Medicaid Prescriptions to Treat Opioid Use Disorder under Fee-for-Service and Managed-Care Arrangements in 2018

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Expanding access to effective treatment for opioid use disorder (OUD) is essential to staunching the opioid epidemic. Access to these treatments is particularly important in Medicaid, which covers a large share of people with OUD (MACPAC 2017). Despite strong evidence supporting the effectiveness of medications for OUD (MOUDs), research indicates that many people with OUD do not receive treatment. Further, though most Medicaid enrollees are in a managed-care plan, no published estimates are available on MOUD prescriptions paid for by Medicaid managed-care organizations versus paid for directly by states in fee-for-service arrangements. In this brief, we use Medicaid State Drug Utilization Data to assess Medicaid prescriptions for three MOUDs by fee-for-service or managed-care payment across states and the District of Columbia: buprenorphine for OUD, naltrexone for indications including OUD, and naloxone for reversing opioid overdose.

We find the following:

- On average, the numbers of MOUD prescriptions per 1,000 Medicaid enrollees (ages 12 and older) were similar in the 20 states using fee-for-service payments for MOUDs and in the 6 states primarily paying for MOUDs through managed care:
  - » Buprenorphine prescriptions per 1,000 Medicaid enrollees totaled 218.2 and 191.5 in fee-for-service and managed-care states.

- Naltrexone prescriptions per 1,000 Medicaid enrollees totaled 12.4 and 10.6 in fee-for-service and managed-care states.
- Naloxone prescriptions per 1,000 Medicaid enrollees totaled 4.8 and 3.7 in fee-for-service and managed-care states.

- Though prescriptions per 1,000 Medicaid enrollees were, on average, similar between the two groups of states, this measure varied substantially within both groups of states, including among states hit hard by the opioid epidemic.

This analysis indicates that the payment arrangement—fee for service or managed care—for the three MOUDs examined in state Medicaid programs likely did not meaningfully shape prescriptions per 1,000 Medicaid enrollees in 2018. However, the substantial variation in MOUD prescriptions per 1,000 Medicaid enrollees across states within both groups of states suggests Medicaid enrollees may face other barriers to accessing MOUDs. To reduce such barriers, states should examine policies like Medicaid reimbursement levels for MOUD prescribers, which may limit access to care, and utilization restrictions like prior authorization, concurrent therapy requirements, and annual limits—levers used in both fee-for-service and managed-care settings to limit access to MOUDs.

Introduction

In the United States, OUD is widely acknowledged as a public health crisis with serious consequences for states, municipalities, families, and individuals. Though a strong evidence base shows MOUDs are effective, research indicates that many people with OUD do not receive MOUD (Clemans-Cope, Lynch, Epstein, et al. 2019; Saloner and Karthikeyan 2015). However, Medicaid could help increase treatment for OUD, because policymakers have more control over Medicaid programs than private insurance, and Medicaid covers a large share of people with OUD (MACPAC 2017). This brief focuses on three MOUD prescriptions: (1) buprenorphine or buprenorphine/naloxone approved by the US Food and Drug Administration (FDA) for OUD treatment, including buprenorphine monoproducts and buprenorphine-naloxone combination products; (2) naltrexone FDA approved for indications including OUD; and (3) naloxone FDA approved to reverse opioid overdose.

In a previous brief (Clemans-Cope, Lynch, Winiski, et al. 2019), we estimated the number of Medicaid-covered prescriptions for buprenorphine treatment for OUD filled or dispensed in pharmacies and providers' offices in the United States. We found that the number of such prescriptions increased almost fivefold between 2011 and 2018. However, because the highest number of per capita Medicaid-covered MOUD prescriptions in 2018 was 200 times greater than the lowest number, some state Medicaid programs may face barriers to MOUD treatment and retention. To help states identify potential barriers, we examine MOUD prescriptions per 1,000 enrollees by whether the state Medicaid program paid for MOUDs through fee-for-service or managed-care arrangements.

