

Analysis of Pharmacy Benefit Managers' Impact on Medicaid Drug Pricing

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Table of Acronyms

Affordable Care Act	ACA
Average Wholesale Price	AWP
Centers for Medicare and Medicaid Services	CMS
Children's Health Insurance Program	CHIP
Consumer Price Index	CPI
Federal Medical Assistance Percentages	FMAP
Federal Trade Commission	FTC
Fee-For-Service	FFS
Florida Agency for Healthcare Administration	FAHC
Health and Human Services	HHS
Louisiana Department of Health	LDH
Managed Care Organizations	MCOs
Maximum Allowable Costs	MACs
National Association of Medicaid Directors	NAMD
National Average Drug Acquisition Cost	NADAC
National Drug Code	NDC
National Drug Rebate Agreement	NDRA
Medicaid Drug Rebate Program	MDRP
Mountain Health Trust	MHT
Pharmacy Benefit Managers	PBM
Physician Assured Access System	PAAS
Preferred Drug List	PDL
Prepaid Ambulatory Health Plan	PAHP
Primary Care Case Management	PCCM
Social Security Income	SSI
Statewide Medicaid Managed Care	SMMC
Wholesale Acquisition Cost	WAC

1. Introduction

The federal government provides health insurance coverage to millions of low-income Americans through two separate programs. The first and most well-known is Medicaid, which is a federal entitlement program that was created under Title 19 of the Social Security Act in 1965.¹ Administered by state governments, Medicaid provides health insurance coverage to eligible low-income children and adults, as well as anyone receiving supplemental Social Security Income (“SSI”).²

In addition to Medicaid, the federal government created the “Children’s Health Insurance Program” or (“CHIP”). CHIP, which is also means-tested and administered by state governments, provides health coverage to low-income children, pregnant women, and families that have annual incomes above Medicaid eligibility levels but have no health insurance.³

These two programs provide a meaningful healthcare safety net nationwide. An estimated 82.3 million Americans—around 24 percent of the U.S. population—were enrolled in Medicaid or CHIP in 2021, at a total taxpayer cost of roughly \$662 billion.⁴ Even though these programs were created under federal law, state governments share in the responsibility to fund them, based on each state’s respective Federal Medical Assistance Percentage (“FMAP”).⁵

Though the federal government typically covers roughly 61.6 percent of Medicaid costs nationally, finding the resources to fund Medicaid and CHIP can be challenging for state governments.⁶ Indeed, of the four core service areas that generally constitute over 90 percent of all state General Fund expenditures on current services—education, healthcare, social services and public safety—Medicaid and CHIP costs typically rank as the second greatest state-level service expenditure, after K-12 Education.⁷

Moreover, the portion of state service expenditures dedicated to Medicaid and CHIP has risen over time, given that inflation related to healthcare costs usually out paces the Consumer Price Index (“CPI”), which is the most commonly used metric used to determine overall inflation—meaning Medicaid and CHIP costs tend to grow in real terms annually—and eligibility to enroll in Medicaid was expanded during the Obama Administration under the Affordable Care Act.⁸ Insuring more people costs more money. This in turn has created significant fiscal pressure for state governments for two reasons.

First, as indicated previously, over 90 percent of state expenditures on services generally go to the four core areas of education, healthcare, human services, and public safety.⁹ So when the portion of state service expenditures on Medicaid and CHIP grows, spending on the other core services can get crowded out.

Second, unlike the federal government, state governments for the most part cannot deficit spend.¹⁰ Hence to enhance or maintain spending on the other core services without raising taxes, state governments frequently look for ways to contain cost growth in their Medicaid and CHIP programs. One key healthcare expense state governments try to contain in their Medicaid and Chip programs is the cost of prescription drugs.¹¹

This is where Pharmacy Benefit Managers or (“PBMs”) get involved. PBMs play various roles in the administration of prescription drug benefit programs for public and private health insurance plans. In some instances, PBMs are limited in function to overseeing the administrative aspects of claims processing. In others, PBMs assume a more substantive role in containing plan costs by negotiating with drug manufacturers and pharmacies to obtain lower prescription drug prices and dispensing fees.

In the context of state governments, the use of PBMs has been promoted as a method to reduce overall Medicaid and CHIP plan costs—and thereby save taxpayer revenue to use for other core services. PBMs accomplish savings in these plans primarily by leveraging the buying power of millions of Medicaid and CHIP participants to negotiate volume discounts in prescription drug prices and dispensing fees with drug manufacturers, pharmacies, and mail order pharmacies. Given the significant amount of resources state governments are devoting to their Medicaid and CHIP programs, as well as the importance of these programs to vulnerable populations, it is crucial that decision makers understand how best to incorporate the use of PBMs in their fiscal management of Medicaid and CHIP.

Though the publicly available data has some limitations, as detailed in the Appendix on page 30, this report provides some insights into the question of how decision makers can best incorporate PBMs into the management of Medicaid and CHIP by:

- (i) Summarizing how PBMs work in practice at the state level to contain retail prescription drug costs in Medicaid programs, and to the extent relevant, how the “Managed Care Organizations (“**MCOs**”)” contract with various state governments to administer Medicaid and CHIP benefits and services;
- (ii) Providing a brief explanation of how the retail prices for prescription drugs are determined at the state level for Medicaid programs in the Managed Care/PBM setting—and how that differs from the traditional “Fee-For-Service” or “**FFS**” setting;
- (iii) Reviewing the impact of PBMs on prescription drug costs in Medicaid and CHIP programs for five states: Illinois, West Virginia, Louisiana, Missouri, and Florida. West Virginia and Missouri are examples of states that use a pharmacy benefit “carve-out,” which means some or all Medicaid prescription drug benefits are not included in the state’s respective managed care contracts. Illinois, Florida, and Louisiana were selected as states that rely on a pharmacy benefit “carve-in,” which means Medicaid prescription drug benefits are for the most part included in the applicable managed care contracts, as more thoroughly delineated in Section 3.3 of this Report;
- (iv) The analysis of the aforesaid five states contained in this Report is based on a review of the top 20 generic oral solid prescription drugs sold in each state (the “**Top 20 Generics**”), as well as a review of a group of 20 additional oral solid generic prescription drugs sold in each state that was chosen at random (the “**Random 20 Generics**”). The drug prices are compared to each state’s professional pharmacy dispensing fee and National Drug Acquisition Cost (“**NADAC**”) of said drugs. This Report highlights the difference between the retail per unit price of the Top 20 Generics and Random 20 Generics as billed to each state’s applicable Medicaid agencies, and the corresponding average, national, retail per unit cost pharmacies pay to acquire such drugs, as published by the Centers for Medicaid and Medicare Services (“**CMS**”) in NADAC.

2. Key Findings

- Overall, the analysis of pricing for Top 20 Generics and Random 20 Generics in this Report demonstrated that PBMs do have the potential to reduce prescription drug prices for state Medicaid and CHIP programs.
- In fact in 2020, 13 out of the 38 states—as well as the District of Columbia—which both used PBMs and billed Medicaid and CHIP prescription drugs in an MCO setting, had lower average prescription costs than in their respective FFS settings.
 - Louisiana and Florida, which utilized multiple PBMs in conjunction with various MCOs, realized prescription drug cost savings over what they would have paid for the same drug within a Fee-For-Service system, for the Top 20 Generic prescription drugs sold in those states.
 - It was not possible to verify whether Illinois consistently realized similar savings from its use of a PBM in conjunction with its MCO for its Top 20 Generic solid prescription drugs, as shown in Section 7.3.
 - West Virginia’s use of an FFS structure to administer the pharmacy benefit generated drug pricing consistency and mirrored national activity much better than states which did not use an FFS system.
 - Missouri might be overpaying for prescription drugs because its FFS pricing structure is not based on NADAC, but instead is tied solely to the Average Wholesale Price (“**AWP**”) and Wholesale Acquisition Cost (“**WAC**”) metrics, which studies have shown can artificially inflate drug prices.¹²
- The average retail price for prescription drugs varies significantly from state to state. However, that variation cannot be attributed to a disparity in regional drug acquisition costs, given that CMS calculations show NADAC prices are relatively stable across the nation.
- Despite using a PBM in conjunction with an MCO, Illinois, Louisiana, and Florida occasionally realized per unit drug price increases in instances when the NADAC published for such drugs by the CMS was not increasing.

- States that used an FFS structure without a PBM typically realized prescription drug price fluctuations that more consistently corresponded to the NADAC benchmark published therefor. For example, within West Virginia's FFS for both the Top 20 Generics and Random 20 Generic drugs analyzed were both consistently \$.15 above NADAC—a level of pricing consistency that was not achieved by the states analyzed which were contracting with a PBM, (Illinois, Florida, and Louisiana).

3. Medicaid

3.1 Introduction to Medicaid and CHIP

Medical Assistance, also referred to as Medicaid, is a federal entitlement program administered by states for eligible low-income children, adults, and anyone receiving supplemental Social Security Income. Medicaid, along with Medicare, were authorized by Title 19 of the Social Security Act in 1965.¹³ In addition to Medicaid, the Children's Health Insurance Program ("**CHIP**") is a means-tested program that provides health coverage to low-income children, pregnant women, and families that have annual incomes above Medicaid eligibility levels but have no health insurance.¹⁴ An estimated 82.3 million Americans—24 percent of the U.S. population—were enrolled in Medicaid or CHIP in 2021, at a total taxpayer cost of roughly \$662 billion.¹⁵

Though administered by individual states, Medicaid and CHIP are paid for by a combination of state and federal funds: in 2017, the federal government covered roughly 61.6 percent of Medicaid and CHIP costs nationally.¹⁶ But even with the federal government covering a sizable portion of the bill, spending on Medicaid and CHIP is typically the second greatest state General Fund expenditure on services after K-12 Education.¹⁷

Moreover, the portion of state service expenditures dedicated to Medicaid and CHIP has risen over time. The primary reasons for this are twofold. First, annual increases in healthcare costs usually outpace the CPI, which is the most common metric for measuring overall inflation. Hence Medicaid and CHIP costs tend to grow in real terms over time. Second, eligibility to enroll in Medicaid was expanded during the Obama Administration under the Affordable Care Act ("**ACA**").¹⁸ Obviously, with more people eligible to enroll in these programs the benefits they pay out increase. These factors necessarily combine to drive up state-level expenditures, because Medicaid and CHIP are entitlement programs, which means states are mandated by federal law to provide coverage in accordance with federal guidelines, regardless of a particular state's fiscal capacity.

This in turn creates significant fiscal pressure for state governments for two reasons. First, over 90 percent of state expenditures on services typically go to the four core areas of education, healthcare, human services, and public safety.¹⁹ So when the portion of state service expenditures on Medicaid and CHIP grows, spending on the other core services can get crowded out.²⁰

Second, unlike the federal government, state governments for the most part cannot deficit spend.²¹ Hence to enhance or maintain spending on the other core services without raising taxes, state governments frequently look for ways to contain cost growth in their Medicaid and CHIP programs. One key healthcare expense state governments try to contain in their Medicaid and Chip programs is the cost of prescription drugs.

3.2 Primary Models of Medicaid and CHIP Administration

State governments administer Medicaid and CHIP services in one of two ways. The first is through a Managed Care Organization or "**MCO**". An MCO is a third party company that may be set up as either a for-profit or non-profit entity, which enters into a contract to administer Medicaid and CHIP services on behalf of a state.²² The second is through a more traditional Fee-For-Service or "**FFS**" process, wherein a state governmental agency pays healthcare providers directly for providing services to Medicaid and CHIP patients.²³ Frequently, states end up using a combination of MCO and FFS approaches in the administration of Medicaid and CHIP services.²⁴

The salient features of the two approaches to Medicaid/CHIP administration are as follows:

(i) Managed Care Organization Model.

Under the MCO model, a state enters into a contract with a third party Managed Care Organization to administer specified Medicaid and CHIP benefits and services. Although there is significant variation in the scope and design of state arrangements with MCOs, this is the most common method used by states for Medicaid and CHIP service administration. In fact, as of July 2019, more than two-thirds of all Medicaid beneficiaries nationally received care through MCOs.²⁵

The standard MCO arrangement is commonly referred to as “comprehensive risk-based managed care.” Under this approach, a state agrees to pay a fixed dollar amount per month to an MCO to cover a defined service or set of services for each enrolled Medicaid and CHIP participant covered by the contract. Thereafter, the state assumes no other costs of the provision of qualified healthcare services to those Medicaid and CHIP participants. Instead, the applicable MCO pays healthcare providers for delivering services to Medicaid and/or CHIP participants falling under the MCO’s contract with the state.

In the comprehensive risk-based setting, the MCO assumes the financial risk if the sum of the payments it receives from the state are less than the sum of the cost of providing the applicable healthcare services, plus the administration thereof. However, the MCO gets to retain as profits the amount by which the payments it receives from the state exceed those costs.²⁶ Hence, MCOs are incentivized to negotiate with providers to reduce the cost of healthcare services to increase profit margins, an incentive that state health agencies do not have.

Some MCO arrangements deal with special healthcare services that may not be covered in the comprehensive risk-based setting. Under these “limited-benefit” plans, a state pays a per patient fee to an MCO to provide a very specific and narrow band of health services, such as inpatient mental health, substance abuse treatment, non-emergency transportation, dental, or pharmacy services.²⁷ As in the comprehensive risk-based setting, the state does not pay providers for the direct cost of the underlying services being provided, while the MCO assumes that responsibility and all associated financial risks or rewards. Limited-benefit plans are frequently used in combination with other forms of Medicaid and CHIP administration, depending on the state.²⁸

Finally, states also enter into “Primary Care Case Management” or (“PCCM”) arrangements. In a PCCM setting, the state pays a monthly case management fee to an MCO which assumes responsibility for managing and coordinating the medical care of specified Medicaid/CHIP participants. PCCM programs are typically used in rural areas or states where it is difficult to establish a network of healthcare providers, such as Montana and South Dakota, or for populations with complex health needs.²⁹ In the PCCM setting, healthcare providers are paid by the state.

(ii) Fee-For-Service Model.

Under the Fee-For-Service model, a state makes all payments for covered healthcare services received by Medicaid or CHIP participants directly to the applicable providers thereof. Although initially FFS was the predominant model for Medicaid and CHIP administration at the state level, in the 1980s states began enrolling more Medicaid recipients in managed care.³⁰ Congress then enacted the Omnibus Reconciliation Act of 1981, which included Section 1915(b) waivers—which permitted states to limit enrollees’ choice of participating providers, thereby allowing states to implement mandatory managed care for Medicaid populations.³¹ Section 1915(b) authority resulted in states enrolling about 2.3 million Medicaid participants in managed care by 1990.³² However, ten years thereafter in 1991, there were still fewer than 1 in 10 Medicaid participants enrolled in managed care.³³

Over the years, use of MCOs continued to increase due to a combination of statewide Medicaid eligibility expansions, coupled with enactment of additional federal waivers that allowed states to make enrolling in an MCO mandatory for Medicaid participants.³⁴ Between 1997 and 2009, enrollment in Medicaid managed care increased from 8 million participants to 49 million, with 23 million Medicaid participants enrolled in comprehensive risk-based plans.³⁵ By July of 2019, 69 percent, or 53.7 million Medicaid recipients, were enrolled in a comprehensive MCO.³⁶ The passage of the ACA in 2008 continued the shift towards MCOs: As of July 2021, 31 states were using MCOs to cover ACA Medicaid expansions.³⁷

In addition to the federal policies encouraging the transition to MCOs, state legislatures hoped that switching to MCOs, and thereby creating a fixed payment system for Medicaid, would lead to cost predictability. Early advocates for switching to managed care argued that private insurers would be more effective at delivering higher-quality care for a lower cost. Though there have been some instances in which MCOs have lowered costs and/or delivered higher quality care, the current body of research indicates that overall it remains inconclusive as to whether switching to a managed care system effectively generates any of the hoped for outcomes of reduced health expenditures, delivering higher quality care, or stabilizing state budgets.³⁸

That said, most states have transitioned away from using FFS as the primary method of administering Medicaid and CHIP services.³⁹ So much so that currently only two states, Alaska and Connecticut, use a Fee-For-Service model as their sole approach to administering all Medicaid and CHIP services. All other states use some combination of MCO and FFS arrangements to administer and pay for Medicaid and CHIP services.⁴⁰

In most states that use a combination of the two approaches, MCOs are retained to administer many, if not most of the services provided under Medicaid and CHIP, while certain specific healthcare related services, such as dental care, behavioral health services, or prescription drug coverage, are “carved-out” of the MCO benefit package. States then either have their respective health agencies directly administer the healthcare services carved-out of the MCO plans, effectively utilizing an FFS approach for these designated services, or implement a limited-benefit MCO plan.

When instead of being specifically carved-out, specialty health services are included in a comprehensive MCO plan, the arrangement is referred to as a benefit “carve-in.” For example, if an MCO health plan includes a service like dental care, the dental benefit is “carved-in” to that health plan.

Benefit carve-outs are used most often when an MCO’s health plan lacks the delivery system needed to provide a particular benefit. For example, many managed care health plans are ill equipped to provide behavioral health services for Medicaid or CHIP participants with mental health concerns. So states carve-out that healthcare service from the comprehensive-risk MCO plan, and instead either implement an FFS system directly with local mental health clinics, or enter a limited benefit behavioral health plan with an MCO with appropriate expertise in the area.⁴¹

A potential disadvantage to carve-outs is that they make it more difficult for Medicaid and CHIP participants to receive integrated care, with all of the patient’s different health providers communicating with each other about the patient’s overall healthcare. Since there is no single health plan that manages the different services delivered to a Medicaid or CHIP participant who utilizes healthcare services that have been carved-out of the comprehensive-risk plan, this can result in potentially disjointed treatment with care providers unaware of the other services a patient might be receiving. For example, if a patient is issued a painkiller by their primary care doctor, the other medical professionals caring for the patient may not have access to this information since the data is not necessarily shared between care providers, as it would be under a benefit carve-in scenario.

A potential benefit of carve-outs is that state Medicaid agencies have more direct access to setting and auditing the price of drugs and services.⁴² For example, as will be detailed in Section 4.6 of this Report, the lack of pricing transparency within certain pharmacy benefit carve-in contracts has led to states overpaying significantly for prescription drugs issued to Medicaid beneficiaries.⁴³ But similar to the lack of evidence on how effective MCOs are vs. FFS administration, comprehensive research on the impact of benefit carve-ins vs. carve-outs is lacking.⁴⁴

3.3 Carving In or Carving Out the Pharmacy Benefit

States are not required by federal law to cover prescription drugs under Medicaid and CHIP, but all states include prescriptions in the services they offer to Medicaid and CHIP participants.⁴⁵ States with MCOs may either fully “carve-in” the pharmacy benefit by including the pharmacy benefit in MCO contracts, or “carve-out” the pharmacy benefit by excluding the pharmacy benefit from the MCO contracts. Most states use a combination of MCO carve-ins and FFS carve-outs to administer pharmacy drug benefits in Medicaid and CHIP programs.⁴⁶

When the ACA passed, it established a much greater federal reimbursement rate for new Medicaid beneficiaries enrolled under the ACA expansion, shifting more of the cost for new enrollees from the state to the federal level.⁴⁷ Initially, that enhanced reimbursement rate encouraged states to move toward carving pharmacy benefits into their standard MCO contracts, because the ACA extended federal statutory rebates for prescription drugs provided under

Medicaid managed care arrangements for these new ACA enrollees.⁴⁸ These statutory rebates are negotiated rebates between drug manufacturers and the federal government, an agreement for states and the federal government to receive rebates in exchange for a companies' drugs to be prescribed to Medicaid patients. See Section 4.1 of this Report for a more detailed analysis of Federal rebates. Before the ACA, manufacturers only had to pay rebates for outpatient drugs purchased on a Fee-For-Service basis, not those purchased through managed care.⁴⁹

Though states moved towards pharmacy benefit carve-ins post the passage of the ACA, starting in 2019, the Kaiser Foundation noted that more states are either moving to carve-out their Medicaid pharmacy benefit or are reviewing the terms of their current pharmacy carve-in for reasons detailed in Section 4.6 of this Report.⁵⁰

4. Components of the Medicaid and CHIP Pharmacy Benefit

4.1 Federal Rebate Program

In an effort to help control the cost of the prescription drug benefit provided under Medicaid and CHIP, the federal government created the Medicaid Drug Rebate Program (“MDRP”) under Section 1927 of the Social Security Act.⁵¹

MDRP requires a drug manufacturer that desires to have its prescription drugs sold to Medicaid and Chip participants, to enter into a National Drug Rebate Agreement (“NDRA”) with the Secretary of the federal Department of Health and Human Services (“HHS”). Post registration, a manufacturer will have most of its drugs covered under Medicaid and CHIP programs available at the state level.⁵² In exchange, under its NDRA, each manufacturer assumes the obligation to pay negotiated rebates on a quarterly basis to states and the federal government, to offset the overall cost of the prescription drugs it provides to Medicaid and CHIP enrollees.⁵³ Approximately 780 drug manufacturers currently participate in the MDRP, and all fifty states and the District of Columbia purchase Medicaid prescription drugs under the MDRP agreement.⁵⁴

In addition to the aforesaid federal statutory rebates, the MDRP authorizes states using an FFS system, as well as MCOs in states that have “carved-in” prescription drug benefits, to negotiate directly with drug manufacturers to attain supplemental rebates.⁵⁵ Moreover, a number of states have formed multi-state purchasing pools for negotiating supplemental Medicaid rebates to increase their negotiating power and thereby attain even greater supplemental rebates.⁵⁶

This combination of statutory and supplemental rebates covered roughly 55 percent of aggregate Medicaid drug spending in FY 2017.⁵⁷ That said, it is not possible to identify the full fiscal impact of NDRA agreements, **because the rebate amount on a given drug is proprietary to the individual drug manufacturers for both statutory and supplemental rebates, and hence not available for public review.**⁵⁸ Without access to NDRAs, the general public and researchers are only able to see the total amount of quarterly drug reimbursements the states receive from manufacturers, not the breakdown of the negotiated rates for each drug.⁵⁹ Without the breakdown of how much the federal government, states, and MCOs are able to negotiate for each drug, it is difficult to assess and compare the precise value add these agreements bring when it comes to lowering Medicaid and CHIP prescription drug costs.

