WSPA
WASHINGTON STATE PHARMACY ASSOCIATION

June 21, 2024

Rule Coordinator
Office of the Insurance Commissioner
302 Sid Snyder Ave SW
Olympia, WA 98501
rulescoordinator@oic.wa.gov

Re: WSR 24-11-126 - Comment for CR-101 Relating to Health Care Benefit Managers (HCBM)

To whom it may concern:

The Washington State Pharmacy Association (WSPA) is appreciative of the opportunity to provide comments relating to rulemaking for implementation of the health care benefit manager chapter, including the updates required by E2SSB 5213. The WSPA is the home and voice of pharmacy practice. We advocate on behalf of the profession to ensure pharmacy professionals are uniformly recognized as a vital member of the healthcare team. The WSPA worked with a subcommittee of members in gathering the basis for our comments.

For the convenience of the Rules coordinator our recommendations are divided by E2SSB 5213 sections, or general comments. Additionally, our comments by section are in order of the updated E2SSB 5213 language even if the comment is on existing HCBM Chapter language. This was to prevent the reader from having to go between RCW 48.200 and the language of E2SSB 5213.

General Comments:

The WSPA strongly encourages OIC leadership to create a PBM enforcement unit, similar to Oklahoma, Tennessee, and Arkansas. The registration fees PBMs pay will fund this enforcement unit as allowed under the HCBM Chapter. The staff of this unit should include individuals with experience in pharmacy claims, such as a pharmacist or technician that has worked in community pharmacies or in managed care. In reviewing recent replies by the OIC to pharmacy complaints it is obvious that the current staff are trying to resolve issues, but are out of their depth in resolving even simple discrepancies such as days' supply issues. See the recent complaint made by Arlington Pharmacy as evidence. PBMs sidestep enforcement by weaving half-truths that experienced staff could see right through. This specialized unit should be charged with handling both PBM-related complaints and the price appeals process. Creation of a specialized enforcement unit for PBM issues staffed with experienced pharmacy billers will be essential to enforcement of the HCBM chapter.

The WSPA appreciates the new PBM complaint form that the OIC staff created with the feedback from the pharmacy community. We believe this will result in a significant increase in complaints filed over the

next year. The old form having carrier information and other barriers limited the pharmacy complaints and has been offline for the beginning of 2024 which resulted in an artificially low number of complaints compared to issues identified. The PBM division will be necessary to respond to the expected influx of complaints.

Further, there are laws in addition to the HCBM chapter that the PBM enforcement unit should enforce. The insurance companies are currently requiring brand over generic medications on their formularies in opposition to RCW 48.43.430. Also, we request that enforcement of this section be delegated to the OIC's PBM enforcement unit.

The OIC in this rulemaking should make clear which sections of the HCBM Laws apply to all HCBMs or PBMs, and which apply to only State Regulated or opt in plans. RCW 48.200.220 should apply to all PBMs, and this authority is upheld by the Rutledge Supreme Court decision. Other provisions of the HCBM chapter are limited to only certain types of plans. This clarity will improve enforcement and set clear expectations for carriers, pharmacies, and patients in Washington.

Section 1-4: no recommended rule making.

Section 5:

The Washington State Pharmacy Association believes that Section 5 requires the most amount of rulemaking to aid enforcement.

Section 5 (2)

> **(2)(b) and (c):** We recommend in enforcement of the appeals language under part 3-7, the OIC should hold PBMs accountable for including unavailable or obsolete drugs on their pricing lists. Routinely their medication list prices are set based on obsolete or unavailable products. Drug lists have been increasingly inaccurate by inclusion of unavailable medications on lists due to drug shortages. PBMs should maintain accurate lists as required by this law to base medication prices on.
>
> **(2)(g):** The Health Care Authority State Plan Amendment Dispensing fee should be adopted by the OIC as a benchmark dispensing fee to ensure pharmacies are adequately paid for dispensing medications in addition to the cost of medications. Often with the current appeals, pharmacies are reimbursed at or below their actual acquisition cost which does not represent the $9-15 cost to dispense the medication.
>
> **2(i):** Rules must be required to make it clear that fees should not be charged for pharmacy network enrollment. Additionally, carriers have been forcing pharmacy claims through a discount card instead of by a PBM. These discount cards then charge fees of $4-10 per claim to a pharmacy. Carriers that force use of these discount cards should be accountable for the fees charged by their partners to pharmacies.

2(k): This law prohibits PBMs from paying owned or affiliated pharmacies a different price for medications. A study commissioned by the WSPA by 3 axis advisors shows that the PBMs are paying owned pharmacies (chain and mail order pharmacies) increased prices for medications. A copy of this study is attached to this letter. We believe enforcement of this section should be a top priority for patients, employers, and pharmacies in Washington State.

Overpayment to owned or affiliated pharmacies has dire consequences. First, this anticompetitive behavior causes pharmacies to shut down, which limits network adequacy and may result in carriers leaving markets in Washington. Second, this can be a sign of a deceptive practice of parking profits in other parts of their businesses to avoid medical loss ratio limits, which would permit them to increase premiums, while raking in profits into their overall business.

2(j): Currently, the PBMs have individual accreditation/credentialling processes for each pharmacy. Each PBM asks vastly different questions, some require accessing complicated portals, lack appropriate response times, and require fees upwards of $1,500 which conflicts with 2(i). One PBM even asks for the individual social security numbers of pharmacy employees. We ask that the OIC develop a standard accreditation form for pharmacy credentialing/application, such as the OIC did with the Washington Provider Application for provider credentialing. The PBMs each have different renewal timing for applications – some PBM'S every 3 years, others annually. We believe that every 3 years should be sufficient, provided the pharmacy is licensed and in good standing. Additionally, the PBMs currently require costly certification processes to be reimbursed for dispensing some medications the PBMs classify as specialty. However, most of these "specialty" medications are available for any pharmacy to order and dispense. The WSPA believes this increases the costs of healthcare and fractionalizes care. It was the intent of this section to limit the hoops and barriers to provision of care and medications to patients. The NCPDP platform provides an option for a centralized location for pharmacy information, similar to the CAQH for provider credentialing.

Section 5: (3)-(7) The appeals process permitted under this section needs rulemaking to clarify intent and standardize processes.

(3) Some PBM contracts require that a pharmacy's Pharmacy Services Administration Organization (PSAO) must submit appeals. This section clearly requires that the PBM must accept appeals from the pharmacy or a representative such as a PSAO. This section also lists 30 days for the PBM to respond to the pharmacy about an appeal before it is considered denied. PBMs have been mis-using this 30-day limit, stating pharmacies may not appeal a claim older than 30 days which is not listed in this law. Further, clarity is needed for how a pharmacy can prove that it is unable to purchase medications at the list price – is screen shots of their wholesale ordering system sufficient? The PBMs seem to want to drive pharmacies to small unknown wholesalers, which are also the main source of counterfeit medications in the US. While pharmacies should use any appropriate system to obtain the lowest price medications, we should not push pharmacies to such extremes that they are at risk of purchasing and

distributing counterfeits. The Partnership for Safe Medications has documented this counterfeit risk.

The OIC should establish a standard form and process for the tier 1 appeals through the PBMs. The form should be standardized, simple and allow for multiple entries. They should also establish timelines, so that an invoice is not required by the pharmacy. The Express Scripts form is one model to use. Also Optum's spreadsheet is easy to use for multiple submissions. A standardized, simple process for tier 1 appeals is necessary.

Lastly, the PBM should have to prove that a claim is excluded from the appeals process because of being a non-opted in ERISA, Taft-Hartley, Medicare or otherwise non -covered claim. The OIC should not simply take their word for it. Permitting this practice is like letting the wolf guard the hen house.

(4) Pharmacies use BIN, PCN and Group codes to bill prescriptions to PBMs. The combination of these codes often indicates different plans, or contracts, and may convey different reimbursement, formularies and requirements of the pharmacies. Currently, PBMs use interchangeable BIN, PCN and Group codes for ERISA, Taft Hartly and fully insured individual or group commercial plans. This makes it impossible for the OIC or pharmacies to understand which claims fall under OIC enforcement and the appeals process. The OIC should clarify that the PBMs must have a mechanism to distinguish claims that are covered by the HCBM bill because they are fully insured group or individual plans or plans that opted into this bill. The lists of these plans must be available to pharmacies and the OIC for enforcement purposes. There must be a consequence if an accurate list is not maintained. It is to the benefit of the PBM to not include all covered groups under this list, as it would stop the appeals and enforcement processes for these claims. We suggest in Section 9 that opting in plans should be assigned a novel Group code for enforcement purposes.

(5) The OIC needs to better enforce the requirement of PBMs to prove where the pharmacy can purchase the medication for denied appeals. Rarely do the PBMs provide this to a pharmacy if they deny a claim. This is also in conflict with Section 5(3) which states that non-response in 30 days is considered a denial.

(6)(a) The follow up on an approved appeal is the area that most requires rule making. The post approved appeal process is different with each PBM. Some PBMs adjust the appealed claim retroactively, but do not adjust the list price for claims going forward. Other PBMs will not adjust the approved appealed claim retroactively but adjust the list price for claims going forward. Some PBMs state they will pay an increased rate, but do not actually change the list price. Others will increase the list price for a short while after the appeal, but then revert to the lower rate on subsequent fills. We believe the OIC rules must establish a standard process for approved appeals. The WSPA believes that the reimbursement for an approved claim must be adjusted retroactively and the list price for the medication should be adjusted for all

pharmacies, all claims and all patients paid from that list for a period of 1 year. We appreciate the OIC clarifying how adjustments should be made for approved appeals under this law.

(7) The OIC should establish what an adequate adjustment for a medication should be. The WSPA suggests Actual Acquisition Cost plus the health care authority state plan amendment dispensing fee as a benchmark. For these tier 2 appeals, pharmacies sometimes have used administrative attorneys to review their applications and represent them. The PBMs should have to cover attorney fees if the appeal request is upheld.

Section 7:

(1)(a)-(c) The WSPA encourages the OIC to have an audit process to verify compliance with this section. It would be difficult to identify non-compliance through simply a complaint process.

(2)-(3) Noncompliance with this section will largely be complaint based. We encourage the OIC to educate consumers to empower them to know their rights under these sections.

Section 9: The OIC should establish a process to educate employers about their option to opt into the protections of this bill. They then should establish an application process for the employer. As mentioned in our comments for Section 5(4) a novel group or PCN should be established by the PBM for this employer and included on the list posted for pharmacies and the OIC.

Thank you for the opportunity to comment on the rules for enforcement of the HCBM Chapter. We are available to discuss these comments further and look forward to participating in stakeholder meetings.

Sincerely,

Jenny Arnold, PharmD, BCPS
Chief Executive Officer

THREE AXIS
ADVISORS

Understanding Drug Pricing from Divergent Perspectives

State of Washington Prescription Drug Pricing Analysis

Prepared for the Washington State Pharmacy Association

June 2024

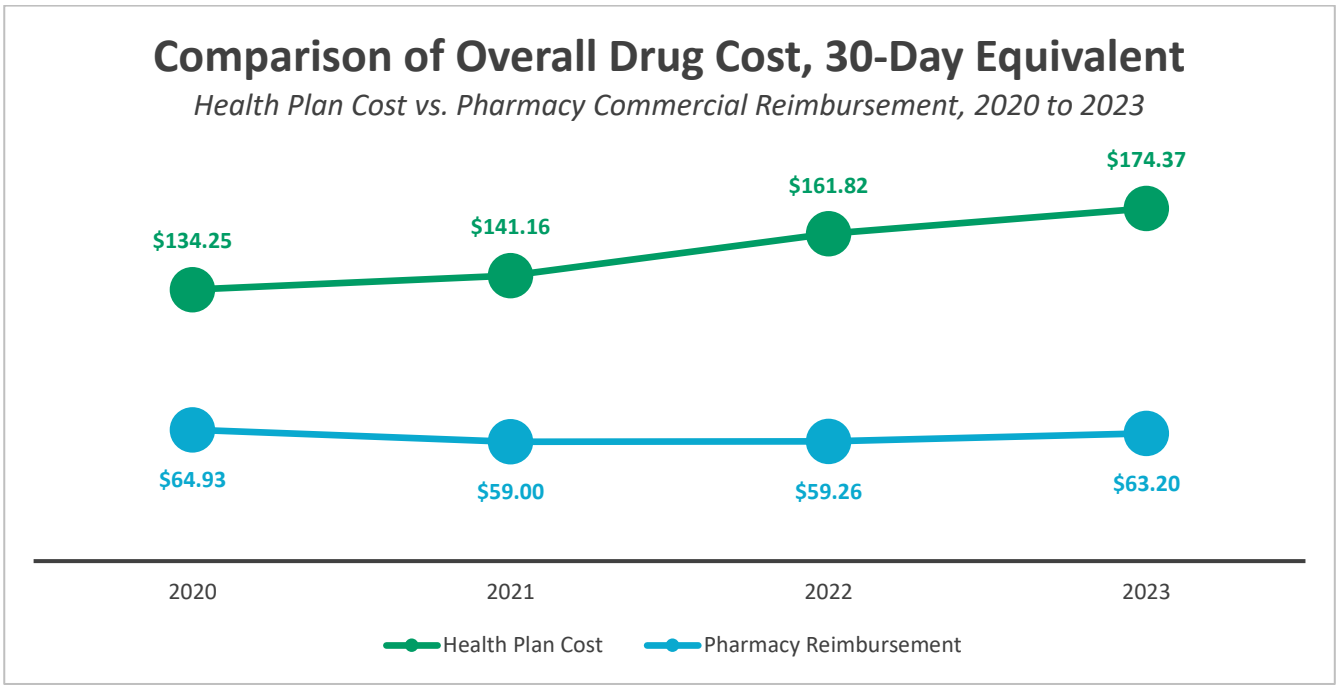
Executive Summary

In the United States, patients grapple with a sense of bewilderment over the opaque nature of drug pricing, fueling a pervasive feeling of helplessness amidst soaring healthcare costs. There's a prevailing perception that every link in the drug supply chain prioritizes profit margins over patient well-being, amplifying the strain on individuals who must make agonizing choices between vital medications and basic necessities. The stark reality of this dilemma reverberates across social media platforms, serving as a poignant reminder of the profound affordability challenges plaguing the healthcare system. This reality fuels an escalating demand for comprehensive reforms to revolutionize how medicines are procured in the nation.

Despite a decade of federal and state initiatives aimed at mitigating the impact of escalating drug prices, public frustration persists unabated. What adds to the confounding nature of the issue is the paradox wherein some individuals express satisfaction with their health coverage while concurrently advocating for payment reforms. The intricate labyrinth through which medications are bought and sold is shrouded in secrecy, fostering a climate ripe for sowing seeds of distrust.

Into this environment, we conducted a study of the pharmacy benefits and reimbursement trends within the state of Washington. For the first time ever within our publicly available research work, we have the opportunity to not just analyze drug pricing trends from the perspective of pharmacy providers who buy and sell medications to patients, but also from commercial plan sponsors, who provide the majority of individuals with their access to prescription drug insurance.

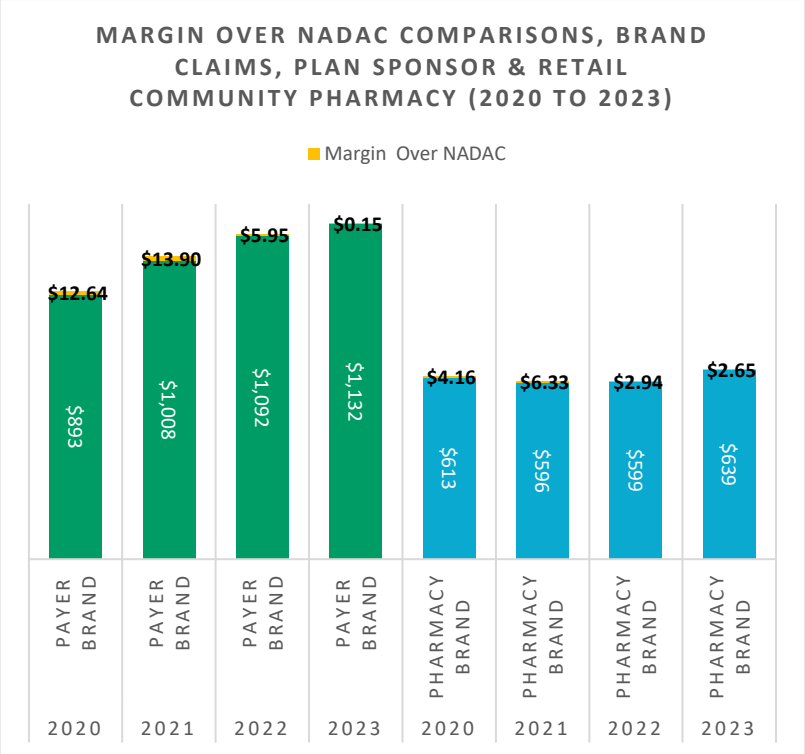
In our analysis of more than nine million prescription drug claims from both small retail pharmacies and commercial employers in the state of Washington from 2020 to 2023, we found that pharmacies and plan sponsors have relatively divergent perspectives on the rate of change of prescription drug prices within the state of Washington.

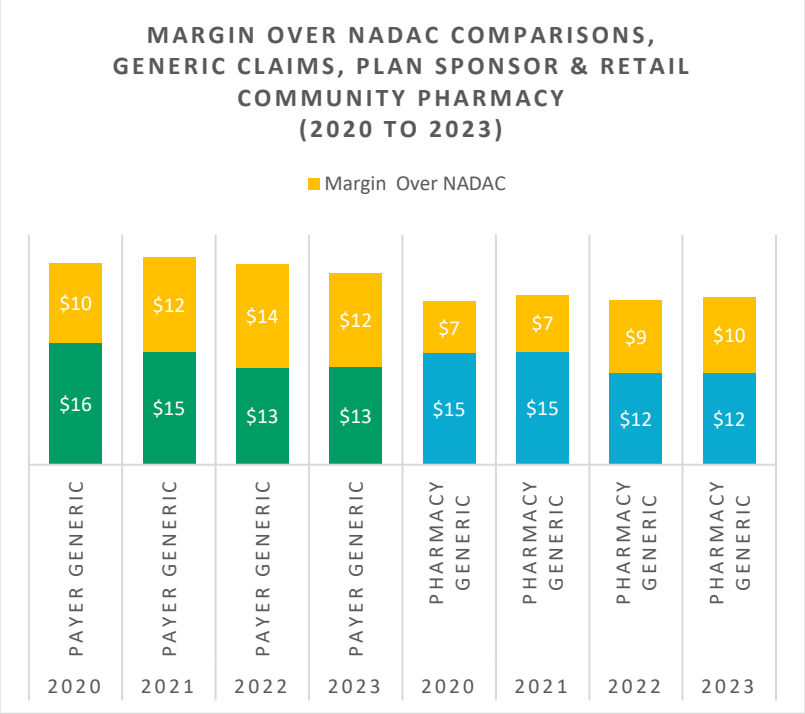


From this observation, we identified that one of the key drivers for the diverging perspective on drug prices was the fact that brand and generic prices were not aligned, with retail pharmacy providers generally seeing lower brand reimbursement relative to the plan sponsor experience.

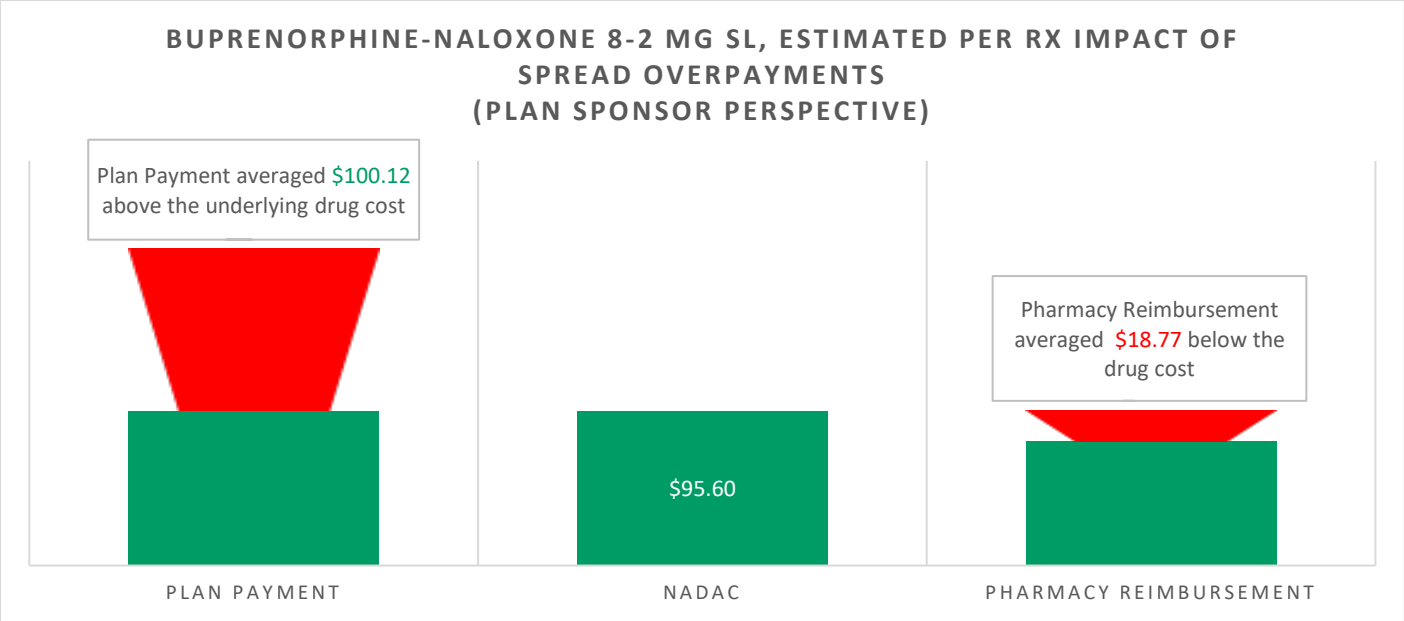
Our report identified one possible explanation for these divergent perspectives – the potential presence of "spread pricing." Spread pricing is the practice where the pharmacy benefit managers (PBMs) that are tasked with setting the pricing experiences on both ends of the transaction are in general, reimbursing pharmacies one price while billing plan sponsors a different price. While in general, we identified around a $4 per prescription gap between what our studied Washington retail pharmacies were paid for medicines versus what commercial plan sponsors are being charged, those takeaways are just directional comparisons based upon the independent experiences of both studied data sets.

Given the bevy of claims data we received for this analysis, we actually identified more than 20,000 claims where we have great confidence that the payment to the pharmacy for a particular claim is linked to a charge to a plan sponsor for the same claim, giving us the ability to assess spread totals in a subset of likely-matched claims between our study data sets. Within this subset of claims, we found a more than $8 per prescription gap between what retail pharmacies were paid versus what plan sponsors were charged.





In one example of how spread pricing can exacerbate disconnects in drug pricing experiences, while retail pharmacies were paid $18.77 below their acquisition cost for the popular addiction treatment medication buprenorphine-naloxone SL (generic Suboxone), plan sponsors were charged $100.12 above the underlying drug cost.



We also found other compelling takeaways that could further explain the divergent perspectives of brand and generic prices. While plan sponsors clearly would identify brand-name drugs as a key driver of their overall gross health expenditures; pharmacies are likely to identify generic drug pricing challenges as the key driver impacting the long-term viability of their business. For example, within the retail pharmacy data we analyzed, brand drugs accounted for 71% of total sales for the retail pharmacy data set but represented just 4% of estimated retail pharmacy margin whereas as generic drugs were 29% of sales and 96% of margin. Said differently, a slight reduction in generic reimbursement might not appear as impactful to overall plan sponsors but may be make-or-break propositions to retail pharmacies.