State Medicaid agencies pay for enrollees' MOUDs indirectly through capitated payments to managed-care plans or by directly compensating providers in a fee-for-service arrangement, which

includes fees charged through pharmacy benefit managers and fees for MOUDs carved out of managed-care contracts that cover payment for most or all other medical services. Capitated managed-care delivery systems now dominate state Medicaid programs, because more services and eligibility groups have been moved from fee-for-service arrangements to managed care (CMS 2019; Gifford et al. 2017). However, there is debate about having prescription drugs, particularly MOUDs, covered by managed care, and some states have switched payment for these drugs back to fee-for-service arrangements in recent years (Navigant Consulting Inc. 2017).[1] Discussions about carving out prescription drugs for OUD generally center around costs, given the large financial burden OUD places on state Medicaid programs. Though paying through managed-care plans can make state Medicaid budgets more predictable and may limit spending, evidence about access to care in managed-care plans is limited and mixed (Sparer 2012). Additionally, no information exists about MOUD treatment paid via fee-for-service versus managed-care arrangements or whether there are systematic differences across payment arrangements in drug formularies, pharmacy lock-ins, prior authorization requirements, cost sharing, concurrent therapy requirements, provider reimbursements for MOUD induction and maintenance services, and annual limits.

To help inform policymakers about state variation in Medicaid enrollees' receipt of MOUD, we provide the first published estimates of MOUD prescriptions per 1,000 Medicaid enrollees for buprenorphine for OUD, naloxone for reversing opioid overdoses, and naltrexone separately in fee-for-service and managed-care arrangements nationally and for all states and DC. To examine these patterns with a more level playing field, we exclude states that rely heavily on both fee-for-service and managed-care arrangements, because they generally require select eligibility groups to enroll in a managed-care plan. We compare estimates for two subsets of states: (1) those that paid for MOUDs through fee for service and (2) those that paid for MOUDs primarily through managed care. Focusing on these two groups of states, in which enrollees would have had MOUDs paid for through the same arrangement, we examine enrollees who better represent states' Medicaid populations. Nevertheless, differences in state Medicaid populations remain within and across the two groups, including OUD prevalence, age distribution, and other characteristics.

Data and Methods

We use Medicaid State Drug Utilization Data files from 2018 to assess MOUD prescriptions by state and MOUD payment arrangement, building on our previous work (Clemans-Cope, Lynch, Epstein, et al. 2019). The Medicaid State Drug Utilization Data include information identifying a prescription as either a fee-for-service or managed-care utilization record. In addition to estimating the number of MOUD prescriptions for buprenorphine, naltrexone, and naloxone by fee-for-service or managed-care payment and state, we estimate the number of Medicaid enrollees ages 12 and older with comprehensive coverage (henceforth called Medicaid enrollees) by state and MOUD payment arrangement.

Using Medicaid policy reports and state websites, we identify 20 states that paid for MOUDs entirely through fee-for-service arrangements,[2] including 8 that carved out payment for MOUD or all

prescription drugs from managed-care contracts that otherwise covered much of the state's Medicaid population. These 20 states were Alabama, Alaska, Arkansas, California (carved out), Connecticut, Idaho, Maine, Maryland (carved out), Michigan (carved out), Missouri (carved out), Montana, North Carolina, Oklahoma, South Dakota, Tennessee (carved out), Utah (MOUD mostly carved out), Vermont,[3] West Virginia (carved out), Wisconsin (carved out), and Wyoming. For these states, we rely on state-year counts of Medicaid enrollees developed in previous research using administrative microdata on enrollment and state reports on aggregated enrollment (Lynch, Winiski, and Clemans-Cope 2019). Our estimated numbers of MOUD prescriptions paid via fee for service are taken from Medicaid State Drug Utilization Data. We also examine these states by carve-out status, because managed-care plans theoretically could be incentivized to prescribe more MOUDs in states that pay for these drugs through a fee-for-service arrangement.

Identifying the states in which Medicaid enrollees primarily accessed MOUDs through managed-care payments in 2018 was more difficult than identifying states that paid for MOUDs through a fee-for-service arrangement. From reports on states' Medicaid managed-care enrollment, we identify states that used managed care to deliver and pay for MOUD. However, because states typically require only some eligibility groups to enroll in managed care, we cannot directly identify what share of our target population would have had their MOUDs paid for by managed care. Thus, we use enrollment records from the Medicaid Statistical Information System and the Medicaid Analytic eXtract to calculate the share of each managed-care state's target population whose prescription MOUDs would have been paid for by managed care. We impute enrollment for eligibility groups required to enroll in managed care after our last year of Medicaid Statistical Information System/Medicaid Analytic eXtract data. See the technical appendix for a description of our approach to computing the share of our target population whose MOUDs were paid for by managed care in each state (Lynch, Winiski, Clemans-Cope 2020).

