a psychiatrist. We limited our analysis of evaluation and management services to those visits recorded with a primary diagnosis of a behavioral health condition. However, because of the uncertainty of the extent to which behavioral health treatment was provided as part of evaluation and management services, we do not count them as behavioral health services, or include them in our overall definition of behavioral health treatment.

We also examined outpatient emergency room visits—for any condition, not just a behavioral health condition—among expansion enrollees with and without a behavioral health diagnosis. Emergency room visits were of interest, because prior research has suggested that individuals who have a behavioral health condition may access emergency care more frequently than those without such conditions.[11]

For both behavioral health and evaluation and management services, we accounted for the possibility of duplicate claims or encounters by restricting our analysis to a single claim or encounter for the same service for the same patient on the same day, and by counting services with add-on codes as a single service.[12] We excluded all inpatient and laboratory

[10]The top 25 most-used behavioral health services accounted for upwards of 95 percent of all behavioral health services that were used in each state.

[11]See, e.g., J. Castner et al., "Frequent Emergency Department Utilization and Behavioral Health Diagnoses," *Nursing Research*, vol. 64, no. 1 (2015).

[12]According to CMS, an add-on code is a procedure code that describes a service that is always performed in conjunction with another primary service. For example, psychiatrists may bill for an evaluation and management service and use an add-on code for psychotherapy.

services from our analysis.[13] In addition, because our analysis was limited to Medicaid claims and encounters, our results do not reflect the use of services not paid for by Medicaid, such as state- or grant-funded services.[14]

To examine behavioral health prescription drug use, we examined both filled prescriptions and services that included physician administration of drugs. We defined behavioral health prescription drugs as Food and Drug Administration (FDA)-approved drugs used, on- or off-label, to treat adults with behavioral health conditions in the United States as of 2014.[15] We excluded drugs used to treat the side effects of other behavioral health prescription drugs, such as drugs for diabetes that may be used to address the metabolic effects of antipsychotic drugs. To identify behavioral health prescription drugs, we worked with a contractor—QuintilesIMS—that developed a list of behavioral health drugs based on drug reference information (i.e., how drugs are classified), survey data on prescribing patterns, and expert clinical opinion.[16] From among drugs that were classified as psychotherapeutic or were identified as being prescribed to treat a behavioral health condition based on survey data, QuintilesIMS identified those drugs and drug categories that are primarily or exclusively used to treat behavioral health conditions. We counted

[13]We excluded inpatient services because Medicaid generally does not allow for the payment of claims for inpatient or residential behavioral health treatment for adults ages 21 to 64 years provided in certain settings. Consequently, data for services provided in these settings would not have been available for analysis. We excluded laboratory services primarily because we determined that it would be difficult to count these services accurately in a way that was consistent across states.

[14]States may fund services for Medicaid enrollees that Medicaid does not cover by using general revenues or federal grants. See GAO, *Behavioral Health: Options for Low-Income Adults to Receive Treatment in Selected States,* GAO-15-449 (Washington, D.C.: June 19, 2015).

[15]The term off-label means prescribed for conditions and in populations that are not included in FDA-approved drug labeling.

[16]Drug reference information refers to QuintilesIMS's Uniform System of Classification, a five-digit, hierarchical system that groups drugs according to their therapeutic uses. QuintilesIMS selected categories of drugs from the Uniform System of Classification with uses related to behavioral health. QuintilesIMS also used data from its National Disease and Therapeutic Index survey, which collects information from office-based physicians about the specific conditions for which drugs were prescribed. From this survey, QuintilesIMS selected all drugs for which a prescriber indicated that the condition being treated was a behavioral health condition. QuintilesIMS also used clinical experts to determine which drugs had other, non-behavioral-health uses, and how to identify and exclude these instances.

these drugs as behavioral health prescription drugs whenever an expansion enrollee filled a prescription for them. QuintilesIMS also identified drugs that may be used for behavioral health purposes, but are also used to treat non-behavioral-health conditions. For this group of drugs, we used information about the characteristics of the drug, such as dose, form, or route of administration, if applicable, to identify whether they were likely to have been used for a behavioral health purpose.[17] For drugs without characteristics that distinguished their use, we counted them as a behavioral health drug only when an individual had an outpatient service some time in 2014 that was recorded with a related behavioral health diagnosis (i.e., a behavioral condition that survey data identified as one a prescriber intended to treat by prescribing that drug.) As a result, our analysis does not account for the use of these drugs by individuals who did not have an outpatient service in 2014 that included a relevant diagnosis code. See appendix I for the list of behavioral health drugs we included in our analyses.

