

# Estimating the Share of Medicaid Enrollees Whose Prescriptions for Medication to Treat Opioid Use Disorder Would Have Been Paid by a Managed-Care Organization, 2015–18

## Technical Appendix

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This technical appendix accompanies a brief assessing Medicaid prescriptions to treat opioid use disorder (OUD) under fee-for-service and managed-care payment arrangements (Lynch, Winiski, Clemans-Cope 2020). In it, we estimate the number of prescriptions per 1,000 Medicaid enrollees for medications for OUD (MOUDs) by fee-for-service and managed-care payment. The estimation relies on counts of Medicaid enrollees whose MOUDs would be paid by a managed-care organization (MCO). In this appendix, we describe our method for estimating those counts in 2015 through 2018.

We rely on enrollment records from the Medicaid Statistical Information System (MSIS) and the Medicaid Analytic eXtract (MAX) to produce estimates of the share of our target population whose MOUDs would be paid by managed care. Our target population was Medicaid enrollees ages 12 and older with comprehensive coverage, which includes prescription drug coverage (hereafter called our target population). Our MSIS/MAX data were generally older than the year for which we wanted to estimate Medicaid prescriptions covered under each payment arrangement, so we also relied on

imputation to account for changes in policies requiring certain eligibility groups or enrollees in select parts of states to enroll in managed care and therefore have any potential MOUD paid by managed care.

Given varied policies and data availability, our methods depend on state and year. However, our general approach was the same in all states and years: We first checked to see that the microdata on enrollment in the MSIS or the MAX were valid for estimating the share of Medicaid enrollees whose MOUDs would be covered by managed care. To do so, we compared (1) MSIS/MAX annual counts of the total Medicaid population with comprehensive managed care with (2) reports on state Medicaid managed-care enrollment (henceforth called enrollment reports; Mathematica Policy Research 2014, 2016a, 2016b, 2018, 2019). Because the MSIS and the MAX were valid for this purpose in all states and study years, we next used enrollment reports and the MSIS/MAX to quantify managed-care enrollment in the share of the target population for whom managed-care enrollment policies had not changed from the MSIS/MAX year to the study year. Lastly, we imputed managed-care enrollment for eligibility groups required to enroll in managed care after our most recent year of MSIS/MAX data by using MSIS/MAX data or data on VIII Group enrollment reported in the Medicaid Budget and Expenditure System (MBES). The following state-specific descriptions summarize our methods.

## Arizona

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was stable across the years we want to estimate (2015–18) and the earlier period we have data for (2013 and 2014). Our estimates from the MSIS aligned well with counts of managed-care enrollment reported by the state. This suggests using 2014 data to estimate 2015–18 enrollment is valid. We have enrollment data from the MSIS through the third quarter after Affordable Care Act (ACA) enrollment started—the fourth quarter (Q) of fiscal year (FY) 2014—and it includes a flag for VIII Group eligibles (i.e., enrollees eligible because of ACA rules), so we expect our MSIS data to capture much of the change in enrollment patterns owing to the ACA. As a validity check, we also looked for enrollment stability by MCO status in our target population in the three available quarters after ACA expansion, observing similar enrollment and disenrollment patterns among fee-for-service (FFS) and MCO enrollees in our target population. Given enrollment stability, we calculated the managed-care percentage of our target population in Q4 of 2014 (61 percent) and assumed it stayed the same during our study period.