We identify six states where at least 95 percent of Medicaid enrollees would have MOUDs paid for through managed care: Delaware (97.4 percent), Hawaii (99.9 percent), Kansas (96.7 percent), Kentucky (95.4 percent), Nebraska (99.0 percent), and New Jersey (96.9 percent). To estimate the number of enrollees who would access MOUD through managed-care payment in these states, we use managed-care rates and enrollment counts developed in previous research (Lynch, Winiski, and Clemans-Cope 2019). Our estimated numbers of managed care–paid MOUD prescriptions are taken from Medicaid State Drug Utilization Data.

We compute prescriptions per 1,000 Medicaid enrollees for each state and the two payment-arrangement groups of states. The prescription rates for both groups are the simple mean of state rates.[4] We do not show rates for the small percentage of Medicaid enrollees identified as having fee-for-service MOUD coverage in the six states where at least 95 percent of Medicaid enrollees would have MOUDs paid for through managed care, because these estimates are from small, unique populations or result from errors in the source data.

Findings

Buprenorphine Prescriptions for OUD in Medicaid

The average number of buprenorphine prescriptions per 1,000 Medicaid enrollees was similar across the 20 states using fee-for-service payments and the 6 states primarily using managed care to pay for MOUDs: 218.2 in the fee-for-service states and 191.5 in managed-care states (tables 1 and 2). (Estimates for all 50 states and DC are in table 3.) These rates are also similar when we examine fee-for-service states by whether MOUDs have been carved out of managed-care plans (data not shown). These prescription rates varied more across states within the two payment-arrangement groups than by type of payment arrangement, and they varied across states with the same payment arrangement and hard hit by the opioid crisis. In the fee-for-service states, buprenorphine prescriptions per 1,000 Medicaid enrollees varied from 5.7 in Arkansas to 1,291.2 in Vermont. Several fee-for-service states have been particularly hard hit by the opioid crisis in the past decade, such as West Virginia (815.6 buprenorphine prescriptions per 1,000 Medicaid enrollees) and Vermont, which had higher buprenorphine prescriptions per 1,000 Medicaid enrollees than the other states in this group. In managed-care states, buprenorphine prescriptions per 1,000 Medicaid enrollees varied from 14.1 in Nebraska to 674.0 in Kentucky. This group also includes several significantly affected by the opioid crisis, such as Kentucky and Delaware (324.0 prescriptions per 1,000 Medicaid enrollees), which also had higher buprenorphine prescriptions per 1,000 Medicaid enrollees than other states in this group.

TABLE 1

Buprenorphine, Naltrexone, and Naloxone Prescriptions Paid Via Fee for Service per 1,000 Medicaid Enrollees Ages 12 and Older in Selected States, 2018

States	Buprenorphine prescriptions	Naltrexone prescriptions	Naloxone prescriptions
AK	170.7	36.1	4.7
AL	64.7	3.5	1.3
AR	5.7	1.0	0.7
CA	17.5	3.5	1.4
CT	188.9	19.9	12.4
ID	51.7	7.2	3.7
MD	290.9	14.6	18.1
ME	404.3	8.6	3.5
MI	84.0	15.6	0.2
MO	62.2	16.5	5.9
MT	508.8	19.5	5.5
NC	131.2	3.8	4.3
OK	33.6	7.5	4.3
SD	8.2	3.1	1.4
TN	34.7	5.6	1.6
UT	62.9	16.6	5.1
VT[a]	1,291.2	19.1	5.6
WI	111.9	17.2	3.9
WV	815.6	25.4	7.9
WY	25.4	4.4	3.8
Fee-for-service state average	**218.2**	**12.4**	**4.8**