4.2 Preferred Drug Lists

Another way states attempt to keep prescription drug costs down is through maintaining a preferred drug list (“PDL”) of outpatient prescription drugs included in their respective Medicaid and CHIP pharmacy benefit programs. The PDL is a list of outpatient drugs that states encourage providers to prescribe over other drugs. At least 45 states use PDLs in their FFS programs.⁶⁰

States employ a variety of tactics to encourage medical providers to prescribe drugs from a state's PDL. For example, a state may require a patient to obtain prior authorization for a drug not on a preferred drug list or impose a higher co-pay for drugs not on the PDL.⁶¹ Because states are statutorily required to make available nearly all prescribed drugs from manufacturers with an NDRA in both MCO and FFS settings, PDLs allow states to help manage drug utilization. Including a drug on a state's PDL is also an important tool that states use to negotiate supplemental rebate agreements with drug manufacturers.⁶²

As mentioned above, most states have established PDLs for their FFS programs. However, these PDLs do not necessarily apply to MCOs that administer a “carved-in” pharmacy benefit for Medicaid and CHIP. This reality led some states to

begin establishing unified PDLs, which mandate that MCOs use the same PDL for the carved-in prescription drug benefit as does that state's FFS program.⁶³ In theory, moving to a unified PDL could increase state level rebates from drug manufacturers by allowing negotiations to include the entire enrolled Medicaid population, resulting in overall lower prescription drug prices, or at the least slowed growth in drug costs. A unified PDL also has the potential to reduce administrative burdens for health care providers and to increase drug access for beneficiaries, by ensuring that certain MCOs do not limit the drugs available to the Medicaid recipients enrolled in their programming.⁶⁴ Though states such as Florida and Texas have implemented unified PDLs as a way to reduce prescription drug costs, the current body of research is inconclusive on whether unified PDLs reduce the overall cost of Medicaid prescriptions and prescription drug programming.⁶⁵

4.3 Co-Payments

States also have the right to require co-payments from Medicaid and CHIP participants to help reduce the taxpayer cost of paying for prescription drugs. Under the ACA, these co-payments are statutorily capped by the federal government at \$4 for preferred drugs, while for non-preferred drugs, the ACA allows states to require co-pays of up to \$8 for most beneficiaries with incomes at or below 150% of the federal poverty line or "FPL".⁶⁶ However, because Medicaid and CHIP are entitlement programs, states still cover the cost of prescriptions when: (i) a Medicaid or CHIP beneficiary is unable to satisfy a co-pay obligation; (ii) an enrollee's income is under 100% of the FPL; or (iii) an enrollee is part of a protected group, such as pregnant women.⁶⁷

4.4 Role of Pharmacy Benefit Managers in Medicaid and CHIP

Similar to how states contract with MCOs to manage the delivery of healthcare, states and MCOs may contract with PBMs to perform clinical services, administer rebates, oversee preferred drug lists and manage prescription drug benefit programs.

For instance, in a carve-in setting, a comprehensive MCO may enter a contract with a third party PBM to administer the prescription drug portion of the MCO's state contract. In a carve-out setting, a state may directly retain a PBM to manage that state's FFS prescription drug program.

The main benefit stemming from the use of PBMs is their ability to obtain reduced drug prices and dispensing fees for prescription drugs. PBMs are able to negotiate these costs down by leveraging the combined purchasing power of participants in Medicaid and CHIP they have the contract to serve when negotiating with drug manufacturers and pharmacies. This is a tactic that has the potential to be quite beneficial, because the PBM market is highly consolidated. In fact, three companies, CVS Caremark, OptumRx, and Express Scripts accounted for 77 percent of the health plan pharmacy benefit market in 2020, including health plans administered through Medicaid.⁶⁸

While the main rationale for using a PBM in either the MCO or FFS setting is the same—administering Medicaid/CHIP claims and processing prescription drug benefits—the two models differ substantially. In the FFS setting, PBMs are bound by federal rules regarding maximum drug ingredient costs.⁶⁹ On the other hand in an MCO setting, there are fewer regulations that restrict what a PBM can do when negotiating with pharmacies on drug prices and dispensing fees.⁷⁰

This means PBMs acting on behalf of Managed Care Organizations can negotiate individual prices with pharmacies and can set their own internal PDLs for Medicaid recipients enrolled in the managed care plans contracting with the applicable PBM.⁷¹ PBMs used in the MCO setting can also set their own internal maximum drug ingredient costs.⁷² Moreover, a PBM retained by an MCO is not obligated to disclose its pricing strategies publicly.⁷³ In fact, the broad powers given to PBMs and lack of transparency over some of their practices, have led the federal government and various states to begin scrutinizing the PBM business model, to determine if in some cases PBMs may be playing a role in increasing prescription drug costs and spending in Medicaid and CHIP programs.⁷⁴

4.5 PBM Pricing Models

PBMs use one of three approaches to being paid for handling the prescription drug benefit made available to participants in a state's Medicaid or CHIP program: (i) Fee-For-Service pricing; (ii) pass-through pricing; or (iii) spread pricing.

Fee-For-Service is the simplest pricing arrangement used by PBMs and is reserved solely for situations where the PBM has been retained directly by the state to handle administration of prescription drug benefits. Under this model, the pharmacy bills the PBM a prescription drug price plus dispensing fee at levels set by the state Medicaid agency.⁷⁵ The PBM then invoices the applicable state agency to cover the exact cost of the drug and dispensing fee in question. In the Fee-For-Service scenario, a PBM makes its profit by charging the state an aggregate, annual administrative fee that is independent of the costs associated with drugs dispensed to participants in the state's Medicaid and CHIP programs.⁷⁶

The pass-through pricing system is one of two ways a PBM bills for its services when the PBM has been retained by an MCO that is managing a plan that has had the prescription drug benefit carved-in. As the name implies, under a pass-through pricing system, the PBM charges the MCO the exact amount charged by a pharmacy for dispensing a prescription drug to a Medicaid or CHIP enrollee.⁷⁷ As outlined previously, the PBM will in most cases have negotiated with the applicable drug manufacturer a reduced price for the prescription drug in question and have negotiated a reduced dispensing fee with the pharmacy in question. In this scenario, the PBM makes its profit by charging the MCO a separate management fee, which can be predicated on the number of participants in the Medicaid and CHIP programs, or a per transaction fee, or an aggregate annual fee.⁷⁸

Spread pricing is the second way a PBM that has been retained by an MCO bills for its services. Under a spread pricing arrangement, the PBM first reimburses a pharmacy for dispensing a prescription drug to an eligible Medicaid or CHIP participant, based on a drug price the PBM has negotiated with the applicable manufacturer, and a dispensing fee negotiated with the pharmacy in question. The PBM then bills the comprehensive plan MCO at a mark-up from the reimbursement it made to the applicable pharmacy for the applicable drug and dispensing fee.⁷⁹ The mark-up is how the PBM makes its profit, on top of any additional administration and transaction fees it receives under its contract with the state or MCO in question.

Spread pricing is most commonly used by PBMs when dealing with generic drugs, due to the significant discounts generic drug manufacturers typically offer to pharmacies and wholesalers.⁸⁰ Because of this, a pharmacy's acquisition cost for a generic drug is frequently not related to that drug's list price. Moreover, states have limited data against which they can benchmark generic drug prices. That in turn makes it difficult for state Medicaid agencies to determine reasonable reimbursement rates for generic drugs. This has raised the concern that PBMs are using this lack of transparency to charge somewhat inflated prices to MCOs for generic drugs, making an undue profit and unjustifiably increasing taxpayer costs.⁸¹

4.6 Recent Calls for PBM Accountability and Oversight

In December of 2021, Centene, the nation's largest MCO, paid \$27.6 million to the state of Kansas to settle fraud allegations concerning its handling of that state's Medicaid programs PBM contracts.⁸² Previously Centene settled similar lawsuits filed by the states of Mississippi, Illinois, Arkansas, and Ohio, for a cumulative total of \$242.3 million.⁸³ The first of these lawsuits was filed by Ohio's Attorney General Dave Yost in 2017, when it was made public that Centene's managed-care plan used its own PBM in conjunction with CVS Caremark, and appeared to bill taxpayers \$20 million for duplicative services.⁸⁴

Because of high profile issues involving the use of PBMs, like the Centene fraud settlements, there has been increased scrutiny from various state legislatures and state attorney generals, as well as Congress, of whether PBMs are really working to reduce prescription drug costs in Medicaid and CHIP programs.⁸⁵

This has resulted in the discovery that in some cases, the use of spread pricing by PBMs may be increasing, rather than reducing, prescription drug prices in Medicaid and CHIP programs. For instance, a report by Ohio's state auditor found that PBMs cost that state's Medicaid and CHIP programs nearly \$225 million by using spread pricing to artificially inflate the cost of prescription drugs charged to Ohio's managed care plan.⁸⁶

Similarly, the Massachusetts Health Policy Commission found that PBMs charged MassHealth MCOs more than the actual acquisition price paid for 95% of the generic pharmaceuticals the Commission analyzed, which covered the last calendar quarter of 2018.⁸⁷

Meanwhile, a study prepared for the Michigan Pharmacists Association found that PBMs contracting with Michigan MCOs used spread pricing to collect payments for generic drugs from that state's MCOs which exceeded the actual acquisition cost thereof by over 30 percent, resulting in the state being overcharged by \$64 million.⁸⁸

Because of the various problems discovered in the use of spread pricing by some PBMs, legislation has been introduced in Congress to prohibit spread pricing, and state legislatures across the country are also working to either outlaw spread pricing, or ban the usage of PBMs in state contracts.⁸⁹ As recently as March of 2022, the Federal Trade Commission ("FTC") began soliciting public input to inform an investigation into whether the vertical and highly consolidated nature of PBMs is hindering fair competition and hence forcing prescription drug prices to increase.⁹⁰

5. A National Snapshot of Medicaid Generic Prescription Costs

As shown in **Figure 1**, the average prescription drug price for generic solids provided through Medicaid and CHIP in 2020—the most recent year for which complete data is available—varied both by state, and by whether the program is set up on an FFS or MCO basis. Overall, the national average FFS cost per prescription for generic oral solids in 2020 was \$29.43, while it was \$34.27 in the MCO setting.⁹¹

It is important to emphasize that FFS and MCO metrics in **Figure 1** were created using prescription costs for generic oral solid drugs only: brand name drugs, which tend to be significantly more expensive are not included. PBM's pricing flexibility for "blockbuster" brand name drugs entering the market with no generic alternative has been analyzed in other studies, such the examination of Hepatitis B treatment pricing conducted by Jack Kemp and Prof Tony LoSasso at DePaul University.⁹² The averages in **Figure 1** also do not account for the fiscal impact of NDRA reimbursements, since those negotiated rebates are reported as a quarterly lump sum and cannot be analyzed at the prescription level.

Figure 1
Average Prescription Drug Costs for Generic Solids Provided Through Medicaid and CHIP in 2020
and Percent of Pharmacy Benefit Administered by MCOs

State	FFSU	MCOU	Percent RX administered by MCO by \$
AK	\$29.75	\$-	0%
AL	\$31.10	\$-	0%
AR	\$23.38	\$31.44	19%
AZ	\$34.30	\$49.56	99%
CA	\$46.23	\$42.45	50%
CO	\$32.28	\$19.16	4%
CT	\$40.38	\$-	0%
DC	\$21.94	\$15.88	27%
DE	\$18.78	\$7.36	99%
FL	\$23.53	\$34.89	91%
GA	\$24.71	\$23.16	33%
HI	\$15.04	\$31.38	100%
IA	\$13.94	\$18.99	99%
ID	\$26.52	\$-	0%
IL	\$20.53	\$33.00	92%
IN	\$29.16	\$37.59	68%
KS	\$14.75	\$32.21	100%
KY	\$21.78	\$35.08	92%
LA	\$26.40	\$39.14	97%
MA	\$29.78	\$42.17	50%
MD	\$33.02	\$28.74	66%
ME	\$29.22	\$-	0%
MI	\$29.57	\$28.32	44%
MN	\$42.75	\$37.97	84%
MO	\$38.68	\$-	0%
MS	\$21.24	\$27.61	83%
MT	\$25.81	\$-	0%
NC	\$38.27	\$-	0%
ND	\$19.88	\$12.59	6%
NE	\$9.20	\$29.10	100%
NH	\$11.86	\$28.18	100%
NJ	\$17.90	\$30.18	99%
NM	\$20.08	\$25.69	93%
NV	\$27.31	\$21.19	55%
NY	\$32.02	\$37.92	88%
OH	\$25.95	\$42.62	92%
OK	\$28.58	\$-	0%
OR	\$25.42	\$31.22	87%
PA	\$19.09	\$42.14	99%
RI	\$15.41	\$31.28	97%
SC	\$20.79	\$25.28	76%
SD	\$26.45	\$-	0%
TN	\$26.33	\$1.76	12%
TX	\$20.34	\$46.97	98%
UT	\$26.56	\$24.37	55%
VA	\$19.22	\$51.95	99%
VT	\$22.54	\$-	0%
WA	\$18.88	\$25.82	92%
WI	\$37.75	\$-	0%
WV	\$22.60	\$6.68	3%
WY	\$18.02	\$-	0%
National Average	\$29.43	\$34.27	66%

Source: CTBA analysis of CMS 2020 State Drug Utilization Data

Among states using an FFS system, California had the highest average prescription cost for generic oral solids in 2020, at \$46.23 per drug, while Nebraska had the lowest at \$9.20 per prescription. Within MCO pharmacy benefit administration, the highest average prescription cost for generic oral solids in 2020 was in Virginia at \$51.95 per prescription, while the lowest was in Tennessee at \$1.76 per prescription. It is interesting that the average retail prescription drug price varies as significantly as it does from state to state, given that CMS calculations show that NADAC prices are relatively stable across the nation. Hence the significant variation in retail drug prices seen among the states cannot be attributed to a disparity in regional drug acquisition costs.⁹³

Moreover, FFS professional pharmacy dispensing fees in most states vary from just \$9-\$12, and hence do not account for the wide variation in retail prescription drug prices.⁹⁴ So it remains unclear what factors actually drive these differentials.

On a positive note, the 2020 data does show that on average 13 out of the 38 states, as well as the District of Columbia, which used PBMs and billed Medicaid and CHIP generic oral solids in the MCO setting, had lower average prescription costs than in the FFS setting.⁹⁵ This finding demonstrates how there can be prescription drug cost savings attained by some states utilizing PBMs.

6. State Level Analysis

The following five sections of this Report dig deeper into Medicaid and CHIP pharmacy benefit costs for the states of Illinois, Florida, West Virginia, Missouri, and Louisiana, to determine if the data show whether use of a PBM is, or could be, generating prescription drug cost savings in those states.⁹⁶ Because this determination is in large part dependent on the National Average Drug Acquisition Cost or NADAC metric, an overview of NADAC is provided in the appendix set forth in Section 14 of this Report.

West Virginia and Missouri are examples of states that use a pharmacy benefit “carve-out.” Recall that carving out the pharmacy benefit means state administrators directly manage the Medicaid and CHIP prescription drug programs, instead of having an MCO manage those programs on behalf of the state. Illinois, Florida, and Louisiana were selected as states that rely on a pharmacy benefit “carve-in.” Recall that a carve-in is when a state contracts with an MCO to manage its Medicaid and CHIP prescription drug benefits, frequently in conjunction with a PBM.

The state-level analysis contained in this Report is based on a review of both: the top 20 generic oral solid prescription drugs sold in each state (the “**Top 20 Generics**”); as well as a group of 20 additional oral solid generic prescription drugs chosen at random (the “**Random 20 Generics**”). All of the drugs analyzed had a corresponding NADAC metric.

Figure 2 shows the average cost of the Top 20 Generics in each of the states being studied, while **Figure 3** shows the average cost for the Random 20 Generics in each state.

Figure 2
Average Cost of Top 20 Generics

	FL	LA	IL	WV	MO
2019	\$5.88	\$10.33	\$10.99	\$13.18	\$22.03
2020	\$6.47	\$10.90	\$12.01	\$13.15	\$21.47
2021 (Q1 only)	\$7.19	\$12.18	\$10.72	\$11.63	\$17.97
Average	\$6.29	\$10.79	\$11.41	\$12.99	\$21.33

Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data

The three lowest average prescription prices for the Top 20 Generic oral solids were realized in Florida, Louisiana, and Illinois—which are the states analyzed in this study which carve-in the majority of their pharmacy benefit, and thereby utilize a PBM to administer the pharmacy benefit. It is notable, however, that the highest and lowest average cost of the Top 20 Generics by state does not necessarily correlate to the highest and lowest average cost of the Random 20 Generics by state, except for Missouri having the most expensive prescriptions in both data sets.

Figure 3
Average Cost of Random 20 Generics

	IL	WV	FL	LA	MO
2019	\$17.59	\$16.35	\$15.84	\$20.63	\$29.82
2020	\$20.09	\$20.83	\$36.04	\$32.71	\$41.70
2021 (Q1 only)	\$12.47	\$16.66	\$12.70	\$17.74	\$23.75
Average	\$18.06	\$18.23	\$24.01	\$25.10	\$34.24

Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data

7. Illinois

7.1 MCOs in Illinois

Medicaid and CHIP play a significant role in providing Illinois families with access to healthcare. As of May 2021, Illinois had enrolled 3,331,614 individuals—or over 26 percent of the state’s total population—in Medicaid and CHIP.⁹⁷ That in turn means Medicaid and CHIP are meaningful items in the state’s overall budget, with Illinois’ total expenditures on Medicaid and CHIP coming to roughly \$19 billion per year.⁹⁸

Over the past 10 years, Illinois’ use of MCOs to manage its Medicaid and CHIP programs has increased significantly. Consider that in 2010, managed care organizations served just over 2.58 percent of Illinoisans enrolled in Medicaid and CHIP, and handled a total of \$251 million in claims.⁹⁹ In that same year, the state’s legislature passed Public Act 96-1501, which required that at least 50 percent of all Medicaid recipients eligible for full benefits be enrolled in an MCO care coordination program by January 1, 2015.¹⁰⁰ This pivot to MCOs was intended to rein in program expenditures, and was projected to save the state \$500 million over four years.¹⁰¹

The legislation successfully transitioned Illinois into becoming a state that is predominantly reliant on MCOs to manage its Medicaid and CHIP programs. In fact by 2021, over 80 percent of Illinoisans enrolled in Medicaid and CHIP were being served by an MCO.¹⁰² And while final data is not yet available for later years, by 2019, MCOs collectively handled around \$14 billion in Medicaid and CHIP related claims.¹⁰³ That said, the state has yet to verify that it is realizing the projected savings that informed the switch to MCOs in the first place.¹⁰⁴

In Illinois, the pharmacy benefit is primarily “carved-in” to MCO contracts.¹⁰⁵ However, a few prescription drugs are still dispensed to Medicaid and CHIP participants on a Fee-For-Service basis.¹⁰⁶

7.2 PBMs in Illinois

Illinois has been using PBMs since the early 2000s.¹⁰⁷ Illinois has encountered similar issues involving problematic billing practices as have several other states that have contracted with Centene to serve as a PBM.¹⁰⁸

To ensure PBMs were providing the intended services to both the state and its Medicaid enrollees, in August 2019, Governor JB Pritzker signed HB 465, which codified a number of PBM requisites.¹⁰⁹

For instance, HB 465 “Provides that a contract between a health insurer and a pharmacy benefit manager must:

1. require the pharmacy benefit manager to update maximum allowable cost pricing information, and maintain a process that will either eliminate drugs from maximum allowable cost lists or modify drug prices to remain consistent with changes in pricing data;
2. prohibit the pharmacy benefit manager from limiting a pharmacist's ability to disclose the availability of a more affordable alternative drug; and
3. prohibit the pharmacy benefit manager from requiring an insured to make a payment for a prescription drug in an amount that exceeds the lesser of the applicable cost-sharing amount or the retail price of the drug.”¹¹⁰

This law was intended to increase affordability and access for prescription drugs for both the state and Medicaid and CHIP enrollees in a number of ways. First, making sure that PBMs are updating the drug pricing reimbursements in tandem with national drug pricing databases such as NADAC, should keep PBM reimbursements in line with market prices. If the cost of a drug goes down nationally, the cost of that drug should go down when PBMs bill insurance

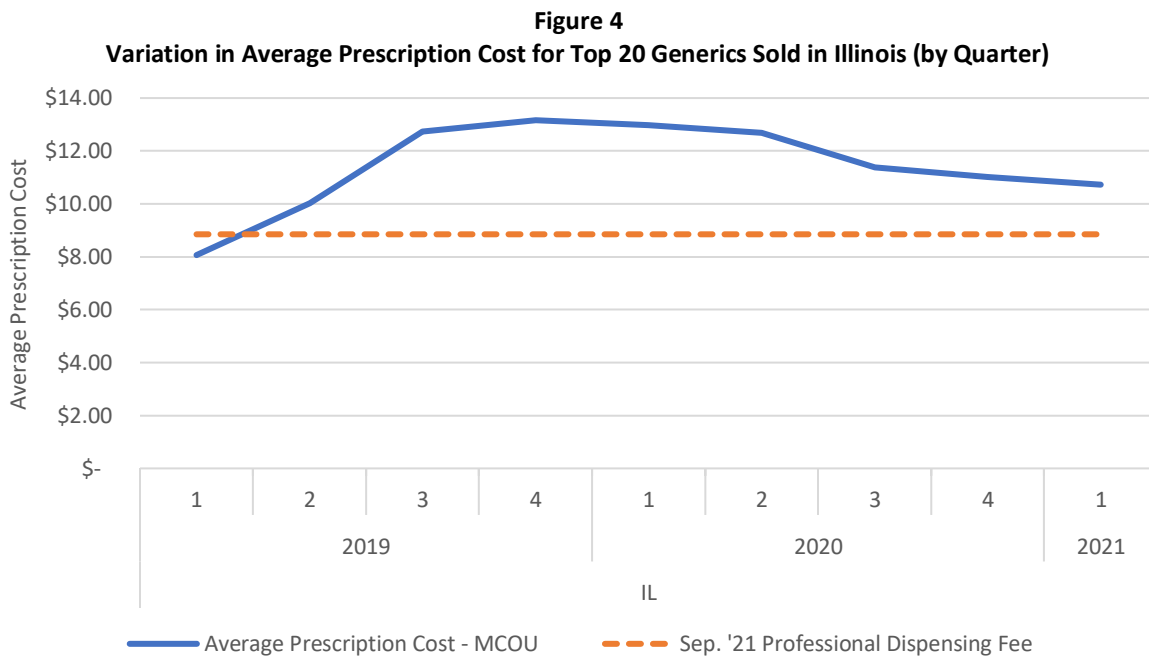
programs such as Medicaid for said drug. The second provision simply allows pharmacists to communicate with their clients about alternate, lower cost medications without a PBM interfering, increasing access to drugs a patient may not necessarily know about. The third provision protects the insured from being over-billed by PBMs for prescription drugs.