## Colorado

Enrollment reports indicate that the share of all Medicaid enrollees in an MCO was stable and low (around 5.7 percent) during the years leading up to the study period (2012, 2013, 2014, and 2015) and similar to derived counts of managed-care enrollment from the MSIS and the MAX. Policy reports indicate MCOs were available only in select counties (Adams, Arapahoe, Denver, and Jefferson) during these years, and they expanded into additional counties in 2016 (Douglas, Garfield, Gunnison, Mesa, Montrose, Pitkin, and Rio Blanco). We observed that the MCO share of the Medicaid population increased in turn. Therefore, we assumed the increase could be attributed to the additional counties, and that the MCO share in our target population in counties with an MCO option remained stable. To quantify the statewide MCO share before MCO expansion, we calculated the MCO share observed across the state in our last quarter of 2013 MAX data (7.6 percent) and assumed the rate was still valid in 2015. To quantify the statewide MCO share after the expansion, we first calculated the MCO share observed in 2013 in the counties that had an MCO option (16.0 percent). Then, we computed a count of new MCO enrollees in the expansion county by assuming the same share enrolled in an MCO during expansion, as was observed. This led to a postexpansion MCO share of 8.9 percent

## Delaware

Enrollment reports indicate that the share of all Medicaid enrollees in an MCO increased slightly from 2014 to 2017 (from 86 percent in 2014 to 89 percent in 2015 and 2016 and 93 percent in 2017). We saw no policy changes in the eligibility groups required to enroll in an MCO, and MCO enrollment was largely mandatory (only American Indians were exempt). We assume the slight enrollment increase during the study period is largely explained by ACA expansion, which increased the number of enrollees required to enroll in an MCO. Our most recent MSIS data (Q1 of FY 2014, which is October through December 2013) were from before Delaware expanded Medicaid under the ACA, so we estimated the MCO share in our target population in two steps. First, we calculated the MCO share in our target population in MSIS Q1 of FY 2014 (before VIII Group-eligible beneficiaries enrolled), which was 96.6 percent. Given enrollment stability—aside from ACA expansion—we assumed the MCO share stayed the same among non-VIII Group enrollees in our target population and that all VIII Group enrollees were enrolled in an MCO. Second, we used VIII Group enrollment counts from MBES data and our previously estimated target population counts to compute an average MCO share for our target population (97.4 percent) and assumed this rate stayed the same throughout the study period.

## District of Columbia

Enrollment reports indicate that the share of all Medicaid enrollees in an MCO increased slightly during the study period (from 66.9 percent in 2014 to about 72 percent in 2015 and 2016 and 74.1 percent in 2017). Because we observed the same general pattern we observed in Delaware, we estimated the MCO share in our target population using the same two-step methodology. We computed an MCO share of 67.4 percent for the non-ACA target group of eligible beneficiaries (using MSIS Q1 FY 2014 data). After assuming all VIII Group-eligible beneficiaries enrolled in an MCO, we estimated an MCO share of 78.6 percent.

## Florida

Enrollment reports indicate that the share of all Medicaid enrollees in an MCO increased from 44.8 percent in 2013 to 75.3 percent in 2014 and was stable during the study period at around 80 percent. Our most recent MSIS data (Q3 of FY 2013) were from before Florida expanded MCO enrollment requirements to more eligibility groups, so we computed the MCO share in our target population in multiple steps. First, we derived counts of the target population by MCO status, excluding people in eligibility groups later required to enroll in an MCO. We then calculated the MCO share after imputing MCO enrollment to people in eligibility groups later required to enroll in an MCO, and we arrived at 84.6 percent. Given that the MCO rates were stable during our study period, we assumed our calculated MCO share stayed the same throughout the study period. The calculated MCO share for the target population is higher than the value reported for all Medicaid enrollees because the non-target population includes many enrollees not required to enroll in an MCO (e.g., dual-eligible beneficiaries, hereafter called duals).

## Georgia

Enrollment reports indicate that the share of all Medicaid enrollees in an MCO was stable during the study period (around 68 percent). We assumed the MCO share observed in our most recent MSIS data (Q4 of FY 2014) applied throughout the study period because we saw no documented changes in the eligibility groups required to enroll in an MCO, Georgia did not expand Medicaid under the ACA, and MCO rates were stable across our most recent quarters of MSIS data.