Sources: Urban Institute enrollment calculations using the Medicaid Statistical Information System, Medicaid Analytic eXtract, Medicaid Budget and Expenditure System, Centers for Medicare & Medicaid Services application and enrollment data, and Medicaid State Drug Utilization Data.
Notes: Medicaid enrollment includes enrollees ages 12 and older with comprehensive coverage (i.e., including prescription drug coverage). See the data and methods section for a description of state selection criteria. See tables 3–5 for detailed results, including Medicaid enrollment and prescription counts for all states. For more information about how the enrollment and prescription counts were created, see our previous work and methodology appendix (Lynch, Winiski, Clemans-Cope 2019; Clemans-Cope, Epstein, et al. 2019).
[a] Though Vermont operates a unique "managed-care" model, the Centers for Medicare & Medicaid Services classifies the payment process as fee for service, so we do the same; see "Managed Care in Vermont," Medicaid.gov, accessed April 3, 2020, https://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/managed-care/downloads/vermont-mcp.pdf.

TABLE 2

Buprenorphine, Naltrexone, and Naloxone Prescriptions Paid by Managed Care per 1,000 Medicaid Enrollees Ages 12 and Older in Selected States, 2018

States	Buprenorphine prescriptions	Naltrexone prescriptions	Naloxone prescriptions
DE	324.0	16.5	6.8
HI	32.4	4.1	1.8
KS	14.8	9.0	3.6
KY	674.0	14.0	5.7
NE	14.1	9.7	1.3
NJ	90.0	10.4	2.9
Managed-care state average	**191.5**	**10.6**	**3.7**

Sources: Urban Institute enrollment calculations using the Medicaid Statistical Information System, Medicaid Analytic eXtract, Medicaid Budget and Expenditure System, Centers for Medicare & Medicaid Services application and enrollment data, and Medicaid State Drug Utilization Data.
Notes: In these states, at least 95 percent of MOUDs for our target population would have been covered by managed care. Medicaid enrollment includes enrollees ages 12 and older with comprehensive coverage (i.e., including prescription drug coverage). See the data and methods section for a description of state selection criteria. See tables 3–5 for detailed results, including Medicaid enrollment and prescription counts for all states. For more information about how the enrollment and prescription counts were created, see our previous work and methodology appendix (Lynch, Winiski, and Clemans-Cope 2019; Clemans-Cope, Epstein, et al. 2019).

Naltrexone Prescriptions in Medicaid

In 2018, the number of naltrexone prescriptions per 1,000 Medicaid enrollees averaged 12.4 in fee-for-service states and 10.6 in managed-care states (tables 1 and 2). (Estimates for all 50 states and DC are in table 4.) These rates are also similar when we examine fee-for-service states by carve-out status (data not shown). As we observed with buprenorphine prescriptions per 1,000 Medicaid enrollees, such rates for naltrexone varied more across states within each payment-arrangement group than across the two groups. In fee-for-service states, Arkansas had the lowest naltrexone prescription rate at 1.0 per 1,000 Medicaid enrollees, and Alaska had the highest rate at 36.1. West Virginia had the second highest per enrollee naltrexone prescription rate at 25.4 per 1,000 Medicaid enrollees. Both Alaska's and West Virginia's naltrexone prescription rates were much higher than those of other states in the fee-for-service group. Naltrexone prescriptions per 1,000 Medicaid enrollees varied less among

the five managed-care states, ranging from 4.1 in Hawaii to 16.5 in Delaware, and were higher in states substantially affected by the opioid epidemic (i.e., Kentucky and Delaware).

Naloxone Prescriptions for Reversing Opioid Overdose in Medicaid

In 2018, the number of naloxone prescriptions averaged 4.8 per 1,000 Medicaid enrollees in states using fee-for-service payments for MOUDs and 3.7 in states primarily using managed-care payments (tables 1 and 2). (Estimates for all 50 states and DC are in table 5.) These rates are also similar when we examine fee-for-service states by carve-out status (data not shown). Among states with only fee-for-service MOUD coverage, naloxone prescriptions per 1,000 Medicaid enrollees ranged from 0.2 in Michigan to 18.1 in Maryland. Connecticut had the second highest naloxone prescription rate at 12.4 per 1,000 Medicaid enrollees. Among states with almost all MOUDs covered through managed care, Nebraska had the lowest naloxone prescription rate at 1.3 per 1,000 Medicaid enrollees, and Delaware had the highest rate at 6.8.