Based on our prior work and consultation with the contractor, we categorized the 126 behavioral health drugs on our list into 12 categories:[18]

1. Anti-anxiety medications
2. Anticonvulsants
3. Antidepressants
4. Antidepressant combination medications
5. Anti-mania medications
6. Antipsychotics
7. Attention-deficit/hyperactivity disorder medications
8. Sedative/hypnotic medications
9. Sexual function disorder medications

[17]For example, QuintilesIMS clinical experts identified buprenorphine as a drug with potential non-behavioral-health uses. Experts advised that the transdermal patch and injectable forms were more likely used for pain, whereas the oral forms were more likely to be used for substance use treatment. Based on this information, we limited our consideration of buprenorphine to only oral medications.

[18]See GAO, *Children's Mental Health: Concerns Remain about Appropriate Services for Children in Medicaid and Foster Care,* GAO-13-15 (Washington, D.C.: Dec. 10, 2012).

10. Smoking cessation medications
11. Substance use disorder medications
12. Other

As part of our analysis of individuals with opioid abuse and dependence, we looked at the use of drugs used for medication-assisted treatment (MAT). We defined MAT drugs as drugs that are FDA-approved to treat opioid use disorder: methadone, buprenorphine, buprenorphine/naloxone, and naltrexone.[19] For the purposes of our analysis, we counted methadone administration as a service rather than a prescription drug.[20]

Step 3: Utilization Analyses

For characteristics of the Medicaid expansion population with behavioral health diagnoses, we calculated numbers and percentages of enrollees who were enrolled for one or more months (i.e., ever enrolled). For behavioral health services, evaluation and management services, and behavioral health prescription drugs provided to enrollees, we calculated the user rate and the number of services per enrollee per year.[21] The user rate is defined as the percent of enrollees who used at least one service or prescription in a year. This rate is weighted by enrollees' length of enrollment in the program and is calculated as follows:

[19]MAT for opioid addiction is defined as the combination of behavioral therapy and the use of medications. For the purposes of this report, we looked at the use of MAT drugs and did not determine whether MAT users also received counseling.

[20]Under federal law, prescriptions cannot be issued for methadone when used for opioid addiction treatment. These medications can generally only be administered or dispensed within an opioid treatment program. Consequently, we did not analyze prescriptions for methadone; instead, we analyzed methadone administration as a behavioral health service for selected states that covered or used that service in 2014.

[21]We did not calculate the number of prescriptions per user per year, because enrollees may appear to have more or fewer prescriptions based on the amount of the drug prescribed.

$$\left[\frac{Total\ enrollment\ months\ for\ enrollees\ with\ at\ least\ one\ service\ in\ 2014}{Total\ months\ of\ expansion\ enrollee\ enrollment\ in\ 2014}\right]$$

The number of services per user per year is annualized and is calculated as follows:

$$\left[\frac{Total\ number\ of\ services\ in\ 2014}{Total\ months\ for\ enrollees\ who\ used\ one\ or\ more\ services\ in\ 2014}\right] \times 12$$

We conducted interviews with officials from our four selected states to discuss behavioral health benefits for Medicaid expansion enrollees; how enrollment, service utilization, and prescription drug data were recorded in MSIS; officials' perspectives on the results of our analysis; and whether Medicaid expansion affected the availability of behavioral health treatment for expansion enrollees, relative to what was available for low-income, uninsured adults prior to the first year of expansion in 2014. We also interviewed a physician group specializing in addiction medicine and consulted with clinical experts from QuintilesIMS for additional perspectives on our results.

We conducted our performance audit from November 2015 through June 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix III: Use of Treatment and Opioid Pain Medications among Enrollees with Diagnosed Opioid Abuse or Dependence

In light of increased interest among policy makers in addressing the negative effects of opioid addiction, we focused a portion of our analyses on the subset of expansion enrollees diagnosed with opioid abuse or dependence.[1] We analyzed Medicaid enrollment, service utilization, and prescription drug data for 2014 to determine the characteristics of expansion enrollees with diagnosed opioid abuse or dependence, including gender, age, and geographic location, as well as the extent to which these enrollees accessed medication-assisted treatment (MAT) or received outpatient services. We also considered the extent to which expansion enrollees diagnosed with opioid abuse or dependence received prescriptions for opioid pain medications following their diagnosis.[2] While opioid pain medication can constitute proper medical care for enrollees suffering from painful conditions, their use among enrollees with previously diagnosed opioid abuse or dependence also raises concerns about potential inappropriate prescribing.