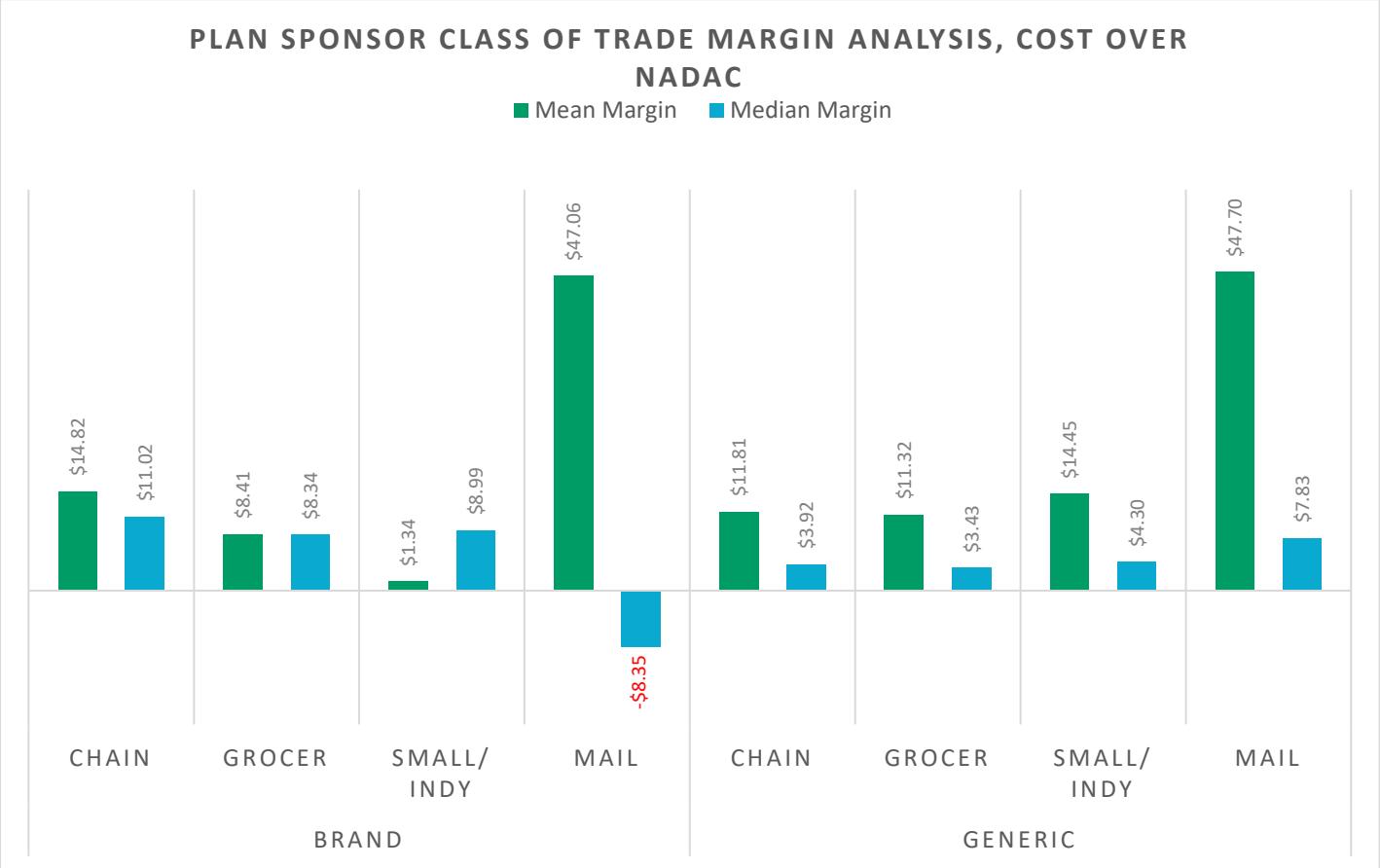
The observation of differing priorities related to drug prices is potentially helpful to explaining why historic prescription drug pricing reform attempts have not been universally recognized as successful. The recognition that plan sponsors and pharmacies have potentially conflicting realities, despite servicing effectively the same group of consumers, led us to investigate variability of drug prices by pharmacy class of trade. In essence, if the small chain and independent pharmacies that participated in our study are experiencing reimbursement pressure, but the employers that participated in our study are feeling cost pressure, we wanted to see if other types of pharmacies were experiencing similar trends or conversely, if other types of pharmacies were driving more costs to the plan sponsors than others.

> *"Prescription drugs is the fastest growing spend for our total cost of care at the Association of Washington Cities Employee Benefit Trust. In order to meet our fiduciary responsibility to the insured members, we must lift the veil on opaque drug pricing to achieve real price transparency."*
>
> *-Carol Wilmes, Director of Member Pooling, AWC and Chairperson, Washington Health Alliance*

Class of trade is a nebulous term that recognizes that the value of leveraged pricing discounts (the principal way that we price drugs within contracts) fails to treat the same drug equally (on the basis of a drug's price) based simply upon differences in where the medication costs were incurred. Said differently, class of trade distinctions acknowledge that the value or pricing of drugs may differ depending on where they are

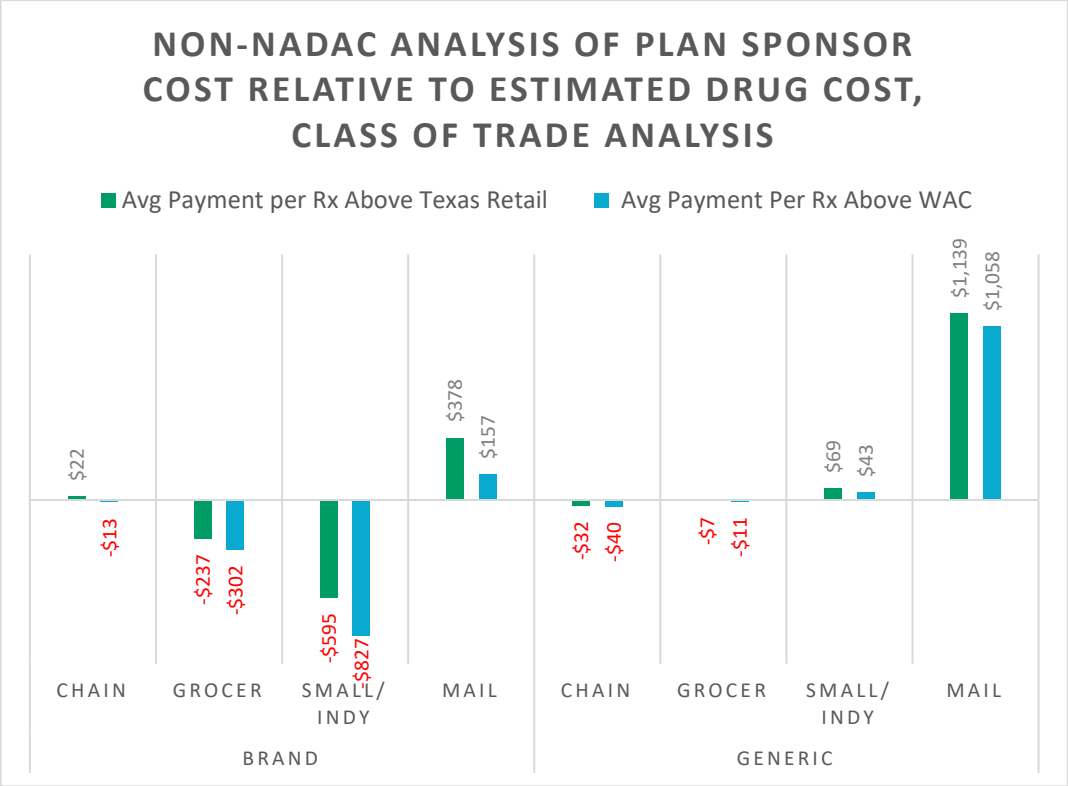
dispensed or sold, such as retail pharmacies, specialty pharmacies, or mail-order pharmacies and not what is being sold (i.e., the underlying drug is the same, but price is different based on the location from where it is obtained). This recognition led us to evaluate multiple ways in which traditional retail drugs end up with variable costs for commercial plan sponsors within Washington.

In that vein, we found that when it comes to the dispensing of medicines that typically flow through the retail channel, the greatest beneficiary from a profitability perspective would appear to be non-retail pharmacies. On generic drugs, the studied Washington plan sponsor data suggests that the average markups on these medicines in the mail-order channel are more than four times the estimated margins yielded by grocery store pharmacies. Meanwhile, for brand drugs, the studied Washington plan sponsor data suggests that the average markups on these medicines in the mail-order channel are more than 35 times the estimated margins yielded by small chain and independent pharmacies.



One example explored within this report was for the multiple sclerosis medication teriflunomide (generic Aubagio). Teriflunomide products have relatively similar drug prices (as measured by AWP); however, the cost of this medication can vary significantly depending upon whether it is dispensed by a cost-plus mail pharmacy or a PBM-affiliated specialty mail-order pharmacy. Our analysis found plan sponsors being charged an average of $4,465 per teriflunomide prescription at PBM-affiliated mail-order pharmacies despite the same drug being available at Mark Cuban Cost Plus Drug Company for less than $20.

This was just one example where drugs that are typically being pushed outside of the retail channel by PBMs can result in significant markups relative to the underlying cost of the medicines. In looking at a subset of drugs that lack pricing visibility in the retail pharmacy channel, we found the typical mail-order pharmacy making roughly 20-times more margin relative to the estimated underlying drug cost for brand drugs and roughly 1,000-times more margin for generic drugs.



Such pricing activity appears to occur separately and apart from the underlying drug manufacturer-set prices, as even the same NDCs can have different prices on the same day (both within the studied pharmacy provider data and plan sponsor data). The divergent nature of drug costs in these respects is an often uninvestigated and understudied aspect of our nation's unique drug pricing paradigm.

In conclusion, our report identifies that drug pricing is a complicated endeavor subject to many potential competing incentives. It has become evident that meaningful reforms to the landscape of drug pricing are improbable as long as the process remains enshrouded in secrecy, hindering comprehensive and transparent evaluation. The phenomenon whereby the same medication, dispensed on the same day, for the same health plan can have potentially variable costs underscores the systemic dysfunction that pervades the current framework of U.S. drug pricing. In such an environment of variable costs, the outcomes are predictably unpredictable – undermining the efficacy of relying solely on competitive financial forces to rectify the prevailing cost disparities that our report highlights.

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Introduction

The pharmaceutical industry plays a pivotal role in advancing medical science and enhancing the quality of healthcare in the U.S. However, as breakthrough therapies emerge, so too does the intricate manner in which drugs are bought and sold. The world of prescription drug pricing is complex and multifaceted, with numerous affordability challenges that can arise due to misalignment of incentives between the stakeholders in the delivery of prescription medications to patients. Understanding the dynamics among these key players is crucial for advancing a better understanding of a system that often leaves stakeholders grappling with conflicting outcomes despite the same underlying transactional claims between them.

From the viewpoint of payers – which include insurance companies, government health programs, and employers – the primary concern revolves around striking a balance between managing healthcare budgets and ensuring access to essential medications. Payers, generally via third party administrators like pharmacy benefit managers (PBMs), negotiate drug prices with pharmaceutical manufacturers and healthcare providers to secure favorable terms for the medications covered by their plans. The escalating costs of some drugs – particularly specialty medications and those treating chronic conditions – have presented an ongoing challenge to the budgets of payers. Most patients in the United States access drug coverage through employer-sponsored health plans. The ability of employers to appropriately manage drug spend ultimately impacts patient costs through cost-sharing requirements and/or the costs of the health insurance premiums, but can also impact employers ability to otherwise invest in their business (i.e., capital improvements or increases in employee compensation).

Consider the illustrative case of a new oncology drug that promises groundbreaking results for the cancer it treats but comes with a substantial cost. Payers must grapple with the ethical dilemma of ensuring access to this potential life-saving treatment while safeguarding the financial sustainability of their healthcare plans. The pharmaceutical industry argues that the high costs are justified by the substantial investments required for research and development, rigorous clinical trials, navigating regulatory hurdles, and the broader value proposition that medicines have to patient well-being and the overall costs of care. Payers, on the other hand, emphasize the need for cost-effectiveness and affordability. The tension between these perspectives has sparked debates over the appropriateness of pricing models, leading to calls for transparency and reform to ensure that patients can access life-saving treatments without compromising the financial sustainability of healthcare financial systems.

In the midst of this proverbial tug-of-war between manufacturers, plan sponsors, and patients, pharmacies serve as critical clinical intermediaries – facing their own unique set of challenges in the drug pricing landscape. The procurement of medications at negotiated prices, reimbursement rates from payers, the ability of patients to afford their medications (based upon their cost sharing), and the intricacies of drug pricing structures all deeply influence the viability of pharmacy practices. The business of pharmacy helps ensure that patients can reasonably access medications and services in settings that are best suited for their needs (convenience, quality, service offerings, etc.). When pharmacies face business headwinds, their long-term viability is potentially threatened, which can lead to changes in pharmacy hours, pharmacy closures (leading to potential pharmacy deserts), reductions in staffing, declines in quality, elimination of services, and less access to patients.

Independent pharmacies, in particular, often find themselves grappling with lower reimbursement rates and tighter margins than what may be experienced by other pharmacies in the marketplace. On the other hand, larger pharmacy chains with greater negotiating power may navigate these challenges more effectively. The

pharmacy's role in counseling patients on medication adherence, managing chronic diseases, and potential cost-saving alternatives adds an ethical dimension to the pricing debate. Striking a balance between financial viability and ensuring positive patient outcomes remains a constant juggling act for pharmacies in the intricate web of drug pricing.

For patients, drug pricing is not merely an abstract economic concept – it directly impacts their access to necessary treatments, financial stability, and overall well-being. Affordability concerns often force patients to make challenging decisions between necessary medications and other essential expenses. The rising prevalence of high-deductible health plans alongside rising drug costs contributes to a broader conversation about cost-shifting and health equity.

Consider the illustrative example of a patient managing a chronic condition, faced with the reality of escalating drug prices and the resulting strain on personal finances. The complexities of tiered formularies, where insurance plans categorize medications into different cost tiers, further compound these challenges. The varying levels of coverage and the impact of co-payments and co-insurance add layers of complexity to patients' financial burdens. Advocacy groups and patient organizations are increasingly vocal in their calls for pricing transparency, policy reforms, and initiatives that prioritize patient-centric approaches to ensure equitable access to affordable medications.

Of course, this all means that the priorities of each stakeholder can oftentimes be in direct conflict with the priorities of other stakeholders. More financial value for manufacturers can mean higher costs for plans and patients; more financial value for patients can mean higher can mean higher costs for plans; more financial value for plans can mean higher costs for patients; etc. The intricate dance between payers, pharmacies, and patients within the realm of drug pricing reflects the broader complexities and nuances of the healthcare system. As the pharmaceutical landscape continues to evolve, it is imperative to address these diverse perspectives and seek collaborative solutions that balance innovation, fiscal responsibility, and patient access.

Purpose

In our experience working with a variety of plan sponsors at 3 Axis Advisors, we have seen firsthand how the complexity and conflicts within prescription drug pricing can create significant and costly challenges for plan sponsors and patients. And while most of our prior public-facing studies have revolved around the experiences of providers, patients, and public payers like Medicaid and Medicare, this first-of-its-kind report aims to examine prescription drug payment data in the State of Washington – with a heavy focus on the documented experiences of stakeholders within the commercial marketplace – shedding light on the diverse perspectives surrounding drug prices within the market. To facilitate this comprehensive analysis, 3 Axis Advisors procured over six million prescription claims from both independent and small chain pharmacies, as well as over three million prescription claims from private, commercial plan sponsors operating within the State of Washington. By scrutinizing pharmacy costs across these distinct perspectives, the analysis endeavors to unravel the intricate web of influences shaping the reality of drug pricing, highlighting how our position within the drug supply chain significantly shapes our perception of these costs.

This report was commissioned by the Washington State Pharmacy Association for the purpose of understanding prescription reimbursement and cost trends in the state.

Readers familiar with our work may find it beneficial to skip the **Overview of the Drug Supply Chain, Drug Pricing Benchmarks and Prescription Drug Contracting** section of our report and begin on page 27 with the section titled **Analysis of Washington Prescription Drug Expenditures**.

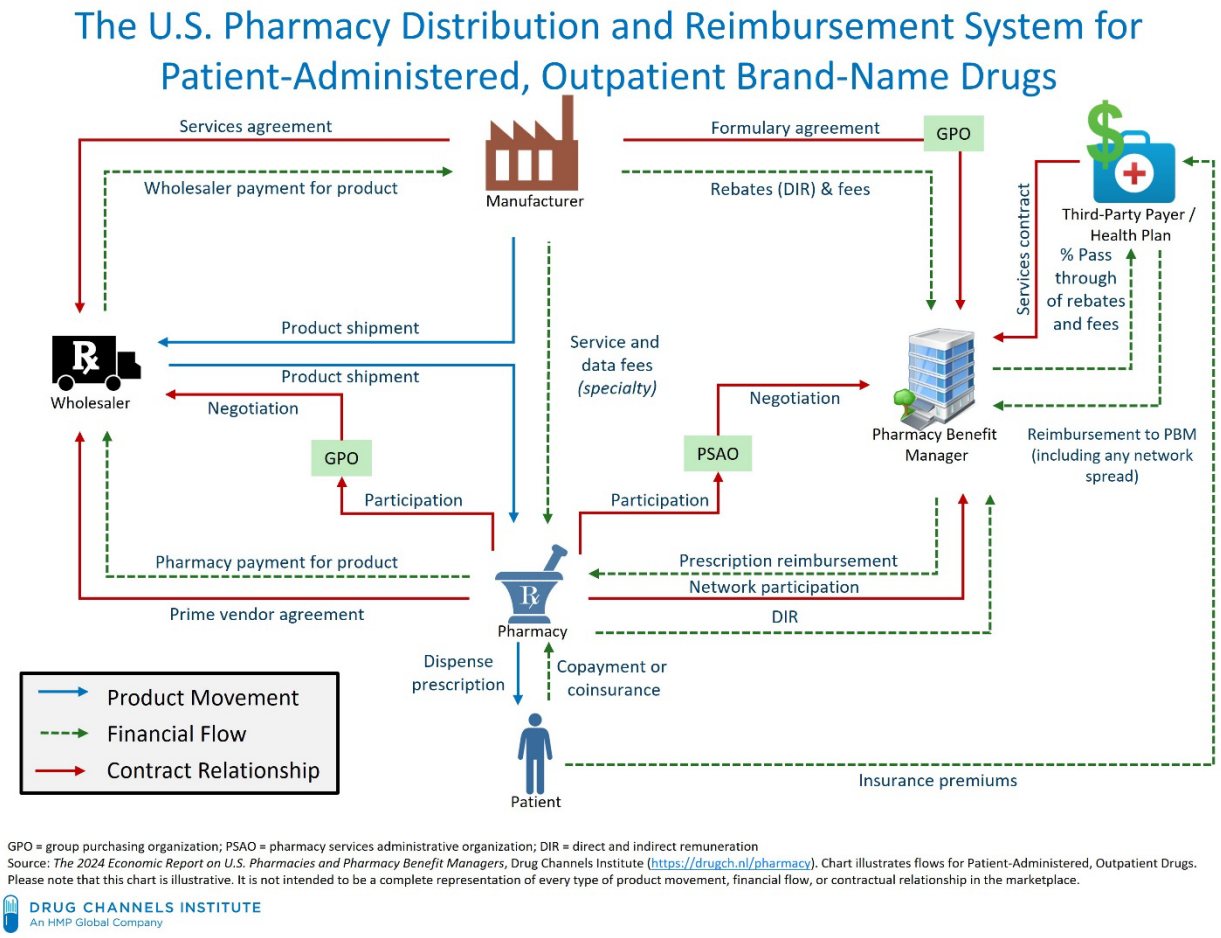
An Overview of the Drug Supply Chain, Drug Pricing Benchmarks, and Prescription Drug Contracting

Before we begin our analysis, we should recognize that U.S. drug pricing is complex. Thus, familiarity with common drug pricing benchmarks and the supply chain will assist in fully interpreting the analysis. Prior to beginning our analysis, the following sections are intended to be a brief introduction into the key factors that influence how patients pay for the medications they obtain.

The U.S. Prescription Drug Supply Chain

The U.S. prescription drug supply chain is the logistical process by which people produce, use, pay for, and manage medications. A complex network of stakeholders and processes are involved in getting medications to individuals who need them each and every day. **Figure 1** from the Drug Channels Institute provides the highest-level overview of the U.S. drug supply chain and just maybe the most famous diagram of its design and flow of dollars.[1]

Figure 1: The U.S. Pharmacy Distribution and Reimbursement System for Retail Drugs, Drug Channels Institute (2024)



GPO = group purchasing organization; PSAO = pharmacy services administrative organization; DIR = direct and indirect remuneration
Source: *The 2024 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers*, Drug Channels Institute (https://drugch.nl/pharmacy). Chart illustrates flows for Patient-Administered, Outpatient Drugs.
Please note that this chart is illustrative. It is not intended to be a complete representation of every type of product movement, financial flow, or contractual relationship in the marketplace.

DRUG CHANNELS INSTITUTE
An HMP Global Company

Starting with the product (blue lines), the U.S. drug supply chain begins with pharmaceutical manufacturers ( ) who research, develop, and produce prescription drugs. Federal regulations are intended to ensure that drugs developed by manufacturers are safe and effective before reaching U.S. consumers; however, drug manufacturers do not (in general) directly sell their products to pharmacies.[2] Rather, the largest

customer of the physical products made by drug manufacturers is an often-overlooked group of stakeholders – drug wholesalers.

In the broader retail marketplace, wholesalers act as intermediaries between the producers and sellers of products. Drug wholesalers () are no different, acting as intermediaries between drug producers (i.e., manufacturers) and sellers of prescription medications (i.e., pharmacies). Drug wholesalers purchase medications in bulk from manufacturers and then sell and distribute those medications to various retail pharmacies, hospitals, clinics, and other healthcare facilities. Some of the largest corporations in America (McKesson, AmerisourceBergen, Cardinal Health) businesses principally involves drug wholesaling.[3]

Drug wholesalers' primary customers are pharmacies (). Pharmacies, specifically retail pharmacies, are the principal means for patients to obtain prescription medications (the next most common being mail-order pharmacies and then clinics).[4] Pharmacists dispense drugs to patients, perform drug utilization review, provide medication counseling, and offer other pharmaceutical and clinical services. Such services can include healthcare screenings, drug administration, and disease state management programs. A pharmacy's customers include both the patient and the patient's insurance (as both will be involved in compensating the pharmacy for their products and services).

To be clear, the U.S. drug supply chain involves additional stakeholders, such as physicians who prescribe medications, patients, research institutions, pharmacy benefit managers (PBMs), health insurers, plan sponsors, and others; however, in order to understand how hundreds of billions of dollars are spent annually on prescription drugs, we need to focus on how the consumer prescription drug transaction actually functions.

Prescription Drug Contracting

Prescription drug insurance (i.e., pharmacy benefits) is intended to help individuals and families afford the medications they need to prevent illness and treat disease. It does so by offering financial assistance for the cost of medications, generally as part of a broader package of health insurance benefits (i.e., medical coverage). It is estimated that greater than 80% of Americans have prescription drug coverage, either through an employer-sponsored health plan, government plan, or shopping the individual marketplace of health plans.[5]

Under the law, insurance companies and group health plans will provide beneficiaries with a concise document, called the Summary of Benefits and Coverage, that details, in plain language, information about health plan benefits and coverage.[6] Because there is no universal form of healthcare in the U.S., health insurance coverage is highly individualized and ultimately directed and determined by contracts. This approach to healthcare helps explain why the same set of services can be expensive to one individual and more affordable to another – simply put, an individual's health insurance coverage entitles them to different levels of financial assistance for covered healthcare services. While this overview is true for U.S. healthcare broadly, it is certainly true for prescription drugs. The coverage an individual has for prescription drugs, including the costs they pay, are ultimately determined by contracts. This includes the aforementioned contract between the patient and their health plan (generally through their employer), but also includes the contract between the health plan and the PBM and the contract between the PBM and pharmacy providers.