Discussion

Our findings indicate that the payment arrangement—fee for service or managed care—for MOUDs in state Medicaid programs in 2018 likely did not substantially shape prescriptions per 1,000 Medicaid enrollees for the three MOUDs studied. Average prescription rates per 1,000 Medicaid enrollees were similar across states that paid for MOUDs through fee-for-service or managed-care arrangements in 2018. Conversely, such rates varied widely across states within both payment-arrangement groups. In addition, both groups of states included states with relatively high MOUD prescriptions per 1,000 Medicaid enrollees. The large variation within both payment-arrangement groups and across states hit hard by the opioid epidemic suggests access to MOUDs is inadequate in many states. To reduce barriers to treatment, states could examine policies like Medicaid reimbursement levels for MOUD prescribers, which may limit access to care, and utilization restrictions like prior authorization, concurrent therapy requirements, and annual limits—levers used in both fee-for-service and managed-care settings to limit MOUD.

State-Level Prescription Data

TABLE 3

Buprenorphine Prescriptions for Opioid Use Disorder, by State and Payment Arrangement, 2018

	Fee for Service			Managed Care		
State	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees
AK	137,886	23,534	170.7	NA	NA	—
AL	480,643	31,118	64.7	NA	NA	—
AR	622,727	3,557	5.7	NA	NA	—
AZ	100,331	403	4.0	1,123,220	80,475	71.6
CA	9,201,110	160,834	17.5	NA	1,334	—
CO	790,085	71,340	90.3	77,187	1,218	15.8
CT	803,583	151,831	188.9	NA	NA	—
DC	45,082	7,082	157.1	165,583	5,205	31.4
DE	5,256	1,114	211.9	196,903	63,799	324.0
FL	452,277	609	1.3	2,484,585	35,091	14.1
GA	430,769	5,034	11.7	612,255	10,979	17.9
HI	262	NA	—	261,897	8,478	32.4
IA	155,952	831	5.3	365,626	17,808	48.7
ID	168,266	8,691	51.7	NA	NA	—
IL	1,188,840	17,040	14.3	878,708	81,062	92.3
IN	307,287	1,727	5.6	588,593	203,668	346.0
KS	7,388	NA	—	216,492	3,211	14.8
KY	45,823	249	5.4	950,321	640,473	674.0
LA	58,658	68	1.2	779,318	82,264	105.6
MA	745,898	149,211	200.0	445,633	307,278	689.5
MD	923,225	268,539	290.9	NA	60	—
ME	218,622	88,382	404.3	NA	NA	—
MI	1,708,572	143,594	84.0	NA	3	—
MN	213,867	6,125	28.6	666,243	38,287	57.5
MO	642,347	39,935	62.2	NA	NA	—
MS	115,854	1,161	10.0	243,942	10,733	44.0
MT	162,729	82,801	508.8	NA	NA	—
NC	1,237,919	162,382	131.2	NA	NA	—
ND	52,901	2,178	41.2	19,171	3,345	174.5
NE	1,455	85	58.4	143,998	2,033	14.1
NH	45,009	4,761	105.8	85,076	30,598	359.7
NJ	41,044	2,588	63.1	1,282,965	115,454	90.0
NM	87,824	1,940	22.1	434,940	67,224	154.6
NV	112,593	3,618	32.1	354,596	11,461	32.3
NY	1,626,412	31,611	19.4	3,813,093	417,924	109.6
OH	353,701	129,378	365.8	1,803,014	826,236	458.3
OK	448,577	15,079	33.6	NA	NA	—
OR	87,627	30,742	350.8	687,836	164,359	239.0
PA	464,650	3,911	8.4	2,020,108	553,909	274.2
RI	19,036	1,775	93.2	202,310	43,917	217.1
SC	234,221	1,929	8.2	387,056	30,617	79.1
SD	67,280	554	8.2	NA	NA	—
TN	921,201	31,950	34.7	NA	25	—
TX	234,842	500	2.1	2,023,251	18,399	9.1