After that reform passed, Illinois—like a few other states—ended up working out a settlement of potential fraudulent billing practices with Centene, a significant PBM manager in the state. In September 2021, Illinois Attorney General Kwame Raoul announced that Illinois would be receiving a settlement payment totaling \$56.7 million from Centene, based on Centene allegedly submitting pharmaceutical reimbursement requests that did not accurately disclose the cost of pharmacy services.¹¹¹ According to the state, the requests for reimbursement Illinois received from Envoke, the PBM managed by Centene, did not disclose available pharmaceutical discounts and improperly inflated dispensing fees.¹¹²

7.3 Illinois Prescription Drug Prices and Per Unit Drug Prices

In 2020, roughly 92 percent of the prescription drugs sold to Medicaid and CHIP participants in Illinois were processed through an MCO setting.¹¹³ This represents a steady increase from 88 percent in 2019 and 80 percent in 2018.¹¹⁴

Figures 4 and 5 show the trends in both average prescription cost and per unit cost for the Top 20 Generics sold in Illinois over the nine calendar quarters from 2019 Q1 through 2021 Q1 which are analyzed in this Report, measured by number of prescriptions. In this analysis, per unit cost refers to the price per pill of a particular generic oral solid.



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

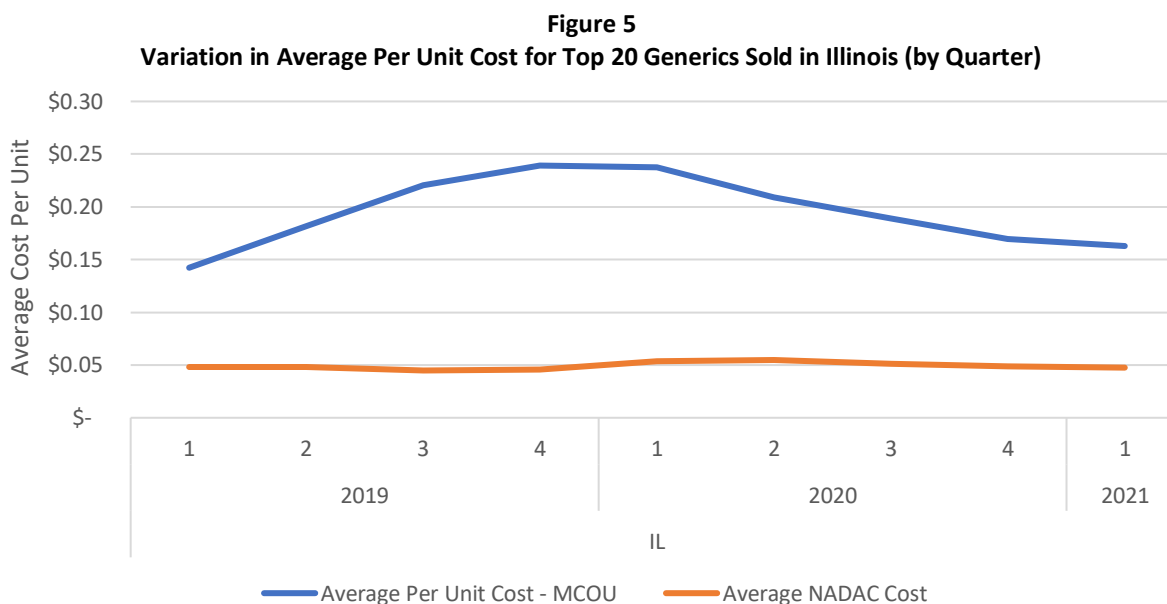
The Top 20 Generics in Illinois are all prescribed in the MCO setting, as a part of Illinois’ Medicaid Pharmacy Benefit carve-in.

In **Figure 4**, the FFS pharmacy professional dispensing fee is represented by the orange dotted line. In Illinois, this fee is set at \$8.85 for pharmacies deemed as not “critical service” for rural areas.¹¹⁵ The critical service dispensing fee was not factored into this analysis since there are only around 70 of such pharmacies in Illinois.¹¹⁶

Since none of the Top 20 Generics in Illinois were dispensed through the state’s Fee-For-Service system, none of the actual drug prices charged in the FFS setting could be included in this analysis. However, because the state’s established dispensing fee applies to all prescription drugs sold through the FFS system, **the FFS professional dispensing fee for regular pharmacies serves as a proxy for a significant component of the minimum price of drugs in the FFS setting.**

MCOs and their respective PBMs are not, however, required to utilize the professional dispensing fee set by the state, because it is intended that PBMs save prescription drug costs for Illinois' Medicaid and CHIP programs, in part by negotiating lower dispensing fees with pharmacies. Hence, if Illinois' prescription prices or the drugs analyzed in this Report fall below the state's set professional dispensing fee, then it can be assumed that PBMs are definitively driving prices below what the state would have paid for the same drug in the FFS setting.

Unfortunately, the contracts PBMs negotiate with pharmacies are not available to the public to determine exactly how effective PBMs have been at reducing the state established dispensing fee in the MCO setting.¹¹⁷ **There has, however, been some national research done on this issue, which has estimated that PBMs are able to reduce professional dispensing fees significantly, sometimes to as low as \$0.80.**¹¹⁸



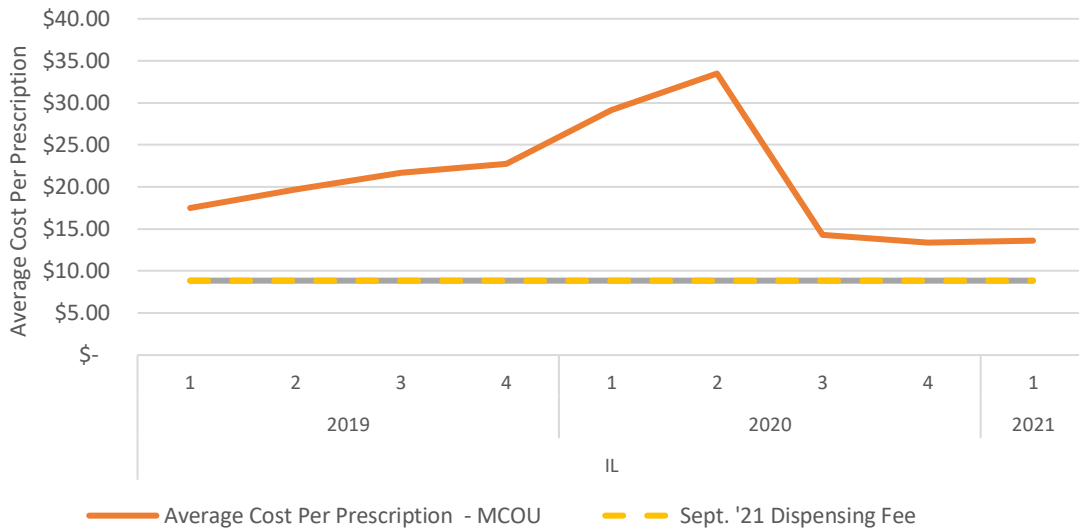
Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

Figure 5 shows that the per unit cost for the Top 20 Generics dispensed through the state's MCO system managed by PBMs fluctuates in a manner that does not correlate to the relatively stable average price therefor published by NADAC. Hence the rise in per unit costs of the Top 20 Generics that occurred in Illinois over the 2019 Q1-2020 Q2 sequence, is not due to changes in actual prescription drug acquisition costs across the nation, which are reflected in NADAC.

To supplement the analysis covering the Top 20 Generics, this study also reviews pricing for the Random 20 Generics sold in each state. This was done for several reasons. First, the Top 20 Generics typically account for just 1 percent of all generic oral solids reimbursed through a state's Medicaid and CHIP programs. Second, because the Top 20 Generics are the most popular drugs, their pricing and dispensing fees may be the subject of more intense and focused negotiations than other generics.

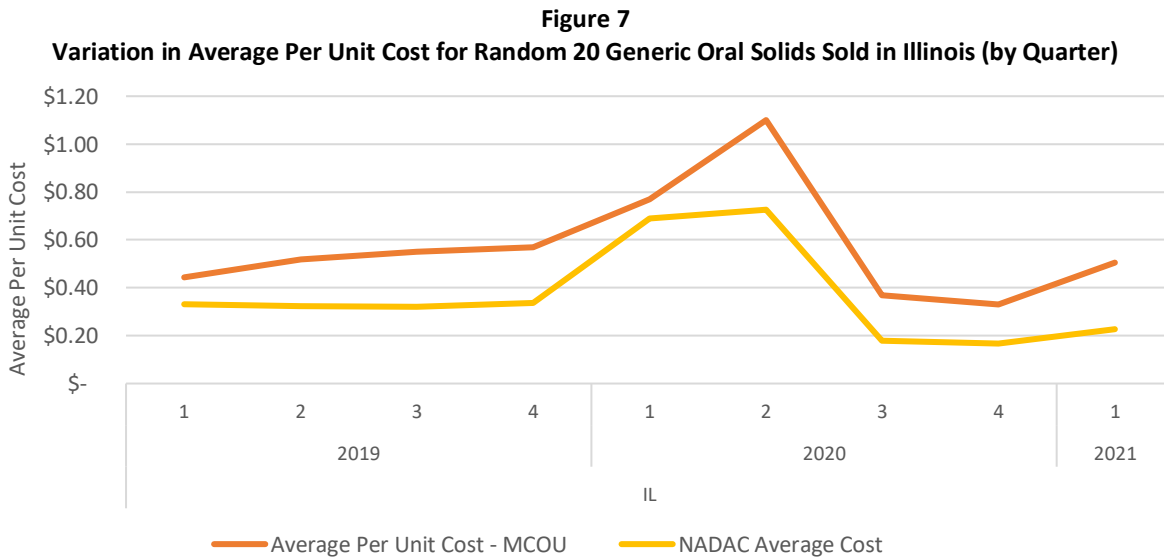
Figures 6 and 7 show the average prescription costs and per unit costs for the Random 20 Generics sold in Illinois over the nine calendar quarters from 2019 Q1 through 2021 Q1 that are analyzed in this Report. **Figure 6** shows that **over the 2019 Q1 through 2021 Q1 sequence, the average cost of the Random 20 Generics sold in the MCO setting were all well above the state established FFS dispensing fee—which theoretically could have been negotiated to a lower level in the MCO setting. Recall, national research has estimated that PBMs are able to reduce professional dispensing fees significantly, sometimes to as low as \$0.80.**¹¹⁹

Figure 6
Variation in Average Prescription Cost for Random 20 Generic Oral Solids sold in Illinois (by Quarter)



Source: CTBA analysis of CMS 2019, 2020, and 2021 Q1 State Drug Utilization Data and NADAC

Figure 7 shows that the price increases identified in Figure 6 mostly correlate to fluctuations in the NADAC acquisition cost of the drugs being analyzed.



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

In Illinois, MCO per unit drug pricing appears to respond quickly to national pricing changes as reflected in NADAC. It appears that PBMs in Illinois also responded quickly to changes in national pricing when administering the Random 20 Generics, with the exception of the time period between 2020 Q1 and 2020 Q2.¹²⁰ This is notable because other states analyzed in this study which had comprehensive MCOs that contracted with PBMs throughout the time period analyzed, particularly Florida and Louisiana, did not always demonstrate the same level of responsiveness to changes in the market prices of the applicable drugs. It is also notable because the Top 20 Generics analyzed in Illinois had price increases that did not always correlate with NADAC, while the price of the Random 20 Generics appeared to fluctuate mostly in tandem with NADAC.

8. West Virginia

8.1 MCOs in West Virginia

Medicaid and CHIP are even more important in West Virginia than in Illinois, given that West Virginia had enrolled 603,082 individuals—or roughly 33 percent of the state's population—in those programs as of November 2021.¹²¹ Collectively, Medicaid and CHIP expenditures in West Virginia come to roughly \$4.1 billion per year.¹²²

West Virginia has relied on an MCO to administer its Medicaid and CHIP services since 1996.¹²³ West Virginia's Bureau for Medical Services contracts with three MCOs. The Bureau carves-out point of sale pharmacy, long-term care, home and community-based waivers, and non-emergency medical transportation services from its MCO administration.¹²⁴

Beginning in 1996, the state appointed Mountain Health Trust (“MHT”), a comprehensive risk-based managed care program, to administer benefits for 87 percent of West Virginia's Medicaid and CHIP participants.¹²⁵ This MCO covers adults and children, pregnant women, individuals receiving SSI, and CHIP members.¹²⁶ Low-income adults and children without disabilities may also be eligible to participate in the state's Mountain Health Choices program, which covers services not otherwise offered in Medicaid, such as nutritional benefits and other preventative healthcare measures.¹²⁷

West Virginia Medicaid covers enrollees for most prescription drugs and some over-the-counter medicines, per federal law.¹²⁸ West Virginia used to carve-in the state's prescription drug benefit to MCO contracts, but instituted FFS carve-out services for prescription drug benefits beginning in 2017.¹²⁹ After the switch to FFS, the West Virginia Bureau for Medical Services reported \$54.45 million in projected savings from administrative costs paid to MCOs and taxes and fees that do not need to be paid under FFS arrangements.¹³⁰

To help administer the state's pharmacy benefit carve-out, West Virginia contracts with local health agencies and universities.¹³¹ In 2019, West Virginia reported to the Kaiser Family Foundation that the state partners with the West Virginia University School of Pharmacy's Rational Drug Therapy Program and the Marshall University Health Coalition to assist in compiling the state's PDL and getting prescriptions to Medicaid enrollees.¹³² West Virginia also reported that the state worked with DXC Technologies, an IT and cloud computing services company, to help administer the technical portion of the pharmacy benefit, as well as with Change Healthcare, another healthcare technology company.¹³³

8.2 PBMs in West Virginia

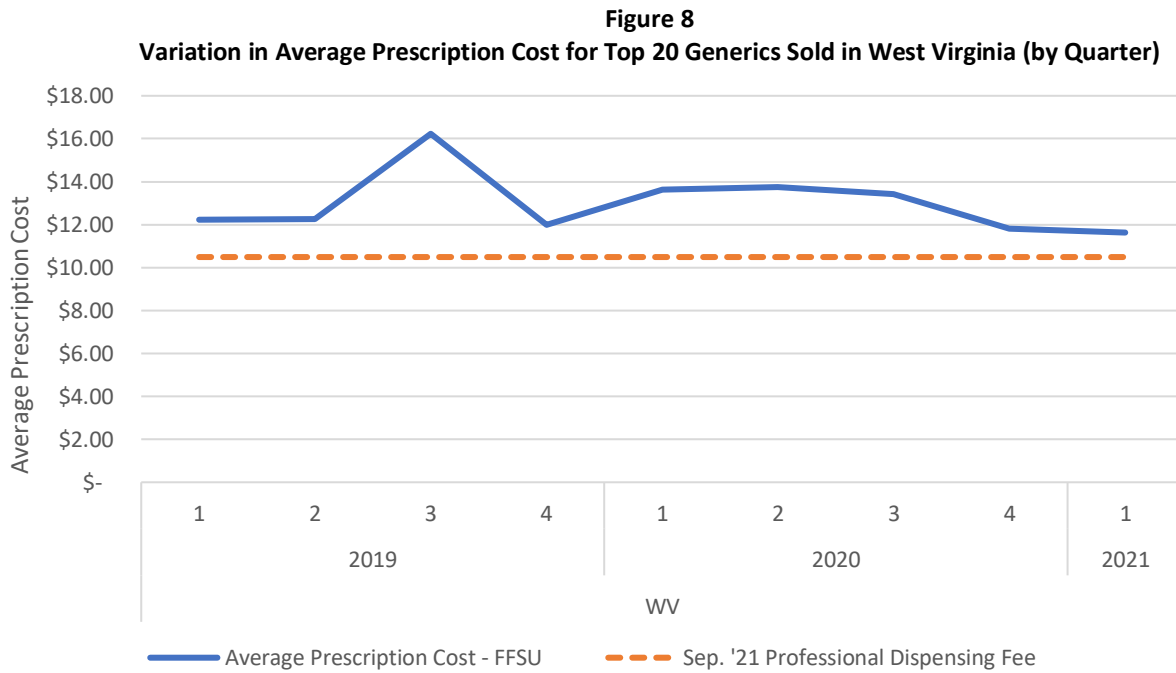
West Virginia has taken a strong stance on PBM regulation. After carving out the Medicaid/CHIP pharmacy benefit in 2017, West Virginia's Legislature passed HB 2263 in 2021 to regulate PBMs used in other health plans, **which are not state employee or Medicaid and CHIP health plans**, across the state.¹³⁴

8.3 West Virginia Prescription Drug Prices and Per Unit Drug Prices

West Virginia Medicaid currently manages its own FFS program, which handled 97 percent of prescription drugs sold through the state's Medicaid and CHIP systems in 2018, 2019 and 2020—the years covered by this study.¹³⁵ The 97 percent was calculated using the dollar amount of prescriptions billed in either the FFS or MCO setting. That means only three percent of the dollar value of prescription drugs sold through the state's Medicaid and CHIP programs were billed in an MCO setting. This represents a dramatic decrease from the 45 percent handled by the MCO system in 2017, which is the year West Virginia established its pharmacy carve-out.¹³⁶ The Top 20 Generics and Random 20 Generics sold in West Virginia that are analyzed below were all sold in the FFS setting. West Virginia's FFS pricing incorporates NADAC.¹³⁷

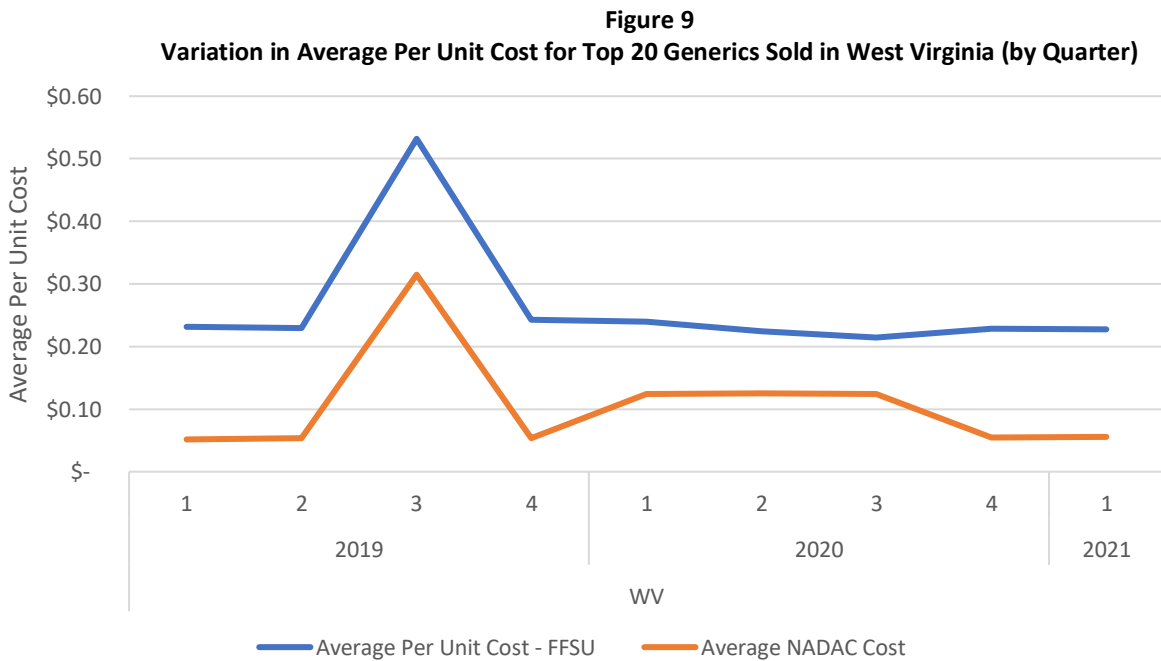
The Top 20 Generics sold in West Virginia represent roughly 2% of all generic oral solids sold in the state.¹³⁸

West Virginia's FFS structure generated consistent results and mirrored national activity. **Figures 8 and 9** show that the average price of the Top 20 Generics sold in West Virginia remained relatively stable over the nine calendar quarters from 2019 Q1 through 2021 Q1 analyzed in this Report, and that fluctuations in those prices correlated to the NADAC averages of changes in actual acquisition prices nationwide.



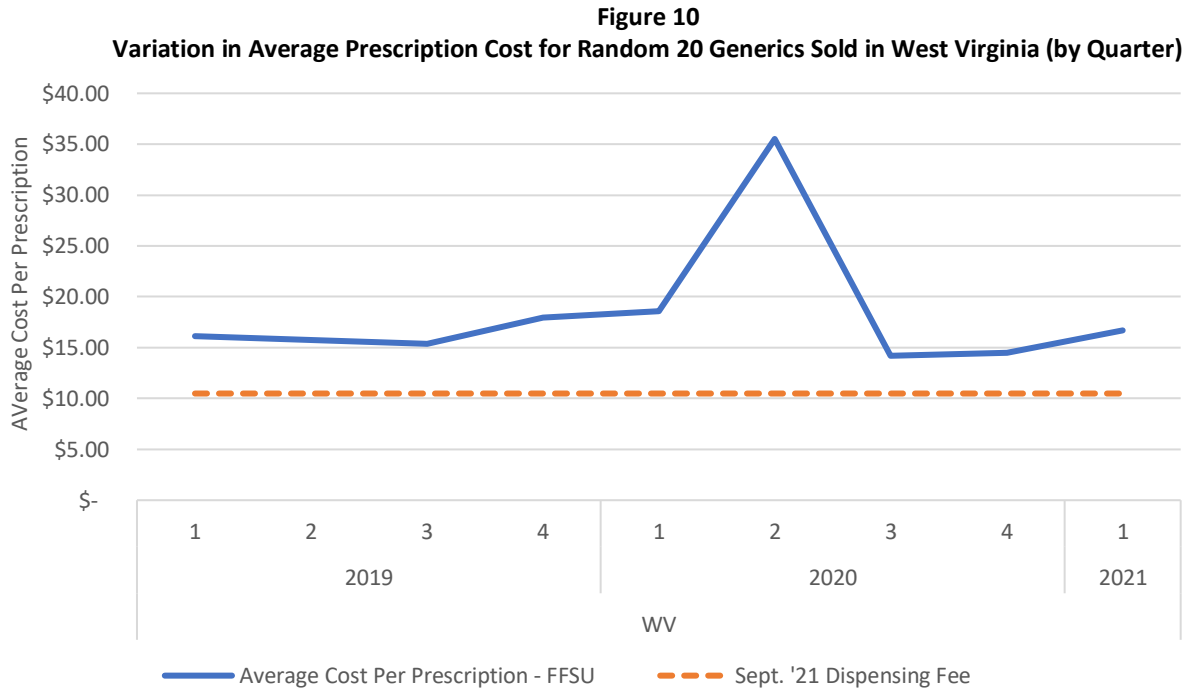
Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

Note that West Virginia’s pharmacy dispensing fee for its FFS program is included in **Figures 8 and 10**. And since West Virginia is an FFS state, the state’s \$10.49 dispensing fee is the amount pharmacies in West Virginia actually receive from the state for each Medicaid and CHIP prescription filled, and not an approximation for what a PBM could drive prescription prices below in the MCO setting. Which explains why none of the prescription prices shown in **Figures 8 and 10** fall below the set professional dispensing fee. Note this is unlikely scenarios in the states analyzed which use PBMs in the MCO setting—Illinois, Florida, and Louisiana—where the mean prescription costs at times falls below the FFS professional dispensing fee in those states.