Patient to Health Plan Contracts

According to Kaiser Family Foundation, the majority of Americans contract for health insurance (and prescription drug coverage) through their job in what is typically referred to as employer sponsored healthcare coverage.[7] Beyond the wage an employee receives for their job, most employers also pre-negotiate healthcare coverage that their employees can purchase through their job as a benefit (hence this form of insurance is also referred to as group health insurance). From one employer to the next, each may offer differing levels of financial assistance for healthcare, and the benefit package ultimately offered from employers can provide competitive advantages to employers when competing for labor. At the same time, employer-sponsored healthcare coverage means that the average consumer has little insight into the process of negotiating a healthcare benefit package.

Although there are many ways by which healthcare benefits can be handled (HMOs, PPOs, EPOs, etc.), surveys indicate that most employees have limited options within their employer regarding which plans are available for them to sign up for (e.g. 77% of firms offered only one option in 2023).[8] Furthermore, the high cost of healthcare generally discourages individuals from foregoing health insurance through their employer and just paying cash for healthcare goods and services.

At the same time, individuals in government-sponsored health plans, the largest of which are Medicare and Medicaid, often have greater choice in the types of health insurance available to them. For example, as of 2023, the average Medicare beneficiary had up to 43 Medicare Advantage plans or 24 stand-alone Medicare Part D plans to choose from in their specific area.[9] Similarly, many state Medicaid programs require qualified individuals to elect from one of several Managed Care Organizations (MCOs) for their health insurance coverage.

Unsurprisingly, many individuals find the process of selecting coverage confusing and frustrating. It can be difficult to compare plans, particularly when individuals report feeling underqualified to evaluate their plan choices and do not fully understand the terms and conditions of the policy.[10] This is especially the case when one has historically only had one plan option during their employment (i.e., working age) and then transitions to dozens of options in old age (when healthcare needs are likely greater). Furthermore, life is unpredictable. The coverage limits selected at the start of the year may not ultimately align with an individual's healthcare needs during the year.

Regardless of how a person obtains coverage, none are going to directly negotiate the rate of prescription drug costs within their health plan. Rather, the health plan will have negotiated payment rates for drugs through contracting with a PBM.

Health Plan to PBM Contracts

When health plans provide drug coverage to their covered enrollees, they typically do so based upon a contract with PBMs. Specifically, health plans engage in a negotiation process to establish agreements that govern the management of prescription drug benefits for their members. The negotiated contract terms outline the responsibilities, and financial arrangements between the health plan and the PBM, with the goal of ensuring efficient and cost-effective access to medications for plan members.

The contract between a health plan and a PBM is generally a voluminous document that discusses provisions such as the list of drugs members will have access to (the formulary), and under what set of circumstances they can obtain that access (the prior authorization criteria). In addition, the contract will outline requirements

for network adequacy, or the idea that members will be generally able to access medications via conveniently located pharmacy providers. This in turn means that the PBM will be responsible for developing and maintaining a network of pharmacies that enrollees can present their drug insurance card at in order to get the financial benefit of their insurance.

Health plans and PBMs will ultimately agree to the benefit and cost management strategy of the negotiated drug coverage. This involves determining not only the health plan's cost for prescription medications, but also the member cost-sharing responsibilities such as copayments, coinsurance, and deductibles. Health plans need to understand their drug cost such that they can properly underwrite their insurance policies for sale to their customers (either individuals directly purchasing plans or employer groups) and ensure compliance with regulations that govern insurance offerings (such as compliance with Medical Loss Ratio [MLR]). In general, health plan costs for drugs are tied to drug pricing benchmarks of either the dispensing pharmacy (i.e., U&C) or the drug manufacturer (i.e., discount to AWP). In other words, the health plan pays the lower of what discount they secured through their leverage or the asking price of the pharmacy provider. Health plans and PBMs use these cost benchmarks to ultimately underwrite their insurance policies to ensure sufficient financial reserves exist to service enrollee health claims and support the business.

PBM to Pharmacy Provider Contracts

Before detailing drug pricing benchmarks, we need to briefly discuss how PBMs develop a pharmacy network. In order for prescription drug insurance to be of value, covered individuals need to be able to use their prescription drug benefits card in the places where they get their prescriptions filled – namely, pharmacies.

Pharmacy network contracting is a process through which PBMs negotiate agreements with pharmacies to establish which pharmacies will provide prescription medications to their plan members and under what terms via near instantaneous transactions. The main objectives of pharmacy network contracting are to ensure convenient access to medications for plan members while at the same time helping to lower drug costs. By establishing a network of pharmacies, insurance companies and PBMs aim to create a network of preferred providers with which they have negotiated pricing arrangements and other terms.

Pharmacy providers can, and do, sell medications to individuals without insurance. In general, the sale of a medication to an individual without insurance is done at the pharmacy's usual & customary (U&C) rate. The U&C rate, properly set, will cover the cost the pharmacy paid to acquire the medication from their wholesaler, the cost of labor to prepare the medication for the individual's prescription, and profit to sustain and grow the business.

In most situations, negotiated rates by PBMs are lower than the pharmacy's U&C rate. This is because in exchange for accepting lower payment, the PBM is able to direct their enrolled members to the pharmacy's business. Recall that eight out of every ten Americans have drug coverage. To forgo participation in PBM networks is to risk losing out on the overwhelming majority of a pharmacy's potential customer base. However, pharmacies obviously have concerns about what prices a third-party may choose to reimburse them for their products and services – especially larger PBMs that may represent a significant portion of their covered patient base. As a result, their pharmacy network contract with the PBM generally sets reimbursement terms in relation to prescription drug pricing benchmarks. Drug pricing benchmarks represent published prices for drugs based upon various attempts to contextualize aspects, including pricing behavior, of the U.S. prescription drug supply chain. Therefore, the pricing benchmark selected plays

a key role in determining the finances of both the pharmacy provider, but also the insurer / PBM, which can also impact patient cost-sharing.

Drug Pricing Benchmarks

Many are surprised to learn that despite all the public fervor over the prices of medicines, there is no single price for prescription drugs. In order to bring a drug to market, a manufacturer will have statutory obligations to establish a multitude of drug prices. Depending on the way the drug is sold, this can include, but are not necessarily limited to, an Average Sales Price (ASP), an Average Manufacturer Price (AMP), a Wholesale Acquisition Cost (WAC), and an Average Wholesale Price (AWP) or Suggested Wholesale Price (SWP). From there, other drug supply chain participants may have obligations or contribute to other potential drug pricing benchmarks (such as the aforementioned U&C prices set by pharmacies). All told, there are more than a dozen ways to contextualize drug prices within our drug supply chain. Several of these benchmarks will be critical to this study, and so we briefly review each below.

Wholesale Acquisition Cost (WAC)

WAC is the list price that drug manufacturers make available to drug wholesalers. By definition, this price does not include discounts, rebates, or other reductions when published. Said differently, there are allowable retrospective price concessions that will reduce the net transaction price (the final price paid) paid by the drug wholesaler. We are confident in what WAC is supposed to represent within the drug supply chain, because the definition of WAC is defined in federal law [42 USC 1395w-3a(c)(6)(B)]. The federal definition removes ambiguity related to what this price should represent when published.

As part of the definition, we know that WAC does not reflect discounts, rebates, or other forms of price concessions for drugs. Most brand drug price concessions occur after the sale of the prescription and are between the PBM and manufacturer (i.e., not the wholesaler). For example, we know that for most commercial payers, brand rebates exceed 20%.[11] As will be seen later, pharmacies do not generally recognize discounts of over 5% for brand medications (see NADAC below). This is the opposite for generic drugs, where most discounts occur before the retail sale of the drug and happen within the manufacturer-wholesaler-pharmacy relationship.[i] Because the discounting of drug prices for brand drugs is primarily recognized retrospectively and with the PBM (as opposed to the wholesaler), the WAC price may provide a reasonable estimated retail pharmacy cost to acquire brand drugs, but it is not nearly as reliable for generics.

Despite the federal definition and understanding of what WAC represents, WAC is not a prevailing drug price within pharmacy transactions at the point-of-sale. In other words, WAC is generally not relied upon to determine retail drug prices for either plan sponsors or pharmacies. Rather, the drug supply chain generally relies upon the pricing benchmark of AWP in setting aggregate drug pricing guarantees between parties.

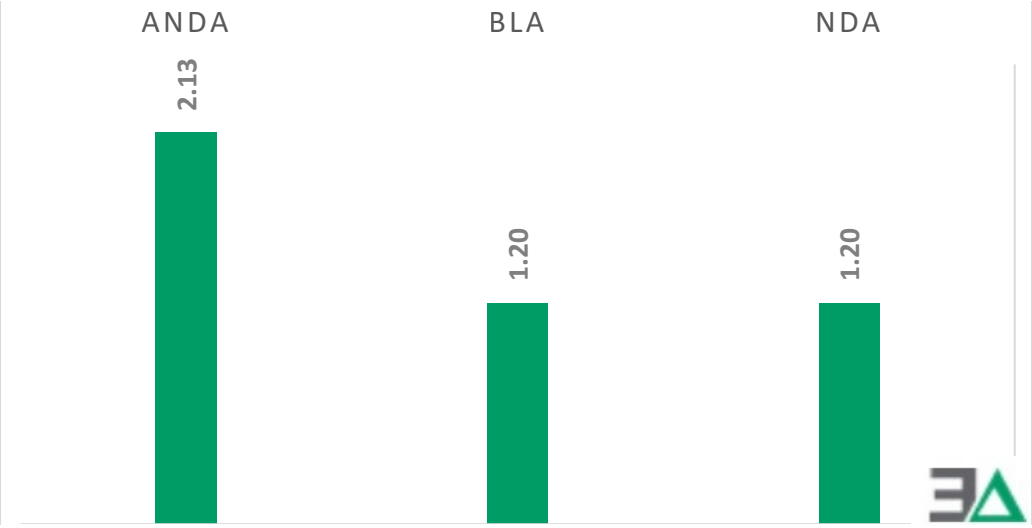
Average Wholesale Price (AWP)

In many forms of manufacturing, including those outside of prescription drugs when a manufacturer convinces a retailer to stock and sell their product, they generally provide a Manufacturer Suggested Retail Price (MSRP) to facilitate the retailer making money off the sale of their product. The purpose of the manufacturer's suggested retail price is the standardization of selling prices among different retail locations that generally ensures that all parties involved in the transaction (manufacturer, wholesalers, retailer) will earn profits at the end of the final sale.[12] The greater the gap between the wholesale cost and MSRP "sticker

[i] Note that either the PBM or wholesaler may secure discounts from manufacturers through Group Purchasing Organizations (GPOs).

price," the greater opportunity for a retailer to profit. Prescription drugs also have a "sticker price" that is above the actual cost to acquire, and that enables the supply chain to make money. This "sticker price" is known as AWP, which unlike the prior pricing benchmark of WAC, **AWP has no federal statute that can reliably inform us what AWP is supposed to represent**. As a result, AWP can be many times greater than any other drug pricing benchmark. For example, consider the following data (**Figure 2** below), which identifies the typical relationship between a prescription drug's AWP as a multiple of its WAC price based on the license type granted for medications entering the market. *Note: the U.S. Food and Drug Administration approves drugs on the basis of submitted New Drug Applications (NDAs), Biologic License Applications (BLAs) or Abbreviated New Drug Applications (ANDAs).*

Figure 2: Median AWP to WAC Ratio based on FDA Application Type, 2023[ii]



Regardless of how a drug comes to market, the AWP is generally 20% or more of the underlying WAC. Because of the lack of federal statute regulating AWP, our understanding of what AWP is and represents is informed primarily from suppliers of prescription benchmark pricing data. The most common suppliers of prescription drug pricing benchmark data, (i.e., WAC, AWP, and others), are Medi-Span and First Databank. AWP is also the oldest prescription drug pricing benchmark, having existed in some way, shape, or form since the 1960s (and arguably the beginning of prescription drug insurance as we know it today).[13] In no small part due to its origin as the oldest pricing benchmark, the contracts governing drug payment between health plans and PBMs – as well as PBM and pharmacy networks – are often based on AWP.

While the fact that contracts are using AWP – a benchmark known to effectively represent nothing in regard to the actual cost of a prescription medication – may surprise you, traditional PBMs attempt to overcome the unreliability of AWP not by abandoning the pricing benchmark, but rather, through discounting the AWP and/or creating upper limits on payments. Discounting is an approach to pricing where the AWP payment is discounted by a certain percentage. To be more specific, when health plans negotiate drug costs with PBMs, they do so in terms of a discount to AWP (often referred to as an "effective rate"). Examples within the public domain demonstrate that plan sponsors, whether alone or through health brokers, often evaluate PBM options as a reflection of the AWP discounts they offer. An example, on the next page (**Figure 3**), is from an evaluation conducted by GBS for San Juan County in 2023 that shows how PBMs are evaluated for their AWP-based discounts[14]:

[ii] Sourced: US Food and Drug Administration (FDA) and Medi-Span PriceRx

Figure 3: Example of Plan Sponsor PBM Evaluation

San Juan County PBM Reprice Comparison 2023

Carve-Out Pharmacy Benefit Pricing Proposals

Vendor	Current - Regence	Regence Renewal	EMI - Express Scripts	Meritain - CVS	PEHP	ProCareRx	SelectHealth - Scriptus	SmithRx	UMR - OptumRx
PBM Model	Traditional	Traditional	Pass-Through	Traditional	Traditional	Pass-Through	Pass-Through	Pass-Through	Traditional
Network Access	65,000	65,000	70,000	66,000	65,000	Restricted (Excludes CVS, Walgreens, Rite Aid, & Walmart)	65,000	66,000	67,000
Formulary	Standard Formulary	Standard Formulary	National Preferred	Standard Control	NPF	Performance Formulary	RxSelect	Essential Formulary	Premium PDL
Pharmacy Administration Fee	$0	$0	$0.74 per Claim	$0	$0	$3.35 per Claim	$2.27 per Claim	$6.00 per Claim	$0.00
Retail Pricing:									
Brand Discounts	AWP - 17.20%	AWP - 18.10%	AWP - 19.25%	AWP - 19.35%	AWP - 19.20%	AWP - 18%	AWP - 20%	AWP - 19.27%	AWP - 19.50%
Brand Dispensing Fee	$0.85	$0.60	$0.40	$0.60	$0.50	$0.65	$0.95	$0.75	$0.50
Generic Discounts	AWP - 77.90%	AWP - 81.20%	AWP - 85.90%	AWP - 84.50%	AWP - 83%	AWP - 86%	AWP - 85%	AWP - 85.85%	AWP - 85.50%
Generic Dispensing Fee	$0.85	$0.60	$0.40	$0.60	$0.50	$0.65	$0.95	$0.75	$0.50
Estimated Rebate/Claim	$108 per Brand Claim	$119 per Brand Claim	Greater of 100% or $165 per Brand Claim	$235.56 per Brand Claim	$250 per Brand Claim	$265.55 per Brand Claim	$73.30 PEPM w/o PAP $22.14 PEPM w/ PAP	$275.21 per Brand Claim	$295 per Brand Claim
Retail 90 Day Pricing:									
Brand Discounts	AWP - 20.60%	AWP - 21.70%	AWP - 22.50%	AWP - 25%	AWP - 22.60%	AWP - 20.25%	AWP - 22.50%	AWP - 22.75%	AWP - 23%
Brand Dispensing Fee	$0.00	$0.00	$0.00	$0.00	$0.10	$0.00	$0.00	$0.00	$0.00
Generic Discounts	AWP - 81.20%	AWP - 84.80%	AWP - 85.90%	AWP - 88%	AWP - 85%	AWP - 87%	AWP - 88%	AWP - 90.87%	AWP - 86.50%
Generic Dispensing Fee	$0.00	$0.00	$0.00	$0.00	$0.10	$0.00	$0.95	$0.00	$0.00
Estimated Rebate/Claim	$260 per Brand Claim	$297 per Brand Claim	Greater of 100% or $815 per Brand Claim	$721.14 per Brand Claim	$805 per Brand Claim	$411.12 per Brand Claim	$73.30 PEPM w/o PAP $22.14 PEPM w/ PAP	$929.61 per Brand Claim	$875 per Brand Claim
Mail Pricing:									
Brand Discounts	AWP - 20.60%	AWP - 21.70%	AWP - 23.75%	AWP - 25%	AWP - 23.50%	AWP - 21%	AWP - 23%	AWP - 24.76%	AWP - 25.50%
Brand Dispensing Fee	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Generic Discounts	AWP - 81.20%	AWP - 84.80%	AWP - 88.50%	AWP - 88%	AWP - 88%	AWP - 87%	AWP - 89%	AWP - 92.77%	AWP - 88%
Generic Dispensing Fee	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Estimated Rebate Brand Claim	$364 per Brand Claim	$425 per Brand Claim	Greater of 100% or $880 per Brand Claim	$721.14 per Brand Claim	$925 per Brand Claim		$73.30 PEPM w/o PAP $22.14 PEPM w/ PAP	$929.61 per Brand Claim	$900 per Brand Claim
Specialty Pricing:									
Brand Discounts	AWP - 18%	AWP - 21%	AWP - 22.50%	AWP - 21%	AWP - 23%	AWP - 18%	AWP - 18%	AWP - 20.61%	AWP - 20%
Brand Dispensing Fee	$0.00	$0.00	$0.40	$0.00	$0.00	$0.00	$0.00	$0.00	Retail - $0.50 Mail - $0.00
Generic Discounts	AWP - 18%	AWP - 21%	AWP - 22.50%	AWP - 21%	AWP - 23%	AWP - 35%	AWP - 34%	AWP - 82.50%	AWP - 20%
Generic Dispensing Fee	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	Retail - $0.50 Mail - $0.00
Estimated Rebate Brand Claim	$1,260 per Brand Claim	$1,411 per Brand Claim	Greater of 100% or $2,800 per Brand Claim	$2,512.82 per Brand Claim	$2,025 per Brand Claim	$2,209.70 per Brand Claim	$73.30 PEPM w/o PAP $22.14 PEPM w/ PAP	$3,527.70 per Brand Claim	$2,760 per Brand Claim
Plan Cost/Savings Estimates (6 Months)									
Total Plan Ingredient Cost (+ dispensing fees)	$341,197	$329,239	$322,575	$316,212	$332,208	$328,953	$299,594	$312,064	$326,437
ANNUALIZED	**$682,393**	**$658,479**	**$645,150**	**$632,424**	**$664,416**	**$657,906**	**$599,187**	**$624,128**	**$652,874**
Total Administration Fees (claims fees)	$0	$0	$1,106	$0	$0	$5,008	$3,394	$8,970	$0
ANNUALIZED	**$0**	**$0**	**$2,213**	**$0**	**$0**	**$10,017**	**$6,787**	**$17,940**	**$0**
Carve Out Costs (Regence carve out cost - $4.00 PEPM)	$0	$0	$3,264	$3,264	$0	$3,264	$3,264	$3,264	$3,264
ANNUALIZED	**$0**	**$0**	**$6,528**	**$6,528**	**$0**	**$6,528**	**$6,528**	**$6,528**	**$6,528**
Rebates (Estimated Rebate or Admin Credit)	$35,132	$39,348	$35,460	$84,982	$32,510	$50,338	$71,713	$118,291	$96,030
ANNUALIZED	**$70,264**	**$78,696**	**$70,920**	**$169,964**	**$65,020**	**$100,676**	**$143,426**	**$236,582**	**$192,060**
TOTAL NET Rx COSTS	**$612,131**	**$579,783**	**$582,970**	**$468,988**	**$599,396**	**$573,775**	**$468,876**	**$412,014**	**$467,342**
Est Total Savings (Increase)	**$0**	**$32,348**	**$29,160**	**$143,143**	**$12,734**	**$38,356**	**$143,254**	**$200,117**	**$144,789**
Percent Savings (neg = % increase in cost)	**0%**	**5%**	**5%**	**23%**	**2%**	**6%**	**23%**	**33%**	**24%**
Clinical Prior Authorizations	$55	$55	Included	Included	Included	Included	Included	$35	Included
Total Employees	136	136	136	136	136	136	136	136	136
Total Members	466	466	466	466	466	466	466	466	466
Number of Claims Included in File	1,495	1,495	1,495	1,495	1,495	1,495	1,495	1,495	1,495
Estimated Cost/claim	$204.73	$193.91	$194.97	$156.85	$200.47	$191.90	$156.88	$137.80	$156.30

Alternative Funding Prog Savings Ests (Annualized)	Current - Regence	Regence Renewal	EMI - Express Scripts	Meritain - CVS	PEHP (Carve Out Specialty Solution)	ProCareRx	SelectHealth - Scriptus	SmithRx	UMR - OptumRx
Copay Assistance/Max Program			$50,000	$55,616	$34,000			$33,508	
Percent Savings				9%					
Patient Assistance Programs					$255,000		$248,420	$248,818	
Percent Savings							57%	41%	
Clinical/Redirect Programs									
Percent Savings									
PAP Fees			$12,500	$13,904	$38,250		$3,600	$20,006	
Estimated Rebate Reduction					$75,000		$98,265	$76,980	
Total Estimated Savings ($)			**$66,660**	**$184,855**	**$188,484**		**$387,809**	**$385,487**	
Total Estimated Percentage			**11%**	**30%**	**31%**		**63%**	**63%**	

While the above is specific to plan sponsors, similar guarantees are made when pharmacy networks are constructed. Both plan sponsors and pharmacy discounts may be differentiated by type of drug (i.e., brand or generic) as well as trade classification (i.e., retail, mail, or specialty). Nevertheless, all are typically expressed in terms of a discount to AWP.[15] Outside of AWP-based discounts, contracts can often include upper payment limits. These limits generally take the form of maximum allowable cost (MAC) lists. Like AWP discounts, MAC lists may be negotiated by health plans and/or pharmacy networks as part of the PBM contracting process with either group.

Maximum Allowable Cost (MAC)

MAC pricing is a PBM-generated catalog that includes an upper limit for the listed drug products. In general, MAC lists are limited to competitive, multisource drugs (frequently referred to as generic drugs). Generic drugs are eligible to be assigned a MAC price by the PBM because of the potential for numerous manufacturers to compete to produce the product, with many different potential price points because of that competition. In simple terms, if there are multiple manufacturers making interchangeable versions of the same drug, the PBM is granted latitude to assign the drug's price outside of the drug's AWP, WAC, or other benchmark price (ostensibly based on lower cost versions of the available product) that will be used as the prevailing rate for all versions of the drug. In contrast, brand or other exclusive products lack the type of price competition yielded among interchangeable generic competitors, as there is only one manufacturer of the product. A MAC list sets a per unit price for a particular generic drug regardless of the WAC, or the AWP, or other pricing benchmarks. MAC lists are designed by the PBM through market research and are meant to encourage efficient pharmacy purchasing.[16] Note that MAC lists frequently lack a consistent, binding legal framework for how they are to be explicitly determined, nor are they generally published by drug reference file sources. A frequent criticism of MAC lists is that they are often not reflective of actual market conditions and therefore do not create incentives for efficient purchases.[17]

National Average Drug Acquisition Cost (NADAC)

The last published pricing benchmark we should understand before we begin our analysis is the National Average Drug Acquisition Cost (NADAC). NADAC is not a manufacturer-set price, as it is created via a survey of retail pharmacy invoice acquisition costs for medications. As a result, NADAC represents the average invoice cost a retail pharmacy pays to acquire a drug. NADAC was developed by the Centers for Medicare and Medicaid Services (CMS), "to provide a national reference file to assist State Medicaid programs in the pricing of Covered Outpatient Drug claims to reflect the Actual Acquisition Cost (AAC) of drugs." As such, NADAC's goal is to be the most comprehensive public measurement of market-based retail pharmacy acquisition costs available.