	Fee for Service			Managed Care		
State	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees
UT	176,346	11,087	62.9	NA	30	—
VA	247,090	33,616	136.0	370,635	96,695	260.9
VT[2]	130,493	168,489	1291.2	NA	NA	—
WA	312,334	15,245	48.8	1,233,874	203,749	165.1
WI	792,133	88,661	111.9	NA	166	—
WV	397,476	324,167	815.6	NA	NA	—
WY	38,361	973	25.4	NA	NA	—
US total	**27,863,864**	**2,332,029**	**83.7**	**24,918,426**	**4,177,567**	**167.6**

Sources: Urban Institute enrollment calculations using the Medicaid Statistical Information System, Medicaid Analytic eXtract, Medicaid Budget and Expenditure System, Centers for Medicare & Medicaid Services application and enrollment data, and Medicaid State Drug Utilization Data.

Notes: NA = not applicable, meaning states have no enrollees or prescriptions in this payment arrangement. In some states where we think the payment arrangement is not used, we nevertheless observe a small number of prescriptions in the Medicaid State Drug Utilization Data or enrollees in administrative microdata or aggregated data. These values could owe to reporting errors, lags in reporting dates, rare and unique cases, and other inconsistencies. Dashes indicate that we do not calculate a value. For detail on state policies, see the technical appendix. For more information about how the enrollment and prescription counts were created, see our previous work and methodology appendix (Lynch, Winiski, and Clemans-Cope 2019; Clemans-Cope, Epstein, et al. 2019).

[a] Medicaid enrollment includes enrollees ages 12 and older with comprehensive coverage (i.e., including prescription drug coverage).

[b] Though Vermont operates a unique "managed-care" model, the Centers for Medicare & Medicaid Services classifies the payment process as fee for service, so we do the same; see "Managed Care in Vermont," Medicaid.gov, accessed April 3, 2020, https://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/managed-care/downloads/vermont-mcp.pdf.

TABLE 4

Naltrexone Prescriptions, by State and Payment Arrangement, 2018

	Fee for Service			Managed Care		
State	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees
AK	137,886	4,984	36.1	NA	NA	—
AL	480,643	1,702	3.5	NA	NA	—
AR	622,727	634	1.0	NA	NA	—
AZ	100,331	598	6.0	1,123,220	11,682	10.4
CA	9,201,110	32,157	3.5	NA	1,941	—
CO	790,085	16,241	20.6	77,187	651	8.4
CT	803,583	15,961	19.9	NA	NA	—
DC	45,082	828	18.4	165,583	457	2.8
DE	5,256	149	28.3	196,903	3,247	16.5
FL	452,277	1,132	2.5	2,484,585	3,614	1.5
GA	430,769	1,721	4.0	612,255	963	1.6
HI	262	NA	—	261,897	1,071	4.1
IA	155,952	594	3.8	365,626	2,761	7.6

	Fee for Service			Managed Care		
State	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees
ID	168,266	1,210	7.2	NA	—	—
IL	1,188,840	2,528	2.1	878,708	13,622	15.5
IN	307,287	2,794	9.1	588,593	13,130	22.3
KS	7,388	2	0.3	216,492	1,946	9.0
KY	45,823	323	7.0	950,321	13,302	14.0
LA	58,658	216	3.7	779,318	7,195	9.2
MA	745,898	12,985	17.4	445,633	24,012	53.9
MD	923,225	13,512	14.6	NA	10	—
ME	218,622	1,871	8.6	NA	NA	—
MI	1,708,572	26,676	15.6	NA	683	—
MN	213,867	1,838	8.6	666,243	11,370	17.1
MO	642,347	10,571	16.5	NA	NA	—
MS	115,854	325	2.8	243,942	417	1.7
MT	162,729	3,172	19.5	NA	NA	—
NC	1,237,919	4,746	3.8	NA	NA	—
ND	52,901	320	6.0	19,171	612	31.9
NE	1,455	19	13.1	143,998	1,394	9.7
NH	45,009	466	10.4	85,076	2,253	26.5
NJ	41,044	506	12.3	1,282,965	13,386	10.4
NM	87,824	242	2.8	434,940	5,888	13.5
NV	112,593	738	6.6	354,596	1,837	5.2
NY	1,626,412	5,872	3.6	3,813,093	46,268	12.1
OH	353,701	5,045	14.3	1,803,014	55,704	30.9
OK	448,577	3,356	7.5	NA	NA	—
OR	87,627	642	7.3	687,836	9,536	13.9
PA	464,650	1,817	3.9	2,020,108	52,720	26.1
RI	19,036	141	7.4	202,310	3,846	19.0
SC	234,221	473	2.0	387,056	913	2.4
SD	67,280	211	3.1	NA	NA	—
TN	921,201	5,131	5.6	NA	197	—
TX	234,842	127	0.5	2,023,251	8,824	4.4
UT	176,346	2,931	16.6	NA	15	—
VA	247,090	1,851	7.5	370,635	2,986	8.1
VT[b]	130,493	2,487	19.1	NA	NA	—
WA	312,334	1,291	4.1	1,233,874	14,161	11.5
WI	792,133	13,647	17.2	NA	26	—
WV	397,476	10,089	25.4	NA	151	—
WY	38,361	168	4.4	NA	NA	—
US total	**27,863,864**	**217,040**	**7.8**	**24,918,426**	**332,791**	**13.4**