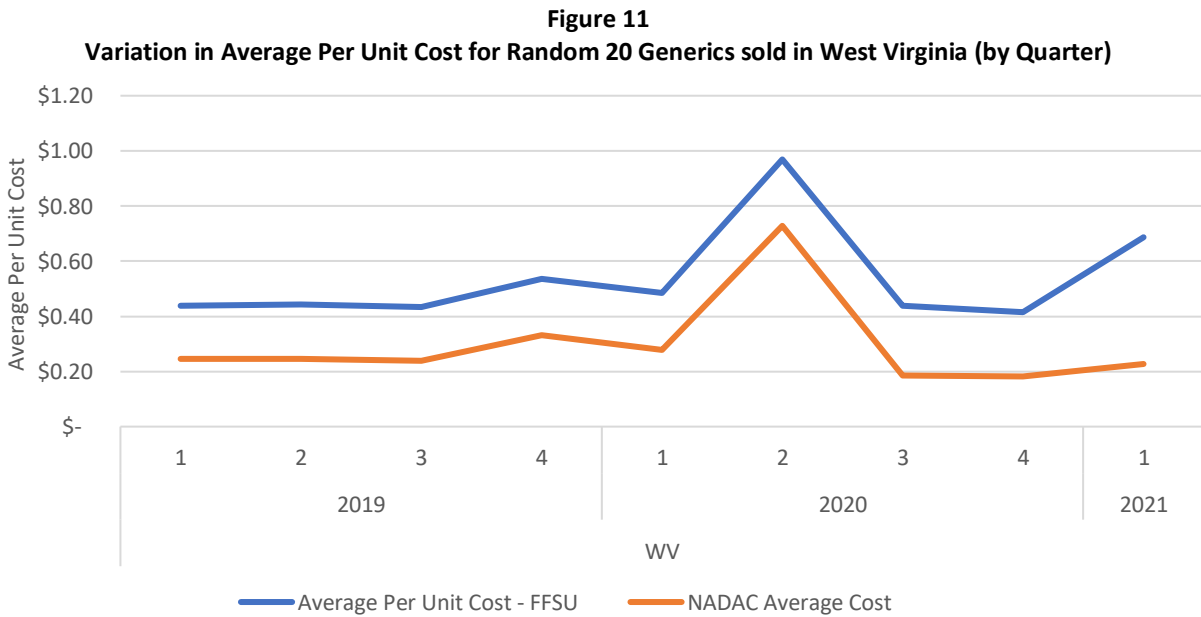


Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

Figures 10 and 11 show that West Virginia's prescription drug pricing strategy quickly adjusted to changes in NADAC for Random 20 Generics sold in that state over the nine calendar quarters from 2019 Q1 through 2021 Q1 that are analyzed in this Report, mirroring the behavior of the Top 20 Generics.



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC.

It appears that West Virginia's decision to carve-out its prescription drug benefit resulted in a level of drug pricing predictably that does not occur for carve-in states: Within both the Top 20 and Random 20 Generics analyzed, the average difference between the NADAC per unit price, and the per unit cost paid by the state across the nine quarters analyzed in this Report, was just \$0.15.¹³⁹

That said, it is important to note that the mean prescription drug price in West Virginia was the fourth highest of the states analyzed in this study for the Top 20 Generics after Missouri. This is in all likelihood due to the pharmacy dispensing fee being higher in West Virginia than in states that carve-in pharmacy benefits—which allows MCOs and PBMs to negotiate with pharmacies for lower pharmacy dispensing fees. Again, the states analyzed in this study which use PBMs in the MCO setting—Illinois, Florida, and Louisiana—had mean prescription costs at times fall below the FFS professional dispensing fee in those states.

9. Missouri

9.1 MCOs in Missouri

Missouri began using MCOs to administer its Medicaid health plans in 1996.¹⁴⁰ As of September 2021, Missouri was spending about \$11 billion annually on Medicaid and CHIP, and had enrolled 1,096,390 individuals, or 17.7 percent of the state's population, in those programs.¹⁴¹ However, that enrollment will likely increase in the coming years.¹⁴²

Recall that, after the ACA passed in 2008, it created an incentive for states to expand Medicaid coverage to more of their populations, by providing federal funding to subsidize up to 90 percent of the expansion.¹⁴³ As it happened, the governor and General Assembly in Missouri declined to expand Medicaid eligibility at the time, turning their backs on both the enhanced federal funding—and citizens of Missouri that would have benefited from expansion.

So why is it anticipated that the Medicaid rolls will be increasing in Missouri? Well, in a direct rebuke to state elected officials, in March of 2020, Missourians voted to expand Medicaid eligibility under the ACA.¹⁴⁴ That in turn made an additional 275,000 Missouri residents eligible for Medicaid coverage beginning in August of 2021.¹⁴⁵ Between August and October of 2021, Missouri received 17,000 applications for coverage under this voter-authorized Medicaid expansion.¹⁴⁶

9.2 PBMs in Missouri

Missouri carved-out the Medicaid and CHIP pharmacy benefit and began using an FFS system to administer the pharmacy benefit in October 2009.¹⁴⁷ The state program manages all the drug claims processing and maintains the state's PDL.¹⁴⁸ In 2019, Missouri reported to the Kaiser Family Foundation that the state contracts with the IT services firm Wipro and Conduent, to provide healthcare administrative services to assist in running the state's FFS pharmacy program.¹⁴⁹

9.3 Missouri Prescription Drug Prices and Per Unit Drug Prices

Missouri does not use the NADAC for its pharmacy benefit pricing. Instead, Missouri ties prescription drug pricing in its FFS system to metrics called the Average Wholesale Price (“AWP”) and the Wholesale Acquisition Cost or (“WAC”).¹⁵⁰ Missouri determines its FFS pricing by using the lower ingredient cost of either AWP minus 10.43 percent, or WAC plus 10 percent.¹⁵¹

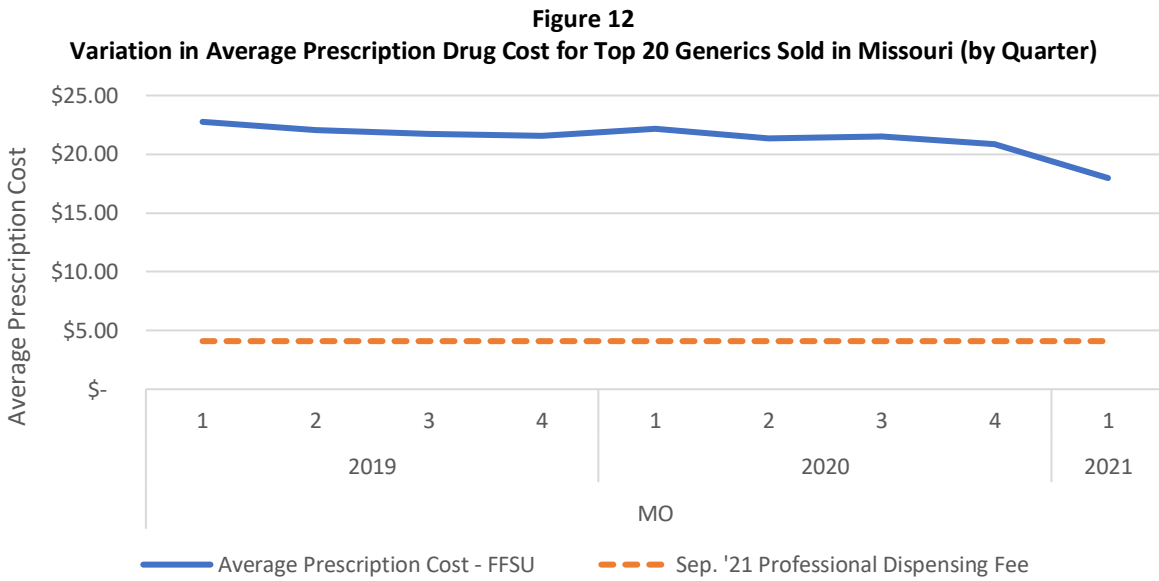
Because AWP relies on data self-reported by pharmaceutical companies, AWP is a metric that has been shown to artificially inflate prescription drug prices.¹⁵² This is why most other states utilize NADAC rather than AWP as the basis of prescription drug prices in their FFS systems, since NADAC is a monthly survey of random pharmacies which, according to CMS, estimates the price of generic drugs with an average margin of error of 2.4 percent, at a 95 percent confidence level.¹⁵³

WAC is the wholesale price of the drug from the manufacturer to the wholesale buyer before any discounts or rebates to buyers. Similar to the issues with AWP, the WAC metric has not accurately reflected the prices of generic drugs, leading states away from using WAC, and to using NADAC, as the basis for how Medicaid and CHIP drug pricing is calculated.¹⁵⁴

As shown previously in **Figures 2 and 3** in Section 6 of this Report, average prescription drug prices in Missouri rank the highest out of the states analyzed in this Report, for both its Top 20 Generics, which came in at an average price of \$21.33, and its Random 20 Generics, which came in at \$34.24.¹⁵⁵ However, at \$4.09, Missouri's pharmacy professional dispensing fee is less than half of the dispensing fee applicable in each of the other four states analyzed in this Report.

Since Missouri is an FFS state, that \$4.09 is the actual amount pharmacies across the state received to fill each Medicaid prescription.

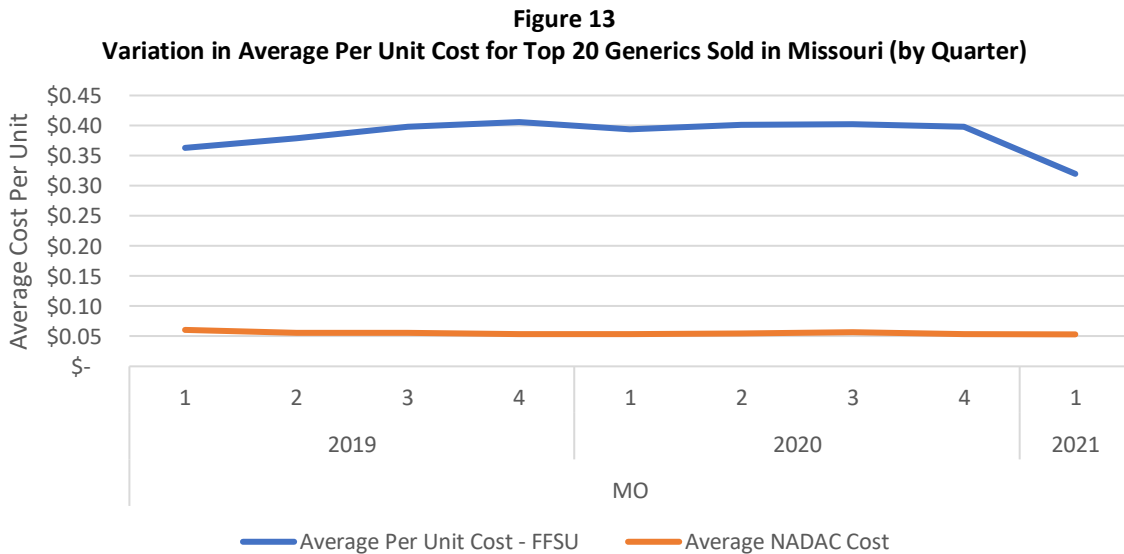
Figure 12 shows the average drug price and dispensing fee applicable in Missouri for the Top 20 Generics over the nine calendar quarters from 2019 Q1 through 2021 Q1 that are analyzed in this Report.



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

The data in **Figure 12** reveals that Missouri’s FFS program paid on average \$16.43 above the state’s professional dispensing fee from 2019 Q1 through 2021 Q1 for the state’s Top 20 Generics.

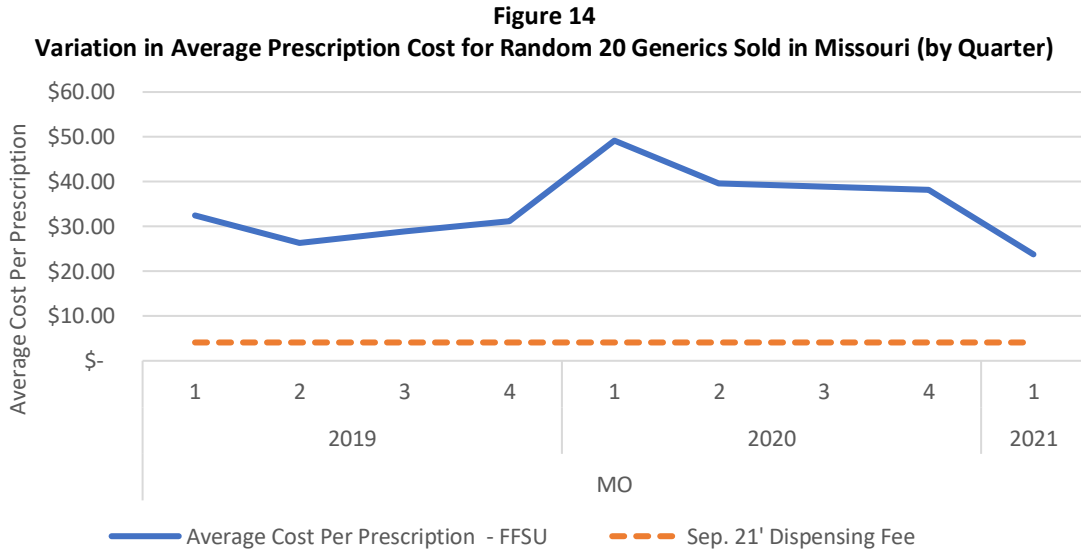
Figure 13 shows the variation in the per unit cost for the Top 20 Generics sold in Missouri over the nine calendar quarters from 2019 Q1 through 2021 Q1 that are analyzed in this Report. Since the other four states analyzed in this Report are paying a lower average price for the Top 20 Generics being sold therein—for example **Figure 2** shows that Florida paid an average prescription drug price that was 75 percent less for the Top 20 Generics sold in that state—it would appear that switching from a pricing structure that relies on AWP and WAC to a pricing structure that incorporates NADAC, as well as an appropriate use of a PBM to negotiate prescription drug prices, should reduce prescription drug prices in Missouri’s Medicaid and CHIP programs.



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

To further re-enforce that Missouri might be overpaying for prescription drugs since the state's pricing is tied to AWP and WAC instead of NADAC, recall that the other FFS state analyzed in this Report, West Virginia, had a per unit drug cost that remained on average \$0.15 above the NADAC price over the nine calendar quarters from 2019 Q1 through 2021 Q1. As shown in **Figure 13**, however, Missouri's FFS program paid more than double that amount—an average of \$0.32 above the NADAC price.¹⁵⁶

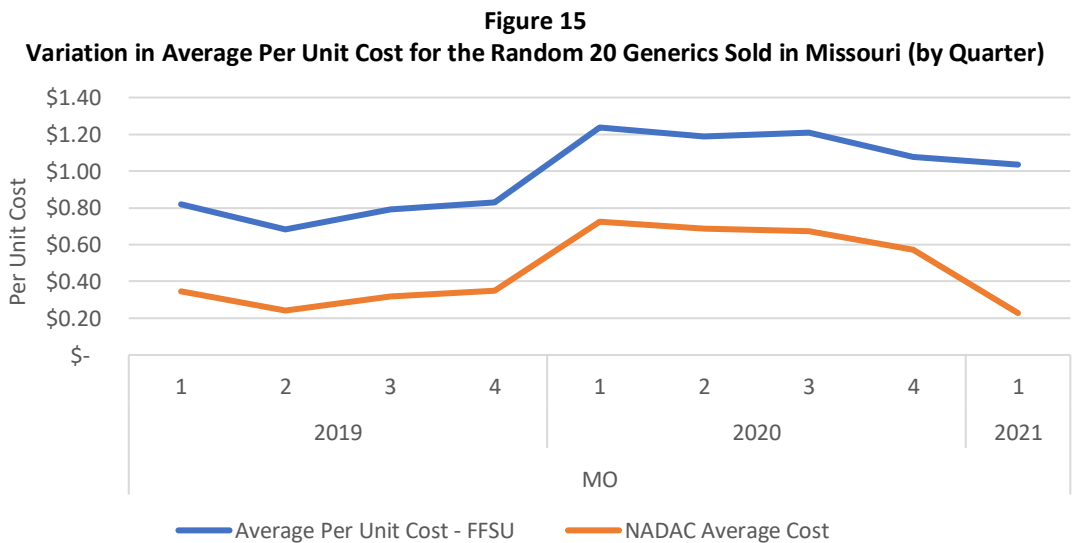
Figure 14 shows the variation in the average cost of the Random 20 Generics sold in Missouri over the nine calendar quarters from 2019 Q1 through 2021 Q1 that are analyzed in this Report.



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC.

The same pattern emerged for the Random 20 Generics sold in Missouri as pertained for the Top 20 Generics sold in that state: The average prescription drug price was significantly above the professional dispensing fee over the nine calendar quarters from 2019 Q1 through 2021 Q1 analyzed in this Report, for an average of \$30.15 above said dispensing fee.¹⁵⁷

Figure 15 shows the variation in the per unit cost for the Random 20 Generics sold in Missouri over the nine calendar quarters from 2019 Q1 through 2021 Q1 that are analyzed in this Report.



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

Again, the same pattern of paying a much greater per unit cost than the associated NADAC price that pertained for the Top 20 Generics sold in Missouri, emerges for the average per unit cost of the Random 20 Generics sold in that state. Except that, rather than \$0.32 more per unit than the NADAC price that pertained in the Top 20 Generics setting, for the Random 20 Generics the average per unit cost was \$0.53 more than the NADAC price (except in 2021 Q1, when the per unit cost jumped to \$0.81 more per unit).

The data contained in Figures 14 and 15 reinforce prior analyses that suggest using AWP and WAC as the basis for prescription drug pricing artificially inflates costs. This is especially the case given the differentials in average prescription price between Missouri and West Virginia, the other FFS state analyzed in this Report. Notably West Virginia paid an average price for its Top 20 Generics that was approximately \$9 less than the average price paid therefor in Missouri, even though the flat pharmacy dispensing fee in West Virginia is \$10.49, which is over \$6.00 greater than the flat dispensing fee in Missouri of \$4.09. Given that differential in dispensing fees, Missouri should be paying less for prescription drugs on average than West Virginia does.

Missouri should use the NADAC rather than the AWP and WAC as the basis for its prescription drug costs, as well as potentially implement an appropriate use of PBMs to negotiate prescription drug prices.

10. Florida

10.1 MCOs in Florida

As of November 2021, Florida had enrolled 4,488,890 residents in Medicaid and CHIP, representing 20.6 percent of its population.¹⁵⁸ At that time, roughly 80 percent of Medicaid and CHIP participants in Florida were enrolled in its Statewide Medicaid Managed Care program (“SMMC”).¹⁵⁹ Collectively, Medicaid and CHIP expenditures in Florida run around \$25 billion per year.¹⁶⁰

SMMC was implemented in 2013-2014 by Governor Rick Scott.¹⁶¹ By 2019, SMMC had fully integrated medical care, long-term care, behavioral healthcare services, and transportation into the state’s Managed Care program.¹⁶² According to Florida’s Agency for Healthcare Administration (“FAHC”), the transition to statewide managed care expanded benefits, enhanced provider networks, streamlined services, and helped control costs.¹⁶³

10.2 PBMs in Florida

SMMC plans use seven different PBMs to provide services that include everything from developing and maintaining a network of contracted pharmacies, processing prior authorization for drugs that are not covered under the state’s FFS PDL, and managing the prescription drug benefit, to maintaining point of sale systems, and paying pharmacy claims.¹⁶⁴

That said, FAHC is the sole negotiator of pharmaceutical rebates for all prescribed drugs: PBMs do not negotiate with drug companies on behalf of the state of Florida.¹⁶⁵ Additionally, all negotiated rebate payments for prescribed drugs are made to FAHC and are not retained by PBMs.¹⁶⁶

All health plans contracting with Florida must use the FAHC’s Approved Drug List. The state’s approved drug list is also utilized in its FFS system.¹⁶⁷ Even though the pharmacy benefit is carved-in to MCO contracts, in 2020, 10 percent of Medicaid prescription drugs were billed in the FFS setting—this can occur when drugs that are not on a state’s PDL are approved for a patient or for prescriptions prescribed in the dental setting.¹⁶⁸

In 2020, the FAHC retained the consulting firm Milliman to perform an independent analysis of PBM practices in Florida’s SMMC program over the most recent complete 12-month period prior to when the study was published in December of 2020.¹⁶⁹ To be able to conduct this analysis accurately, Milliman received access to Florida’s PBM contracts, plan-to-PBM claims, and PBM-to-pharmacy remittances.¹⁷⁰ This allowed Milliman to identify how PBMs were deriving their profit margins.¹⁷¹

One of the key findings of the Milliman study was that collectively, PBMs in Florida generated \$113.3 million in corporate revenue from providing various services to Florida’s MCO.¹⁷² Of that amount, the greatest revenue source for PBMs came from their use of spread pricing practices, which netted \$89.6 million.¹⁷³ Milliman also found that the sale of retail generic prescriptions made up most of the spread pricing revenue for PBMs, accounting for \$67.2 million of the

\$89.6 million total.¹⁷⁴ In addition to revenue from spread pricing, PBMs generated \$17.9 million in pass-through administrative fees, and \$5.8 million in transaction fees.¹⁷⁵

The Milliman study also found that if, instead of its MCO system Florida had utilized an FFS system to administer and pay for all Medicaid and CHIP prescriptions, total payments to Florida pharmacies would have been \$171.5 million greater than they were.¹⁷⁶ Most of that additional cost would have been driven by the FFS professional dispensing fee in Florida of \$10.24 per claim. Which means that PBMs in Florida are likely negotiating material reductions in the professional dispensing fees the MCO system pays to pharmacies.