To be clear, NADAC pricing reflects some, but not all, discounts in pricing. We know this because much like WAC, NADAC has a statutory definition we can rely upon to understand what it is supposed to contextualize about the drug supply chain [42 USC 1396r-8(f)]. As a result, we may compare a drug's NADAC to that same drug's WAC price to determine the percent discount off invoice a pharmacy pays to acquire a drug. A review of NADAC pricing over time (**Figure 4** on the next page) tells us that brand medications are typically acquired by pharmacies at a mean WAC discount of approximately 4.7% and median of 4%, whereas generic medications may be acquired at much greater discounts, exceeding mean and median AWP discounts of 80% and 40% respectively.

Figure 4: NADAC Equivalency to Other Drug Pricing Benchmarks[iii]

Quarter Ending	Brand Legend Drugs				Generic Legend Drugs			
	WAC Mean	WAC Median	AWP Mean	AWP Median	WAC Mean	WAC Median	AWP Mean	AWP Median
March 2023	-4.9%	-4.0%	-20.9%	-20.0%	-47.7%	-51.9%	-83.1%	-90.7%
June 2023	-5.0%	-4.0%	-21.0%	-20.0%	-46.5%	-50.9%	-83.0%	-90.9%
September 2023	-4.9%	-4.0%	-21.0%	-20.0%	-47.4%	-51.8%	-83.4%	-91.1%
December 2023	-4.8%	-4.1%	-20.8%	-20.1%	-45.0%	-49.3%	-82.7%	-90.9%
March 2024	-4.6%	-4.1%	-20.6%	-20.1%	-44.2%	-48.8%	-82.5%	-90.5%

Unlike brand drugs, much of the discounting for generic drugs that occurs between the wholesaler and manufacturer ends up reflected in pharmacies' cost to acquire (based upon NADAC). Returning to our prior Wholesale Acquisition Cost (WAC) section and **Figure 4** above, we understand that WAC, via its federal definition, reflects the wholesale list price between the generic drug manufacturer and the wholesaler. However, we can see that the wholesaler is making available to pharmacies 50% discounts to the WAC price for generic drugs. The wholesaler is likely not providing these discounts in a way that materially harms its finances, suggesting the wholesaler is acquiring the generic products for greater than a 50% discount off WAC. Generic drugs often have multiple manufacturers, creating wholesale pricing competition. For this reason, generic manufacturers provide significant discounts on list price (WAC) to wholesalers to incentivize distributing their product over a competitor. Then, a portion of the drug's discounts are reflected in the price the distributor uses to sell to their customers, such as retail pharmacies. This is because the competitor product can be made available to the pharmacy provider to purchase in other ways outside of the wholesaler who negotiated the price discount (such as selling directly to the pharmacy or via a secondary wholesaler). In general, the competition results in retail pharmacies acquiring generic drugs at discounts averaging 80% to 90% off WAC (as suggested by the NADAC pricing benchmark) but can be much higher or lower depending on the specific drug, market competition, and other forms of price concessions that exist within contracts between wholesalers and pharmacies (not discussed here).

Now that we have a better understanding of how pharmacies purchase products and the approximate prices they pay to acquire them (i.e., WAC for brands and NADAC for generics), we need to understand how pharmacies sell products. As stated, most pharmacies sell products to individuals with prescription drug insurance, and the majority of insurance claims are not basing the price of the drug off of WAC or NADAC, but rather off of a third pricing benchmark AWP.

Negotiated Price and Pharmacy Claims

For claims to be paid, as described above, there must be a contract between the PBM and the pharmacy that details drug payment terms. For prescription benefits to have value to consumers at the local level, consumers must be able to present their pharmacy benefit card at pharmacies in close proximity to their location. The availability of pharmacy providers and the desire for lower negotiated rates creates competitive forces within the pharmacy network contract.[18]

PBMs establish a network of pharmacies for consumers to use by contracting either directly with individual pharmacies (often referred to as direct contracts) or in group contract arrangements. Large chain pharmacies have many pharmacy locations and often contract in a chain/group arrangement, utilizing their multiple locations as leverage to negotiate reimbursement terms and gain access into PBM networks. Smaller pharmacies may not be attractive enough to PBMs for inclusion into the network on an individual, direct

[iii] Source: Myers and Stauffer, LC via Medicaid.gov

basis. Rather, smaller pharmacies often achieve access to PBM network contracts through a Pharmacy Services Administrative Organization (PSAO). The PSAO allows smaller pharmacies to be part of a larger collection of pharmacies to gain access to the PBM networks. In addition, a PSAO removes much of the administrative burden associated with contracting.[19] Moving forward in this report, when we refer to a pharmacy network from the pharmacy provider point of view, we are referring to PSAO/chain contracting group arrangements.

A PBM's negotiated price is the contractual price for which a PBM and pharmacy (or pharmacy network) has agreed upon for a particular transaction. And while that definition is relatively simple on paper, it is a fairly complex process. A transaction occurs when a pharmacy submits an electronic claim for payment for a particular product, service, or combination of both. At the most basic level, the transaction is comprised of payment for product (ingredient cost), a fee to cover overhead associated with the dispensing of the product (dispensing fee), and an additional optional payment (incentive amount) if the pharmacy performed a service beyond dispensing, such as administering a vaccine.

The National Council for Prescription Drug Programs (NCPDP) governs the standard for pharmacy claims transactions between pharmacy providers and third-party payers (i.e., PBMs). This ensures that all payers and pharmacies utilize a uniform data schema. The formula for calculating total amount paid for any given transaction is as follows[20]:

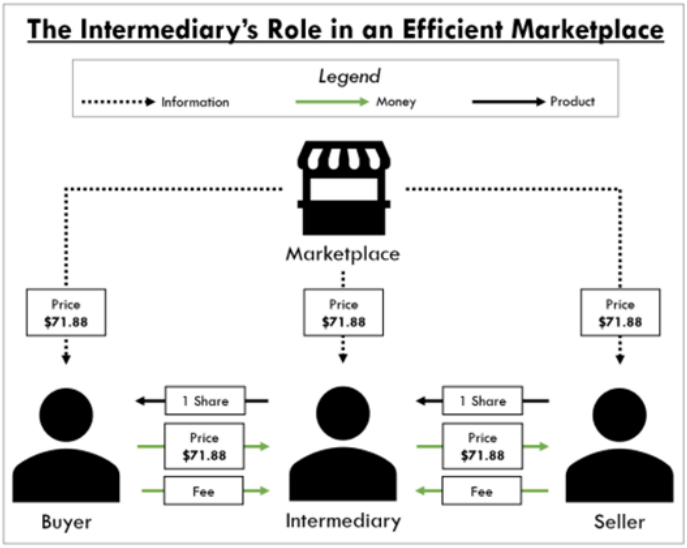
Total Amount Paid (NCDPD Field# 509-F9) = Ingredient Cost Paid (NCPDP Field# 506-F6)
+ Dispensing Fee Paid (NCPDP Field# 507-F7)
+ Incentive Amount Paid (NCPDP Field# 521-FL)
+ Other Amount Paid (NCPDP Field# 565-J4)
+ Flat Sales Tax Amount Paid (NCPDP Field# 558-AW)
+ Percentage Sales Tax Amount Paid (NCPDP Field # 559-AX)
- Patient Pay Amount (NCPDP Field # 505-F5)
- Other Payer Amount Recognized (NCPDP Field # 566-J5)

Source: National Council of Prescription Drug Programs (NCPDP) Telecommunication Standards D.0

A successful paid transaction results in the pharmacy receiving payment from the PBM at the negotiated rate for the claim (inclusive of an ingredient cost paid plus payment in any of the other fields per the contract). The PBM's client will then receive a bill for the transaction. Like many other drug supply chain participants, PBMs can benefit when everyone receives a different price. For example, the PBM may pay a provider one price and then bill a client a higher price, creating what's typically referred to as a "spread." In this scenario, the PBM not only facilitates the transaction, but also is afforded the opaque ability to set different prices at either end of the transaction, creating a gap within the transaction that can generate profit for the PBM without disclosure to the plan sponsor.

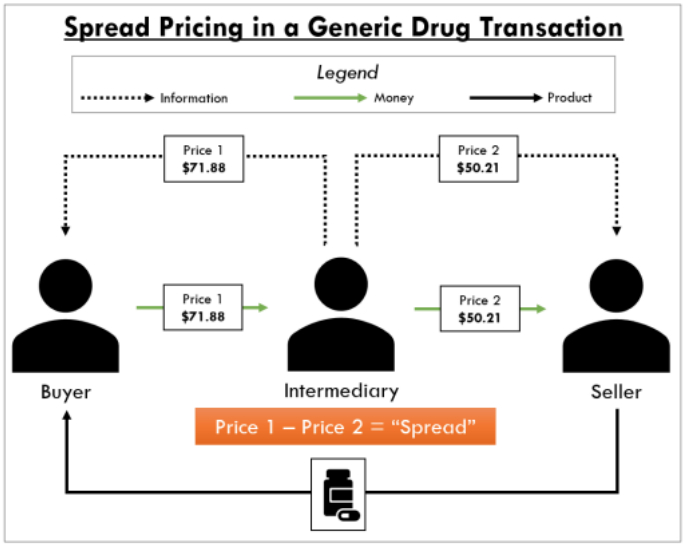
To contextualize, we may turn to the stock market. Take for example a brokerage firm providing a service in which a seller of a stock may list a security for a particular price, say $100, and a buyer may purchase the security at that price. To facilitate the transaction, the brokerage firm may charge a small fee, say $1, known by all parties. There are many buyers and sellers using the firm's platform, and all transactions are posted. In this scenario, everyone knows the price of the stock, as well as the brokerage's transaction fee. The prices are transparent and determined directly between the buyer and seller as the firm facilitates the transaction (**Figure 5** on the next page).

Figure 5: Role of Intermediary in an Efficient Marketplace



Now consider the opposite (**Figure 6**), in which the seller does not list the price of the security but instead the brokerage firm negotiates all transactions privately with buyers. Despite not assuming a fiduciary relationship with the buyer, the brokerage firm assures the seller that they will negotiate a great price. In private, the firm tells the buyer that the market price is $110 for the same security that sold above for $100. The buyer has no way of knowing the true market-clearing rate for the security, as those prices are not transparent, meaning the buyer must take the brokerage firm's word. The firm then goes back to the seller and informs them that the security sold for $90. So, the buyer is unaware that the broker obtained the security for $90 and charged them $110, and the seller is unaware that the broker sold the security for $110 despite acquiring it for $90. The $20 gap is unknown to either end of the transaction, allowing the broker to maximize returns through pushing both ends further apart.

Figure 6: Overview of Spread Pricing Process



In the scenario of **Figure 6**, the buy and sell price was established entirely by the facilitator, who gets to arbitrage the arrangement (that is, set different prices between buyer and seller). As we move forward and

discuss factors that influence a drug's price, it is beneficial to consider how various payment arrangements positively or negatively impact various stakeholders in the drug channel, such as the manufacturers, wholesalers, pharmacies, beneficiaries, purchasers of prescription drugs lacking drug insurance, PBMs, and plan sponsors. As in the stock market example, we will need to ensure an understanding of the component costs that determine the drug price for any given transaction.

Ingredient Cost Paid

The ingredient cost paid component (NCPDP Field# 506-F6) of pharmacy reimbursement represents the price reimbursed by PBMs to the pharmacy for the drug product dispensed. The ingredient cost reimbursed at the point-of-sale (POS) is determined by the contract between the PBM and/or pharmacy (whether that contract was directly negotiated by the pharmacy or as part of a broader network contract the pharmacy is participating within). As already stated, retail drug pricing is complex due to the variety of pricing benchmarks (i.e., NADAC, MAC, AWP, WAC, AAC, etc.) which could be used as the basis to pay and bill claims. However, complexity is increased when we recognize that the basis of paying a pharmacy for their dispensed drugs can be further contextualized by no less than 19 unique values, which may be provided in a claim response to designate why a particular calculation was utilized to determine a drug's cost. In the NCPDP telecommunication standards shown in **Figure 7**, you can see that the PBM can indicate that the claim was paid in more than a dozen different ways. Said differently, there is a lot of allowable variability in the methods used to assign a price to a drug beyond the price originally set by the manufacturer.

Figure 7: Basis of Reimbursement Determination[iv]

Code / Value	Meaning	Meaning Definition Text
0	Not Specified	*Not Provided*
1	Used to indicate when reimbursement is equal to the amount billed by the provider for the prescription item.	Used to indicate when reimbursement is equal to the amount billed by the provider for the prescription item.
2	Used to indicate when reimbursement is based upon the average wholesale price for the prescription item.	Used to indicate when reimbursement is based upon the average wholesale price for the prescription item.
3	Used to indicate when reimbursement is based on a discounted average wholesale price for the prescription item.	Used to indicate when reimbursement is based on a discounted average wholesale price for the prescription item.
4	Indicates when the ingredient cost reimbursed to the provider is based upon the submitted Usual and Customary Price.	Indicates when the ingredient cost reimbursed to the provider is based upon the submitted Usual and Customary Price.
5	Used to indicate that the processor has compared submitted U&C to the cost plus the fee (May be either their negotiated value for cost plus fee, or the submitted cost and fee), and is paying the lower of the amounts.	Used to indicate that the processor has compared submitted U&C to the cost plus the fee (May be either their negotiated value for cost plus fee, or the submitted cost and fee), and is paying the lower of the amounts.
6	Indicates when the ingredient cost reimbursed to the provider is based upon a payer's Maximum Allowable Cost list. (when MAC Basis of Cost was submitted)	Indicates when the ingredient cost reimbursed to the provider is based upon a payer's Maximum Allowable Cost list. (when MAC Basis of Cost was submitted)
7	Indicates when the ingredient cost reimbursed to the provider is based upon a payer's Maximum Allowable Cost list. (when other than MAC Basis of Cost was submitted)	Indicates when the ingredient cost reimbursed to the provider is based upon a payer's Maximum Allowable Cost list. (when other than MAC Basis of Cost was submitted)
8	Price based upon contractual agreement between trading partners.	Price based upon contractual agreement between trading partners.
9	Used to indicate when reimbursement is based upon the actual cost of the item.	Used to indicate when reimbursement is based upon the actual cost of the item.
10	The average sales price (ASP) is a cost basis required by and reported to CMS for pricing Medicare Part B drugs.	The average sales price (ASP) is a cost basis required by and reported to CMS for pricing Medicare Part B drugs.
11	The average price paid to manufacturers by wholesalers for drugs distributed to the retail class of trade; calculated net of chargebacks, discounts, rebates, and other benefits tied to the purchase of the drug product, regardless of whether these incentives are paid to the wholesaler or the retailer.	The average price paid to manufacturers by wholesalers for drugs distributed to the retail class of trade; calculated net of chargebacks, discounts, rebates, and other benefits tied to the purchase of the drug product, regardless of whether these incentives are paid to the wholesaler or the retailer.
12	Price available under Section 340B of the Public Health Service Act of 1992 including sub-ceiling purchases authorized by Section 340B (a)(10) and those made through the Prime Vendor Program (Section 340B(a)(8)). Applicable only to submissions to fee for service Medicaid programs when required by law or regulation.	Price available under Section 340B of the Public Health Service Act of 1992 including sub-ceiling purchases authorized by Section 340B (a)(10) and those made through the Prime Vendor Program (Section 340B(a)(8)). Applicable only to submissions to fee for service Medicaid programs when required by law or regulation.
13	A cost as defined in Title XIX, Section 1927 of the Social Security Act.	A cost as defined in Title XIX, Section 1927 of the Social Security Act.
14	Indicates reimbursement was based on the Other Payer-Patient Responsibility Amount (352-NQ).	Indicates reimbursement was based on the Other Payer-Patient Responsibility Amount (352-NQ).
15	Indicates reimbursement was based on the Patient Pay Amount (505-F5).	Indicates reimbursement was based on the Patient Pay Amount (505-F5).
16	Indicates reimbursement was based on the Coupon Value Amount (487-NE) submitted or coupon amount determined by the processor.	Indicates reimbursement was based on the Coupon Value Amount (487-NE) submitted or coupon amount determined by the processor.
17	Indicates the reimbursement was based on the cost calculated by the pharmacy for the drug for this special patient.	Indicates the reimbursement was based on the cost calculated by the pharmacy for the drug for this special patient.
18	Represents the manufacturer's published catalog or list price for a drug product to non-wholesalers. Direct Price does not represent actual transaction prices and does not include prompt pay or other discounts, rebates or reductions.	Represents the manufacturer's published catalog or list price for a drug product to non-wholesalers. Direct Price does not represent actual transaction prices and does not include prompt pay or other discounts, rebates or reductions.
19	State mandated level of reimbursement for Workers' Compensation or Property and Casualty prescription services.	State mandated level of reimbursement for Workers' Compensation or Property and Casualty prescription services.

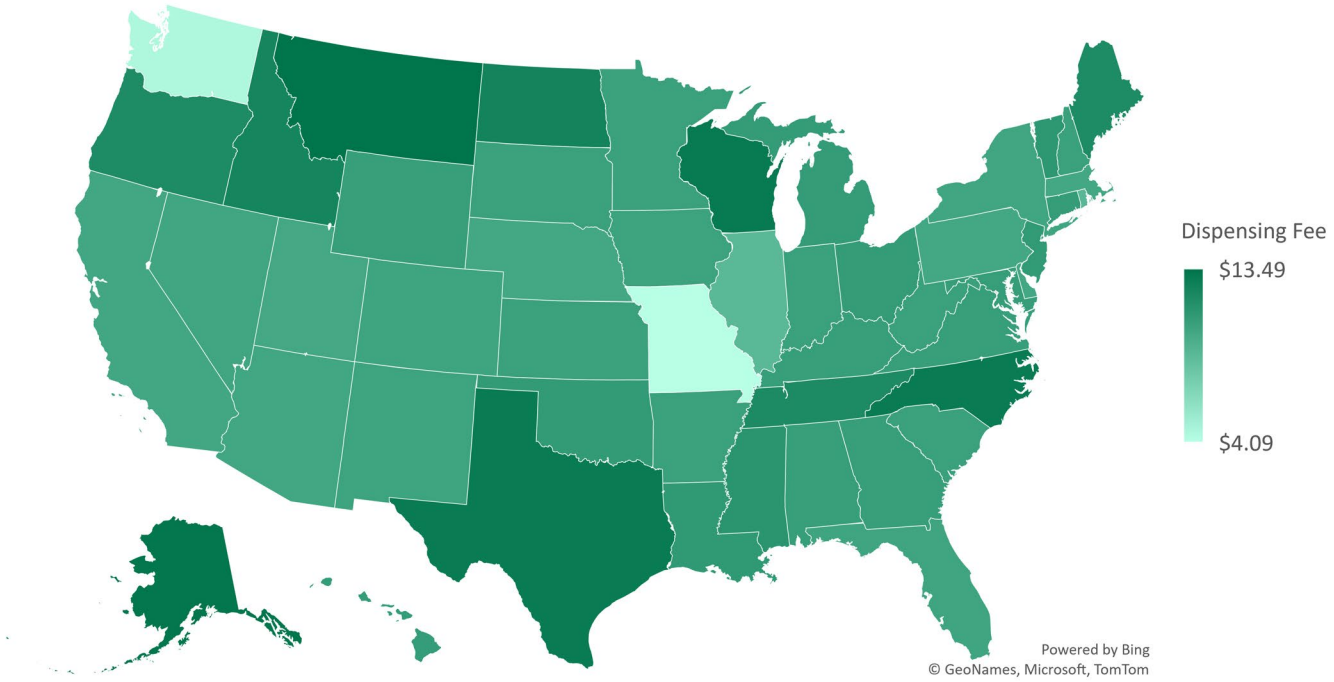
Dispensing Fees

A dispensing fee is also a component of the total amount paid for prescription medications. A dispensing fee is meant to cover pharmacy overhead costs associated with filling a prescription and is separate from the drug ingredient payment. Overhead includes but is not limited to payroll costs, time necessary to perform drug utilization review (DUR), prescription department cost (i.e., prescription containers, insurance, licenses, technology fees, and transaction fees), facility costs (i.e., rent, utilities, maintenance), and technology fees

[iv] Source: National Council of Prescription Drug Programs (NCPDP) Telecommunication Standards D.0

(i.e., software, electronic submission charges). Past research from the National Association of Chain Drug Stores (NACDS) estimates the average retail pharmacy cost to dispense at roughly $12.40 (for non-specialty drugs).[21] Previous analysis by 3 Axis Advisors suggests state-run fee-for-service (FFS) Medicaid systems' dispensing fees – which are required by the federal government to accurately approximate pharmacy cost of dispensing – generally range from and average between $10 and $12 per prescription with the mean in Q3 2022 (date of last update by CMS) being approximately $11 (**Figure 8**).

Figure 8: Overview of Individual State Medicaid Pharmacy Dispensing Fees[v]



[v] Source: Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State, Quarter Ending June 2022

Analysis of Washington Prescription Drug Expenditures

The variability in prescription drug contracting and pricing benchmarks can be attributed, in part, to the segmented nature of prescription drug insurance in the U.S. There is no single, universal source of prescription drug insurance and so drug pricing analyses are generally distinguished by the source of drug insurance funding. The most common designations are commercial insurance (i.e., employer-sponsored health plans), Medicare benefits (benefits available to individuals over the age of 65 funded through payroll taxes), and Medicaid benefits (entitlement benefits based on means-testing, jointly funded between state and federal taxes). As already identified, PBMs support the various sources of prescription drug insurance in providing patients with access to their drug insurance benefit (regardless of the origin of the prescription insurance).

The PBM market is highly consolidated, with the largest PBMs having near-total market share. According to data compiled by Drug Channels Institute, the top six PBMs in 2023 accounted for 94% of all pharmacy claims dispensed.[22] As we begin our study of retail pharmacy reimbursement data, we wanted to first analyze the role of market segmentation.

The Makeup of the U.S. Drug Insurance Marketplace

We began our analysis by segmenting the data in terms of PBMs and line of business to visualize the distribution of data. Pharmacy data makes it relatively easier to identify PBMs, based on the billing standards of the National Council of Prescription Drug Programs (NCPDP). Despite PBM market share consolidation, the Pharmaceutical Care Management Association (PCMA) reports that there are more than 70 PBMs in operation at present, meaning that any effort to display all unique results would result in visualizations that would be difficult to interpret.[23] To investigate PBM market consolidation, we began by evaluating all received pharmacy claim point-of-sale (POS) payment data, as well as overall drug costs received across all received plan sponsor claims, by the PBMs flagged on the claim. To do this, we relied upon the Medicare BIN and PCN assignments to identify Medicare claims, the payer sheets and provider manuals for the various PBMs to identify Medicaid claims, and finally assigned all other claims that were not Medicare and Medicaid as Commercial claims (with exceptions to remove drug discount cards, coupon cards, etc.; see Methodology).[24]

Our first set of visualizations of the data display the distribution of claims payment (i.e., total dollars) between the industry's largest PBMs (i.e., CVS Caremark, Evernorth Express Scripts, UnitedHealth Group OptumRx), the various payer types (i.e., Medicaid, Medicare, and Commercial), and the proportion of drug costs paid for by the plan sponsor and the patient. We display the results in Sankey charts by pharmacy (**Figure 9** on the next page) and payer (**Figure 10** on the next page). Sankey charts are used to visualize the flow of data, allowing for identification in relationships that may exist among groupings.