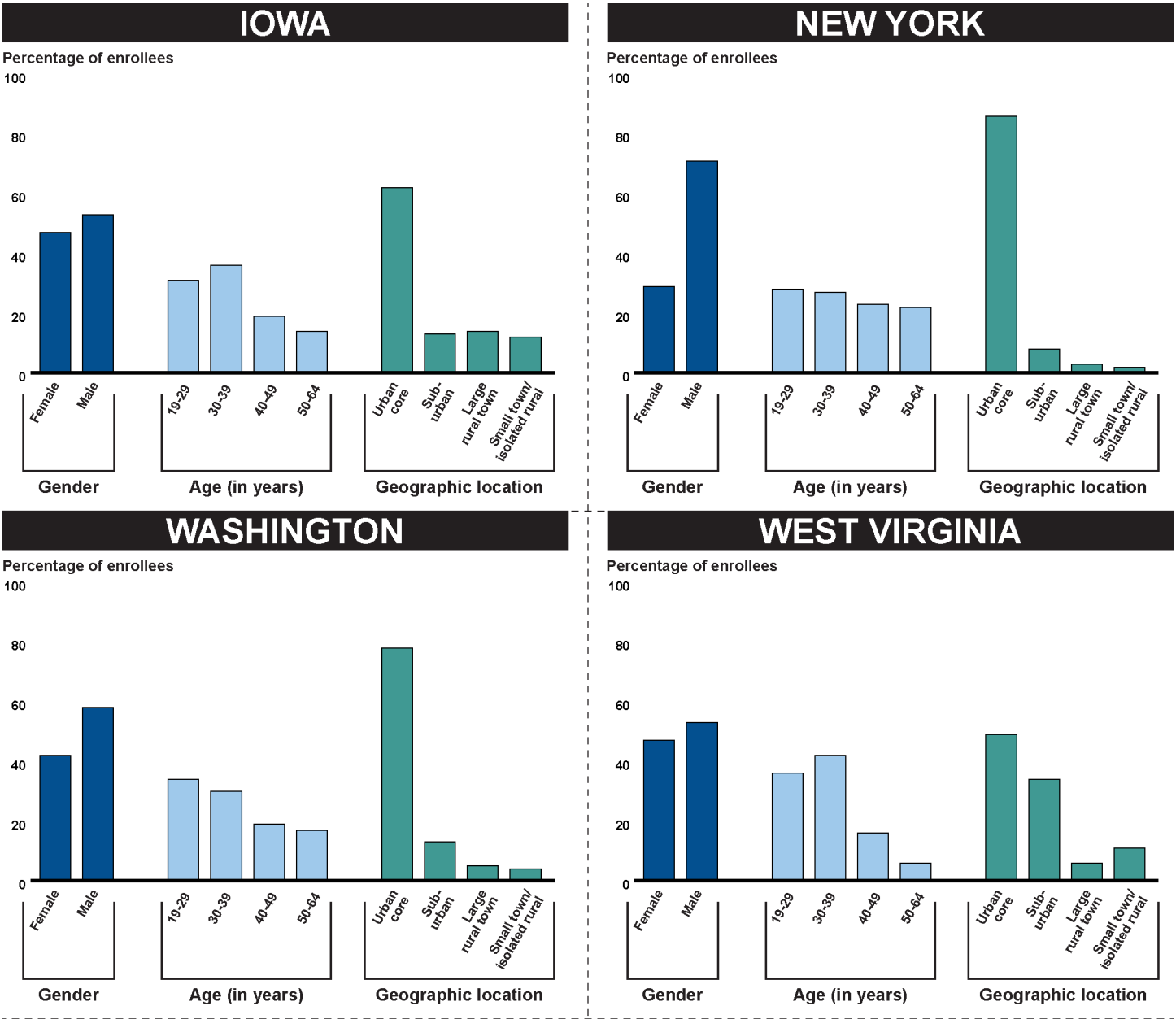
Characteristics of Expansion Enrollees Diagnosed with Opioid Abuse or Dependence

Characteristics of expansion enrollees diagnosed with opioid abuse or dependence were generally similar across our four selected states. Across all the selected states, men represented a greater proportion of enrollees diagnosed with opioid abuse or dependence than women. (See fig. 5.) This is especially the case in New York, where 71 percent of expansion enrollees diagnosed with opioid abuse or dependence were men. Across all four selected states, those aged 19-29 and 30-39 accounted for a greater proportion of enrollees diagnosed with opioid abuse or dependence compared with older enrollees. The geographic location of enrollees diagnosed with opioid abuse or dependence varied based on state demographics more generally.