And while the Milliman study also showed that if Florida switched to an FFS system for all prescription drug purchases its total payments to PBMs would have been reduced by some \$72.7 million—primarily through a decline in spread pricing costs—**PBMs none-the-less reduced the aggregate prescription drug costs paid through the state's MCO system by a net of \$98.8 million.**¹⁷⁷

However, Milliman researchers noted that they were unable to determine how SMMC program costs would shift if PBM pricing agreements in Florida were to change from spread pricing to pass through, or visa versa.¹⁷⁸ This is because researchers were unable to account for other factors, such as various PBM contracted rates, mix of pharmacies used, the type of drugs to be dispensed, and uncertainty surrounding how PBMs would renegotiate their contacts if a change in pricing arrangements was implemented.¹⁷⁹

10.3 Florida Prescription Drug Prices and Per Unit Drug Prices

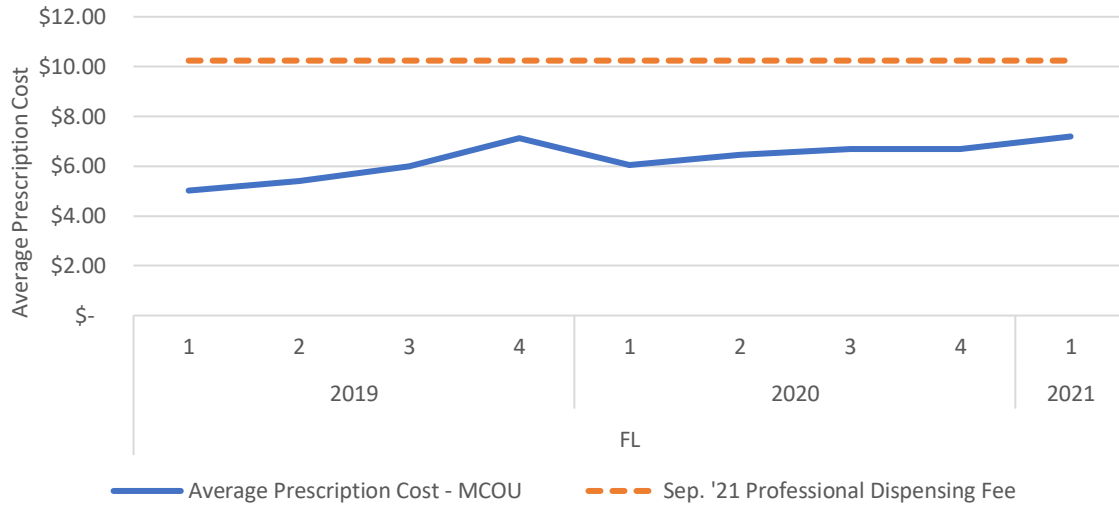
In Florida, the percentage of drugs sold in the MCO setting has steadily increased from 82 percent in 2017 to 90 percent in 2020.¹⁸⁰ That means roughly 10 percent of the state's Medicaid and CHIP prescription drugs are still sold through its FFS system, which does incorporate NADAC into its drug pricing.¹⁸¹ Roughly one percent of all drugs sold through Florida's Medicaid and CHIP programs are included in the Top 20 Generics sold in the state.¹⁸²

Florida's professional dispensing fee is set at \$10.24.¹⁸³ Since none of the Top 20 Generics in Florida were dispensed through the state's FFS system, none of the actual drug prices charged in the FFS setting could be included in this analysis. However, because the state's established dispensing fee applies to all prescription drugs sold through the FFS system, **the FFS professional dispensing fee for regular pharmacies serves as a proxy for a significant component of the minimum price of drugs in the FFS setting.**

This is in part because MCOs and their respective PBMs are not required to utilize the professional dispensing fee set by the state, because it is intended that PBMs save prescription drug costs for Florida's Medicaid and CHIP programs, in part by negotiating lower dispensing fees with pharmacies. Thereby, if the prescription prices analyzed in Florida fall below the state's set professional dispensing fee, then it can be concluded that PBMs are definitively driving prices below what the state would have paid for the same drug in the FFS setting. Recall, national research has estimated that PBMs are able to reduce professional dispensing fees significantly, sometimes to as low as \$0.80.¹⁸⁴

Figure 16 shows the average drug price and dispensing fee applicable in Florida for the Top 20 Generics sold in that state over the nine calendar quarters from 2019 Q1 through 2021 Q1 that are analyzed in this Report.

Figure 16
Variation in Average Prescription Cost for Top 20 Sold in Florida (by Quarter)



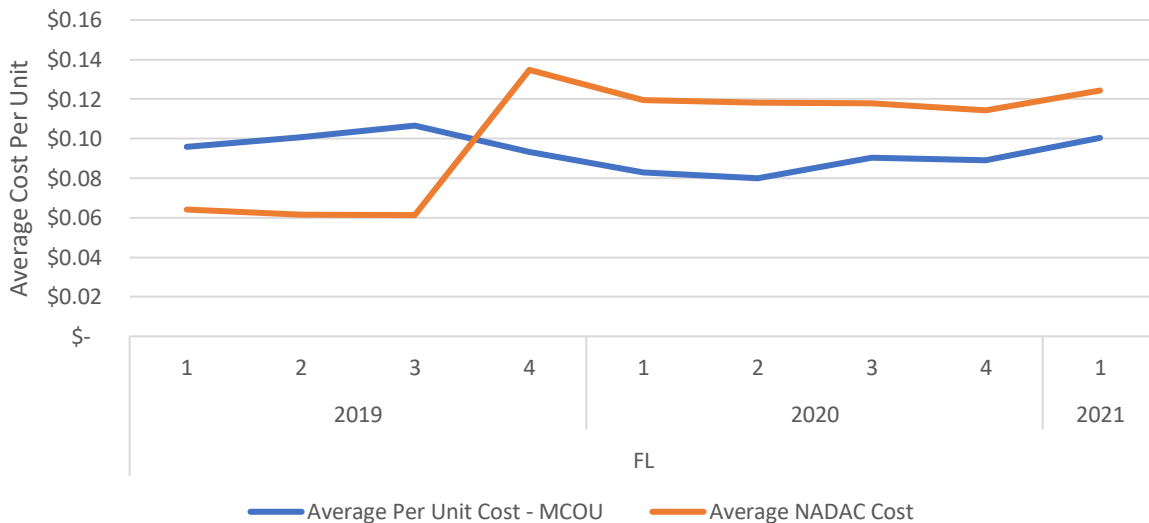
Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

Figure 16 shows that, of the states reviewed in this Report, Florida paid the lowest average prescription cost for the Top 20 Generics, paying on average \$3.95 less than the state’s set professional dispensing fee of \$10.24. Florida is the only state analyzed in this Report where prescriptions administered through PBMs in an MCO setting consistently sold for prices below the state’s professional dispensing fee.

Hence, **the data in Figure 16 show that in Florida’s MCO, PBMs are effectively reducing the cost of prescription drug purchases for the state’s Medicaid and CHIP programs below levels that would otherwise pertain in the states FFS alternative**, since in the FFS setting, Florida would have to pay the set professional dispensing fee, plus the of the cost of the drugs being purchased.

Figure 17 shows the per unit drug cost applicable in Florida for the Top 20 Generics sold over the nine calendar quarters from 2019 Q1 through 2021 Q1 that are analyzed in this Report.

Figure 17
Variation in Average Per Unit Cost of the Top 20 Generics Sold in Florida (by Quarter)



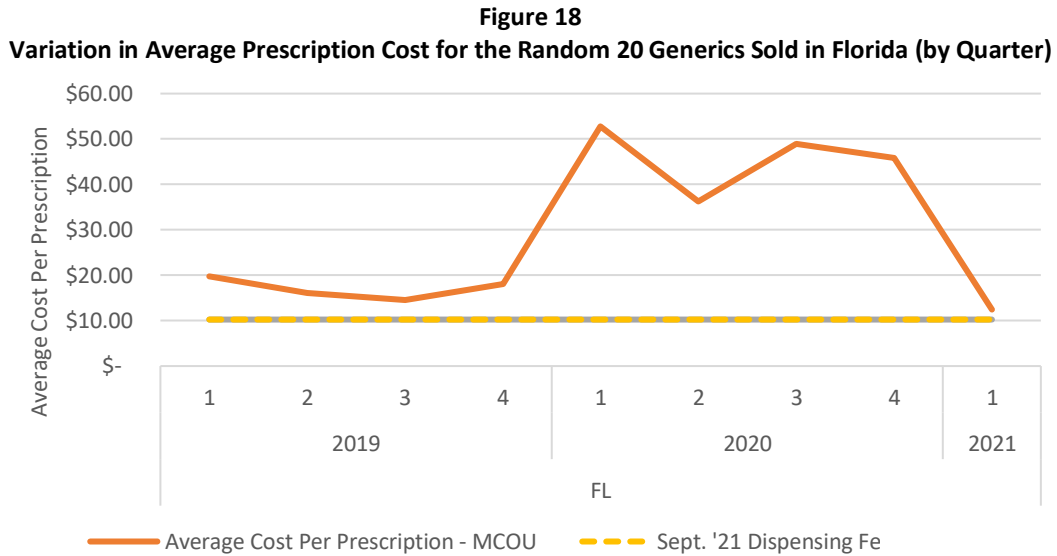
Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

The data in **Figure 17** re-enforces the finding that PBMs were able to effectively produce prescription drug savings for Florida’s MCO, by negotiating drug prices and/or dispensing fees that were lower than the national average based on

NADAC over the 2019 Q3-2021 Q1 sequence. From 2019 Q4 through 2021 Q1, the per unit costs of drugs sold in the MCO setting was on average \$0.03 lower than NADAC.

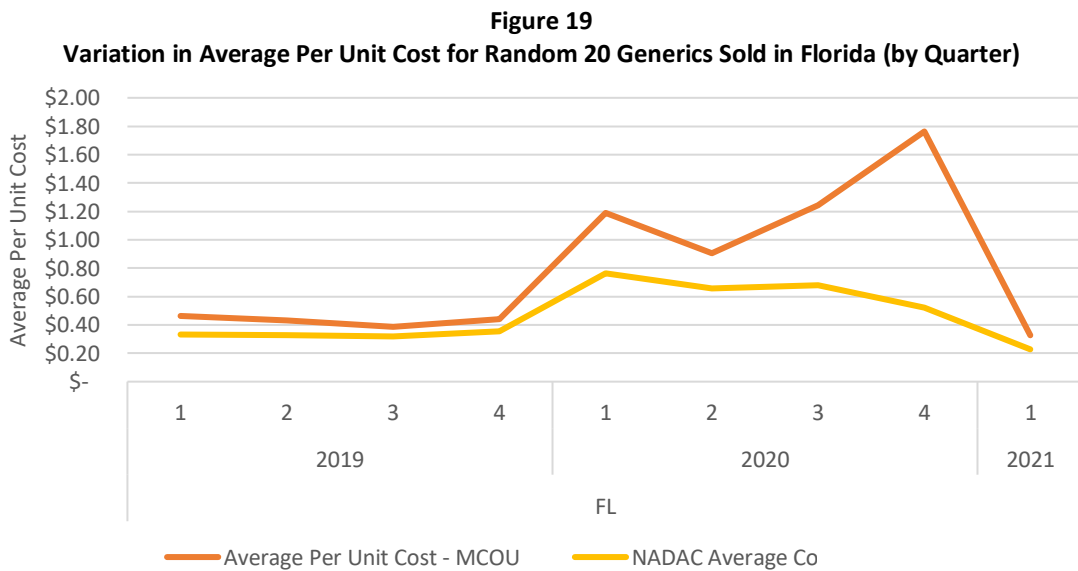
However, trends identified for the Top 20 Generics did not hold for the Random 20 Generics sold in Florida. While Florida had the lowest mean prescription drug price for the Top 20 Generics sold in state, Florida dropped to third lowest average prescription price of the five states analyzed in this Report for the Random 20 Generics, with an average cost of \$24.01 over the 2019 Q1 through 2021 Q1 sequence. This was almost four times greater than the lowest average prescription price of \$6.29 for the Top 20 Generics sold in 2020.

Figure 18 shows the average drug cost applicable in Florida for the Random 20 Generics sold over the nine calendar quarters from 2019 Q1 through 2021 Q1 that are analyzed in this Report. There are considerable price fluctuations between 2019 Q4 and 2021 Q1.



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC.

Figure 19 demonstrates that the price differentials noted in **Figure 18** can at least partially be attributed to changes in national average costs as reflected in NADAC over the 2019 Q4 through 2020 Q2 sequence. Thereafter, however, the NADAC mean price decreased, while the MCO price in Florida continued to increase until 2020 Q4.



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

The data in **Figures 18 and 19** both show a dramatic price adjustment in 2021 Q1 that cannot be attributed to price changes reflected in the NADAC. This reveals a pricing volatility for the Random 20 Generics sold in Florida that did not manifest in the data for the Top 20 Generics sold in the state.

The Milliman study found that Florida PBMs collected \$89.6 million in revenue from spread pricing practices.¹⁸⁵ The price volatility for the Random 20 Generics that is not correlated to changes in the NADAC may be attributable, at least in part, to these spread pricing practices.

11. Louisiana

11.1 MCOs in Louisiana

Medicaid and CHIP are fundamentally essential providers of healthcare services in Louisiana. In fact, as of November 2021, Louisiana has enrolled 1,793,429 individuals—or 38 percent of its population—in Medicaid and CHIP.¹⁸⁶ This has resulted in the state having around \$14.4 billion in annual Medicaid and CHIP expenses.¹⁸⁷ Literally as this Report was being researched, the Louisiana Department of Health (“LDH”) began the year of 2022 by transitioning towards increased usage of MCOs for administering the state’s Medicaid and CHIP programs, in an effort to reduce costs.¹⁸⁸

On February 14, 2022, Centene Corporation, the same MCO that was the center of lawsuits nationally over making inappropriately high charges for administering Medicaid and CHIP programs through its PBMs, announced that it was awarded a contract with LDH.¹⁸⁹ Centene’s new contract with Louisiana began on July 1, 2022.¹⁹⁰

This new contract between Louisiana and Centene will be in effect for three years, with an option to renew the contract for two additional years, under the condition that there will be new benefits and services for enrollees.¹⁹¹

The new contract with Centene will be subject to Louisiana’s new method of administering the Medicaid and CHIP pharmacy benefit, which will be detailed in the next section.

11.2 PBMs in Louisiana

Louisiana Medicaid stakeholders, especially independent (local) pharmacies, have raised several concerns about the state’s current MCO carve-in of the pharmacy benefit. Key among these concerns are: (i) the low reimbursement rates pharmacies receive for dispensing prescription drugs; (ii) spread pricing arrangements utilized by the state’s PBMs; and (iii) MCOs/PBMs with ownership interests in pharmacies steering members to those pharmacies.¹⁹²

The LDH responded to these concerns by issuing its “Medicaid Pharmacy Comprehensive Plan” in January of 2020.¹⁹³ Under the Comprehensive Plan, LDH identified three potential reforms for the state’s Medicaid and CHIP prescription drug purchasing practices. A single PBM approach was adopted, and as of August 2022, bids were submitted by PBMs looking to manage the prescription drug benefit for Louisiana’s Medicaid and CHIP MCOs.¹⁹⁴

During April 2022, Louisiana Attorney General Jeff Landry filed a lawsuit against the UnitedHealth’s PBM, OptumRX for inflating Medicaid and CHIP prescription prices in the state by “billions” of dollars.¹⁹⁵ UnitedHealth responded that the case was without merit, and the case was pending in state court as of December 2022.¹⁹⁶

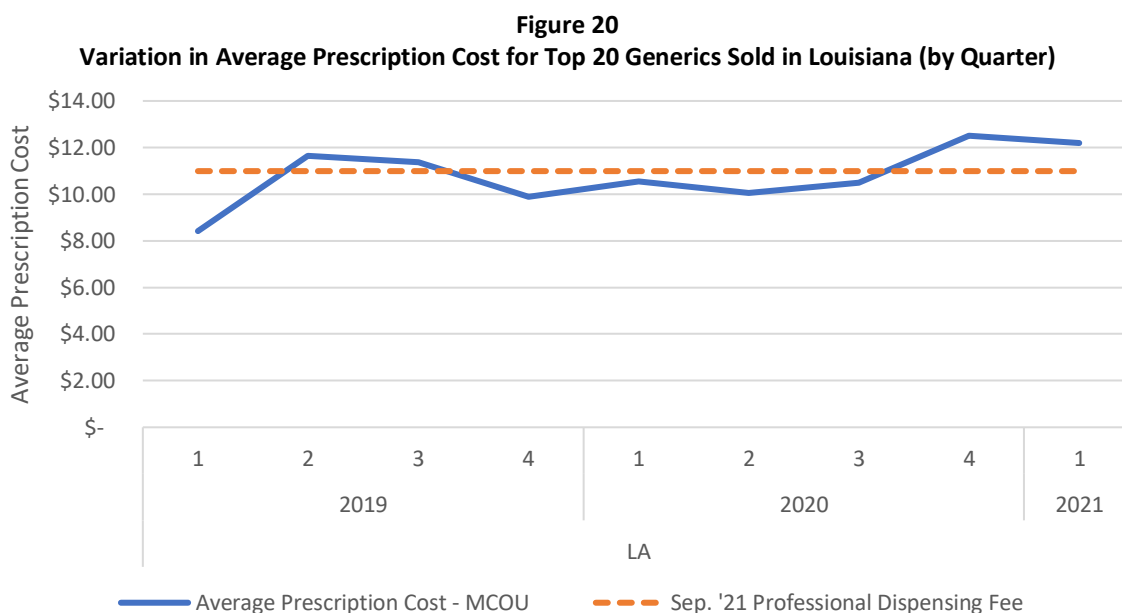
11.3 Louisiana Prescription Drug Prices and Per Unit Drug Prices

For the 2019 Q1-2021 Q1 period that is analyzed in this Report, almost all Medicaid and CHIP prescriptions sold in Louisiana were administered through the MCO setting.¹⁹⁷ For instance, in 2020, 97 percent of all prescriptions were sold in the MCO setting, while the MCO handled 96 percent in 2019, 95 percent in 2018, and 94 percent 2017.¹⁹⁸ These percentages were calculated using the cost of prescriptions billed in the FFS or MCO settings. The assumption is drug pricing in Louisiana will differ from the state’s experience once a single PBM is implemented. Hence, the data analyzed in this Report only provides an insight into how Louisiana’s former drug pricing structure impacted prices.

The Top 20 Generics sold in Louisiana were all sold in an MCO setting and represent roughly 1 percent of the drugs sold in Louisiana's Medicaid and CHIP programs during the 2019 Q1-2021 Q1 time period that is analyzed in this Report.¹⁹⁹ As noted previously, Louisiana's use of PBMs in the MCO setting resulted in a \$10.79 mean prescription price for the Top 20 Generics sold in the state, giving Louisiana the second lowest average price therefor, after Florida.²⁰⁰

Since Louisiana carved-in the prescription drug benefit during the time period analyzed, the state's professional dispensing fee is being used as a proxy for FFS prescription costs in the state, as the FFS prescription cost could not drop below the set dispensing fee.

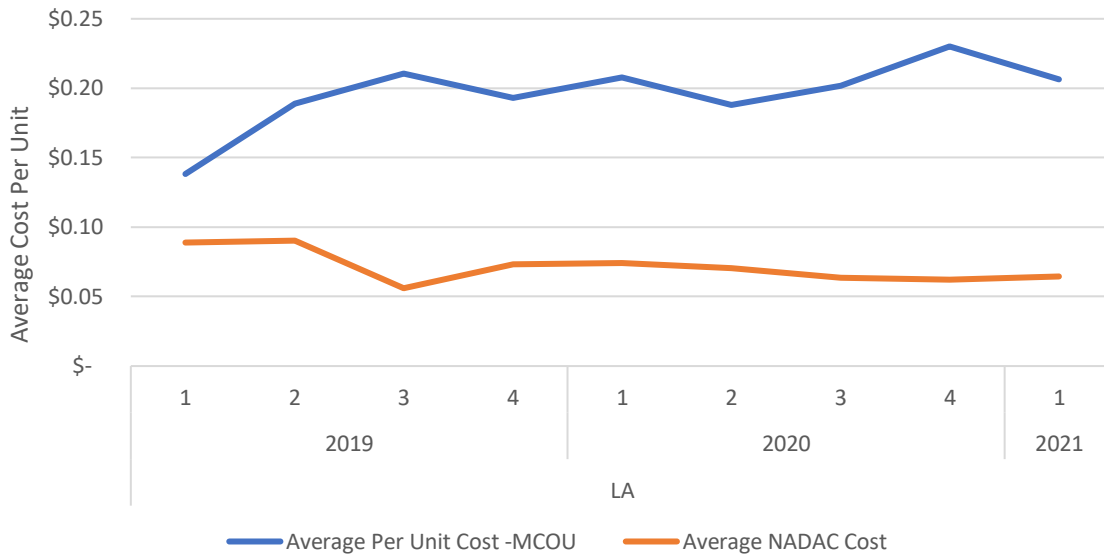
Figure 20 shows that the average price of the Top 20 Generics sold in Louisiana range from slightly above to slightly below the FFS professional dispensing fee of \$10.99.²⁰¹ The average prescription cost over this time period for the Top 20 Generics was \$10.79, \$0.20 below Louisiana's professional dispensing fee. This indicates that **the PBMs managing the pharmacy benefit within the MCO setting during this time period were pushing prescription costs below the state's FFS alternative, and effectively reducing prescription drug costs in Louisiana's Medicaid and CHIP programs.**



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

While the average prescription drug prices for the Top 20 Generics sold in Louisiana remained relatively stable over the sequence analyzed in this Report, **Figure 21** shows that changes in these prices did not necessarily correlate to changes in the national prices therefor as reflected in NADAC. In fact, in both 2019 Q3 and 2020 Q4, the average per unit cost of the Top 20 Generics sold in Louisiana was increasing, while the national average price for those drugs as reflected in NADAC was declining.