## Hawaii

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was stable during the study period (around 99 percent). We saw no changes in the eligibility groups required to enroll in an MCO. We assumed the MCO share observed in our most recent MSIS data (99.9 percent in Q4 of FY 2014) applied throughout the study period because (1) we have MSIS data after Hawaii expanded Medicaid under the ACA and (2) MCO rates were stable across the most recent quarters of MSIS data.

## Idaho

Enrollment reports indicate that only a small number of duals were enrolled in MCOs in Idaho during our study period. However, using the FY 2015 MSIS data files, we observe no MCO enrollees in our target population. Enrollment reports indicate that the MCO share in the total population did not change during our study period, and we see no evidence that the rules changed. Therefore, we assume the MCO share in our target population also stayed the same (0 percent) throughout our study period.

## Illinois

Enrollment reports indicate that some counties made MCO enrollment mandatory for aged, blind, and disabled (ABD) and VIII Group-eligible beneficiaries during our study period, and the list of these counties differed by eligibility group and year. To derive MCO rates that reflect these differences, we computed the MCO share in multiple steps, starting from the counts of MCO status observed in Q1 FY 2014 (October through December 2013) MSIS data for the target population and then adding enrollees later required to enroll in an MCO. To impute MCO enrollment, we relied on an imputed flag for VIII Group coverage created in previous work and used year- and eligibility-group-specific lists of counties. Next, we calculated what the MCO share would be when all ABD and VIII Group enrollees in select counties were in an MCO. We computed MCO shares for our target population of 51.1 percent in 2015 and 51.4 percent in 2016, 2017, and 2018. Our MSIS estimate for the MCO share among all enrollees was similar to the MCO share in enrollment reports (i.e., 13.4 percent in the end of 2013 from MSIS data and 13.5 percent reported for 2014), and changes in the MCO share of our target population track with reports for the total Medicaid population.

## Indiana

Enrollment reports indicate that the share of all Medicaid enrollees in managed care increased from 62.7 percent in 2014 to 77.9 percent in 2015. We see no documented changes in eligibility groups

required to enroll and surmise that the change owes to ACA expansion, which occurred in February 2015 and required ACA-eligibles to enroll in an MCO. In the total Medicaid population, the MCO share was steady in 2016 and 2017 (75.9 and 77.1 percent), which comports with our observation that ACA expansion was the only substantial MCO-related policy change during the study period. To compute the MCO share for our target population, we first used our most recent MSIS data (Q4 of FY 2014) to derive counts of the target population by MCO status for July through September 2014. We then added counts of VIII Group enrollees to counts of MCO target enrollees and total target enrollees to calculate an MCO share. The results are lower than the MCO share in the total Medicaid population, because the total Medicaid population includes many children, who are disproportionately required to enroll in an MCO.

## Iowa

In 2016, MCO coverage expanded from 38 to all 99 Iowa counties and became mandatory for most eligibility groups in our target population (i.e., low-income adults, ABD adults, VIII Group beneficiaries, and fully dual-eligible beneficiaries). These policy changes comport with our finding that the MCO share in the general population increased from 9.7 percent in 2015 to about 89 percent in 2016 and 2017. We estimate the MCO share in our target population in multiple steps. We do not estimate the MCO share for 2015 because prescription drugs were carved out of MCO plans and paid via fee for service in 2015. To calculate MCO shares for later years, we derived counts of target population enrollees (excluding the eligibility groups required to enroll in an MCO) by MCO status in MCO-covered counties in our most recent MSIS data (Q4 of FY 2015). We observed that the counts were stable over FY 2015 quarters. Next, we computed what the MCO share would have been in covered counties in Q4 of FY 2015 had VIII Group beneficiaries and full duals been required to enroll in an MCO in 2015 (41.2 percent). We assumed that the rate calculated for counties with MCO plans (41.2 percent) would apply to target enrollees in other counties in 2016 through 2018, after MCOs expanded to all counties and became mandatory for full duals and VIII Group beneficiaries. We verified this assumption by checking for stability in (1) our calculated rate in MCO counties in FY 2015 and (2) the reported counts for all enrollees and counties in 2016 and 2017.