Sources: Urban Institute enrollment calculations using the Medicaid Statistical Information System, Medicaid Analytic eXtract, Medicaid Budget and Expenditure System, Centers for Medicare & Medicaid Services application and enrollment data, and Medicaid State Drug Utilization Data.

Notes: NA = not applicable, meaning states have no enrollees or prescriptions in this payment arrangement. In some states where we think the payment arrangement is not used, we nevertheless observe a small number of prescriptions in the Medicaid State Drug Utilization Data or enrollees in administrative microdata or aggregated data. These values could owe to reporting errors, lags in reporting dates, rare and unique cases, and other inconsistencies. Dashes indicate that we do not calculate a value. For detail on state policies, see the technical appendix. For more information about how the enrollment and prescription counts

were created, see our previous work and methodology appendix (Lynch, Winiski, Clemans-Cope 2019; Clemans-Cope, Epstein, et al. 2019).

[a] Medicaid enrollment includes enrollees ages 12 and older with comprehensive coverage (i.e., including prescription drug coverage).

[b] Though Vermont operates a unique "managed-care" model, the Centers for Medicare & Medicaid Services classifies the payment process as fee for service, so we do the same; see "Managed Care in Vermont," Medicaid.gov, accessed April 3, 2020, https://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/managed-care/downloads/vermont-mcp.pdf.

TABLE 5

Naloxone Prescriptions for Opioid Overdose Reversal, by State and Payment Arrangement, 2018

	Fee for Service			Managed Care		
State	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees
AK	137,886	650	4.7	NA	NA	—
AL	480,643	601	1.3	NA	NA	—
AR	622,727	425	0.7	NA	NA	—
AZ	100,331	110	1.1	1,123,220	11,622	10.3
CA	9,201,110	13,038	1.4	NA	1,232	—
CO	790,085	4,256	5.4	77,187	136	1.8
CT	803,583	9,991	12.4	NA	NA	—
DC	45,082	236	5.2	165,583	196	1.2
DE	5,256	75	14.3	196,903	1,348	6.8
FL	452,277	290	0.6	2,484,585	9,081	3.7
GA	430,769	504	1.2	612,255	555	0.9
HI	262	NA	—	261,897	471	1.8
IA	155,952	40	0.3	365,626	367	1.0
ID	168,266	622	3.7	NA	NA	—
IL	1,188,840	465	0.4	878,708	4,328	4.9
IN	307,287	237	0.8	588,593	5,887	10.0
KS	7,388	7	0.9	216,492	774	3.6
KY	45,823	55	1.2	950,321	5,374	5.7
LA	58,658	36	0.6	779,318	3,021	3.9
MA	745,898	5,507	7.4	445,633	9,356	21.0
MD	923,225	16,670	18.1	NA	368	—
ME	218,622	761	3.5	NA	NA	—
MI	1,708,572	416	0.2	NA	4,883	—
MN	213,867	511	2.4	666,243	2,615	3.9
MO	642,347	3,800	5.9	NA	NA	—
MS	115,854	37	0.3	243,942	195	0.8
MT	162,729	895	5.5	NA	NA	—
NC	1,237,919	5,384	4.3	NA	NA	—
ND	52,901	49	0.9	19,171	47	2.5
NE	1,455	4	2.8	143,998	186	1.3
NH	45,009	92	2.0	85,076	298	3.5
NJ	41,044	100	2.4	1,282,965	3,659	2.9
NM	87,824	114	1.3	434,940	6,267	14.4
NV	112,593	1,044	9.3	354,596	1,495	4.2
NY	1,626,412	1,063	0.7	3,813,093	8,110	2.1
OH	353,701	1,168	3.3	1,803,014	14,629	8.1
OK	448,577	1,947	4.3	NA	NA	—