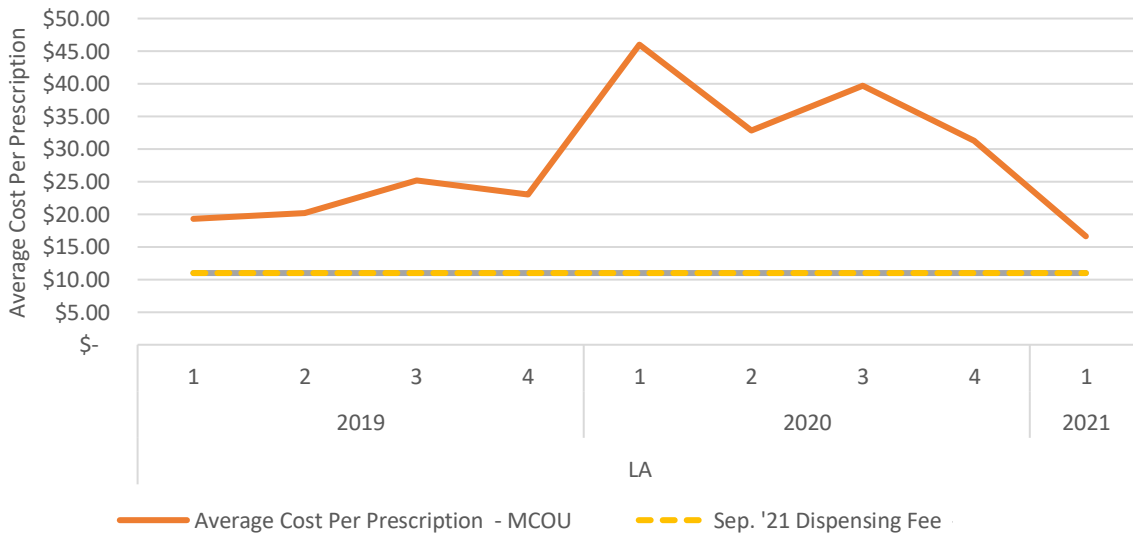
Figure 21
Louisiana Average Per Unit Cost for Top 20 Generic Oral Solids by Quarter



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

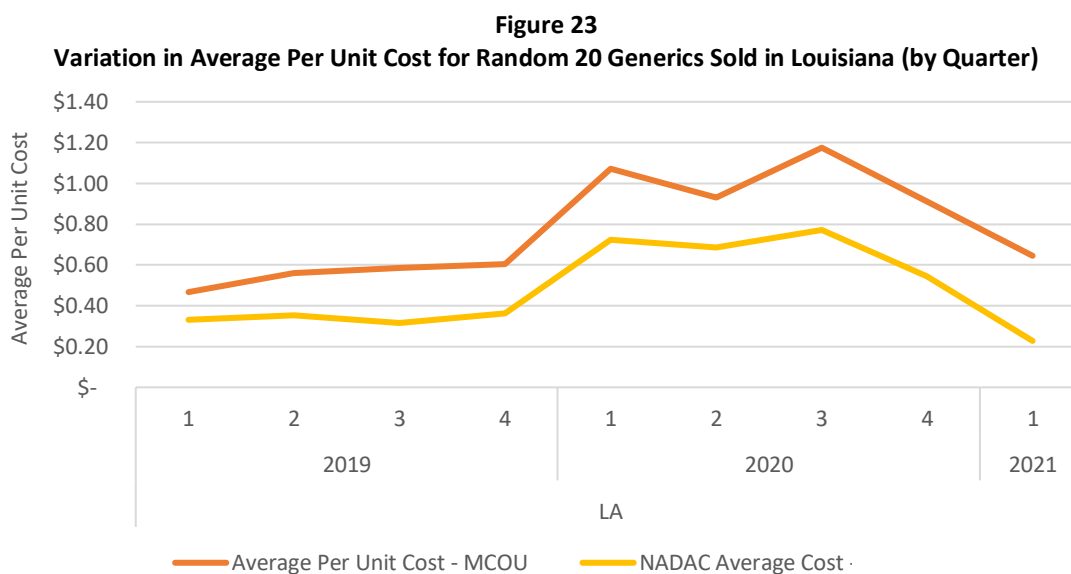
The average price of the Random 20 Generics sold in Louisiana during the sequence studied of \$25.10, ranked as second most expensive of all the states analyzed in this Report, after Missouri. It also came in at more than double the FFS dispensing fee of \$10.99.

Figure 22
Variation in Average Prescription Cost for Random 20 Generics Oral Sold in Louisiana (by Quarter)



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

In an interesting departure from the trend observed for the Top 20 Generics sold in the state, changes in the average prices of the Random 20 Generics sold in Louisiana appear to correlate with changes in the national prices therefor as reflected in the NADAC. This is to be expected for drugs sold in an FFS setting since NADAC is incorporated into pricing, though it is not a given for drugs sold in an MCO setting. The difference between the average per unit cost of drugs sold in the state and the NADAC average cost was \$0.30.²⁰²



Source: CTBA analysis of CMS 2019, 2020, and 2021Q1 State Drug Utilization Data and NADAC

Since Louisiana is transitioning away from the model that informed the pricing structures analyzed above, once the single PBM is established in Louisiana, an updated analysis will hopefully provide insights into how requiring all MCOs in Louisiana to contract with a single PBM selected by the state impacts drug prices.

12. Conclusion

The data in this Report reveal that PBMs have a demonstrated ability to lower prescription drug prices within Medicaid and CHIP programs, however this does not always result in those cost savings being passed on to state governments and ultimately taxpayers. To summarize the key findings:

- PBMs have demonstrated the potential to reduce prescription drug prices for state Medicaid and CHIP programs.
- In fact, in 2020, 13 out of the 38 states—and the District of Columbia—which used PBMs and billed Medicaid and CHIP prescription drugs in the MCO setting had lower average prescription costs than in the FFS setting.
 - Louisiana and Florida, which utilized multiple PBMs in conjunction with various MCOs, realized prescription drug cost savings over what they would have paid for the same drug within an FFS setting for the Top 20 Generic drugs sold in those states.
 - However, it was not possible to verify whether Illinois consistently realized similar savings from its use of a PBM in conjunction with its MCO for their Top 20 Generic drugs, as shown in Section 7.3.
 - West Virginia’s use of an FFS structure to administer the pharmacy benefit generated drug pricing consistency and mirrored national activity much better than states which did not use FFS.
 - Missouri appears to be overpaying for prescription drugs because its FFS pricing structure is not based on NADAC, but instead is tied solely to the AWP and WAC metrics, which studies have shown can artificially inflate drug prices.
- The average retail price for prescription drugs varies significantly from state to state. However, that variation cannot be attributed to a disparity in regional drug acquisition costs, given that CMS calculations show NADAC prices are relatively stable across the nation.
- Despite using a PBM in conjunction with an MCO, Illinois, Louisiana, and Florida occasionally realized per unit drug price increases in instances when the National Drug Acquisition Cost published for such drugs by the CMS was not increasing.
- States that used an FFS structure without a PBM typically realized prescription drug price fluctuations that more consistently corresponded to the NADAC benchmark published therefor, for example within West Virginia’s FFS for both the Top 20 Generic and Random 20 Generic drugs analyzed were both \$.15 above NADAC.

13. Questions for Further Research

Given the limited public data on Medicaid pharmacy benefit reimbursements, and the limitations of this study, more research is required to better understand the complex relationships between managed care, state Medicaid and CHIP programs, PBMs, and the populations these entities serve. Some potential questions for further research are as follows:

(i) A qualitative study on the impact of the differing drug restrictions and requirements within Medicaid on patients and practitioners would provide valuable insight into the how policies within MCOs, PBMs, and FFS impact patients access to medicine, especially within vulnerable Medicaid and CHIP populations. This Report concentrated on cost-saving measures, but these measures may be short-term and not in the interest of Medicaid beneficiaries long-term health. Coupled with the fixation Medicaid programs have on getting patients on generics to lower costs, and the research that demonstrates this might not be in the best interest of patients, additional research into these questions could provide insights about how these pharmacy programs can better serve patients.

(ii) A study analyzing the Medicaid Drug Rebate Program's ("MDRPs") impact on net prescription drug costs would offer insights into how various state's and MCO rebate negotiations impact state budgets. Currently, rebate data is not available to the public at the National Drug Code ("NDC") level, and researchers are limited to analyzing gross spending on individual drugs and net spending in aggregate. However, this does not capture the full picture of Medicaid drug costs. So, an attempt to quantify MDRP at the NDC level could lead to valuable insights into net drug costs.

(iii) A study which examines how "churning"—the temporary loss of coverage that occurs when individuals dis-enroll and then re-enroll in Medicaid and CHIP programming within a short period of time—impacts state's and PBM's ability to manage prescription drug prices would offer insights into how stabilizing Medicaid and CHIP roles can increase or decrease prescription drug prices within said programming. Since the federal Families First Coronavirus Response Act, which was passed in 2020, temporarily halted churning by requiring states to ensure continuous enrollment for current Medicaid enrollees, there is prescription price data across time periods where churning was legal and when it was halted to compare and offer insights.²⁰³

14. Appendix

14.1 Introduction

This research was conducted using publicly available datasets provided by the federal Center for Medicaid Services at data.medicare.gov.

The datasets provided by CMS are subject to data quality assessments provided by DQ Atlas, another federal entity that ranks Medicaid metrics from usable, to reliable and accurate for analyzing a particular topic. State level data that was labeled "medium concern" or "high concern" is either not used or labeled.

The "Days' Supply, Quantity, and Units – RX" were all labeled as low concern for 2020 and 2019, except for Arkansas which was labeled as medium concern.

14.2 National Average Drug Acquisition Cost or "NADAC"

This section is an overview and history of the National Average Drug Acquisition Cost ("NADAC") metric provided by the Center for Medicare and Medicaid Services. NADAC is currently a popular metric for states to use to determine reimbursement rates for their FFS programs and is used in this study because it is generally considered the most accurate metric for determining prescription drug acquisition prices that is publicly available and has been used to identify spread pricing by PBMs at the state level.²⁰⁴

Pre-2013, the Average Wholesale Price ("AWP") was the primary drug pricing benchmark used to determine outpatient drug ingredient cost reimbursements covered by state Medicaid agencies.²⁰⁵ However, AWP had, and continues to be, the subject of much scrutiny over concerns that many AWP's were artificially inflated, resulting in state Medicaid agencies overpaying for drugs. These concerns were validated through numerous investigations: The Office of Inspector General found that AWP-based reimbursement was "fundamentally flawed" and caused Medicaid to pay too much for certain drugs.²⁰⁶

In response to concerns surrounding the AWP reimbursement model, in late 2009 the National Association of State Medicaid Directors (“NASMD”) convened to discuss various alternatives. One suggestion NASMD made was to establish a single national pricing benchmark based on average drug acquisition costs.²⁰⁷ Such a benchmark would provide state Medicaid agencies with a better estimate of prices paid by pharmacies for drugs because it would be based upon actual drug purchases by said pharmacies. This was the beginning of the collection of actual data to use in NADAC.

The Centers for Medicare and Medicaid Services contracted with Myers and Stauffer LC, a national certified public accounting firm, to develop NADAC.²⁰⁸ The process they settled upon to create NADAC was simple: it used surveys of retail community pharmacy prices to determine a simple average of drug acquisition costs. NADACs are calculated as a single national average—regional price variations are not incorporated since the relative impact on the NADAC calculation has been determined to be minimal.²⁰⁹ 250 pharmacies are randomly selected for the survey each month nationally. **CMS notes that the mean unit cost for generic NADACs have an average margin of error of 2.4 percent at a 95 percent confidence level**, and thereby the confidence interval encompasses the true mean unit cost for these drugs 95 out of 100 times.²¹⁰

Additionally, NADAC is not weighted based upon independent or chain pharmacy types, as the relative impact of the differences in their respective acquisition costs is again minimal. The dispersion of drug prices within NADAC is measured by the standard deviation. Cost observations greater than +/- two standard deviations from the mean are removed as outliers—eliminating values that are inconsistent with the rest of the observations, while retaining a large majority of cost observations used to calculate the means.²¹¹ NADAC file updates occur on a weekly and monthly schedule—for the purpose of this study a quarterly mean metric was generated based on the NADAC updates within the specified quarter.²¹²

14.3 National Numbers

Within the State Drug Utilization Datasets (“SDUD”), the “total cost” metric was used instead of the “Medicaid amount reimbursed” when creating the per unit cost and prescription cost variables, since outside reimbursements and rebates cannot be traced or attributed for analysis at the national and state levels, most notably the NDRP negotiated reimbursements.

14.4 FFS/MCO percentages

State Drug Utilization Datasets for 2021 Q1, 2020, and 2019 were used.²¹³

SDUD contain how many units and prescriptions were sold within each state per quarter by setting. This dataset also contains national totals for the sales of individual drugs. Within SDUD, any state level drug that is under 11 prescriptions is suppressed in the state total dataset but is included in the national totals provided. This accounts for an approximately \$7 billion discrepancy in the state drug totals and the national total.

To find the percentage of FFS/MCO drugs sold in each state, national totals “XX” variable was removed from the SDUD for that year, not available, or “NA” cells were removed, and the dataset was grouped by utilization type and state. The data frame was then exported to an excel dataset, where the percentages FFS/MCO were calculated for each state and then nationally.

14.5 Average Prescription Cost 2020

To calculate the mean prescription cost in 2020 by state, the 2020 NADAC benchmark dataset provided was grouped quarterly, a mean price metric was created, and then merged with the 2020 SDUD dataset by “NDC.” This was necessary so the dataset could be filtered for the generic and oral solid metrics, since the SDUD dataset does not contain those entries. After filtering, a “cost per prescription” metric was created and then grouped by utilization type and state to find the respective means.

The percent of prescriptions administered in the MCO setting column was calculated by using the dollar amount of the pharmacy reimbursements in either the FFS or MCO setting in each state. Also note that within the four states that have the percentage of drugs sold in the MCO setting are rounded to 100 percent as shown previously in **Figure 1** (HI, KS, NE, and NE) there is still a value for the FFS average since less than 0.5 percent of prescriptions analyzed within those states were billed as FFS.

The national totals were removed for this analysis due to the suppression of prescriptions under 11. The national average provided in this study was calculated by adding up all prescription total costs billed in each setting (FFSU/MCOU) and dividing by the total number of prescriptions within each setting.

14.6 State Numbers

To compare drug prices at the state level to the NADAC reference data, the NADAC benchmark dataset provided was grouped quarterly, a mean price metric was created and then merged with the SDUD dataset by “product name.”²¹⁴

The dataset was controlled to ensure only oral solids and generic drugs were included in the analysis. Oral solids are easier to measure per unit, thereby mitigating discrepancies that might occur when measuring a drug by milliliters or grams, which are the two other per unit measurements used.

Two analyses were run for each of the five selected states. The top 20 generic oral solids for each year for each state were pulled, regardless of if they were sold in an FFS or MCO setting. Additionally, a random twenty drugs were pulled for each state by year. If the random drug was sold in both FFS and MCO settings, both of those drug utilization metrics were pulled and merged with the NADAC benchmark for the relevant quarter. Ultimately, the FFS duplicates were removed from the final analysis.

To estimate the cost of dispensing prescriptions, the “Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State” professional dispensing fee as of September 2021 was used.²¹⁵ This study did not control for modifications or updates to the professional dispensing fee pre-September 2021, since this study required a proxy, not an exact metric by quarter.

14.7 Random Sample Verification

The Top 20 Generics only represented a small portion of the total of generic oral solids sold by each state as demonstrated by the 2020 data shown in **Figure 24**:

Figure 24
Percentage of Top 20 Drugs from Total 2020

State	Top 20 Generic Oral Solid Sum	Generic Oral Solid Sum	Percentage
FL	\$2,096,932.56	\$229,699,901.23	1%
IL	\$5,534,873.00	\$330,373,477.47	2%
LA	\$2,825,723.11	\$270,686,042.42	1%
MO	\$2,986,269.68	\$216,721,854.37	1%
WV	\$2,053,617.21	\$95,752,050.37	2%

Source: CTBA analysis of CMS 2020 Drug Utilization Data and NADAC

To diversify the analysis and to find out if a random sample of drugs rendered additional findings around the impact of costs under various contracts and modes of administration surrounding the Medicaid pharmacy benefit, a random sample of 20 drugs was also pulled. To verify the validity of the random sample used, two additional samples were pulled from the 2020 SDUD for comparison. All samples were within one standard deviation of the mean in 2020, as demonstrated by **Figure 25** below.

Figure 25
Prescription Drug Price Standard Deviations 2020

State	2020 mean	Sample 1 mean	Sample 2 mean	Sample 3 mean	Standard Deviation
FL	\$31.68	\$36.04	\$16.48	\$16.36	\$120.28
IL	\$29.71	\$20.09	\$18.14	\$13.38	\$89.04
LA	\$36.34	\$32.71	\$27.03	\$19.02	\$109.00
MO	\$38.68	\$41.70	\$25.68	\$25.60	\$62.66
WV	\$22.57	\$20.83	\$21.39	\$14.25	\$41.29

Source: CTBA analysis of CMS 2020 Drug Utilization Data

It was assumed that a comparable validity held for the 2019 random sample and the 2021 Q1 SDUD data used.

Endnotes

- ¹ [www.medicaid.gov/](https://www.medicaid.gov/about-us/program-history/index.html). "Program History." Accessed March 17, 2022. <https://www.medicaid.gov/about-us/program-history/index.html>.
- ² [www.medicaid.gov/](https://www.medicaid.gov/about-us/program-history/index.html). "Program History." Accessed March 17, 2022. <https://www.medicaid.gov/about-us/program-history/index.html>.
- ³ "U.S. Health Care Coverage and Spending." Congressional Research Service (CRS), January 26, 2021. <https://crsreports.congress.gov/product/pdf/IF/IF10830>.
- ⁴ 2021, "Medicaid Enrollment & Spending Growth: FY 2021 & 2022," *KFF* (blog), October 27, 2021, <https://www.kff.org/medicaid/issue-brief/medicaid-enrollment-spending-growth-fy-2021-2022/>.
- ⁵ Office of the Assistant Secretary for Planning and Evaluation. "Federal Medical Assistance Percentages or Federal Financial Participation in State Assistance Expenditures (FMAP)," n.d. <https://aspe.hhs.gov/federal-medical-assistance-percentages-or-federal-financial-participation-state-assistance>.
- ⁶ Barb Rosewicz, Justin Theal & Katy Ascanio. "States Collectively Spend 17 Percent of Their Revenue on Medicaid." *Pew Research Center*, State Fiscal Health, January 9, 2020. <https://www.pewtrusts.org/en/research-and-analysis/articles/2020/01/09/states-collectively-spend-17-percent-of-their-revenue-on-medicaid>.
- ⁷ CTBA, "Analysis of the Illinois FY 2023 Proposed General Fund Budget," March 29, 2022, <https://www.ctbaonline.org/reports/analysis-illinois-fy-2023-proposed-general-fund>.
- ⁸ (i) Nisha Kurani, Jared Ortaliza, Emma Wager Twitter, Lucas Fox, and Krutika Amin. "How Has U.S. Spending on Healthcare Changed over Time?" Health Spending. Peterson-KFF, n.d. <https://www.healthsystemtracker.org/chart-collection/u-s-spending-healthcare-changed-time/>; and (ii) National Conference of State Legislators. "Affordable Care Act Medicaid Expansion," October 14, 2021. <https://www.ncsl.org/research/health/affordable-care-act-expansion.aspx>.
- ⁹ CTBA, "Analysis of the Illinois FY 2023 Proposed General Fund Budget," March 29, 2022, <https://www.ctbaonline.org/reports/analysis-illinois-fy-2023-proposed-general-fund>.
- ¹⁰ National Conference of State Legislators. "State Balanced Budget Requirements," April 12, 1999. <https://www.ncsl.org/research/fiscal-policy/state-balanced-budget-requirements.aspx>.
- ¹¹ "Prescription Drugs," *MACPAC* (blog), accessed July 27, 2022, <https://www.macpac.gov/topics/prescription-drugs/>.
- ¹² Centers for Medicare and Medicaid Services. "Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs," January 2021. <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.
- ¹³ [www.medicaid.gov/](https://www.medicaid.gov/about-us/program-history/index.html). "Program History." Accessed March 17, 2022. <https://www.medicaid.gov/about-us/program-history/index.html>.
- ¹⁴ 2021, "Medicaid Enrollment & Spending Growth: FY 2021 & 2022," *KFF* (blog), October 27, 2021, <https://www.kff.org/medicaid/issue-brief/medicaid-enrollment-spending-growth-fy-2021-2022/>.
- ¹⁵ "U.S. Health Care Coverage and Spending." Congressional Research Service (CRS), January 26, 2021. <https://crsreports.congress.gov/product/pdf/IF/IF10830>.
- ¹⁶ Barb Rosewicz, Justin Theal & Katy Ascanio. "States Collectively Spend 17 Percent of Their Revenue on Medicaid." *Pew Research Center*, State Fiscal Health, January 9, 2020. <https://www.pewtrusts.org/en/research-and-analysis/articles/2020/01/09/states-collectively-spend-17-percent-of-their-revenue-on-medicaid>.
- ¹⁷ Barb Rosewicz, Justin Theal & Katy Ascanio. "States Collectively Spend 17 Percent of Their Revenue on Medicaid." *Pew Research Center*, State Fiscal Health, January 9, 2020. <https://www.pewtrusts.org/en/research-and-analysis/articles/2020/01/09/states-collectively-spend-17-percent-of-their-revenue-on-medicaid>.
- ¹⁸ (i) Nisha Kurani, Jared Ortaliza, Emma Wager Twitter, Lucas Fox, and Krutika Amin. "How Has U.S. Spending on Healthcare Changed over Time?" Health Spending. Peterson-KFF, n.d. <https://www.healthsystemtracker.org/chart-collection/u-s-spending-healthcare-changed-time/>; and (ii) National Conference of State Legislators. "Affordable Care Act Medicaid Expansion," October 14, 2021. <https://www.ncsl.org/research/health/affordable-care-act-expansion.aspx>.
- ¹⁹ CTBA, "Analysis of the Illinois FY 2023 Proposed General Fund Budget," March 29, 2022, <https://www.ctbaonline.org/reports/analysis-illinois-fy-2023-proposed-general-fund>.
- ²⁰ Barb Rosewicz, Justin Theal & Katy Ascanio. "States Collectively Spend 17 Percent of Their Revenue on Medicaid." *Pew Research Center*, State Fiscal Health, January 9, 2020. <https://www.pewtrusts.org/en/research-and-analysis/articles/2020/01/09/states-collectively-spend-17-percent-of-their-revenue-on-medicaid>.
- ²¹ National Conference of State Legislators. "State Balanced Budget Requirements," April 12, 1999. <https://www.ncsl.org/research/fiscal-policy/state-balanced-budget-requirements.aspx>.
- ²² MACPAC. "Provider Payment and Delivery Systems." Accessed April 20, 2022. <https://www.macpac.gov/medicaid-101/provider-payment-and-delivery-systems/>.
- ²³ MACPAC. "Provider Payment and Delivery Systems." Accessed April 20, 2022. <https://www.macpac.gov/medicaid-101/provider-payment-and-delivery-systems/>.
- ²⁴ Medicaid and CHIP Payment and Access Commission. "Types of Managed Care Arrangements." Accessed April 20, 2022. <https://www.macpac.gov/subtopic/types-of-managed-care-arrangements/>.