## Kansas

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was high and generally increasing before and during our study period (82.5 percent in 2013, 89.2 percent in 2014, 90.3 percent in 2015, 89.6 percent in 2016, and 95.5 percent in 2017). Our most recent MSIS

quarterly data (Q1 of FY 2013) are similar to reported annual levels for 2013 (79.7 versus 82.5 percent), and enrollment reports indicate that MCO enrollment increased in the total Medicaid population. Therefore, we calculated the MCO share for our target population in Q1 of FY 2013 and assumed the difference (1.2 percentage points) between the MCO shares for our target population and the total population stayed steady throughout the study period. Thus, we estimated the MCO share for the target population as 91.5 percent in 2015, 90.8 percent in 2016, and 96.7 percent in 2017. Because the state enrollment report for 2018 had not been published at the time of this study, we assumed the MCO share stayed steady in 2018.

## Kentucky

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was stable from 2014 to 2017 (89.4 percent in 2014, 93.3 percent in 2015, 92.7 percent in 2016, and 89.2 percent in 2017). We used our most recent quarter of MSIS data (Q3 of FY 2014) to estimate the MCO share for our target population in 2015 because these MSIS data are from after Kentucky expanded Medicaid and include an imputed flag for VIII Group enrollees. The result was 93.9 percent, which is similar to the reported MCO share among all Medicaid enrollees in 2015. However, we only had MSIS data for one quarter after Medicaid expanded, and we know from MBES reports that VIII Group enrollment increased in subsequent quarters. We therefore used counts by MCO status from non-VIII Group enrollees and imputed VIII Group counts from 2016 to 2018 to calculate the MCO share in our target population for that period.

## Louisiana

Enrollment reports indicate that the share of all Medicaid enrollees in managed care substantially increased during our study years (32.0 percent in 2014, 68.9 percent in 2015, 84.0 percent in 2016, and 84.7 percent in 2017). This pattern may owe to managed-care enrollment becoming mandatory for more eligibility groups during this period. To derive counts of the target population by MCO status for 2015, we used our most recent MSIS data (Q4 of FY 2014), excluding eligibility groups later required to enroll in an MCO. We then calculated the MCO share after imputing MCO enrollment to eligibility groups later required to enroll in an MCO, arriving at 86.7 percent. For later years, we added reported annual VIII Group counts to the denominator and numerator. The calculated rates are 92.1 percent in 2016, 92.8 percent in 2017, and 93.0 percent in 2018. This makes sense because we expect the MCO share in the target population to be higher than the MCO share in the entire

Medicaid population, because MCOs are mandatory for most eligibility groups in the target population.

## Massachusetts

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was stable in our study years (42.6 percent in 2014, 47.9 percent in 2015, 46.1 percent in 2016, and 45.2 percent in 2017) and tracked well with our most recent MSIS data (through Q4 of FY 2014). We saw no policy changes during the study period, and Massachusetts expanded Medicaid well before our MSIS data ended, so we assumed our MSIS estimate for the MCO share in our target population (37.4 percent) stayed steady throughout our study period. We validated this assumption by comparing estimates of churn (as described in previous research) and MCO share across quarters of MSIS data from FYs 2013 and 2014 (Lynch, Winiski, and Clemans-Cope 2019).

## Minnesota

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was stable during years we studied (71.1 percent in 2014, 73.0 percent in 2015, 74.9 percent in 2016, and 76.4 percent in 2017) and tracked well with our most recent MSIS data (through Q4 of FY 2015). We saw no policy changes during the study period (major eligibility groups in our target population were already required to enroll in an MCO), and Minnesota expanded Medicaid under the ACA well before our MSIS data ended. Therefore, we assumed our MSIS estimate for an MCO share in our target population (75.7 percent) stayed the same throughout our study period. We validated this assumption by comparing estimates of churn and MCO share across quarters of MSIS data from FYs 2014 and 2015.