	Fee for Service			Managed Care		
State	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees	Enrollees[a]	Prescriptions	Prescriptions per 1,000 Medicaid enrollees
OR	87,627	367	4.2	687,836	4,231	6.2
PA	464,650	535	1.2	2,020,108	30,189	14.9
RI	19,036	130	6.8	202,310	3,732	18.4
SC	234,221	100	0.4	387,056	1,015	2.6
SD	67,280	97	1.4	NA	NA	—
TN	921,201	1,451	1.6	NA	3	—
TX	234,842	73	0.3	2,023,251	2,416	1.2
UT	176,346	898	5.1	NA	137	—
VA	247,090	1,276	5.2	370,635	6,855	18.5
VT[b]	130,493	730	5.6	NA	NA	—
WA	312,334	650	2.1	1,233,874	6,817	5.5
WI	792,133	3,110	3.9	NA	26	—
WV	397,476	3,135	7.9	NA	547	—
WY	38,361	144	3.8	NA	NA	—
US total	**27,863,864**	**83,896**	**3.0**	**24,918,426**	**152,468**	**6.1**

Sources: Urban Institute enrollment calculations using the Medicaid Statistical Information System, Medicaid Analytic eXtract, Medicaid Budget and Expenditure System, Centers for Medicare & Medicaid Services application and enrollment data, and Medicaid State Drug Utilization Data.

Notes: NA = not applicable, meaning states have no enrollees or prescriptions in this payment arrangement. In some states where we think the payment arrangement is not used, we nevertheless observe a small number of prescriptions in the Medicaid State Drug Utilization Data or enrollees in administrative microdata or aggregated data. These values could owe to reporting errors, lags in reporting dates, rare and unique cases, and other inconsistencies. Dashes indicate that we do not calculate a value. For detail on state policies, see the technical appendix. For more information about how the enrollment and prescription counts were created, see our previous work and methodology appendix (Lynch, Winiski, Clemans-Cope 2019; Clemans-Cope, Epstein, et al. 2019).

[a] Medicaid enrollment includes enrollees ages 12 and older with comprehensive coverage (i.e., including prescription drug coverage).

[b] Though Vermont operates a unique "managed-care" model, the Centers for Medicare & Medicaid Services classifies the payment process as fee for service, so we do the same; see "Managed Care in Vermont," Medicaid.gov, accessed April 3, 2020, https://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/managed-care/downloads/vermont-mcp.pdf.

Notes

1 Darrel Rowland, "Ohio Shies Away from Drug Plan That Saved West Virginia $38 Million," *Columbus Dispatch*, May 4, 2018, https://www.dispatch.com/news/20180504/ohio-shies-away-from-drug-plan-that-saved-west-virginia-38-million.

2 In some states we classify as entirely using fee-for-service arrangements, we observe a small number of managed-care prescriptions in the Medicaid State Drug Utilization Data, or we observe managed-care enrollees in administrative microdata or aggregated data. These values generally reflect small data abnormalities possibly owing to reporting errors, lags in reporting dates, and other inconsistencies, but could also owe to rare cases not described in policy reports. In these cases, we do not calculate counts.

3 Though Vermont operates a unique "managed-care" model, the Centers for Medicare & Medicaid Services classifies the payment process as fee for service, so we do the same; see "Managed Care in Vermont,"

Medicaid.gov, accessed April 3, 2020, https://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/managed-care/downloads/vermont-mcp.pdf.

4 We also computed the weighted rates but do not report them because the simple rates tell us about more states, whereas the weighted rates tell us about the most populous states. The weighted rate for fee-for-service states largely reflects California enrollees, and the weighted rate for managed-care states largely reflects Kentucky and New Jersey enrollees.

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