- ²⁵ Elizabeth Hinton, Lina Stolyar Published: Feb 23, and 2022, "10 Things to Know About Medicaid Managed Care," KFF (blog), February 23, 2022, <https://www.kff.org/medicaid/issue-brief/10-things-to-know-about-medicaid-managed-care/>.
- ²⁶ Medicaid and CHIP Payment and Access Commission. "Managed Care's Effect on Outcomes." MACPAC, 2021. <https://www.macpac.gov/subtopic/managed-cares-effect-on-outcomes/>.
- ²⁷ Division of Managed Care Policy (DMCP) in the Center, for Medicaid and CHIP Services at the Centers for Medicare & Medicaid Services, with, and assistance from Mathematica. "Medicaid Managed Care Enrollment and Program Characteristics, 2019." CMS, Centers for Medicare & Medicaid Services, Summer 2021. <https://www.medicaid.gov/medicaid/managed-care/downloads/2019-medicaid-managed-care-enrollment-report-updated.pdf>.
- ²⁸ MACPAC. "Provider Payment and Delivery Systems." Accessed April 20, 2022. <https://www.macpac.gov/medicaid-101/provider-payment-and-delivery-systems/>.
- ²⁹ Division of Managed Care Policy (DMCP) in the Center, for Medicaid and CHIP Services at the Centers for Medicare & Medicaid Services, with, and assistance from Mathematica. "Medicaid Managed Care Enrollment and Program Characteristics, 2019." CMS, Centers for Medicare & Medicaid Services, Summer 2021. <https://www.medicaid.gov/medicaid/managed-care/downloads/2019-medicaid-managed-care-enrollment-report-updated.pdf>.
- ³⁰ Medicaid and CHIP Access Commission. "The Evolution of Managed Care in Medicaid," June 2011, 224.
- ³¹ Medicaid and CHIP Access Commission. "The Evolution of Managed Care in Medicaid," June 2011, 224.
- ³² Medicaid and CHIP Access Commission. "The Evolution of Managed Care in Medicaid," June 2011, 224.
- ³³ Medicaid and CHIP Access Commission. "The Evolution of Managed Care in Medicaid," June 2011, 224.
- ³⁴ Daniela Franco Montoya, Puneet Kaur Chehal, and E. Kathleen Adams. "Medicaid Managed Care's Effects on Costs, Access, and Quality: An Update." Annu. Rev. Public Health 2020. Atlanta, Georgia: Department of Health Policy and Management, the Rollins School of Public Health, Emory University, 2020. <https://www.annualreviews.org/doi/pdf/10.1146/annurev-publhealth-040119-094345>.
- ³⁵ Medicaid and CHIP Access Commission. "The Evolution of Managed Care in Medicaid," June 2011, 224.
- ³⁶ Hinton, Elizabeth, Lina Stolyar Published: Feb 23, and 2022. "10 Things to Know About Medicaid Managed Care." KFF (blog), February 23, 2022. <https://www.kff.org/medicaid/issue-brief/10-things-to-know-about-medicaid-managed-care/>.
- ³⁷ Hinton, Elizabeth, Lina Stolyar Published: Feb 23, and 2022. "10 Things to Know About Medicaid Managed Care." KFF (blog), February 23, 2022. <https://www.kff.org/medicaid/issue-brief/10-things-to-know-about-medicaid-managed-care/>.
- ³⁸ Daniela Franco Montoya, Puneet Kaur Chehal, and E. Kathleen Adams. "Medicaid Managed Care's Effects on Costs, Access, and Quality: An Update." Annu. Rev. Public Health 2020. Atlanta, Georgia: Department of Health Policy and Management, the Rollins School of Public Health, Emory University, 2020. <https://www.annualreviews.org/doi/pdf/10.1146/annurev-publhealth-040119-094345>.
- ³⁹ Hinton, Elizabeth, Lina Stolyar Published: Feb 23, and 2022. "10 Things to Know About Medicaid Managed Care." KFF (blog), February 23, 2022. <https://www.kff.org/medicaid/issue-brief/10-things-to-know-about-medicaid-managed-care/>.
- ⁴⁰ Division of Managed Care Policy (DMCP) in the Center, for Medicaid and CHIP Services at the Centers for Medicare & Medicaid Services, with, and assistance from Mathematica. "Medicaid Managed Care Enrollment and Program Characteristics, 2019." CMS, Centers for Medicare & Medicaid Services, Summer 2021. <https://www.medicaid.gov/medicaid/managed-care/downloads/2019-medicaid-managed-care-enrollment-report-updated.pdf>.
- ⁴¹ Division of Managed Care Policy (DMCP) in the Center, for Medicaid and CHIP Services at the Centers for Medicare & Medicaid Services, with, and assistance from Mathematica. "Medicaid Managed Care Enrollment and Program Characteristics, 2019." CMS, Centers for Medicare & Medicaid Services, Summer 2021. <https://www.medicaid.gov/medicaid/managed-care/downloads/2019-medicaid-managed-care-enrollment-report-updated.pdf>.
- ⁴² Brian N Anderson and Angela Reed, "PBM Best Practices Series: Carve-in vs Carve-out Programs," n.d., 2. <https://www.milliman.com/-/media/milliman/pdfs/articles/best-practices-pharmacy-benefits-carve-in-carve-out.ashx>.
- ⁴³ MARTY SCHLADEN. "Medicaid Giant Centene Settles Fraud Allegations with Kansas for \$27.6M." *Kansas Reflector*, December 7, 2021, sec. Health. <https://kansasreflector.com/2021/12/07/medicaid-giant-centene-settles-fraud-allegations-with-kansas-for-27-6m/>.
- ⁴⁴ Michael Sparer. "Medicaid Managed Care: Costs, Access, and Quality of Care." THE SYNTHESIS PROJECT. The Mailman School of Public Health: Columbia University, September 2021. <https://www.rwjf.org/en/library/research/2012/09/medicaid-managed-care.html>.
- ⁴⁵ Rachel Dolan and Marina Tian. "Management and Delivery of the Medicaid Pharmacy Benefit." Kaiser Family Foundation, December 6, 2019. <https://www.kff.org/medicaid/issue-brief/management-and-delivery-of-the-medicaid-pharmacy-benefit/>.
- ⁴⁶ Kathleen Gifford, Anne Winter, Linda Wiant, Rachel Dolan, Marina Tian, and Rachel Garfield. "How State Medicaid Programs Are Managing Prescription Drug Costs: Results from a State Medicaid Pharmacy Survey for State Fiscal Years 2019 and 2020." Kaiser Family Foundation, April 29, 2020. <https://www.kff.org/report-section/how-state-medicaid-programs-are-managing-prescription-drug-costs-pharmacy-benefit-administration/>.
- ⁴⁷ MACPAC. "State and Federal Spending under the ACA." Accessed April 21, 2022. <https://www.macpac.gov/subtopic/state-and-federal-spending-under-the-aca/>.
- ⁴⁸ Kathleen Gifford, Anne Winter, Linda Wiant, Rachel Dolan, Marina Tian, and Rachel Garfield. "How State Medicaid Programs Are Managing Prescription Drug Costs: Results from a State Medicaid Pharmacy Survey for State Fiscal Years 2019 and 2020." Kaiser Family

Foundation, April 29, 2020. <https://www.kff.org/report-section/how-state-medicaid-programs-are-managing-prescription-drug-costs-pharmacy-benefit-administration/>.

⁴⁹ Kathleen Gifford, Anne Winter, Linda Wiant, Rachel Dolan, Marina Tian, and Rachel Garfield. "How State Medicaid Programs Are Managing Prescription Drug Costs: Results from a State Medicaid Pharmacy Survey for State Fiscal Years 2019 and 2020." Kaiser Family Foundation, April 29, 2020. <https://www.kff.org/report-section/how-state-medicaid-programs-are-managing-prescription-drug-costs-pharmacy-benefit-administration/>.

⁵⁰ Kathleen Gifford, Anne Winter, Linda Wiant, Rachel Dolan, Marina Tian, and Rachel Garfield. "How State Medicaid Programs Are Managing Prescription Drug Costs: Results from a State Medicaid Pharmacy Survey for State Fiscal Years 2019 and 2020." Kaiser Family Foundation, April 29, 2020. <https://www.kff.org/report-section/how-state-medicaid-programs-are-managing-prescription-drug-costs-pharmacy-benefit-administration/>.

⁵¹ "Medicaid Drug Rebate Program (MDRP)." Medicaid.gov, November 8, 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/medicaid-drug-rebate-program/index.html>.

⁵² "Medicaid Drug Rebate Program (MDRP)." Medicaid.gov, November 8, 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/medicaid-drug-rebate-program/index.html>.

⁵³ "Medicaid Drug Rebate Program (MDRP)." Medicaid.gov, November 8, 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/medicaid-drug-rebate-program/index.html>.

⁵⁴ "Medicaid Drug Rebate Program (MDRP)." Medicaid.gov, November 8, 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/medicaid-drug-rebate-program/index.html>.

⁵⁵ Rachel Dolan. "Understanding the Medicaid Prescription Drug Rebate Program." Kaiser Family Foundation, November 12, 2019. <https://www.kff.org/medicaid/issue-brief/understanding-the-medicaid-prescription-drug-rebate-program/>.

⁵⁶ Rachel Dolan. "Understanding the Medicaid Prescription Drug Rebate Program." Kaiser Family Foundation, November 12, 2019. <https://www.kff.org/medicaid/issue-brief/understanding-the-medicaid-prescription-drug-rebate-program/>.

⁵⁷ "Medicaid's Prescription Drug Benefit: Key Facts." Kaiser Family Foundation, May 1, 2019. <https://www.kff.org/medicaid/fact-sheet/medicaids-prescription-drug-benefit-key-facts/>.

⁵⁸ "Medicaid's Prescription Drug Benefit: Key Facts." Kaiser Family Foundation, May 1, 2019. <https://www.kff.org/medicaid/fact-sheet/medicaids-prescription-drug-benefit-key-facts/>.

⁵⁹ "Medicaid Drug Rebate Program (MDRP)." Medicaid.gov, November 8, 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/medicaid-drug-rebate-program/index.html>.

⁶⁰ Rachel Dolan and Marina Tian. "Management and Delivery of the Medicaid Pharmacy Benefit." Kaiser Family Foundation, December 6, 2019. <https://www.kff.org/medicaid/issue-brief/management-and-delivery-of-the-medicaid-pharmacy-benefit/>.

⁶¹ Rachel Dolan and Marina Tian. "Management and Delivery of the Medicaid Pharmacy Benefit." Kaiser Family Foundation, December 6, 2019. <https://www.kff.org/medicaid/issue-brief/management-and-delivery-of-the-medicaid-pharmacy-benefit/>.

⁶² Rachel Dolan and Marina Tian. "Management and Delivery of the Medicaid Pharmacy Benefit." Kaiser Family Foundation, December 6, 2019. <https://www.kff.org/medicaid/issue-brief/management-and-delivery-of-the-medicaid-pharmacy-benefit/>.

⁶³ Gretchen Morley, MPA; Susan Stuard, MBA; and Virgil Dickson. "MEDICAID PREFERRED DRUG LIST OPTIONS FOR STATES." Center for Evidence-based Policy: Oregon Health & Science University, February 2020. <https://centerforevidencebasedpolicy.org/wp-content/uploads/2020/03/MEDICAID-PREFERRED-DRUG-LIST-OPTIONS-FOR-STATES.pdf>.

⁶⁴ Gretchen Morley, MPA; Susan Stuard, MBA; and Virgil Dickson. "MEDICAID PREFERRED DRUG LIST OPTIONS FOR STATES." Center for Evidence-based Policy: Oregon Health & Science University, February 2020. <https://centerforevidencebasedpolicy.org/wp-content/uploads/2020/03/MEDICAID-PREFERRED-DRUG-LIST-OPTIONS-FOR-STATES.pdf>.

⁶⁵ Meyers and Stauffer. "Evaluation of a Single or Aligned Preferred Drug List." Oregon Health Authority, July 2018. https://sharprx.net/uploads/3/4/0/5/34054542/oregon_health_authority_-_evaluation_of_a_single_or_aligned_pdl_07.31.2018.pdf.

⁶⁶ Rachel Dolan and Marina Tian. "Management and Delivery of the Medicaid Pharmacy Benefit." Kaiser Family Foundation, December 6, 2019. <https://www.kff.org/medicaid/issue-brief/management-and-delivery-of-the-medicaid-pharmacy-benefit/>.

⁶⁷ Medicaid and CHIP Learning Collaborative. "Overview of Medicaid Cost Sharing Requirements," 2014. <https://www.medicaid.gov/state-resource-center/mac-learning-collaboratives/learning-collaborative-state-toolbox/downloads/cost-sharing-premium-requirements.pdf>.

⁶⁸ PBM ACCOUNTABILITY PROJECT. "Understanding the Evolving Business Models and Revenue of Pharmacy Benefit Managers," 2021. https://7f0edfbb-d1c0-491c-a980-f6eff91f8f6.filesusr.com/ugd/b11210_264612f6b98e47b3a8502054f66bb2a1.pdf?index=true.

⁶⁹ Rachel Dolan and Marina Tian. "Management and Delivery of the Medicaid Pharmacy Benefit." Kaiser Family Foundation, December 6, 2019. <https://www.kff.org/medicaid/issue-brief/management-and-delivery-of-the-medicaid-pharmacy-benefit/>.

⁷⁰ Rachel Dolan and Marina Tian. "Management and Delivery of the Medicaid Pharmacy Benefit." Kaiser Family Foundation, December 6, 2019. <https://www.kff.org/medicaid/issue-brief/management-and-delivery-of-the-medicaid-pharmacy-benefit/>.

⁷¹ Rachel Dolan and Marina Tian. "Management and Delivery of the Medicaid Pharmacy Benefit." Kaiser Family Foundation, December 6, 2019. <https://www.kff.org/medicaid/issue-brief/management-and-delivery-of-the-medicaid-pharmacy-benefit/>.

⁷² Rachel Dolan and Marina Tian. "Management and Delivery of the Medicaid Pharmacy Benefit." Kaiser Family Foundation, December 6, 2019. <https://www.kff.org/medicaid/issue-brief/management-and-delivery-of-the-medicaid-pharmacy-benefit/>.

- ⁷³ Rachel Dolan and Marina Tian. "Management and Delivery of the Medicaid Pharmacy Benefit." Kaiser Family Foundation, December 6, 2019. <https://www.kff.org/medicaid/issue-brief/management-and-delivery-of-the-medicaid-pharmacy-benefit/>.
- ⁷⁴ The Commonwealth Fund. "Pharmacy Benefit Managers and Their Role in Drug Spending." Controlling Health Care Costs, April 2019. <https://doi.org/10.26099/njmh-en20>.
- ⁷⁵ Beth Kidder, Deputy Secretary for Medicaid and Agency for Health Care Administration. "Florida Medicaid Managed Care." House Health and Human Services Committee, January 8, 2019. https://ahca.myflorida.com/Medicaid/recent_presentations/2019/Medicaid_Managed_Care_AHCA_1-8-19_HHS_Presentation.pdf.
- ⁷⁶ Beth Kidder, Deputy Secretary for Medicaid and Agency for Health Care Administration. "Florida Medicaid Managed Care." House Health and Human Services Committee, January 8, 2019. https://ahca.myflorida.com/Medicaid/recent_presentations/2019/Medicaid_Managed_Care_AHCA_1-8-19_HHS_Presentation.pdf.
- ⁷⁷ Beth Kidder, Deputy Secretary for Medicaid and Agency for Health Care Administration. "Florida Medicaid Managed Care." House Health and Human Services Committee, January 8, 2019. https://ahca.myflorida.com/Medicaid/recent_presentations/2019/Medicaid_Managed_Care_AHCA_1-8-19_HHS_Presentation.pdf.
- ⁷⁸ Beth Kidder, Deputy Secretary for Medicaid and Agency for Health Care Administration. "Florida Medicaid Managed Care." House Health and Human Services Committee, January 8, 2019. https://ahca.myflorida.com/Medicaid/recent_presentations/2019/Medicaid_Managed_Care_AHCA_1-8-19_HHS_Presentation.pdf.
- ⁷⁹ Beth Kidder, Deputy Secretary for Medicaid and Agency for Health Care Administration. "Florida Medicaid Managed Care." House Health and Human Services Committee, January 8, 2019. https://ahca.myflorida.com/Medicaid/recent_presentations/2019/Medicaid_Managed_Care_AHCA_1-8-19_HHS_Presentation.pdf.
- ⁸⁰ PBM ACCOUNTABILITY PROJECT. "Understanding the Evolving Business Models and Revenue of Pharmacy Benefit Managers," 2021. https://7f0edfbb-d1c0-491c-a980-f6eff91f8f6.filesusr.com/ugd/b11210_264612f6b98e47b3a8502054f66bb2a1.pdf?index=true.
- ⁸¹ PBM ACCOUNTABILITY PROJECT. "Understanding the Evolving Business Models and Revenue of Pharmacy Benefit Managers," 2021. https://7f0edfbb-d1c0-491c-a980-f6eff91f8f6.filesusr.com/ugd/b11210_264612f6b98e47b3a8502054f66bb2a1.pdf?index=true.
- ⁸² MARTY SCHLADEN. "Medicaid Giant Centene Settles Fraud Allegations with Kansas for \$27.6M." *Kansas Reflector*, December 7, 2021, sec. Health. <https://kansasreflector.com/2021/12/07/medicaid-giant-centene-settles-fraud-allegations-with-kansas-for-27-6m/>.
- ⁸³ MARTY SCHLADEN. "Medicaid Giant Centene Settles Fraud Allegations with Kansas for \$27.6M." *Kansas Reflector*, December 7, 2021, sec. Health. <https://kansasreflector.com/2021/12/07/medicaid-giant-centene-settles-fraud-allegations-with-kansas-for-27-6m/>.
- ⁸⁴ MARTY SCHLADEN. "Medicaid Giant Centene Settles Fraud Allegations with Kansas for \$27.6M." *Kansas Reflector*, December 7, 2021, sec. Health. <https://kansasreflector.com/2021/12/07/medicaid-giant-centene-settles-fraud-allegations-with-kansas-for-27-6m/>.
- ⁸⁵ PBM ACCOUNTABILITY PROJECT. "Understanding the Evolving Business Models and Revenue of Pharmacy Benefit Managers," 2021. https://7f0edfbb-d1c0-491c-a980-f6eff91f8f6.filesusr.com/ugd/b11210_264612f6b98e47b3a8502054f66bb2a1.pdf?index=true.
- ⁸⁶ Ohio Auditor of State, *Ohio's Medicaid Managed Care Pharmacy Services* (Ohio Auditor of State, August 2018), https://audits.ohioauditor.gov/Reports/AuditReports/2018/Medicaid_Pharmacy_Services_2018_Franklin.pdf.
- ⁸⁷ Massachusetts Health Policy Commission, "Cracking Open the Black Box of Pharmacy Benefit Managers: PBM Pricing for Generic Drugs in Massachusetts Medicaid Programs and the Commercial Market," *HPC Datapoints* 12 (June 2019): 1-8, <https://www.mass.gov/doc/datapoints-issue-12-printable-version/download>.
- ⁸⁸ 3 Axis Advisors. "ANALYSIS OF PBM SPREAD PRICING IN MICHIGAN MEDICAID MANAGED CARE." Michigan Pharmacists Association, 2019. <https://www.michiganpharmacists.org/Portals/0/resources/3AA%20MI%20Medicaid%20managed%20care%20analysis%20-%20Final%2004.10.19.pdf?ver=2019-04-30-064856-343&ver=2019-04-30-064856-343>.
- ⁸⁹ U.S. Congress. Drug Price Transparency in Medicaid Act of 2021 (n.d.). <https://ncpa.org/sites/default/files/2021-12/12.1.21-DrugPriceTransparencyInMedicaidAct.pdf>.
- ⁹⁰ Betsy Lordan, Office of Public Affairs. "FTC Requests Public Comments on the Impact of Pharmacy Benefit Managers' Practices." FTC, February 24, 2022. <https://www.ftc.gov/news-events/press-releases/2022/02/ftc-requests-public-comments-impact-pharmacy-benefit-managers>.
- ⁹¹ Source: From CTBA analysis of CMS' State Drug Utilization Data from 2020.
- ⁹² Brannon, Ike and LoSasso, Anthony T., *The Myth that the State can do Better: Medicaid Drug Prices and Managed Care Organizations* (May 26, 2021). Available at SSRN: <https://ssrn.com/abstract=3852446> or <http://dx.doi.org/10.2139/ssrn.3852446>
- ⁹³ Centers for Medicare and Medicaid Services. "Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs," January 2021. <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.
- ⁹⁴ Medicaid.gov. "Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State," September 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/state-prescription-drug-resources/medicaid-covered-outpatient-prescription-drug-reimbursement-information-state/index.html>.
- ⁹⁵ Source: CTBA analysis of CMS 2020 State Drug Utilization Data.
- ⁹⁶ These states were selected by CTBA's client, except for Ohio, which was selected by CTBA researchers.