## Mississippi

Enrollment reports indicate that the share of all Medicaid enrollees in managed care increased in 2014 and was stable from 2015 to 2017 (22.2 percent in 2014, 67.0 percent in 2015, 68.7 percent in 2016, and 68.7 percent in 2017), tracking well with our most recent MSIS data (through Q4 of FY 2015). Though Mississippi changed from requiring ABD people to enroll in an MCO in 2016, we see no evidence of a decline in the MCO share for the total population. Thus, we assume the MCO share derived for our target population in 2015 (67.8 percent) remained steady the rest of the study period.

## Nebraska

Prescription drugs were carved out of managed-care contracts in 2015 and 2016, so we treat all prescriptions from those years as being paid directly by the state in a fee-for-service arrangement. Prescription drugs were carved back in to managed-care contracts in 2017. Enrollment reports show that MCO rates were high (e.g., 99.4 percent in 2017) among the total Medicaid population, and we know from our most recent MSIS data for Nebraska (when MCO enrollment was mandatory for all major eligibility groups) that our target population comprises about half the total Medicaid population. Therefore, we assumed that the MCO share in the target population also had to be at least 99 percent in and beyond 2017.

## Nevada

Enrollment reports indicate that the share of all Medicaid enrollees in managed care increased in 2014 and was stable during our study period (54.9 percent in 2013, 67.5 percent in 2014, 66.3 percent in 2015, 63.8 percent in 2016, and 68.6 percent in 2017). Nevada expanded Medicaid under the ACA after our most recent MSIS data (Q1 of FY 2014), so we used our most recent quarter of MSIS data to estimate counts of the non-VIII Group share of our target population by MCO status. Then, we imputed MCO enrollment to VIII Group enrollees by adding annual counts of VIII Group enrollment from MBES to the numerator and denominator. The results are higher than the MCO share reported for the total population, because the target population includes more eligibility groups that must enroll in an MCO (e.g., excluding those with limited coverage) and constitutes a large number of VIII Group enrollees who must enroll in an MCO.

## New Hampshire

Because MCO enrollment was mandatory for all major eligibility groups except duals in 2015 and became mandatory for full duals in 2016, we expect that the MCO share among our target group would be about the same as that for the full Medicaid population. Additionally, our MSIS data for New Hampshire do not contain valid data for plan type, so we assume the MCO share for our target population is the same as that shown in enrollment reports for the state's total Medicaid population.

## New Jersey

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was about 93 percent during our study period (92.9 percent in 2015, 92.7 percent in 2016, and 92.9 percent in 2017). We used our most recent quarter of MSIS data (Q4 of FY 2015) to estimate the MCO share for our target population in 2015 because these MSIS data are from after New Jersey expanded Medicaid and include an imputed flag for VIII Group enrollees. The resulting share was 97.0 percent, which is slightly higher than that reported among all Medicaid enrollees in 2015, likely because MCO enrollment is mandatory for more eligibility groups in the target population than in the non-target population. Because reported VIII Group enrollment counts dropped slightly after 2015, we calculate the 2016–18 MCO share in our target population using the counts by MCO status from non-VIII Group enrollees and impute 2016–18 VIII Group counts.

## New Mexico

We took the same approach for New Mexico as we describe above for Nevada, because the enrollment patterns, MSIS data availability, and policy changes were the same (i.e., ACA expansion was the only change we observed). Enrollment reports indicate that the share of all Medicaid enrollees in managed care increased in 2014 and was stable during our study period (74.5 percent in 2013, 79.7 percent in 2014, 78.6 percent in 2015, 77.3 percent in 2016, and 77.3 percent in 2017). Because New Mexico expanded Medicaid under the ACA after our most recent MSIS data (Q1 of FY 2014), we used our most recent quarter of MSIS data to estimate counts of the non-VIII Group share of our target population by MCO status. Then, we imputed MCO enrollment to VIII Group enrollees by adding annual counts of VIII Group enrollment from MBES to the numerator and denominator. The results are higher than the MCO share reported for the total population, because the target population includes more eligibility groups that must enroll in an MCO (e.g., excluding those with limited coverage) and constitutes a large number of VIII Group enrollees who must enroll in an MCO.