Figure 9: Pharmacy Reimbursement by PBM, Line of Business, and Plan/Member Cost Exposure, Studied Pharmacy Data

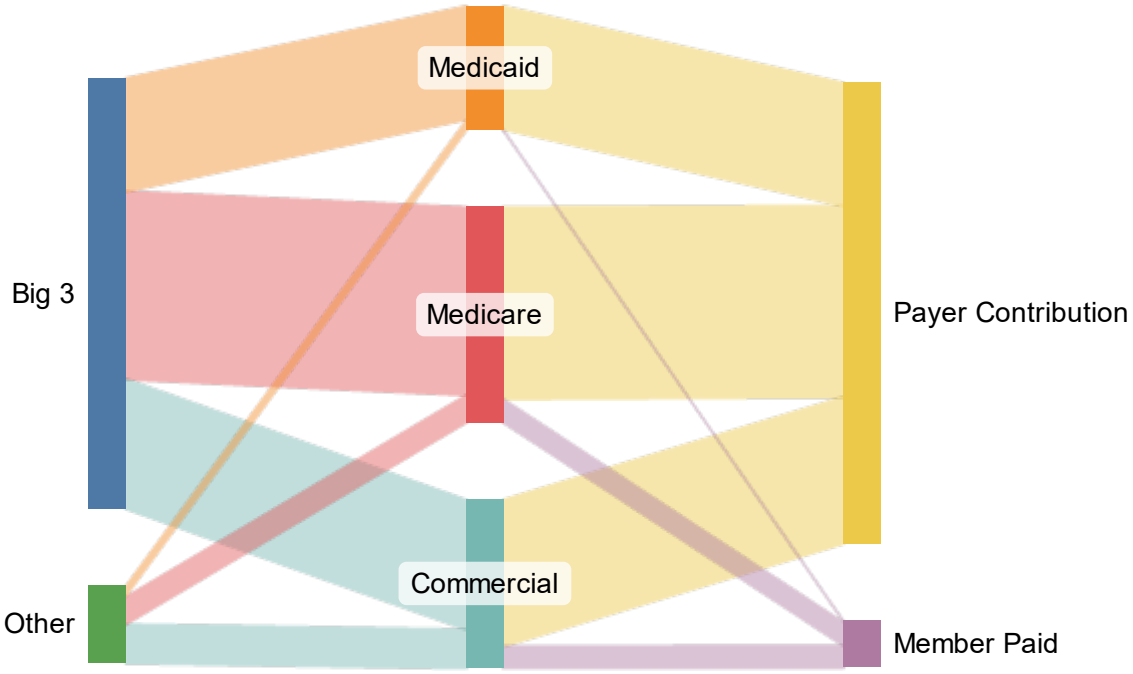
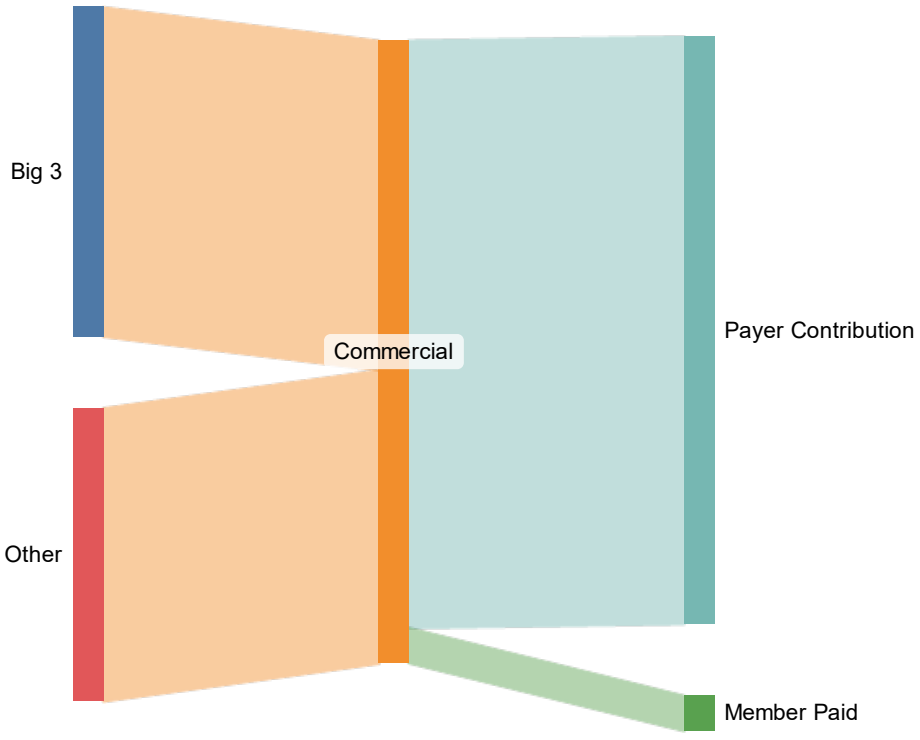


Figure 10: Payer Cost by PBM and Plan/Member Cost Exposure, Studied Payer Data



According to the pharmacy data we have, the three largest PBMs were responsible for more than 80% of payments to pharmacies. Amongst pharmacy data, Medicaid claims represented 24% of all received reimbursements, Medicare 43%, and commercial the remaining 33%. Patients paid roughly 10% of the overall pharmacy POS reimbursement, although payment from patients was differentiated by source of coverage. In the Medicaid program, as anticipated, patients were responsible for 1% of drug reimbursement

to pharmacy. In Medicare, patients were responsible for 11% of drug reimbursements to pharmacies. Within commercial pharmacy claims, patients were responsible for 13% of pharmacy reimbursement.

According to the payer data, the largest PBMs were responsible for half of all payer costs. All the received data was from commercial plan sponsors in Washington state and the distribution of cost between the plan sponsor and the patient was 94% borne by the plan and 6% borne by the patient.

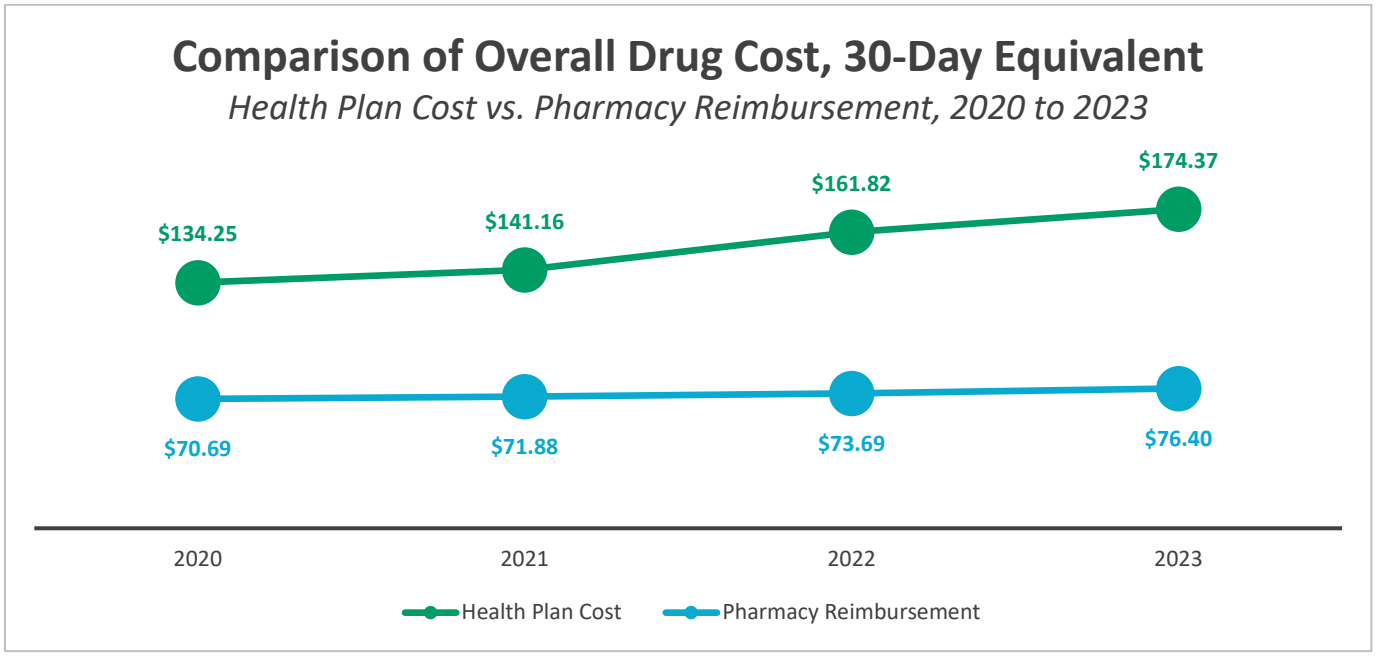
We believe that this background provides sufficient information to begin our analysis of the impact of drug prices within Washington.

Overall Drug Pricing Trends

Our analysis of drug pricing begins by examining the overall drug costs across all received pharmacy-received claims, as well as overall drug costs received across all payer-received claims. We start our analysis here as it seems a reasonable starting point to assess the overall trends in Washington drug prices across the differing perspectives of the primary providers of prescription medications to patients (i.e., pharmacies) and the primary payers for pharmacy services (i.e., plan sponsors). We present the information in **Figure 11** (below) in 30-day equivalent costs. These costs are calculated by determining the cost per drug, per day and multiplying by 30 (i.e., $30 - day\ Equivalent\ Cost = \left(\frac{Total\ Payment}{Total\ Days\ Supply}\right) x\ 30$). Because we have more pharmacy claims than payer claims, a simple presentation of gross costs would not be appropriate. We present the information in 30-day equivalent cost as a means to create a more appropriate cost comparison as it will normalize data between various suppliers of prescription medications into cost per day amounts (see **Methodology** section later in this report for more details).

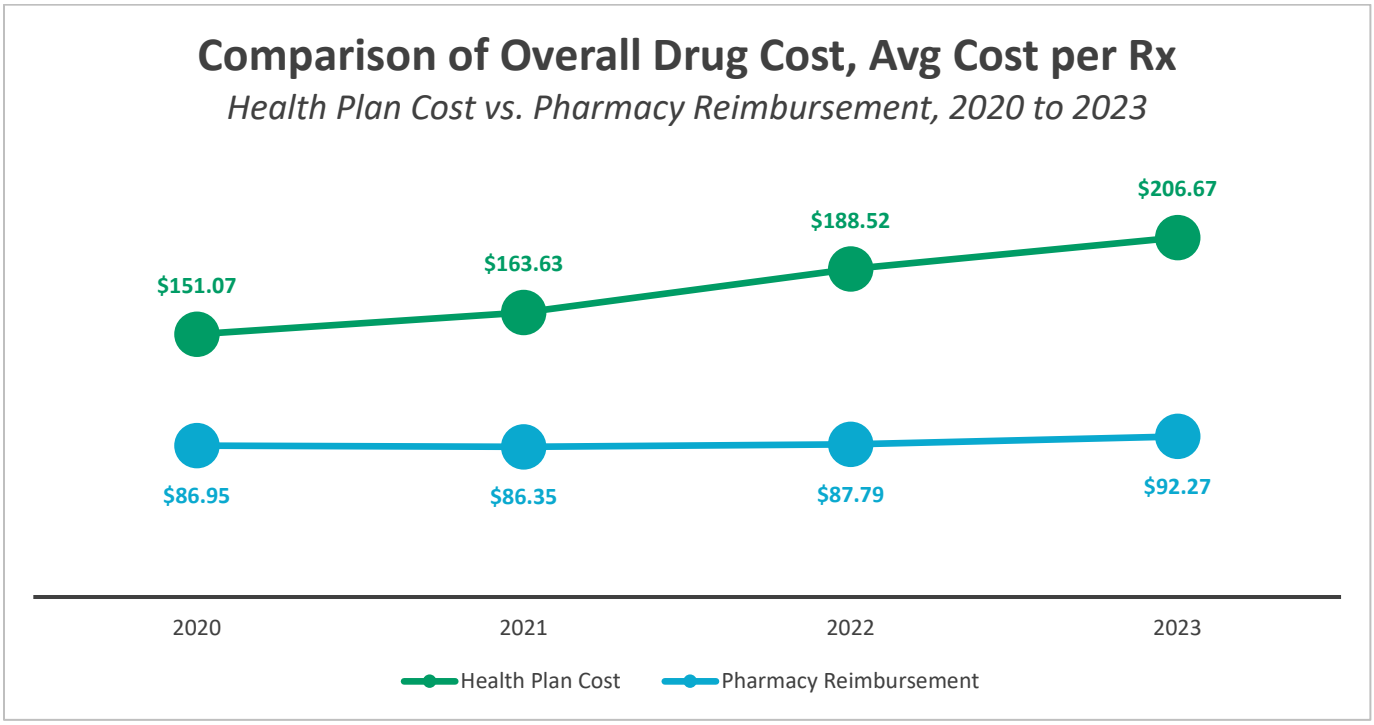
By starting our analysis with an evaluation of overall drug costs between the two experienced realities, we can begin to get an understanding of the underlying differentiated perspective issues related to drug costs throughout Washington. As can be seen in **Figure 11**, our payer claims data demonstrates a higher, year-over-year (YoY) increase in drug costs in Washington than what was observed in the pharmacy claims.

Figure 11: Comparison of Overall Drug Cost, 30-Day Equivalent (2020 – 2023)



While we will use the 30-day equivalent cost for most of our analysis, for the sake of investigating its appropriateness, we present below a simple average cost per prescription analysis (i.e., total payment divided by total prescription count). As can be seen in **Figure 12** below, there is little difference in the calculated trends between these analyses.

Figure 12: Comparison of Overall Drug Costs, Avg Cost per Rx (2020 – 2023)



Said differently, although **Figure 12** is more subject to utilization differences, such as the variability in number of 30-day retail supplies (anticipated higher unit cost) vs. 90-day mail supplies (anticipated lower unit costs), the presence of these utilization differences does not appear influential enough to impact the overall direction of the trend in observation.

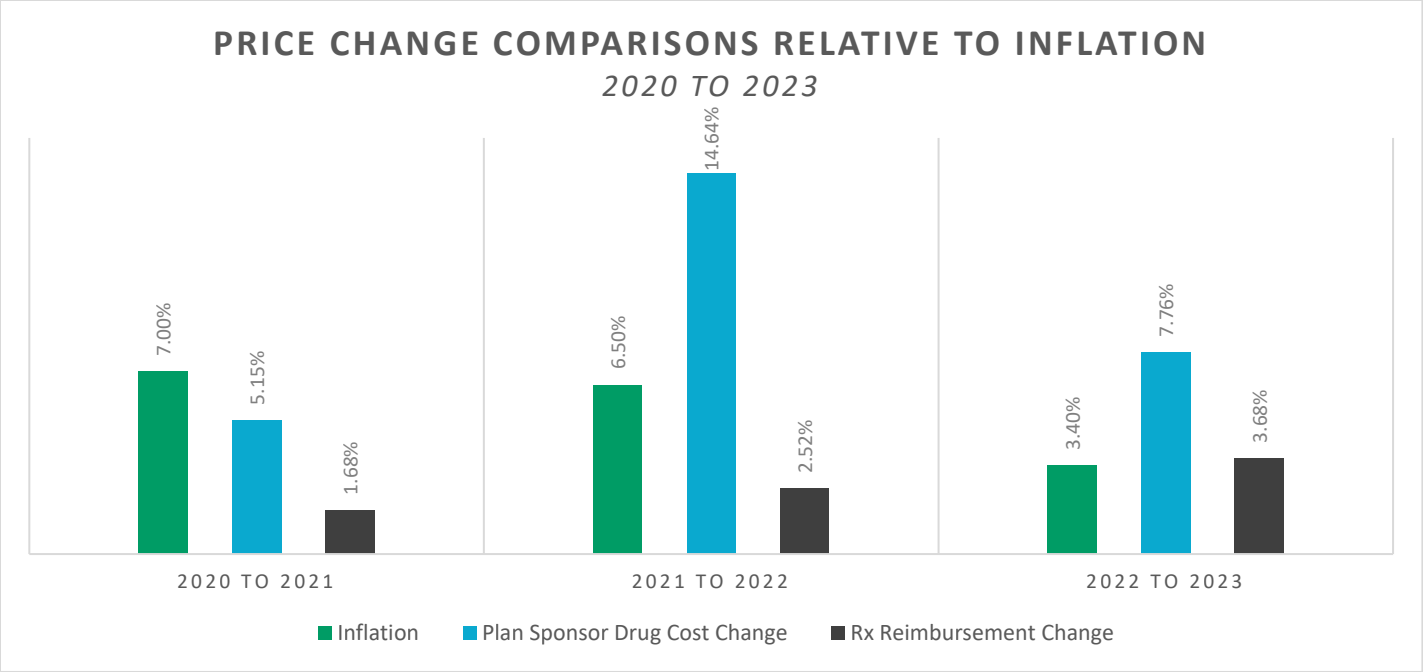
To be specific, in **Figure 11**, payer costs increased $40.12 per 30-day equivalent (+30%) over the four-year period and pharmacy reimbursement increased $5.71 per 30-day equivalent (+8%) over the same timeframe. In **Figure 12**, where we performed a simple average cost per prescription, payer costs increased $55.60 (+37%) and pharmacy reimbursement increased $5.32 (+6%) over the four-year period. Thus, regardless of which frame of reference we take, we can see how payers in Washington have potentially divergent perspectives on drug costs relative to community pharmacies (the largest provider group of pharmacy services). As a means of comparison, in the pandemic and post-pandemic era, inflation has been a topic of great focus. The plan sponsor data suggests a perspective on drug cost increases equivalent to grocery cost changes over the four-year period; however, pharmacy drug costs trends (which theoretically make up the experience of plan sponsor costs) show a trend roughly a third or a fourth lower.[25]

This high-level observation forms the basis of the remainder of our analyses within the report – attempting to understand what drove payer costs to increase at roughly four times the rate of retail pharmacy reimbursement. At a high-level, our initial analysis suggests that directionally, the degree to which plan sponsors spend more on medicines, small pharmacies are receiving proportionally less compensation over

time, which invites the question of why a particular sector of the retail channel is not having the same experience as the plan sponsors they serve.

In reviewing the overall cost per year for 30-day equivalent prescription drugs (**Figure 11**), we observe a 30% increase over the four-year period (6.8% compounded annual growth rate [CAGR]) for health plan sponsors, whereas pharmacy claim reimbursements increased 8% (2% CAGR). Again, as a means of comparison, consider the overall inflation trends over the same period relative to the observations in **Figure 11**. As shown in **Figure 13** (below), the studied Washington plan sponsor drug expenditures exceeded the rates of inflation overall, whereas the retail pharmacy reimbursement experience did not keep up with inflation.[26]

Figure 13: Price Change Comparisons Relative to Inflation (2020 – 2023)



In order to understand what is driving this overall difference, we need to segment the data to better understand and investigate the underlying causes for these diverging pricing experiences. To start, our payer data was limited to commercial payers. Although employer-sponsored health plans (i.e., commercial health plans) are the primary way individuals obtain health coverage in the United States, they are not the only source of third-party payment for prescription drugs. Government-run health programs such as Medicare and Medicaid represent significant sources of prescription drug coverage, and therefore, a large customer base of pharmacy claims (see **Figure 9**). As federal programs, rules governing Medicare and Medicaid are different from the rules governing commercial programs. The programmatic differences are significant enough that they have an impact on the anticipated reimbursement for drugs at the pharmacy counter. For example, Medicaid programs can require that drug reimbursement reflect actual drug costs, and Medicare payments (during the timeframe of this study) include distorting elements like direct-and-indirect remuneration (DIR). These factors make it generally hazardous to compare overall pharmacy experience − which includes Medicare, Medicaid, and other payers − to a data set of health plans limited to just commercial payers.

According to the Congressional Research Service (CRS), in 2022, roughly 92% of the U.S. population was insured, with 18.5% getting insurance through Medicare, 21.2% getting insurance through Medicaid, and 54.8% getting insurance via a group health plan (i.e., employer-sponsored, commercial).[27] As a result, we begin by segmenting the studied Washington retail pharmacy claims data into payer type (**Figure 14**; see **Methodology** for how segmentation occurred) and limiting our comparisons of the overall commercial payer experience to the pharmacy reimbursement from the subset of commercially insured claims (**Figure 15**).

Figure 14: Studied Washington Retail Pharmacy Claim Counts by Line of Business

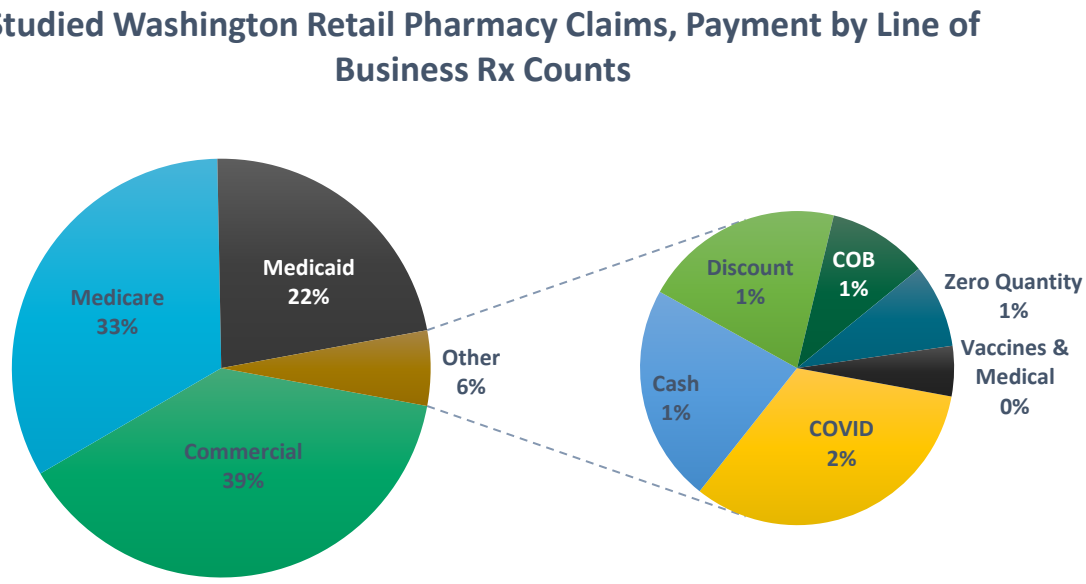
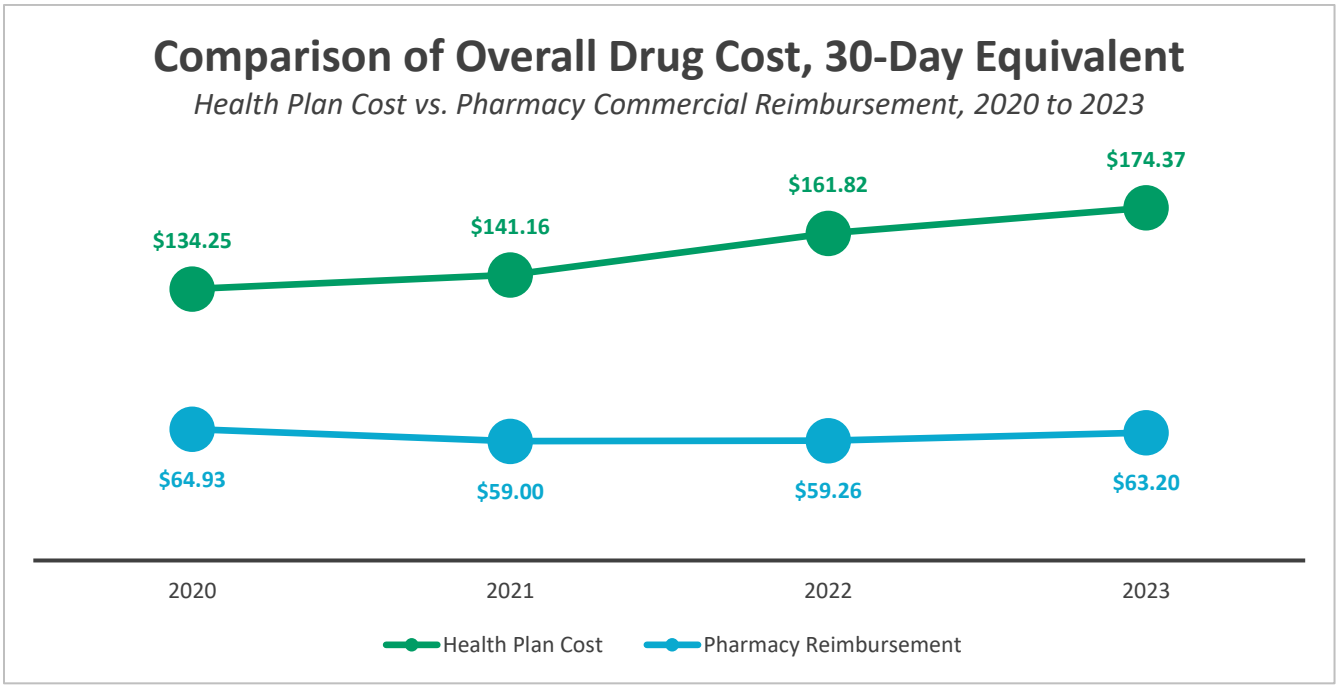


Figure 15: Comparison of Overall Drug Cost, 30-Day Equivalent, Commercial Claims (2020 – 2023)



Recall from **Figure 9** that commercial reimbursements to pharmacies represented approximately 33% of overall reimbursements. However, according to **Figure 14** (on the prior page), commercial claims are approximately 39% of all claim activity at our studied Washington retail pharmacies. The fact that claim count associated with commercial claims (**Figure 14**) is higher than the spending proportionality (**Figure 9**) is suggestive that the reimbursement that pharmacies receive from commercial payers will be meaningfully different than the type of reimbursement they receive from other payer types. At a minimum, it is suggestive that there is less reimbursement per claim associated with commercial claims to pharmacies than other payer types, which could result in unique challenges relative to other payer types to pharmacies. As a result, we begin our deeper dive into the data with the commercial claims data sets of both the studied plan sponsors and the studied retail pharmacies.