[1]We selected expansion enrollees with service utilization data that included a diagnosis of opioid abuse or dependence. These diagnoses do not reflect whether or not the enrollee met the criteria for an opioid use disorder per the criteria of the Diagnostic and Statistical Manual of Mental Disorders.

[2]We defined opioid pain medication use as a filled prescription for an oral drug (e.g., pills or tablets) used to treat pain that contains one or more opiate/opioid controlled substances, excluding drugs that the Food and Drug Administration has approved to treat opioid addiction (i.e., methadone and buprenorphine).

Figure 5: Demographic Characteristics of Expansion Enrollees with Diagnosed Opioid Abuse or Dependence in Selected States, 2014



Source: GAO analysis of Medicaid program data. | GAO-17-529

Use of Treatment among Expansion Enrollees Diagnosed with Opioid Abuse or Dependence

Large proportions of expansion enrollees diagnosed with opioid abuse or dependence utilized outpatient services, while use of MAT was lower and varied greatly across our selected states. Outpatient services in our analysis include behavioral health services such as diagnostic services and psychotherapy, as well as evaluation and management services recorded with a primary behavioral health diagnosis. From 62 to 81 percent of expansion enrollees in the selected states diagnosed with opioid abuse or dependence received an outpatient service for a behavioral health condition in 2014.[3] (See table 6.) Expansion enrollees with diagnosed opioid abuse or dependence received MAT at divergent rates among the selected states, from 11 to 41 percent. A physician group we interviewed noted that while not every enrollee diagnosed with opioid addiction is a candidate for MAT, they would like to see all patients diagnosed with opioid addiction offered MAT as an option. We previously reported that factors that affect patients' access to MAT for opioid addiction include laws and regulations, the availability of qualified practitioners and their capacity to meet patient demand for MAT, and perceptions of MAT and its value among patients, practitioners, and institutions.[4]

Table 6: Use of Treatment among Medicaid Expansion Enrollees Diagnosed with Opioid Abuse or Dependence, 2014

Treatment type	Percentage of expansion enrollees diagnosed with opioid abuse or dependence (number of enrollees[a])			
	Iowa[b] (845)	New York (42,269)	Washington (6,832)	West Virginia (4,721)
Any outpatient service[c]	81	79	62	80
Medication-assisted treatment (MAT)	11	30	19	41

Source: GAO analysis of Medicaid program data. | GAO 17-529

Note: Percentages are weighted by expansion enrollees' length of enrollment in 2014.

[a]Number of enrollees is expressed as person years, which is the total number of enrollment months divided by 12.

[b]Our analysis may underestimate the use of MAT in Iowa, because we were not able to confirm with Iowa officials how the state recorded methadone administration in MSIS in 2014.

[3]Outpatient services include any behavioral health services, or evaluation and management services received in 2014, excluding the service during which the enrollee received the initial diagnosis of opioid abuse or dependence.

[4]See GAO, *Opioid Addiction: Laws, Regulations, and Other Factors Can Affect Medication-Assisted Treatment Access,* GAO-16-833 (Washington, D.C.: Sept. 27, 2016).

[c]Any outpatient service includes behavioral health services, as well as evaluation and management services recorded with a primary behavioral health diagnosis, excluding the service during which the enrollee received the initial diagnosis of opioid abuse or dependence.

Recent federal guidance and state actions seek to connect Medicaid enrollees diagnosed with opioid abuse or dependence to treatment. In January 2016, the Centers for Medicare & Medicaid Services released an informational bulletin outlining best practices for addressing prescription opioid overdose, misuse, and addiction, which recommends expanding the use of MAT.[5] In interviews, state officials discussed ongoing efforts to ensure that enrollees diagnosed with opioid abuse or dependence receive appropriate treatment. Many of these efforts seek to increase the number of providers that can prescribe drugs for MAT. For example, Iowa is using a Certified Community Behavioral Health Clinics planning grant from the Substance Abuse and Mental Health Services Administration to train providers and increase the number of providers that can prescribe buprenorphine, a drug used for MAT. In Washington, officials discussed efforts to recruit primary care physicians to prescribe buprenorphine, which would make MAT more accessible to enrollees living in rural areas who might have to travel great distances to receive MAT from a clinic.