## New York

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was stable during our study period (73.6 percent in 2013, 73.3 percent in 2014, 74.1 percent in 2015, 73.4 percent in 2016, and 74.1 percent in 2017). We observed no documented changes in enrollment policy during the study period. We used our most recent MSIS data (Q3 of FY 2015) to estimate the MCO share in our target population (70.1 percent) because these data are from well after New York expanded

Medicaid under the ACA and include a flag for VIII Group enrollees. We expect the MCO share would be lower among the target population than among the non-target population because the target population includes duals not required to enroll in an MCO, and the non-target population is mostly children, who were required to enroll in an MCO.

## North Dakota

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was stable during our study period (21.0 percent in 2015, 22.7 percent in 2016, and 22.2 percent in 2017) and tracked well with our most recent MSIS data (through Q1 of FY 2014). North Dakota expanded Medicaid under the ACA and made VIII Group MCO enrollment mandatory after our last quarter of MSIS data, and we observed no other changes in mandatory MCO enrollment. We assumed the count of enrollees (excluding VIII Group enrollees) in our target population by MCO status remained steady. We calculated the MCO share after imputing MCO enrollment for VIII Group enrollees (adding reported VIII Group quarterly counts to the numerator and denominator). Our results (25.1 percent in 2015, 26.5 percent in 2016, and 26.6 percent in 2017 and 2018) track with the shares observed for the total population (above).

## Ohio

Enrollment reports indicate that the share of all Medicaid enrollees in managed care increased from 2013 to 2017 (69.8 percent in 2013, 72.5 percent in 2014, 74.4 percent in 2015, 79.8 percent in 2016, and 82.8 percent in 2017). We expect this partially relates to ACA Medicaid expansion in 2014, so we imputed VIII Group MCO enrollment using reported annual counts and the VIII Group flag on our most recent MSIS data (Q4 of FY 2014). The results do not show the increasing trend observed in the reported MCO data, but the MCO share for the target population is similar to that in the total population (83.6 percent in 2015, 83.8 percent in 2016, 83.8 percent in 2017, and 83.6 percent in 2018), which is expected given MCO enrollment requirements.

## Oregon

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was fairly stable from 2015 to 2017 (78.7 percent in 2014, 82.2 percent in 2015, 80.5 percent in 2016, and 80.4 percent in 2017). We saw no change in enrollment policy during our study period (ABD adults, duals, and children were the only major eligibility groups not required to enroll in an MCO), and MCO share

estimates from our 2014 and 2015 MSIS data tracked with those reported for the total Medicaid population. We used our most recent MSIS quarterly data (Q3 of FY 2015) to estimate the MCO share in our target population (88.7 percent). This is higher than the estimate for the total population because most of the non-target population is children, who are not required to enroll in an MCO. We assumed the MCO share was stable across the rest of our study period because (1) the MSIS showed the share was stable leading up to our last quarter of data and (2) the reported estimates for the total Medicaid population were stable.

## Pennsylvania

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was fairly stable from 2014 to 2017 (77.5 percent in 2014, 77.8 percent in 2015, 80.9 percent in 2016, and 79.7 percent in 2017). We observed no enrollment policy change besides ACA expansion in January 2015. Though we have data for three quarters after ACA expansion, VIII Group enrollment increased substantially in 2016, so we used our last quarter of data before ACA expansion to derive non-VIII Group enrollment counts by MCO status and imputed annual VIII Group enrollment, as described above. Our results track with the MCO share in the total population, because all major eligibility groups must enroll in an MCO.