Commercial Trends

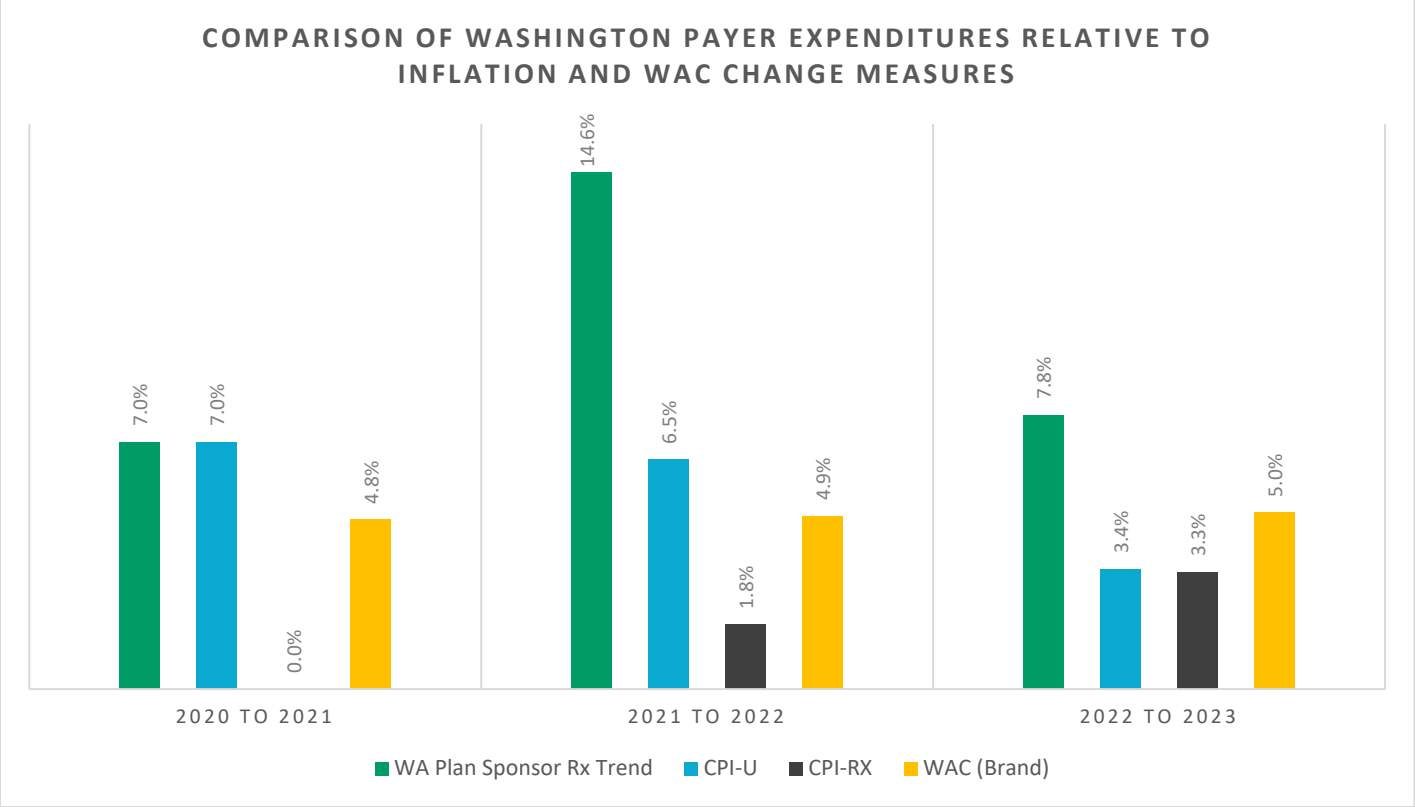
While the segmentation into payer type helps provide a more apples-to-apples comparison, it still results in divergent perspectives on drug costs over the four-year period of our analysis. Based upon **Figure 15** (on the prior page), payers' perspectives on drug costs are unchanged from our **Figure 11** perspective (+30% over the four years; 6.8% CAGR); however, pharmacy perspectives are diverting even further from the payer experience over time. Over the four-year period, the average 30-day equivalent drug reimbursement to pharmacies on commercial claims decreased by $1.73, becoming 2.7% lower from their 2020 level (or a decrease of 0.7% [CAGR]). In other words, **Figure 15** identifies a nearly 10-fold difference in drug price experience between Washington commercial payers and retail pharmacy providers in the state. This significant difference in perspectives on drug prices are such we could anticipate, based upon **Figure 15**, commercial payers in the State of Washington identifying rising drug costs as a significant concern for overall healthcare costs over the last four-years. Indeed, Carol Wilmes, Director of Member Pooling Programs, AWC and Chairperson, for the Washington Health Alliance states, "Prescription drugs is the fastest growing spend for our total cost of care at the Association of Washington Cities Employee Benefit Trust. In order to meet our fiduciary responsibility to the insured members, we must lift the veil on opaque drug pricing to achieve real price transparency."

"Prescription drugs is the fastest growing spend for our total cost of care at the Association of Washington Cities Employee Benefit Trust. In order to meet our fiduciary responsibility to the insured members, we must lift the veil on opaque drug pricing to achieve real price transparency."

-Carol Wilmes, Director of Member Pooling, AWC and Chairperson, Washington Health Alliance

Such statements would appear reasonable given the YoY changes observed thus far. To further contextualize these potential perspectives, in **Figure 16** (on the next page), we compare the YoY observed change in drug costs to commercial health plans in Washington to the overall rate of inflation (CPI-U), the rate of drug inflation (CPI-RX), and the average change in WAC prices for brand drugs.[28] [29] [30] In all years, payer drug cost changes meet or exceed the three comparison measures.

Figure 16: Comparison of Washington Payer Expenditures to Inflation and WAC Change



Any doubt we may have had regarding plan sponsor feelings regarding their drug pricing trends seems to be removed when compared to the benchmarks in **Figure 16**. Again, commercial payers in the State of Washington would likely, and have identified rising drug costs as a significant concern for overall healthcare costs over the last four years relative to other benchmarks demonstrating more general marketplace cost trends.

However, retail pharmacy providers in the State of Washington would likely state the opposite; that drug reimbursements from commercial payers are not increasing at rates consistent with the rest of their business (**Figure 15**). If the overall market trends suggest rising drug prices, the Washington retail pharmacy experience is at or below these benchmarks and trends. As shown in **Figure 13**, the group we would think would be the largest purchasers of drugs (i.e., retail pharmacies), their reimbursement over-time is not changing in line with inflation figures. As this trend persists year-over-year, the retail pharmacies are potentially falling further and further behind (they have business costs outside of the underlying drug costs that should be reflected within their reimbursement figures). This finding suggests that the reimbursement practices of Medicare, Medicaid, or other non-commercial payers are unlikely to explain the differences between health plan sponsor and pharmacy provider perspectives and experiences on drug costs in the State of Washington. Said differently, despite pharmacies servicing the patients that would appear to be driving the health plan sponsor drug cost experience, pharmacies and health plan sponsors would appear to have opposite perspectives on the nature of drug costs trends. To understand the potential causes of these divergent perspectives, we need to segment the data further.

According to the American Academy of Actuaries, the key drivers of growth in prescription drug expenses are utilization, unit costs, drug mix, and specialty pharmaceuticals (see side panel).[31] The observations in **Figure 15** demonstrate that unit costs, at least as measured on a cost-per-day equivalent, are higher in the health plan sponsor data than the retail pharmacy provider reimbursement. However, it is not yet clear if that is a direct difference in drug costs (i.e., the same drug having differing costs to the health plan relative to the reimbursement to the pharmacy provider) or if other aspects may explain the differences.

Drug mix is the idea that aggregate healthcare costs reflect a basket of goods. Some therapies are inherently cheaper to treat than others. For example, blood pressure can generally be managed with cheap, generic pills, whereas complex disease states such as cancer may require treatment with expensive, brand-name medication infusions. The underlying mix of drugs directly impacts the total prescription drug spend. If utilization shifts to the more costly drugs, the increase in unit cost is greater than the average cost inflation due to the change in the underlying drug mix. One of the key sources of potential drug mix cost drivers is the proportionality of brand claims dispensed relative to generic drugs. As a result, our next step was to segment the data into brand or generic designation (see **Methodology** for how brands and generic values were assigned).

Brand drugs are products that have legal protections, such as patents and market exclusivity periods, which limit the ability of the branded product to face market competition.[32] It is generally well established that during this protected period, pharmaceutical companies set higher sticker prices for their medications, which the manufacturer uses to recoup development costs, market their new therapy, generate profits, and support the development of the next therapeutic advancement.[33] As a result, brand products generally carry higher costs relative to generic drugs, which results in brands typically accounting for more total drug costs and are a key driver of higher drug expenditures to plan sponsors.[34]

National estimates state that brand drug utilization is approximately 10% of overall claims but more than 80% of drug costs.[35] By segmenting drug costs across the brand-generic designation, evaluating the origin of divergent perspectives on drug costs can become more apparent. In **Figure 17** (on the next page), we observe that the amount of brand prescriptions

Drivers of Growth

According to the American Academy of Actuaries, changes in utilization (including the introduction of new drugs) and increases in the unit cost or cost per dosage are the two primary drivers affecting prescription drugs expenditures (although other factors exist). The following describes what the academy identifies as key factors to understanding growth of drug expenditures.

Utilization - Fluctuations in drug usage volume directly impact expenditures. Increased utilization raises costs, while decreased utilization lowers them. Factors that influence utilization include prescribing patterns, patient adherence, and disease prevalence changes.

Unit Costs - Prices per drug unit affect expenditures. Price hikes and inflation increase costs, while negotiations and generic substation of brand-name therapies reduce them.

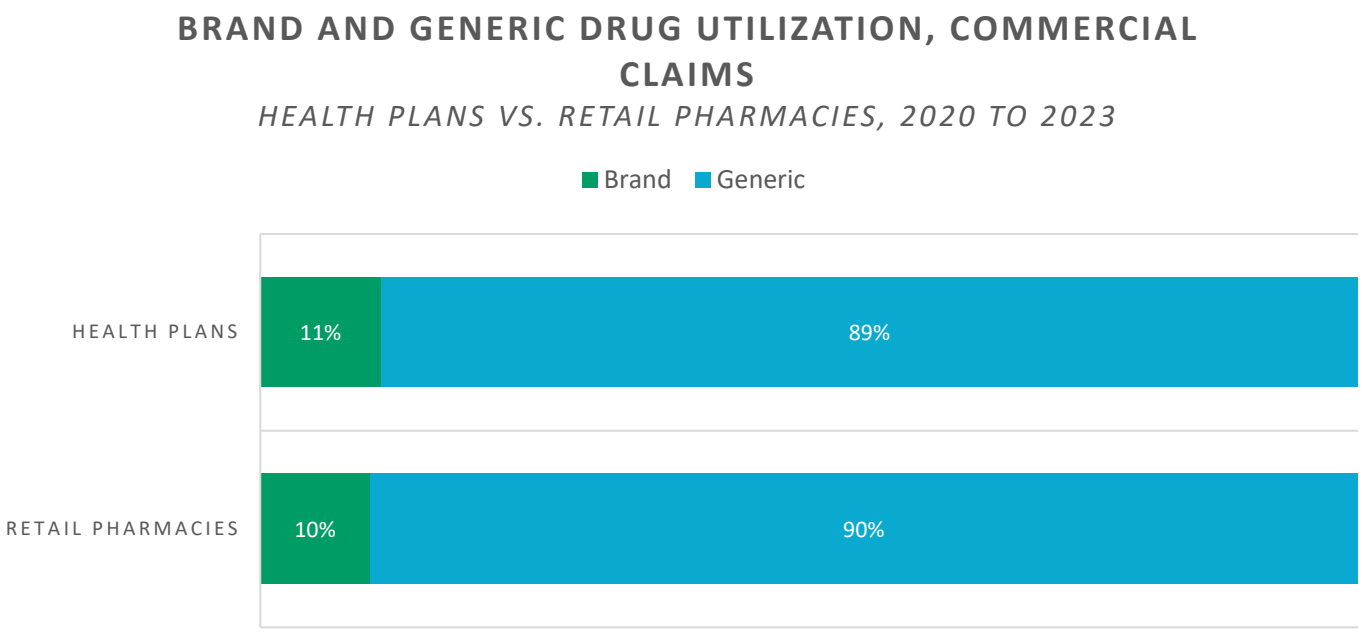
Drug Mix - The underlying pattern of drugs dispensed directly impacts the total prescription drug spend. If utilization shifts to the more costly drugs, the increase in unit cost is greater than the average cost inflation due to the change in the underlying drug mix. Drug formularies and generic substitution policies are tools employed that seek to influence drug mix patterns.

Specialty Drugs - High-cost medications for complex conditions significantly impact expenditures due to their high unit costs and specialized use. Despite representing a small proportion of prescriptions, they contribute significantly to spending.

See the American Academy of Actuaries Issue Brief on Prescription Drug Spending in the U.S. Health Care System for further information at https://www.actuary.org/content/prescription-drug-spending-us-health-care-system

relative to generic prescriptions within both the health plan data and the commercial retail pharmacy experience are not significantly divergent. Both health plans and pharmacies expect to fill approximately one brand drug for every 10 prescriptions filled. There was only a 1% difference in the anticipated utilization of brand claims between the two experiences (with health plans having slightly higher brand utilization).

Figure 17: Brand and Generic Drug Utilization, Commercial Claims



While we observe roughly equal rates of brand and generic claims utilized, we nevertheless continue to observe divergent perspectives on drug costs. In **Figures 18 & 19** (on the next page), we segment the 30-day equivalent cost observations from **Figure 15** into trends related to brand claims and generic claims. We observe that studied Washington commercial health plan sponsors are seeing higher, year-over-year 30-day equivalent brand and generic costs in comparison to the studied Washington retail pharmacy reimbursement experience.

Figure 18: Comparison of Washington Commercial Brand Drug Costs (2020 – 2023)

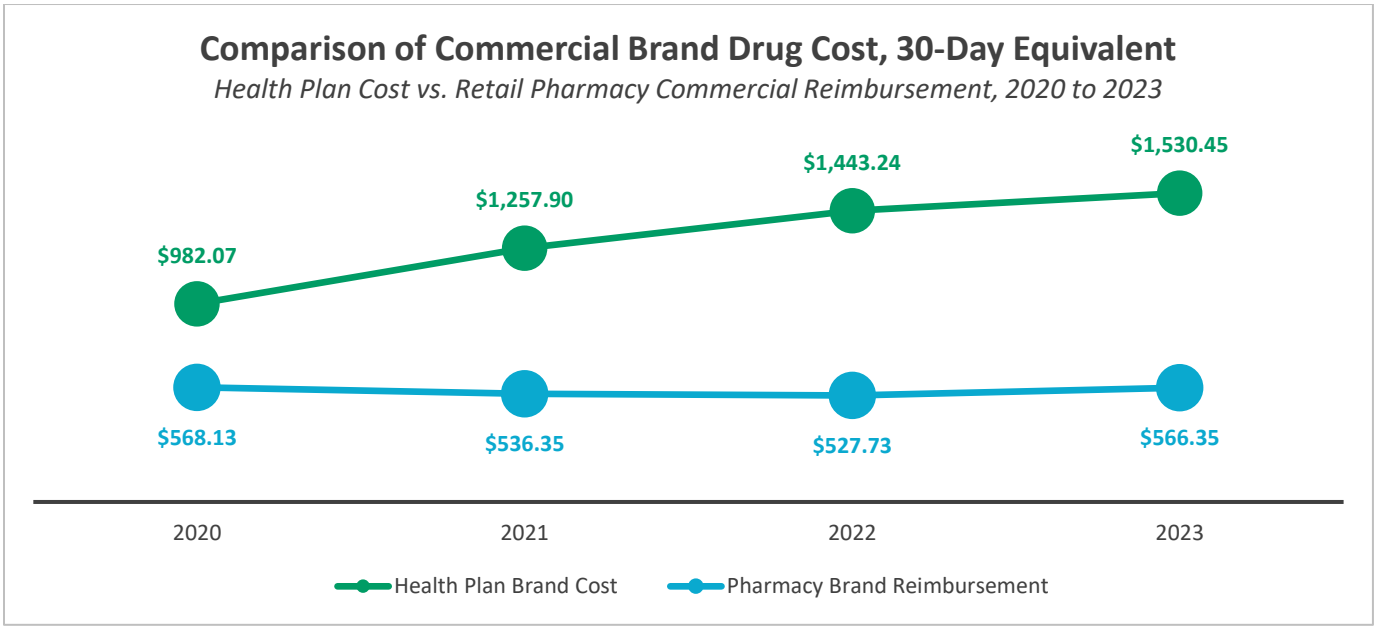
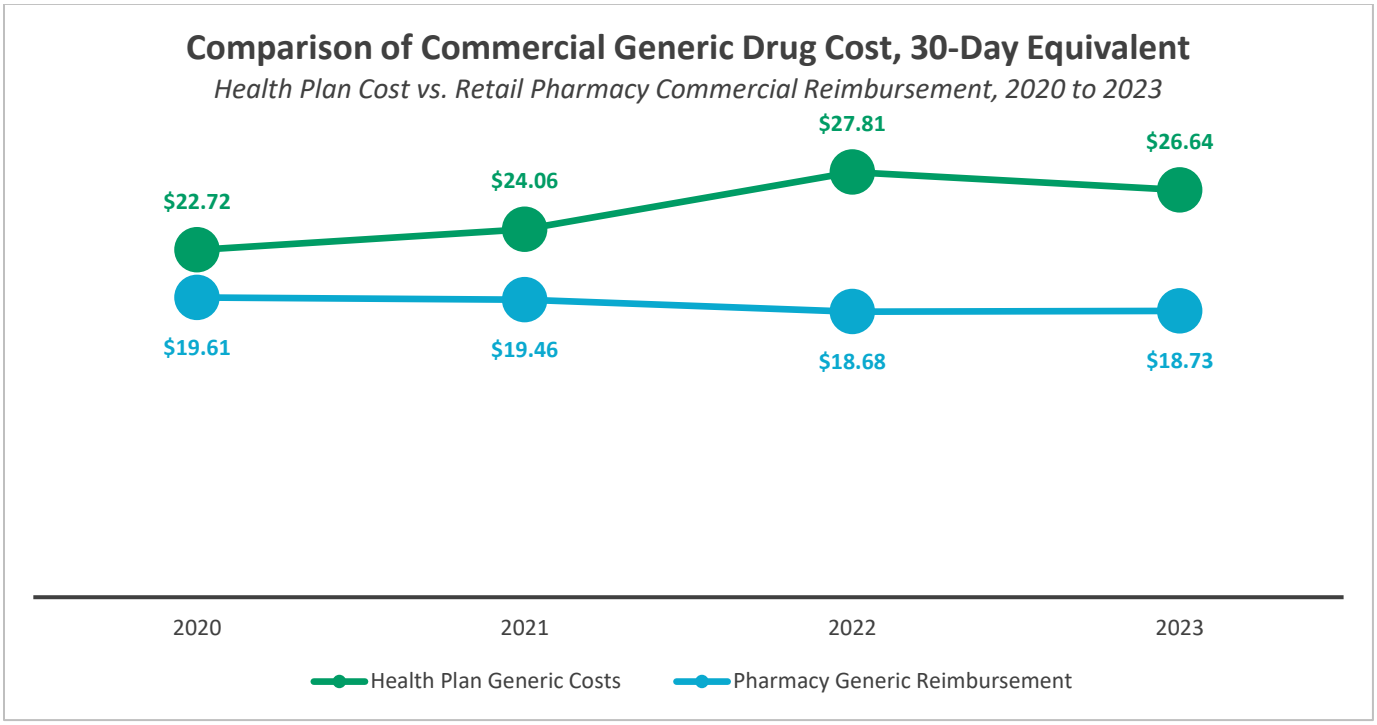


Figure 19: Comparison of Washington Commercial Generic Drug Costs (2020 – 2023)



In reviewing **Figures 18 & 19**, we can see that health plan sponsors saw a $3.92 increase in the 30-day equivalent costs of generic drugs (17.3% increase over the four-year period; 4.1% CAGR) vs. a $548.38 increase in the 30-day equivalent gross cost of brand drugs (55% increase over the four-year period; 11.7% CAGR). In comparison, pharmacies were reimbursed by commercial payers ***$0.88 less*** per 30-day equivalent on generic drugs (4.4% decrease over the four-year period; -1.1% CAGR) and ***$1.78 less*** on 30-day equivalent brand drugs (0% decrease over the four-year period; -0.1% CAGR).

As a result, commercial plan sponsors in Washington may reasonably observe greater challenges with brand-name drug costs (given their higher gross cost growth rate) and place more blame for any challenges associated with financing drug costs on brand manufacturers. Conversely, pharmacy providers are likely to identify greater financial challenges to their long-term business viability in regard to generic drug trends, highlighting that reduced reimbursement on 90% of their drug dispensing (see **Figure 17**) may threaten their sustainability. To be specific, within the pharmacy data we analyzed, brand drugs accounted for 71% of total sales for the retail pharmacy data set but represented just 4% of estimated retail pharmacy margin whereas as generic drugs were 29% of sales and 96% of margin. Said differently, a slight reduction in generic reimbursement might not appear as impactful on the surface to plan sponsors but may be devastating to retail pharmacy.