Use of Opioid Pain Medications among Expansion Enrollees Diagnosed with Opioid Abuse or Dependence

The use of opioid pain medications was generally higher among the 1 to 3 percent of expansion enrollees diagnosed with opioid abuse or dependence compared with all other expansion enrollees. From 24 to 48 percent of expansion enrollees diagnosed with opioid abuse or dependence in selected states were prescribed opioid pain medication following their diagnosis, compared with 14 to 35 percent of all other expansion enrollees.[6] (See table 7.) Authors of previous research on the use of opioid pain medication among individuals with opioid abuse or dependence have suggested that such use could reflect a lack of coordination between specialists providing addiction treatment and those

[5]See Department of Health and Human Services, Centers for Medicare & Medicaid Services, *Best Practices for Addressing Prescription Opioid Overdose, Misuse, and Addiction*, Center for Medicaid & CHIP Services Informational Bulletin (Baltimore, Md.: Jan. 28, 2016).

[6]Oxycodone, hydrocodone, and tramadol were the most commonly prescribed opioid pain medications, for both enrollees with and without a diagnosis of opioid abuse or dependence.

treating patients for pain.[7] However, representatives from a physician group we interviewed noted that patients diagnosed with opioid addiction suffer from the same issues that would result in an opioid prescription for patients without an addiction, such as recovery after surgery. In addition, those with opioid addiction also face additional medical issues resulting from their addiction that may warrant treatment with pain medication. However, these representatives also emphasized that the prescription of opioids for someone diagnosed with opioid abuse or dependence is nonetheless a "medical crisis" that requires a high level of attention. In addition, representatives from this physician group advised providers to ensure that there is no better treatment option available, and follow up with patients regularly.

Table 7: Use of Opioid Pain Medications among Expansion Enrollees Diagnosed with Opioid Abuse or Dependence Compared with All Other Expansion Enrollees, 2014

Expansion population	Percentage of enrollees with an opioid prescription (number of enrollees[a])			
	Iowa	New York	Washington	West Virginia
Expansion enrollees diagnosed with opioid abuse or dependence	44 (370)	24 (10,102)	48 (3,287)	28 (1,338)
All other expansion enrollees[b]	27 (23,165)	13 (155,191)	26 (103,240)	35 (44,740)

Source: GAO analysis of Medicaid program data. | GAO 17-529

Note: Percentages are weighted by enrollees' length of enrollment in 2014.

[a]The number of enrollees is expressed as person years, which is the total number of enrollment months divided by 12.

[b]All other expansion enrollees comprises all expansion enrollees without an outpatient service with a recorded diagnosis of opioid abuse or dependence.

Recent state actions seek to address and prevent opioid abuse and ensure appropriate prescribing of opioid pain medication. All four selected states have implemented some form of prescription drug monitoring program, although the extent to which providers are required to

[7]See M. Daubresse et al., "Non-buprenorphine Opioid Utilization among Patients Using Buprenorphine," *Addiction*, (2017), accessed on April 18, 2017, http://onlinelibrary.wiley.com/doi/10.1111/add.13762/full; and A.J. Gordon et al., "Patterns and Quality of Buprenorphine Opioid Agonist Treatment in a Large Medicaid Program," *Journal of Addiction Medicine*, vol. 9, no. 6 (2015).

participate varies by state.[8] According to state officials in New York and West Virginia, use of the prescription drug monitoring database is mandated for providers in those states. Iowa officials said that providers must review the state's prescription drug monitoring database before obtaining prior authorization from Medicaid to prescribe certain opioid pain medications, and Washington encourages, but does not require, providers to enroll in and use the state's database.[9] The selected states have also initiated provider education campaigns. For example, officials in Iowa said the state has worked to educate providers and pharmacists by providing them with individual patient profiles and narcotics reports for patients with three or more prescribers, while West Virginia has provided feedback to providers about their prescribing patterns.

[8]The Centers for Disease Control and Prevention defines prescription drug monitoring programs as state-run electronic databases used to track the prescribing and dispensing of controlled prescription drugs to patients.

[9]Iowa's requirement was limited to long-acting opioids—medications that have a more sustained effect than short-acting opioids—that were not on the state's preferred drug list.

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

In addition to the contact named above, William Black (Assistant Director), Hannah Locke (Analyst-in-Charge), Britt Carlson, Giselle Hicks, Drew Long, Diona Martyn, Sean Miskell, Vikki Porter, and Emily Wilson made key contributions to this report.

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