- ⁹⁷ Medicaid.gov. "Medicaid & CHIP in Illinois." State Overviews. Accessed December 16, 2021. <https://www.medicaid.gov/state-overviews/stateprofile.html?state=Illinois>.
- ⁹⁸ "Annual Medicaid & CHIP Expenditures," n.d. <https://www.medicaid.gov/state-overviews/scorecard/annual-medicaid-chip-expenditures/index.html>.
- ⁹⁹ Office of Illinois Comptroller Susana Mendoza. "Illinois' Massive Shift to Managed Care," May 2019. https://illinoiscomptroller.gov/__media/sites/comptroller/FF-2019-05_web.pdf
- ¹⁰⁰ Office of Illinois Comptroller Susana Mendoza. "Illinois' Massive Shift to Managed Care," May 2019. https://illinoiscomptroller.gov/__media/sites/comptroller/FF-2019-05_web.pdf.
- ¹⁰¹ Office of Illinois Comptroller Susana Mendoza. "Illinois' Massive Shift to Managed Care," May 2019. https://illinoiscomptroller.gov/__media/sites/comptroller/FF-2019-05_web.pdf.
- ¹⁰² Office of Illinois Comptroller Susana Mendoza. "Illinois' Massive Shift to Managed Care," May 2019. https://illinoiscomptroller.gov/__media/sites/comptroller/FF-2019-05_web.pdf.
- ¹⁰³ Office of Illinois Comptroller Susana Mendoza. "Illinois' Massive Shift to Managed Care," May 2019. https://illinoiscomptroller.gov/__media/sites/comptroller/FF-2019-05_web.pdf.
- ¹⁰⁴ Office of Illinois Comptroller Susana Mendoza. "Illinois' Massive Shift to Managed Care," May 2019. https://illinoiscomptroller.gov/__media/sites/comptroller/FF-2019-05_web.pdf
- ¹⁰⁵ Medicaid.gov. "Illinois Managed Care Program Features, as of 2019," 2019. <https://www.medicaid.gov/medicaid/managed-care/downloads/il-2019-mmcdcs.pdf>.
- ¹⁰⁶ CTBA analysis of 2020 CMS Drug Utilization data.
- ¹⁰⁷ Winkelman Management Consulting. "Potential for Savings on Pharmacy Benefit Management Costs." Report to Commission on Government Forecasting and Accountability, April 2006.
- ¹⁰⁸ Illinois Attorney General Kwame Raoul. "ATTORNEY GENERAL RAOUL ANNOUNCES \$56 MILLION SETTLEMENT WITH PHARMACY BENEFIT MANAGER," September 30, 2021. https://illinoisattorneygeneral.gov/pressroom/2021_09/20210930c.html.
- ¹⁰⁹ "Working to Rein in Prescription Drug Costs, Gov. Pritzker Signs Legislation Creating Comprehensive Regulatory Framework for PBMs." Accessed April 22, 2022. <https://www.illinois.gov/news/press-release.html>.
- ¹¹⁰ Illinois General Assembly. PHARMACY BENEFIT MANAGERS, Pub. L. No. 215 ILCS 5/Art. XXXIIB heading new) (2019). <https://www.ilga.gov/legislation/publicacts/101/PDF/101-0452.pdf>.
- ¹¹¹ Illinois Attorney General Kwame Raoul. "ATTORNEY GENERAL RAOUL ANNOUNCES \$56 MILLION SETTLEMENT WITH PHARMACY BENEFIT MANAGER," September 30, 2021. https://illinoisattorneygeneral.gov/pressroom/2021_09/20210930c.html.
- ¹¹² Illinois Attorney General Kwame Raoul. "ATTORNEY GENERAL RAOUL ANNOUNCES \$56 MILLION SETTLEMENT WITH PHARMACY BENEFIT MANAGER," September 30, 2021. https://illinoisattorneygeneral.gov/pressroom/2021_09/20210930c.html.
- ¹¹³ From CTBA analysis of CMS' State Drug Utilization Data from 2020, 2019, and 2018.
- ¹¹⁴ From CTBA analysis of CMS' State Drug Utilization Data from 2020, 2019, and 2018.
- ¹¹⁵ Medicaid.gov. "Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State," September 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/state-prescription-drug-resources/medicaid-covered-outpatient-prescription-drug-reimbursement-information-state/index.html>.
- ¹¹⁶ Mitchell, Michelle. "State Releases \$1.3 to Support Critical Access Pharmacies." *NowDecatur.Com*. Accessed April 28, 2022. <https://nowdeatur.com/2020/06/01/state-releases-1-3-to-support-critical-access-pharmacies/>.
- ¹¹⁷ Rachel Dolan and Marina Tian. "Management and Delivery of the Medicaid Pharmacy Benefit." Kaiser Family Foundation, December 6, 2019. <https://www.kff.org/medicaid/issue-brief/management-and-delivery-of-the-medicaid-pharmacy-benefit/>.
- ¹¹⁸ Gretchen Morley, MPA; Susan Stuard, MBA; and Virgil Dickson. "MEDICAID PREFERRED DRUG LIST OPTIONS FOR STATES." Center for Evidence-based Policy: Oregon Health & Science University, February 2020. <https://centerforevidencebasedpolicy.org/wp-content/uploads/2020/03/MEDICAID-PREFERRED-DRUG-LIST-OPTIONS-FOR-STATES.pdf>.
- ¹¹⁹ Gretchen Morley, MPA; Susan Stuard, MBA; and Virgil Dickson. "MEDICAID PREFERRED DRUG LIST OPTIONS FOR STATES." Center for Evidence-based Policy: Oregon Health & Science University, February 2020. <https://centerforevidencebasedpolicy.org/wp-content/uploads/2020/03/MEDICAID-PREFERRED-DRUG-LIST-OPTIONS-FOR-STATES.pdf>.
- ¹²⁰ Medicaid.gov. "Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State," September 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/state-prescription-drug-resources/medicaid-covered-outpatient-prescription-drug-reimbursement-information-state/index.html>.
- ¹²¹ "West Virginia | Medicaid.Gov." Accessed April 26, 2022. <https://www.medicaid.gov/state-overviews/stateprofile.html?state=West-Virginia>.
- ¹²² Medicaid.gov. "Medicaid & CHIP in West Virginia," September 2021. <https://www.medicaid.gov/state-overviews/stateprofile.html?state=West-Virginia>.
- ¹²³ West Virginia Department of Health & Human Resources. "Mountain Health Trust (Managed Care)." West Virginia Bureau for Medical Services. State of West Virginia, 2022. <https://dhhr.wv.gov/bms/Members/Managed%20Care/Pages/default.aspx>.

- ¹²⁴ West Virginia Department of Health & Human Resources. "Mountain Health Trust (Managed Care)." West Virginia Bureau for Medical Services. State of West Virginia, 2022. <https://dhhr.wv.gov/bms/Members/Managed%20Care/Pages/default.aspx>.
- ¹²⁵ West Virginia Department of Health & Human Resources. "Mountain Health Trust (Managed Care)." West Virginia Bureau for Medical Services. State of West Virginia, 2022. <https://dhhr.wv.gov/bms/Members/Managed%20Care/Pages/default.aspx>.
- ¹²⁶ West Virginia Department of Health & Human Resources. "Mountain Health Trust (Managed Care)." West Virginia Bureau for Medical Services. State of West Virginia, 2022. <https://dhhr.wv.gov/bms/Members/Managed%20Care/Pages/default.aspx>.
- ¹²⁷ Medicaid.gov. "West Virginia Managed Care Program Features, as of 2019," 2019. <https://www.medicaid.gov/medicaid/managed-care/downloads/wv-2019-mmcdcs.pdf>.
- ¹²⁸ West Virginia Department of Health & Human Resources. "Pharmacy." West Virginia Bureau for Medical Services. State of West Virginia, 2022. <https://dhhr.wv.gov/bms/BMS%20Pharmacy/Pages/default.aspx>.
- ¹²⁹ Navigant Consulting, Inc. "PHARMACY SAVINGS REPORT." WEST VIRGINIA MEDICAID, February 25, 2019. <https://dhhr.wv.gov/bms/News/Documents/WV%20BMS%20Rx%20Savings%20Report%202019-04-02%20-%20FINAL.pdf>.
- ¹³⁰ Navigant Consulting, Inc. "PHARMACY SAVINGS REPORT." WEST VIRGINIA MEDICAID, February 25, 2019. <https://dhhr.wv.gov/bms/News/Documents/WV%20BMS%20Rx%20Savings%20Report%202019-04-02%20-%20FINAL.pdf>.
- ¹³¹ KFF. "Use of Pharmacy Vendors and PBMs for Medicaid Fee-for-Service Benefit," July 16, 2020. <https://www.kff.org/other/state-indicator/use-of-pharmacy-vendors-and-pbms-for-medicaid-fee-for-service-benefit/>.
- ¹³² KFF. "Use of Pharmacy Vendors and PBMs for Medicaid Fee-for-Service Benefit," July 16, 2020. <https://www.kff.org/other/state-indicator/use-of-pharmacy-vendors-and-pbms-for-medicaid-fee-for-service-benefit/>.
- ¹³³ KFF. "Use of Pharmacy Vendors and PBMs for Medicaid Fee-for-Service Benefit," July 16, 2020. <https://www.kff.org/other/state-indicator/use-of-pharmacy-vendors-and-pbms-for-medicaid-fee-for-service-benefit/>.
- ¹³⁴ "Gov. Justice Signs Bills Requiring Officer Training on Autism Spectrum Disorders, Lowering Prescription Drug Costs, and Regarding Physician Assistants." Office of the Governor, Jim Justice, April 21, 2021. <https://governor.wv.gov/News/press-releases/2021/Pages/Gov.-Justice-bill-signing-ceremony-Apr-21-2021.aspx>.
- ¹³⁵ From CTBA analysis of CMS' State Drug Utilization Data from 2020, 2019, 2018, and 2017.
- ¹³⁶ From CTBA analysis of CMS' State Drug Utilization Data from 2020, 2019, 2018, and 2017.
- ¹³⁷ Medicaid.gov. "Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State," September 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/state-prescription-drug-resources/medicaid-covered-outpatient-prescription-drug-reimbursement-information-state/index.html>.
- ¹³⁸ CTBA analysis of 2018, 2019, and 2020 State Drug Utilization Data.
- ¹³⁹ CTBA analysis of 2018, 2019, and 2020 State Drug Utilization Data and NADAC.
- ¹⁴⁰ Missouri Department of Social Services. "History of MO HealthNet Managed Care." Missouri Department of Social Services. Accessed March 17, 2021. <https://dss.mo.gov/mhd/mc/pages/history.htm>.
- ¹⁴¹ Medicaid.gov "Annual Medicaid & CHIP Expenditures" <https://www.medicaid.gov/state-overviews/scorecard/annual-medicaid-chip-expenditures/index.html>
- ¹⁴² HHS Press Office. "Missouri Medicaid Expansion Brings Quality Essential Health Coverage to More than 275,000 Missourians." HHS Press Office, October 4, 2021. <https://www.hhs.gov/about/news/2021/10/04/missouri-medicaid-expansion-brings-quality-essential-health-coverage.html>.
- ¹⁴³ HHS Press Office. "Missouri Medicaid Expansion Brings Quality Essential Health Coverage to More than 275,000 Missourians." HHS Press Office, October 4, 2021. <https://www.hhs.gov/about/news/2021/10/04/missouri-medicaid-expansion-brings-quality-essential-health-coverage.html>.
- ¹⁴⁴ Phil McCausland. "Missouri Voters Passed Medicaid Expansion. Now State Republicans May Not Pay for It." *NBC News*, March 30, 2021, sec. U.S. News. <https://www.nbcnews.com/news/us-news/missouri-voters-passed-medicaid-expansion-now-state-republicans-may-not-n1262539>.
- ¹⁴⁵ HHS Press Office. "Missouri Medicaid Expansion Brings Quality Essential Health Coverage to More than 275,000 Missourians." HHS Press Office, October 4, 2021. <https://www.hhs.gov/about/news/2021/10/04/missouri-medicaid-expansion-brings-quality-essential-health-coverage.html>.
- ¹⁴⁶ HHS Press Office. "Missouri Medicaid Expansion Brings Quality Essential Health Coverage to More than 275,000 Missourians." HHS Press Office, October 4, 2021. <https://www.hhs.gov/about/news/2021/10/04/missouri-medicaid-expansion-brings-quality-essential-health-coverage.html>.
- ¹⁴⁷ Missouri Department of Social Services. "Managed Care Pharmacy Carve-Out-Billing Notification," n.d. <https://dss.mo.gov/mhd/cs/pharmacy/pages/mcpharmcob.htm>.
- ¹⁴⁸ Missouri Department of Social Services. "Managed Care Pharmacy Carve-Out-Billing Notification," n.d. <https://dss.mo.gov/mhd/cs/pharmacy/pages/mcpharmcob.htm>.
- ¹⁴⁹ KFF. "Use of Pharmacy Vendors and PBMs for Medicaid Fee-for-Service Benefit," July 16, 2020. <https://www.kff.org/other/state-indicator/use-of-pharmacy-vendors-and-pbms-for-medicaid-fee-for-service-benefit/>.

- ¹⁵⁰ Medicaid.gov. "Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State," September 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/state-prescription-drug-resources/medicaid-covered-outpatient-prescription-drug-reimbursement-information-state/index.html>.
- ¹⁵¹ Medicaid.gov. "Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State," September 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/state-prescription-drug-resources/medicaid-covered-outpatient-prescription-drug-reimbursement-information-state/index.html>.
- ¹⁵² Centers for Medicare and Medicaid Services. "Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs," January 2021. <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.
- ¹⁵³ Kevin Pierce and Andrea Sheldon, "NADAC-plus: An Emerging Paradigm in Pharmacy Pricing," 2018, 3, <https://us.milliman.com/-/media/milliman/importedfiles/uploadedfiles/insight/2018/nadac-plus.ashx>. Centers for Medicare and Medicaid Services. "Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs," January 2021. <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.
- ¹⁵⁴ Centers for Medicare and Medicaid Services. "Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs," January 2021. <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.
- ¹⁵⁵ From CTBA analysis of CMS' State Drug Utilization Data 2020.
- ¹⁵⁶ From CTBA analysis of CMS' State Drug Utilization Data 2019, 2020, and 2021 and NADAC.
- ¹⁵⁷ From CTBA analysis of CMS' State Drug Utilization Data 2019, 2020, and 2021 and NADAC.
- ¹⁵⁸ "Florida | Medicaid.Gov." Accessed April 26, 2022. <https://www.medicaid.gov/state-overviews/stateprofile.html?state=Florida>.
- ¹⁵⁹ Beth Kidder, Deputy Secretary for Medicaid and Agency for Health Care Administration. "Florida Medicaid Managed Care." House Health and Human Services Committee, January 8, 2019. https://ahca.myflorida.com/Medicaid/recent_presentations/2019/Medicaid_Managed_Care_AHCA_1-8-19_HHS_Presentation.pdf.
- ¹⁶⁰ Medicaid.gov. "Annual Medicaid & CHIP Expenditures," n.d. <https://www.medicaid.gov/state-overviews/scorecard/annual-medicaid-chip-expenditures/index.html>.
- ¹⁶¹ Beth Kidder, Deputy Secretary for Medicaid and Agency for Health Care Administration. "Florida Medicaid Managed Care." House Health and Human Services Committee, January 8, 2019. https://ahca.myflorida.com/Medicaid/recent_presentations/2019/Medicaid_Managed_Care_AHCA_1-8-19_HHS_Presentation.pdf.
- ¹⁶² Beth Kidder, Deputy Secretary for Medicaid and Agency for Health Care Administration. "Florida Medicaid Managed Care." House Health and Human Services Committee, January 8, 2019. https://ahca.myflorida.com/Medicaid/recent_presentations/2019/Medicaid_Managed_Care_AHCA_1-8-19_HHS_Presentation.pdf.
- ¹⁶³ Beth Kidder, Deputy Secretary for Medicaid and Agency for Health Care Administration. "Florida Medicaid Managed Care." House Health and Human Services Committee, January 8, 2019. https://ahca.myflorida.com/Medicaid/recent_presentations/2019/Medicaid_Managed_Care_AHCA_1-8-19_HHS_Presentation.pdf.
- ¹⁶⁴ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021. https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.
- ¹⁶⁵ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021. https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.
- ¹⁶⁶ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021. https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.
- ¹⁶⁷ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021. https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.
- ¹⁶⁸ From CTBA analysis of CMS' 2020 Drug Utilization dataset.
- ¹⁶⁹ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021.

https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.

¹⁷⁰ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021.

https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.

¹⁷¹ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021.

https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.

¹⁷² Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021.

https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.

¹⁷³ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021.

https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.

¹⁷⁴ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021.

https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.

¹⁷⁵ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021.

https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.

¹⁷⁶ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021.

https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.

¹⁷⁷ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021.

https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.

¹⁷⁸ Milliman Report, "Pharmacy Benefit Manager Pricing Practices in Statewide Medicaid Managed Care Program" (Prepared for the Florida Agency for Health Care Administration, December 1, 2020),

https://cdn.ymaws.com/www.floridapharmacy.org/resource/resmgr/docs_2021_legislative_session/milliman_report.pdf.

¹⁷⁹ Milliman Report, "Pharmacy Benefit Manager Pricing Practices in Statewide Medicaid Managed Care Program" (Prepared for the Florida Agency for Health Care Administration, December 1, 2020),

https://cdn.ymaws.com/www.floridapharmacy.org/resource/resmgr/docs_2021_legislative_session/milliman_report.pdf.

¹⁸⁰ From CTBA analysis for CMS' State Drug Utilization data for 2018, 2019, 2020.

¹⁸¹ Medicaid.gov. "Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State," September 2021.

<https://www.medicare.gov/medicaid/prescription-drugs/state-prescription-drug-resources/medicaid-covered-outpatient-prescription-drug-reimbursement-information-state/index.html>.

¹⁸² From CTBA analysis of CMS' State Drug Utilization Data from 2020, 2019, 2018, and 2017.

¹⁸³ Medicaid.gov. "Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State," September 2021.

<https://www.medicare.gov/medicaid/prescription-drugs/state-prescription-drug-resources/medicaid-covered-outpatient-prescription-drug-reimbursement-information-state/index.html>.

¹⁸⁴ Gretchen Morley, MPA; Susan Stuard, MBA; and Virgil Dickson. "MEDICAID PREFERRED DRUG LIST OPTIONS FOR STATES." Center for Evidence-based Policy: Oregon Health & Science University, February 2020. <https://centerforevidencebasedpolicy.org/wp-content/uploads/2020/03/MEDICAID-PREFERRED-DRUG-LIST-OPTIONS-FOR-STATES.pdf>.

¹⁸⁵ Beth Kidder, Deputy Secretary for Medicaid. "Pharmacy Benefit Manager Pricing Practices in the Statewide Medicaid Managed Care Program." Florida House Finance & Facilities Subcommittee, February 18, 2021.

https://ahca.myflorida.com/Medicaid/recent_presentations/2021/House_Finance_Facilities_Subcommittee_PBM_Pricing_Practices_02182_021.pdf.

- ¹⁸⁶ “Louisiana | Medicaid.Gov.” Accessed April 26, 2022. <https://www.medicaid.gov/state-overviews/stateprofile.html?state=Louisiana>.
- ¹⁸⁷ “Annual Medicaid & CHIP Expenditures,” n.d. <https://www.medicaid.gov/state-overviews/scorecard/annual-medicaid-chip-expenditures/index.html>.
- ¹⁸⁸ Bureau of Health Services Financing, Louisiana Medicaid. “Paving the Way to a Healthier Louisiana: Advancing Medicaid Managed Care.” Louisiana Department of Public Health, March 1, 2018. https://ldh.la.gov/assets/HealthyLa/LDH_MCO_RFP_WP.pdf.
- ¹⁸⁹ Centene Corporation. “Centene Subsidiary Louisiana Healthcare Connections Selected to Continue Serving Louisiana’s Medicaid Managed Care Program Statewide,” February 14, 2022. <https://www.prnewswire.com/news-releases/centene-subsidiary-louisiana-healthcare-connections-selected-to-continue-serving-louisianas-medicaid-managed-care-program-statewide-301481348.html>.
- ¹⁹⁰ Centene Corporation. “Centene Subsidiary Louisiana Healthcare Connections Selected to Continue Serving Louisiana’s Medicaid Managed Care Program Statewide,” February 14, 2022. <https://www.prnewswire.com/news-releases/centene-subsidiary-louisiana-healthcare-connections-selected-to-continue-serving-louisianas-medicaid-managed-care-program-statewide-301481348.html>.
- ¹⁹¹ Zacks Equity Research. “Centene (CNC) Boosts Presence in Louisiana With Contract Win.” NASDAQ, February 15, 2022. <https://www.nasdaq.com/articles/centene-cnc-boosts-presence-in-louisiana-with-contract-win>.
- ¹⁹² Louisiana Department of Health and Bureau of Health Services Financing. “Medicaid Pharmacy Comprehensive Plan.” Louisiana Department of Health, March 2020. <https://ldh.la.gov/assets/docs/LegisReports/ACT263RS2019C392020.pdf>.
- ¹⁹³ Louisiana Department of Health and Bureau of Health Services Financing. “Medicaid Pharmacy Comprehensive Plan.” Louisiana Department of Health, March 2020. <https://ldh.la.gov/assets/docs/LegisReports/ACT263RS2019C392020.pdf>.
- ¹⁹⁴ “RFP: Pharmacy Benefit Management Services for Louisiana Medicaid Managed Care Organizations | La Dept. of Health.” Accessed April 26, 2022. <https://ldh.la.gov/news/6493>.
- ¹⁹⁵ Bloomberg.com. “UnitedHealth Inflated Drug Costs, Louisiana Attorney General Alleges in Suit,” April 20, 2022. <https://www.bloomberg.com/news/articles/2022-04-20/unitedhealth-inflated-drug-costs-louisiana-ag-alleges-in-suit>.
- ¹⁹⁶ Bloomberg.com. “UnitedHealth Inflated Drug Costs, Louisiana Attorney General Alleges in Suit,” April 20, 2022. <https://www.bloomberg.com/news/articles/2022-04-20/unitedhealth-inflated-drug-costs-louisiana-ag-alleges-in-suit>.
- ¹⁹⁷ From CTBA analysis for CMS’ State Drug Utilization data for 2018, 2019, 2020.
- ¹⁹⁸ From CTBA analysis of CMS’ State Drug Utilization Data from 2020, 2019, and 2018.
- ¹⁹⁹ From CTBA analysis of CMS’ State Drug Utilization Data from 2020.
- ²⁰⁰ From CTBA analysis of CMS’ State Drug Utilization Data from 2020.
- ²⁰¹ Medicaid.gov. “Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State,” September 2021. <https://www.medicaid.gov/medicaid/prescription-drugs/state-prescription-drug-resources/medicaid-covered-outpatient-prescription-drug-reimbursement-information-state/index.html>.
- ²⁰² From CTBA analysis of CMS’ State Drug Utilization Data 2019, 2020, and 2021 and NADAC.
- ²⁰³ Corallo, Bradley, Sophia Moreno Published: May 02, and 2022. “Analysis of Recent National Trends in Medicaid and CHIP Enrollment.” KFF (blog), May 2, 2022. <https://www.kff.org/coronavirus-covid-19/issue-brief/analysis-of-recent-national-trends-in-medicaid-and-chip-enrollment/>.
- ²⁰⁴ Three Axis Advisors. “Issue Brief: The Billions in Prescription Drug Savings from Enhancements to NADAC,” May 11, 2021. <https://www.3axisadvisors.com/projects/2021/5/11/enhancements-to-nadac>.
- ²⁰⁵ Centers for Medicare and Medicaid Services. “Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs,” January 2021. <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.
- ²⁰⁶ Centers for Medicare and Medicaid Services. “Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs,” January 2021. <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.
- ²⁰⁷ Centers for Medicare and Medicaid Services. “Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs,” January 2021. <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.
- ²⁰⁸ Centers for Medicare and Medicaid Services. “Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs,” January 2021. <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.
- ²⁰⁹ Centers for Medicare and Medicaid Services. “Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs,” January 2021. <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.
- ²¹⁰ “National Average Drug Acquisition Cost (NADAC) Questions and Responses” (Center for Medicare and Medicaid Services), accessed August 9, 2022, <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacqa.pdf>.

²¹¹ Centers for Medicare and Medicaid Services. "Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs," January 2021. <https://www.medicare.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.

²¹² Centers for Medicare and Medicaid Services. "Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs," January 2021. <https://www.medicare.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf>.

²¹³ "State Drug Utilization Data | Medicaid." Accessed April 28, 2022. <https://www.medicare.gov/medicaid/prescription-drugs/state-drug-utilization-data/index.html>.

²¹⁴ "Dataset Search." Accessed April 28, 2022. [https://data.medicare.gov/datasets?theme\[0\]=Drug%20Pricing%20and%20Payment&sort=modified](https://data.medicare.gov/datasets?theme[0]=Drug%20Pricing%20and%20Payment&sort=modified).

²¹⁵ Medicaid.gov. "Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State," September 2021. <https://www.medicare.gov/medicaid/prescription-drugs/state-prescription-drug-resources/medicaid-covered-outpatient-prescription-drug-reimbursement-information-state/index.html>.