However, the different perspectives on brand and generic claim costs are likely insufficient to fully explain the drug cost challenges that exist between payers and providers. In reviewing **Figures 18 & 19**, in 2023, commercial health plan generic drug costs were roughly 42% greater than commercial pharmacy provider reimbursement, whereas gross brand drug costs for health plans were roughly 170% greater than pharmacy provider reimbursement in the same year. These differences suggest that the composition of brand drugs dispensed by retail pharmacy providers is different in meaningful ways from the composition of brand drug costs recognized by the health plan sponsor. Similarly, the data is suggestive of significant differences with generic drug mix (albeit to a lesser extent than brands).

To an extent, the differences in these brand and generic observations are expected, given the various classes of trade that exist within pharmacy provider types. While our studied pharmacy provider data is sourced from retail pharmacies, we know that mail-order pharmacies, specialty pharmacies, and others (e.g., clinics) exist. While we previously recognized that pharmacy providers receive reimbursement from different payer types, we have yet to acknowledge that payers provide reimbursement to different types of pharmacy providers. As the name implies, specialty pharmacies are more likely to dispense specialty medications relative to other pharmacy provider types, which can significantly impact the reimbursement trends for health plans (as the American Academy of Actuaries recognizes specialty pharmacy drug costs as a key driver of drug expenditure growth). Generally speaking, health plan sponsors make benefit design decisions (often following the prompts and recommendations made by PBMs and/or benefits consultants and brokers) that impact the utilization patterns at the various classes of trade within pharmacies. It is not uncommon for commercial health plans to restrict dispensing specialty drugs to a narrow network of pharmacies. Similarly, commercial payers may

Black Box Warning: Prescription Drug Rebates

Prescription drug rebates are payments by drug manufacturers to secure favorable coverage for drug manufacturer products. Health plans contract with PBMs to negotiate rebates with drug manufacturers on behalf of their members; however, the details regarding rebate payments are often unknown.

The total estimated value of rebates to health plans generally varies based upon a variety of factors including the market in which they operate, the benefits offered, formulary decisions, the size of the plan, and others. Although individual drug rebates are generally unknown, estimates of rebate value exist within the public domain. In general, commercial plan sponsor rebates are believed to approximate 20% (2019).

For this report, the value of rebates is unknown. While we acknowledge the value of rebates is an important consideration for plan sponsors, rebates exist independent of what occurs at the point-of-sale, where pharmacies buy and sell drugs. This report is principally focused on the transaction between plan sponsor, pharmacy, and patients, where the value of rebates is generally not recognized (as point-of-sale application of rebates is rare).

Sources:
JAMA Network PMID: 35977258

3 Axis Advisors Estimates of U.S. Brand Drug Commercial Net Prices

incentivize or require chronic medications to be dispensed at mail-order pharmacies in a desire to achieve greater cost savings through bulk purchasing of drugs. As a result of these dynamics, we need a way to limit health plan cost experience to the retail class of trade to make better comparisons between our health plan sponsor brand/generic experience and our retail pharmacy provider reimbursement experience. Fortunately, there exists a public pricing benchmark which reasonably identifies the retail class of trade for pharmaceuticals.

Identifying Retail Class of Trade

National Average Drug Acquisition Cost (NADAC) is a drug reference price developed by the Centers for Medicare & Medicaid Services (CMS) for the purpose of understanding purchase prices incurred by retail community pharmacies from their wholesalers.[36] The development of NADAC was in response to a white paper written by the National Association of State Medicaid Directors (NASMD) titled, "Post AWP Pricing and Reimbursement" that evaluated and developed options for the replacement of AWP in Medicaid reimbursement methodologies.[37] Among the recommendations presented in the white paper was the establishment of a single national pricing benchmark based on average drug acquisition costs. The yielded NADAC benchmark price is the result of a survey process that focuses on retail community pharmacies. The survey collects acquisition costs for covered outpatient drugs purchased by retail community pharmacies, which include invoice purchase prices from both independent and chain pharmacies. As stated by CMS, the purpose of NADAC is "to create **a national benchmark that is reflective of the prices paid by retail community pharmacies** to acquire prescription and over-the-counter covered outpatient drugs." (our own emphasis added) [38]

*The **National Average Drug Acquisition Cost (NADAC)** is a pricing benchmark used by the Centers for Medicare & Medicaid Services (CMS) that represents the average price paid by pharmacies to acquire prescription drugs at the wholesale level. NADAC values are calculated based on survey data of pharmacy invoices. Payers use NADAC as a reference point to establish reimbursement rates for prescription drugs. Additionally, NADAC serves as a tool for pharmacies to compare their drug acquisition costs with national averages.*

As a result, limiting our analysis to just products with NADAC prices should enable us to make reasonable estimates of the pricing differences between health plans and retail pharmacies for both brand and generic drugs for the subset of drugs typically associated with the retail channel. While this methodology will not limit health plan dispensing to just retail pharmacies, any resulting cost differentials would appear to be the result of deliberate benefit design decisions by the health plan and/or their PBM (such that the costs can be reasonably compared to one another). Stated differently, if the health plan elected to direct typical retail drugs to the mail-order (or specialty) pharmacy, it is likely that such a decision was deliberately made within their plan design and any cost differences would be deliberate by the health plan and/or PBM.

Drug Costs Relative to Acquisition Costs

To begin our analysis on the pricing trends associated with the retail class of drugs, we limited both plan sponsor pharmacy data and retail pharmacy claims data to claims that had a NADAC reference price. NADAC reference prices are based upon the specific NDC and date of service of the claim relative to the information available from the Centers for Medicare & Medicaid Services (CMS). With this subset of claims identified, we began by generating one of our favorite charts, which highlights the overall margin over

NADAC per 100 prescriptions. Starting with our 2022 work, "**Understanding Pharmacy Reimbursement Trends in Oregon**," we have found it helpful to contextualize reimbursement based upon percentiles.[39] To perform this analysis, we took all claims with NADAC in each data set (plan sponsor and pharmacy) and determined the margin over NADAC for each and then sorted the claims in ascending order by margin. For example, the claims that produced the lowest margin over NADAC (or negative margin relative to NADAC) would be the first claim in the sorting while the claim that produced the largest margin over NADAC would be the last. Next, we determined margin percentiles (from 1 to 100) and extracted the value of each percentile and recorded the margin over NADAC for that percentile. The percentile position was determined by utilizing the formula $\frac{P}{100}\ x\ N$ where P = Percentile, and N = Number of values in the data set. This approach assumes that margin is normally distributed (i.e., equally likely to occur) across these groupings. Finally, each percentile was graphed on the x-axis while the margin over NADAC is on the y-axis. **Figure 20** (below) presents the results of this analysis for the plan sponsor data we received, whereas **Figure 21** (on the next page) presents the results for the retail pharmacy data we received.

Figure 20: Overall Margin Over NADAC Per 100 Prescriptions, Washington Commercial Plan Sponsor Data Set (2020 – 2023)

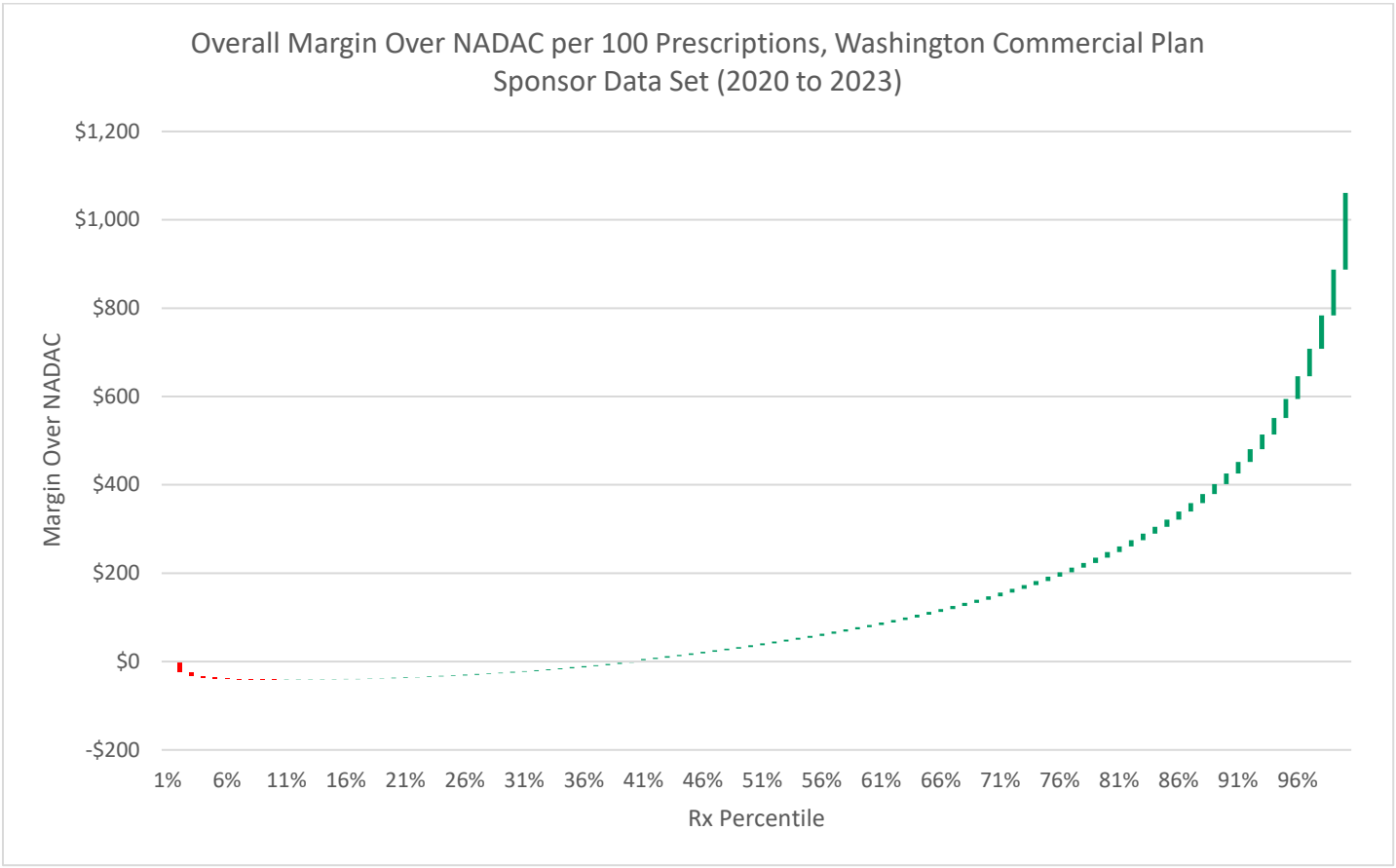
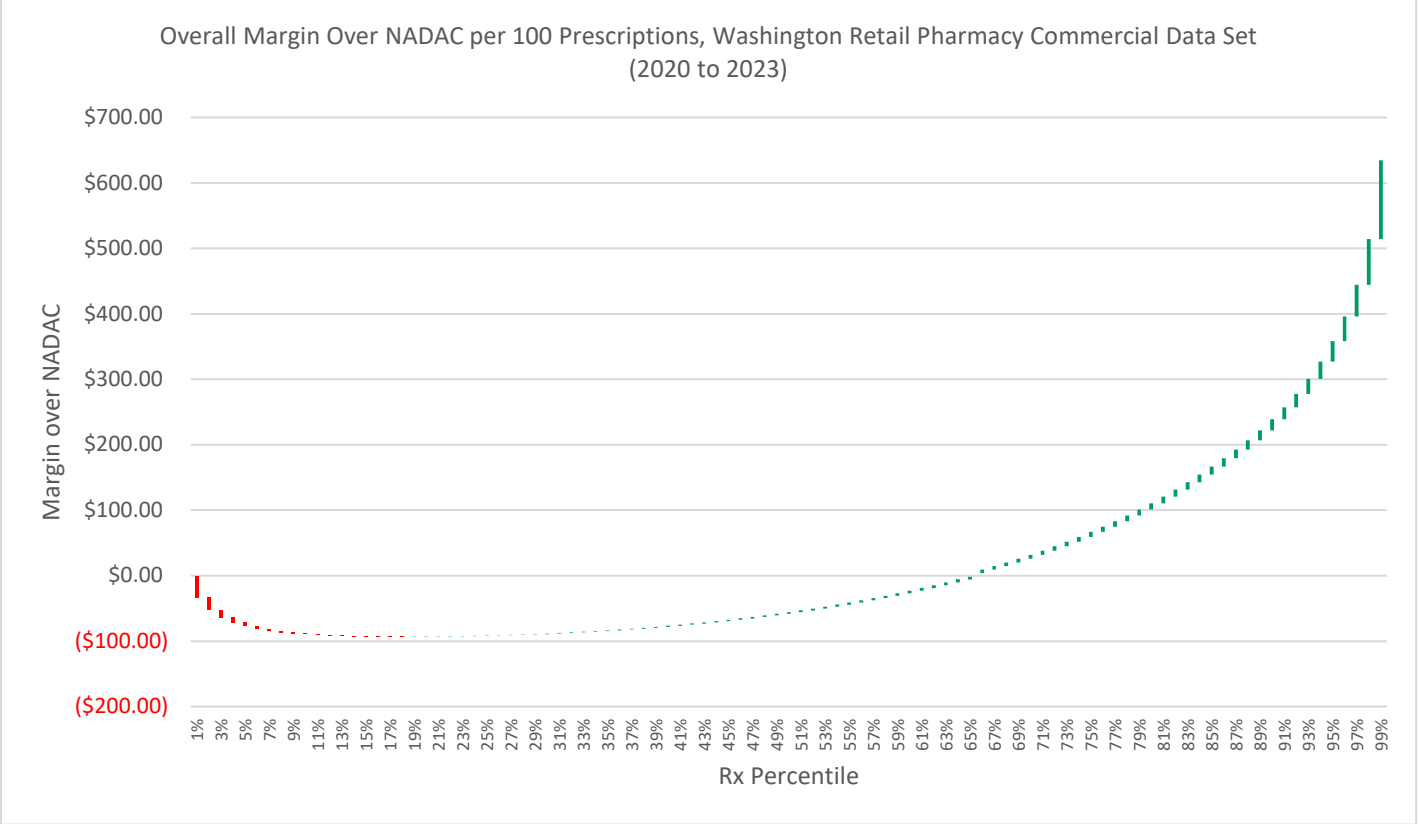


Figure 21: Overall Margin Over NADAC Per 100 Prescriptions, Washington Retail Pharmacy Commercial Data Set (2020 – 2023)



In reviewing **Figures 20 & 21**, we begin by recognizing that retail community pharmacies were reimbursed below drug acquisition costs to a greater extent than plan sponsors are charged less than acquisition costs for drugs. To be specific, the first 11% of claims in plan sponsor data is priced below the underlying drug cost, whereas pharmacies are reimbursed below the underlying drug costs for the first 18% of claims. This observation is a result of a variety of factors, not the least of which is that the first claim is roughly $23 below cost for plan sponsors compared to $33 below cost for the retail pharmacy claims. The starting 'hole' being different compounds throughout the analysis, as each step is incurring differences across the claims such that at the end, plan sponsors are charged $172 above drug costs in the 99th percentile compared to $120 above cost reimbursements being given to pharmacies in the 99th percentile. Overall, the collective experience from studied Washington commercial plan sponsors suggests that accumulated costs are roughly equivalent to NADAC + $10.30, whereas the studied Washington retail pharmacy experience is equivalent to NADAC + $6.40. While we have not had commercial claims data to analyze in our previous public-facing studies, the data showcasing the pharmacy experience is roughly equivalent to our prior observations (adding a degree of validity to their findings).[40] [41] As such, the nearly $4 gap in experience managing retail drug costs warrants further investigation.

We know from **Figures 18 & 19** previously that the underlying the drug cost experiences are changing year-over-year. As a result, it seemed appropriate to limit the underlying claims data in those prior figures (**18 & 19**) to claims that had a NADAC price available on the date of service (either within the health plan or pharmacy provider data sets). In **Figures 22 & 23** (on the next page), we can see that the variability in pricing between health plan sponsor costs and retail pharmacy reimbursement is lower, but not fully eliminated, with this view than what was previously observed.

Figure 22: Comparison of Washington Commercial Brand Drug Costs with NADAC Values (2020 – 2023)

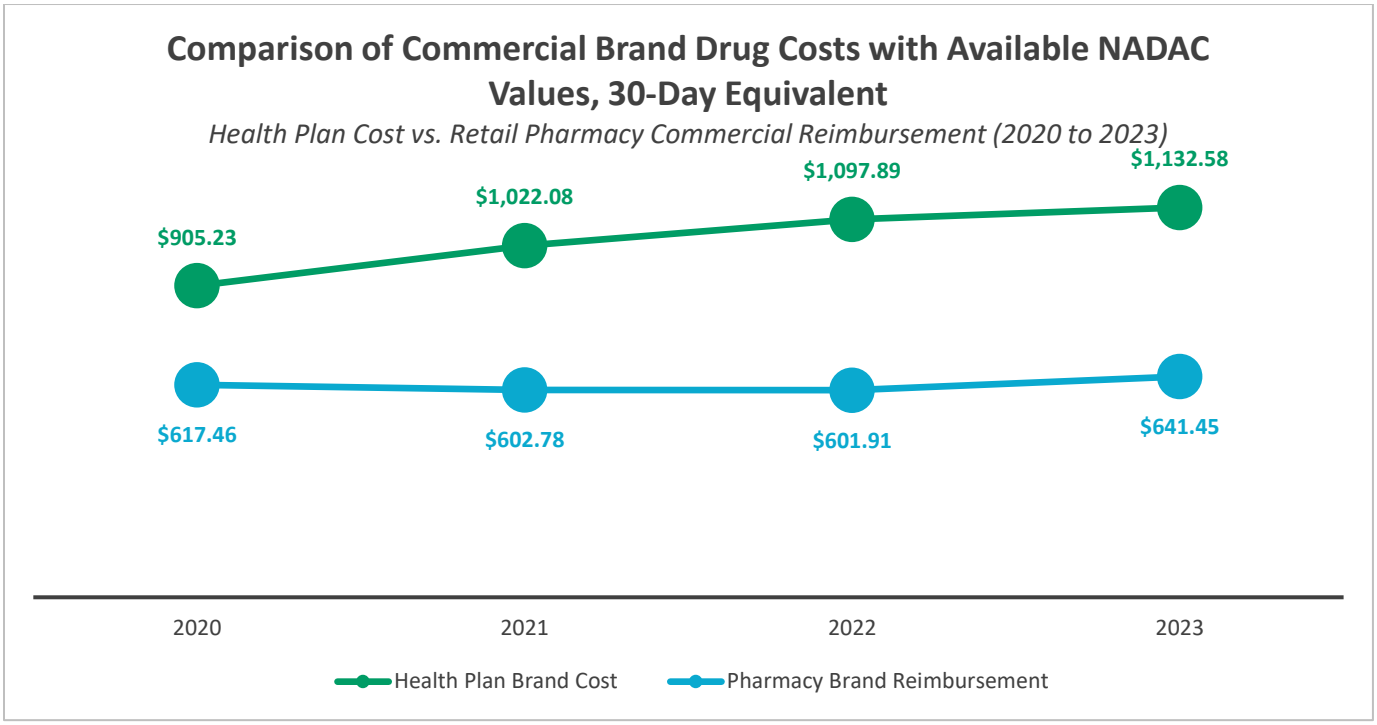
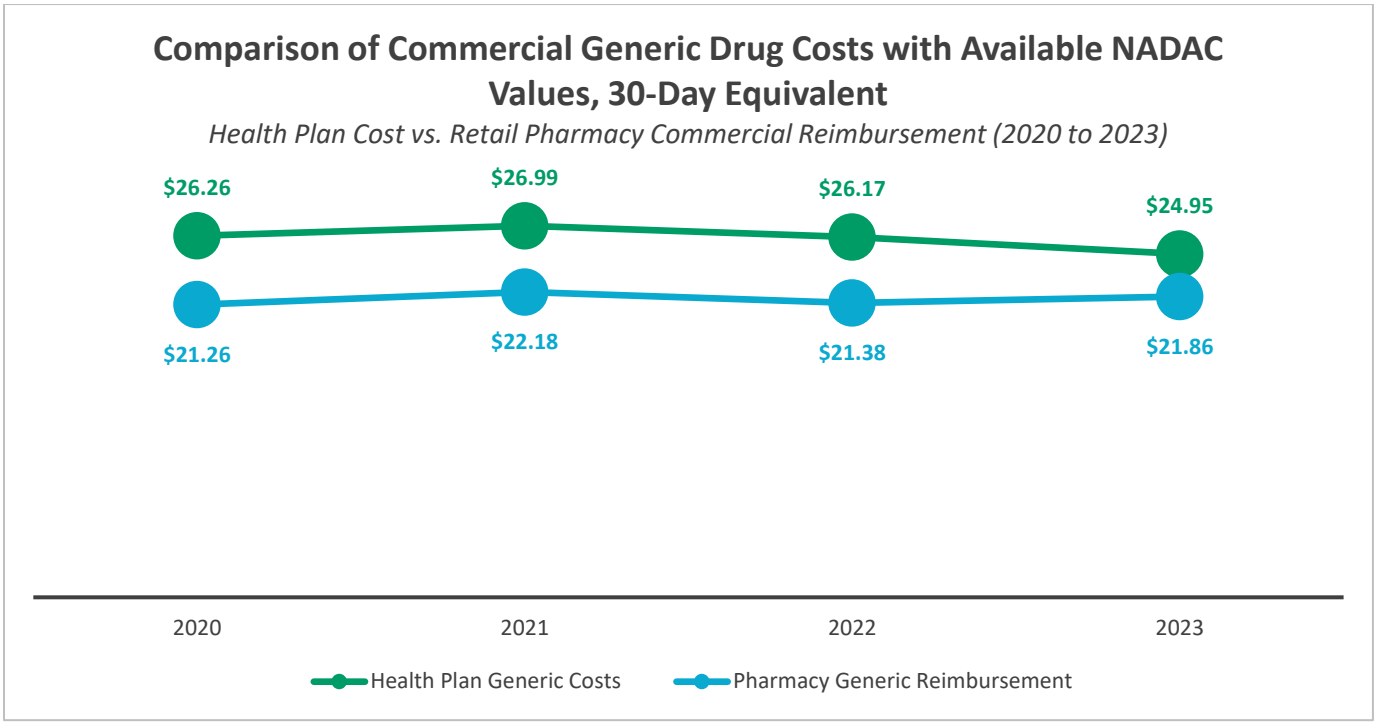


Figure 23: Comparison of Washington Commercial Generic Costs with NADAC Values



In reviewing **Figures 22 & 23** relative to our prior analysis, we can see that generic drug costs between retail pharmacies and plan sponsors (**Figure 23 vs. Figure 19**) are closer aligned than brand costs (**Figure 22 vs. Figure 18**). To be specific, in **Figures 18 & 19** in 2023, there was a $964.10 and $7.91 gap between brand and generic costs respectively, whereas in **Figures 22 & 23**, the gap is $491.13 and $3.09 respectively for

brand and generic. Again, these differences would contribute to potentially different perspectives on drug cost trends. While plan sponsors and retail pharmacies remain wider apart on their experiences of brand costs, their experience with generic costs are potentially closer aligned in this view, particularly over time.

The addition of NADAC into the data set enables us to investigate these differences further. For both brand and generic drug claims, it becomes possible to now compare the recognized drug price (either the cost to the health plan sponsor or the reimbursement to the pharmacy) to the underlying acquisition cost of the drug (i.e., NADAC), at least for the retail channel. As a result, we modified the information presented in **Figures 22 & 23** to be a stacked bar chart comprised of the underlying NADAC and the amount of money paid above NADAC for each (**Figures 24 & 25**; below and on the next page). Note that we have color-coded the NADAC bars in **Figures 24 & 25** for each to be consistent with our handling of the differences between plan sponsor-sourced data (green) and retail pharmacy-sourced data (blue) although both bars are presenting the same information.