## Rhode Island

The share of all Medicaid enrollees in managed care shown in enrollment reports tracks with our most recent MSIS data (Q4 of FY 2012). Because we observed no documented enrollment policy change besides ACA expansion in January 2014, we used our most recent MSIS data to derive counts of non-VIII Group enrollees in the target population by MCO status, and we imputed VIII Group enrollment using MBES-reported counts for 2014.

## South Carolina

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was fairly stable from 2015 to 2017 (62.0 percent in 2015, 60.1 percent in 2016, and 63.6 percent in 2017). We observed no enrollment policy changes, and our MSIS data track with the MCO share in the total Medicaid population (including a substantial increase from 2013 to 2014, which tracks with reported aggregate counts showing an increase from 45.9 to 66.1 percent in 2014). We used our most recent

MSIS data (Q3 of FY 2014) to estimate the MCO share in our target population (62.3 percent) and assumed it was stable throughout our study period.

## Texas

Enrollment reports indicate that the share of all Medicaid enrollees in managed care increased from 2014 to 2017 (78.1 percent in 2014, 82.7 percent in 2015, 88.4 percent in 2016, and 92.4 percent in 2017), though we observed no enrollment policy changes during this period. Estimates derived from MSIS data track with reported enrollment counts for the total Medicaid population in 2013 and 2014, so we assumed the percentage-point increase stemmed from proportional increases in enrollment in the target and nontarget populations. We then recalculated the estimated MCO share and assumed it was stable over the study period.

## Virginia

Enrollment reports indicate that the share of all Medicaid enrollees in managed care was fairly stable from 2013 to 2017 (67.8 percent in 2013, 67.0 percent in 2014, 69.1 percent in 2015, 68.3 percent in 2016, and 66.7 percent in 2017). We observed no enrollment policy changes; MCO enrollment was mandatory for most eligibility groups besides duals, and ACA expansion occurred after our study period. And because estimates derived from MSIS data track with the MCO share in the total Medicaid population, we used our most recent MSIS data (Q2 of FY 2014) to estimate the MCO share in our target population (60.0 percent) and assumed it was stable throughout our study period.

## Washington

Enrollment reports indicate that the share of all Medicaid enrollees in managed care increased each year from 2015 to 2017 (80.2 percent in 2015, 84.4 percent in 2016, and 88.3 percent in 2017). We observed no enrollment policy changes (MCO enrollment was mandatory for most eligibility groups besides duals and low-income beneficiaries not eligible for VIII Group). After studying changes in our 2014 and 2015 MSIS data, we observed that the increase in the MCO share occurred in the non-target population and estimates for the target population were stable. Thus, we used 2015 MSIS data to directly calculate the MCO share for the target population and assumed it was stable throughout the study period.

# West Virginia

Enrollment reports indicate that the share of all Medicaid enrollees in managed care increased substantially during our study period (38.5 percent in 2015, 70.5 percent in 2016, and 81.5 percent in 2017). Our 2013–15 MSIS data track well with the MCO shares reported for the total Medicaid population (e.g., 35.2 percent in Q2 of FY 2015 compared with 38.5 percent reported for the full year in 2015). Therefore, we used our last complete quarter of MSIS data (Q2 of FY 2015) to directly estimate the MCO share in 2015. We assume the MCO share in the entire Medicaid population increased in 2016 because ABD beneficiaries were required to enroll in an MCO that year. Thus, we indirectly estimate the MCO share in 2016 by imputing MCO status to counts of ABD enrollees (42.5 percent). For half of 2017 and all of 2018, West Virginia is treated as a fee-for-service state because it began carving out pharmacy benefits from managed-care contracts in July 2017.

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For more information on this project, see the accompanying research brief, “Medicaid Prescriptions to Treat Opioid Use Disorder under Fee-for-Service and Managed-Care Arrangements in 2018.”



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