Figure 24: Margin over NADAC Comparisons, Brand Claims, Plan Sponsor & Retail Community Pharmacy (2020 to 2023)

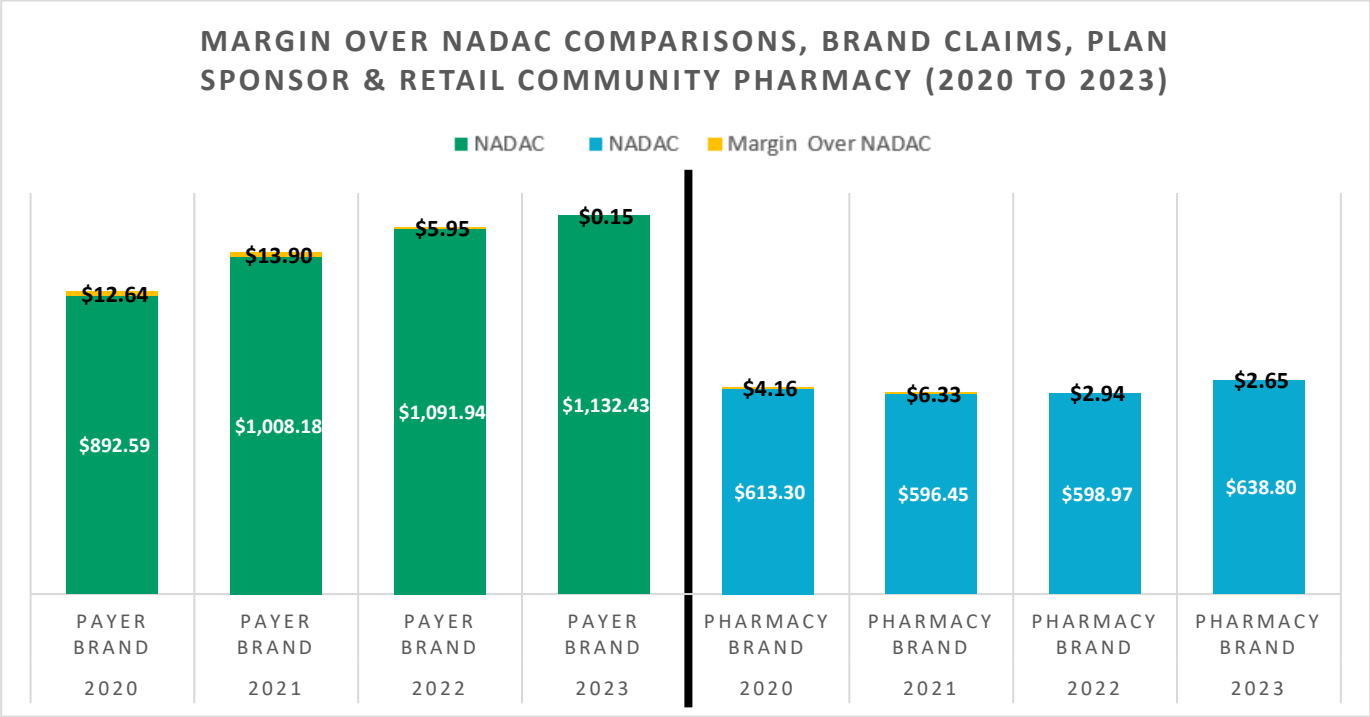
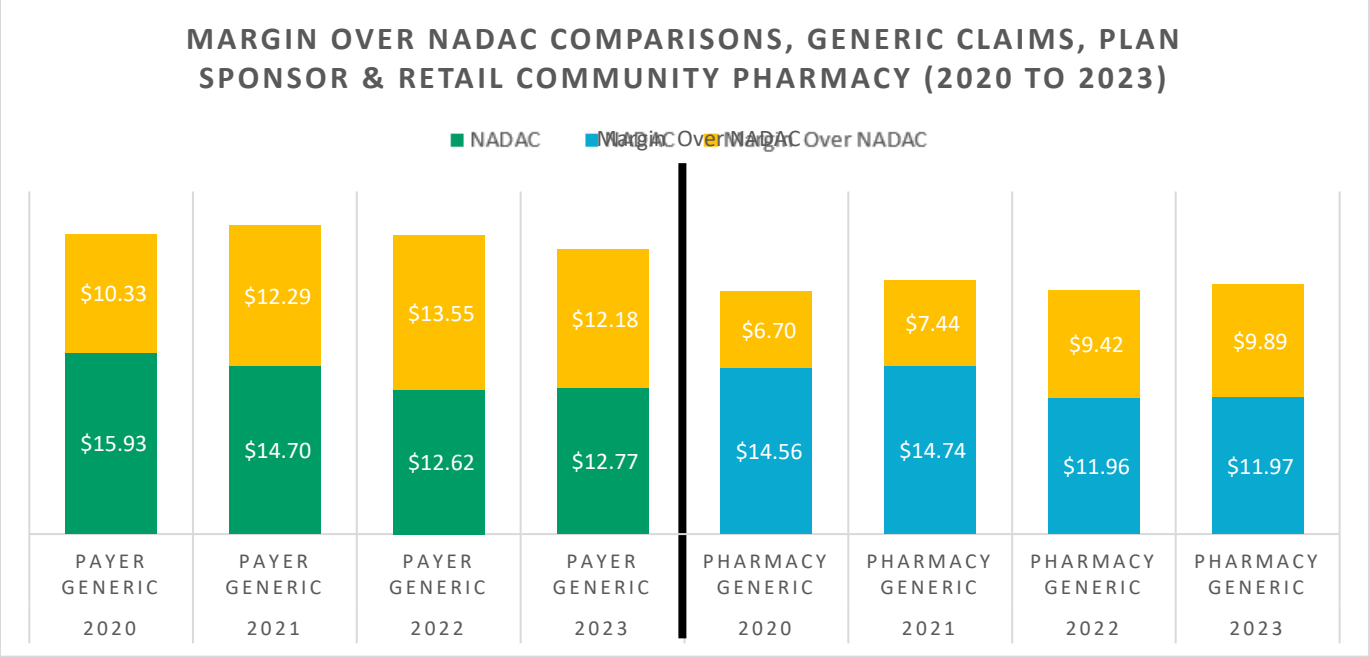


Figure 25: Margin over NADAC Comparisons, Generic Claims, Plan Sponsor & Retail Community Pharmacy (2020 to 2023)



In looking at **Figure 24**, it is apparent that the mix of brand drug products at the typical retail pharmacy is different from the mix of brand drug product costs experienced by health plan sponsors. The underlying acquisition cost for brand products for our studied Washington health plan sponsors is anywhere from 31% to 45% more expensive than what our studied Washington retail pharmacies are dispensing on a yearly basis. Alternatively, the underlying drug acquisition costs for generics are much closer aligned (generally less than $1 difference; **Figure 25**)

To examine this difference further, we examined the top 20 plan sponsor brand drug claims by cost over acquisition cost. **Figure 26** (below and onto the next page) identifies each drug product, its margin measure (average or median cost above NADAC), its rank within each margin measure (one through twenty), and whether there were any claims for the drug within the studied retail pharmacy claims data (✓ represents the presence of a retail pharmacy claim):

Figure 26: Top 20 Brand Drug Cost Above NADAC for Plan Sponsors per 30-day Equivalent (2020 – 2023)

Rank	Product Name	Median Cost Above NADAC	Observed Retail Pharmacy Claim
1	Ingrezza Oral Capsule 80 MG	$985.58	X
2	Gleevec Oral Tablet 400 MG	$961.63	X
3	Sutent Oral Capsule 25 MG	$842.16	X
4	Tarceva Oral Tablet 25 MG	$573.06	X
5	Austedo Oral Tablet 12 MG	$548.66	X
6	Sprycel Oral Tablet 100 MG	$468.62	X
7	Copaxone Subcutaneous Solution Prefilled Syringe 20 MG/ML	$467.55	X
8	Skyrizi Pen Subcutaneous Solution Auto-injector 150 MG/ML	$445.93	X
9	Stribild Oral Tablet 150-150-200-300 MG	$403.32	✓
10	Kaletra Oral Tablet 200-50 MG	$375.90	X

Rank	Product Name	Median Cost Above NADAC	Observed Retail Pharmacy Claim
11	Simponi Subcutaneous Solution Prefilled Syringe 50 MG/0.5ML	$344.47	X
12	Rebif Subcutaneous Solution Prefilled Syringe 44 MCG/0.5ML	$331.59	X
13	Neupro Transdermal Patch 24 Hour 4 MG/24HR	$190.86	✓
14	Invega Sustenna Intramuscular Suspension Prefilled Syringe 156 MG/ML	$167.07	✓
15	Qbrelis Oral Solution 1 MG/ML	$166.80	X
16	Topamax Oral Tablet 200 MG	$158.16	X
17	Cimzia Subcutaneous Prefilled Syringe Kit 2 X 200 MG/ML	$153.02	X
18	Austedo Oral Tablet 6 MG	$150.14	X
19	Topamax Oral Tablet 100 MG	$145.69	✓
20	Atripla Oral Tablet 600-200-300 MG	$145.08	✓

In reviewing **Figure 26**, of the health plan sponsor claims producing the most cost relative to the underlying drug's purchase price, they are generally not being dispensed at independent and small chain pharmacies like the ones in our study (despite these drugs having NADAC price points). Said differently, when we look for trends for drug reimbursement to retail pharmacies for these same high-markup drugs, the drugs are overwhelmingly not reflected within retail pharmacy claims for commercial payers within the pharmacy data we received. Of the 20 high-markup drugs within **Figure 26**, only five have the opportunity for comparison to actual pharmacy reimbursement experience. For the drugs that we can make comparisons to, pharmacy reimbursements for the claims that they do dispense within the above high-markup list, pharmacies are often being paid a hundred or more dollars below the health plan's recognized cost (**Figure 27** below).

Figure 27: Pharmacy Reimbursement Over NADAC for Brand Drugs within the Plan Sponsor Top 20, 30-day Equivalent (2020 – 2023)

Product Name	Pharmacy Average Reimbursement Above NADAC	Delta to Plan Sponsor
Stribild Oral Tablet 150-150-200-300 MG	$313.45	-$89.87
Neupro Transdermal Patch 24 Hour 4 MG/24HR	$22.95	-$167.91
Invega Sustenna Intramuscular Suspension Prefilled Syringe 156 MG/ML	-$32.25	-$199.32
Topamax Oral Tablet 100 MG	$37.77	-$107.91
Atripla Oral Tablet 600-200-300 MG	-$46.27	-$191.35

While the above should not be interpreted to state that the pharmacy reimbursement experience overlaps with claims the plan sponsor paid for (we don't know that due to data limitations), it is nonetheless a directional signal in the differences in reimbursement for the same brand, from the same manufacturer, resulting in different valuations of drug costs. Said differently, all drugs in **Figures 26 & 27** are brand-name products where there is only one manufacturer setting the drug list price (i.e., WAC and/or AWP), and yet drug costs to the health plan could apparently have been materially less (based upon the reimbursement experience within our retail pharmacy data relative to the plan sponsor). As evidenced by the retail pharmacy experience, some pharmacies are making less money on these claims relative to what other pharmacies are, suggesting that factors beyond brand drug list price behavior are important considerations to fully contextualize drug prices.

Opposite to our observations with brands, there is less variability in the underlying acquisition cost for generic products. The underlying acquisition costs for health plan sponsor generic drug claims are up to 9% more expensive than the underlying acquisition cost of retail pharmacy generic claims. Interestingly, despite the relatively similar drug ingredient costs experienced by both parties, payers are consistently recognizing higher charges above the underlying drug costs (i.e., acquisition cost as measured by NADAC) than yielded retail pharmacy reimbursements reflect.

Consider the generic drug costs independently experienced by both study participant groups in 2021. There was effectively no difference in the underlying product acquisition cost at the health plan sponsor and the pharmacy level (i.e., health plan sponsor generic acquisition costs averaged $14.70 per 30-day equivalent, whereas pharmacy acquisition costs averaged $14.74 per 30-day equivalent; see **Figure 25** previously); however, despite this, health plan sponsor costs were $12.29 above acquisition costs in this year (for a total of $26.99), whereas pharmacies were being reimbursed $7.44 above their cost (for a total of $22.18) [all per 30-day equivalent]. The markup difference in 2021 was approximately $4.85 per 30-day equivalent prescription, and this ~$4 difference was consistently observed across the years of our study (see **Figures 20 & 21** findings which demonstrated an aggregate ~$4 or so gap). Said differently, while the brand markup trends demonstrate larger gaps, they're less impactful overall, as **most prescriptions dispensed by pharmacies and paid for by health plan sponsors are generic**. The influence of the generic markup trend was most significant to the overall measure, which despite the relatively similar underlying drug acquisition costs in both plan sponsor and pharmacy data, were producing significantly divergent total costs (i.e., the margin above NADAC number being different).

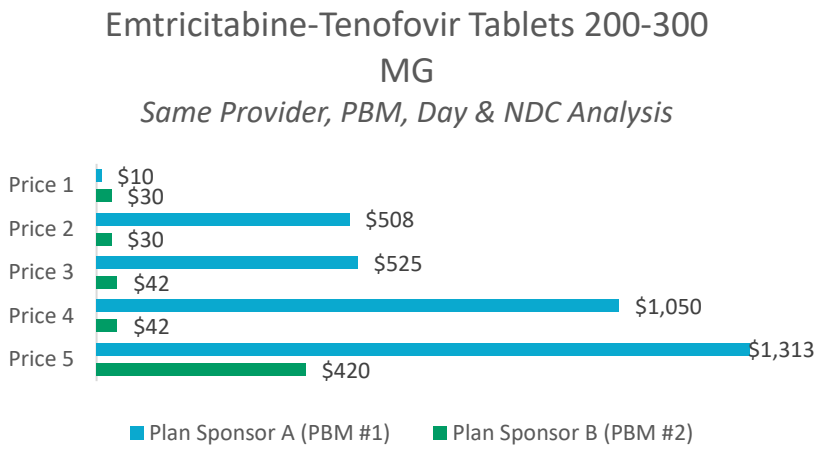
To investigate this, we first recognize that the retail pharmacy reimbursement trends in **Figures 21, 24, & 25** have similarities with our prior observations regarding the average level of profitability for their claims. As observed in our 2022 "**Understanding Pharmacy Reimbursement Tends in Oregon**" study, we saw that the average margin over NADAC for a retail pharmacy was approximately $7 per prescription for all payers.[vi][42] While our data covers a different state and timeline, our observation here in Washington is again that pharmacies are yielding approximately $6 above NADAC (i.e., drug acquisition costs) for commercial claims. We also note that, just like the Oregon study, the Washington pharmacy reimbursement in this study demonstrates that it is overwhelmingly the case that the drug ingredient costs are disproportionately responsible for the overall drug payment relative to the portions of pharmacy reimbursement derived from dispensing fees. We know from the NCPDP standard that reimbursement is a function of both the drug's ingredient cost and dispensing fee; however, the average dispensing fee within the commercial plans sponsor's retail pharmacy network was $0.70 while the independent and small chain pharmacy data set when limited to commercial claims averaged $0.20 (our Oregon study found that the average was between $0.11 to $1.44).[43] Given the similarities, it seems reasonable to investigate whether other previously observed trends are occurring within the Washington pharmacy data.

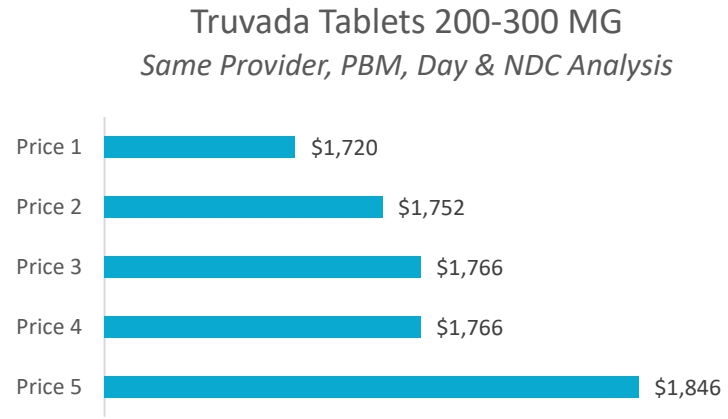
In the Oregon study data, one of the initial findings was that the same drug, dispensed by the same pharmacy, on the same day, under the same payer may potentially result in different drug payment. This finding was significant, as the prevailing understanding at the time was that drug manufacturers alone were responsible for drug prices. If that were true, differences in drug prices at this level would not be anticipated. In our Washington data, we again have evidence of the same pharmacy receiving different drug reimbursements from the same PBM even though the differing claims are for the same drug (at an NDC-level) dispensed on the same day. As demonstrated in **Figure 28** (on the next page), we find many examples

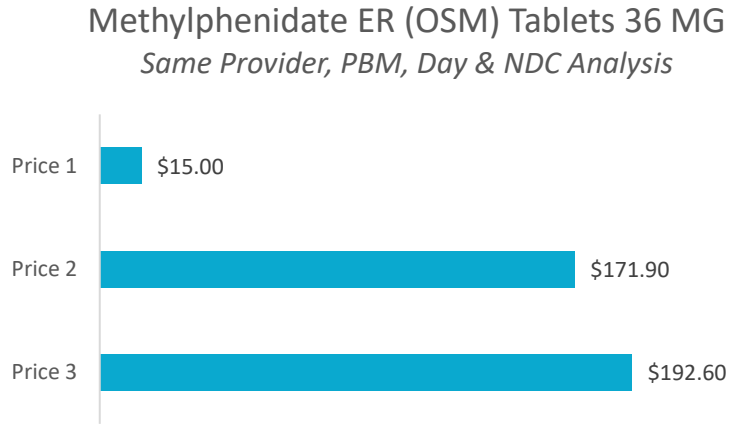
[vi] Oregon commercial insurer margin over NADAC was approximately $4 to $5 per prescription.

of differential PBM payment for the same drug across both brand and generic claims. The results in **Figure 28** are consistent with the results we found when analyzing drug costs within our 2023 report entitled "**Unraveling the Drug Pricing Blame Game**."[44] The differential pricing findings are suggestive that there is nothing inherently abnormal with our pharmacy observations and those within our prior reports.

Figure 28: Examples of Same Drug, Same Day, Same Pharmacy, Same PBM Resulting in Different Drug Reimbursements to Retail Pharmacy for Commercial Claims







However, unlike our prior reports, for the first time in our public-facing analyses, we also have commercial health plan sponsor data, and as we have established, the health plan data is suggesting that they're incurring higher costs relative to what pharmacies are reimbursed. As a result, it seems reasonable to investigate the potential for these divergent perspectives on drug costs between pharmacy providers and health plan sponsors for the potential presence of spread pricing.

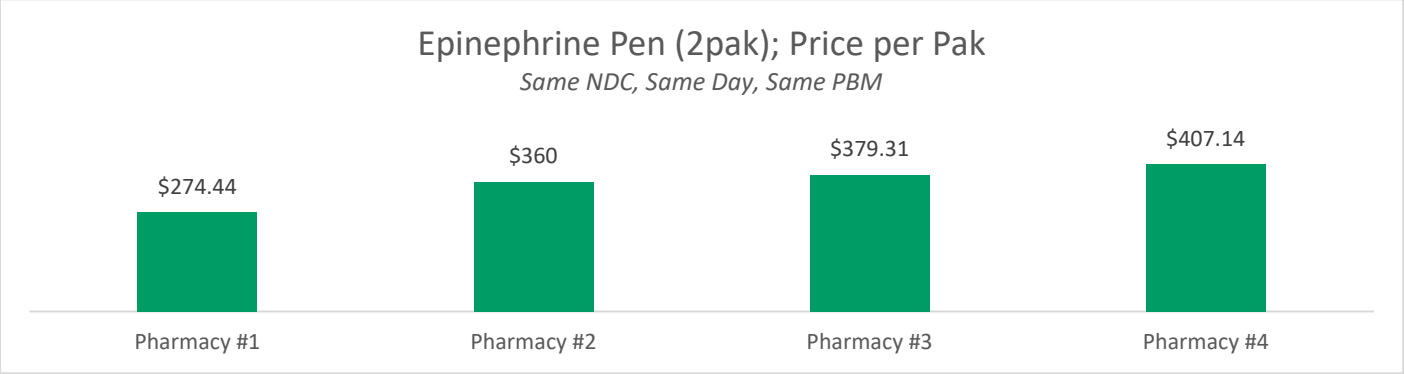
Spread Pricing

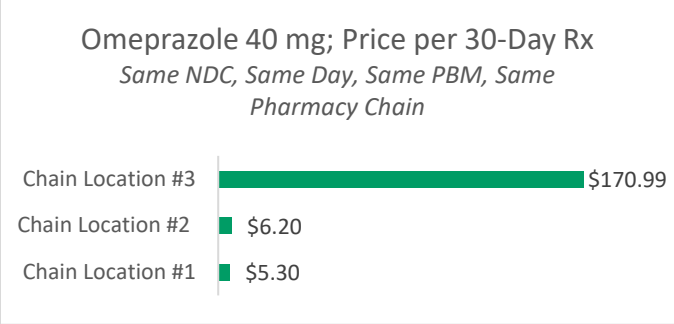
Spread pricing is the practice whereby the amount of reimbursement a pharmacy receives on a claim does not equal the cost the health plan incurs on the claim. Spread pricing can also be referred to as 'traditional pricing' or 'risk mitigation pricing.' As described by the PBM industry trade group, the Pharmaceutical Care Management Association (PCMA), "A risk mitigation pricing model, also sometimes referred to as spread pricing, provides employers and other health plan sponsors with predictability on the cost of their prescription drug benefit.[45]" According to PCMA, health plans need a variety of coverage options that allows business owners the flexibility to choose a plan design that meets their goals. The reasoning is: with spread, client costs will be held harmless from their enrollee's shopping choices – meaning that the drug charges to the health plan will not be set in reflection to the different rates of reimbursements given to pharmacies for the same set of drugs. As such, if the PBM-negotiated rate with the provider is more than the rate agreed to between the health plan sponsor and the PBM, the PBM will incur a loss on the claim. Conversely, if the PBM was able to negotiate a rate with the pharmacy that is less than what the health plan sponsor is charged, the PBM earns a margin.

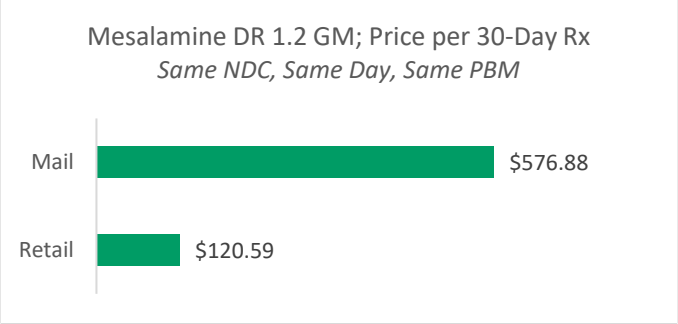
Source: https://www.pcmanet.org/pcma-blog/small-and-mid-sized-employers-rely-on-spread-pricing-for-predictable-fixed-pricing/05/31/2023/

To a certain extent, the Washington plan sponsor data supports PCMA's assertion that variability can exist within drug cost depending upon the choice of pharmacy. For example, we found within the plan sponsor data evidence of the same drug (on an NDC-basis), on the same day, having different payment amounts depending upon the pharmacy that dispensed the drug (**Figure 29** on the next page). As can be seen in **Figure 29**, the variability in reimbursements experienced by our studied Washington retail pharmacies is a philosophically shared experience among studied Washington plan sponsors, who can also see significant variance in billed prescription costs, even when the same PBM is adjudicating the same drug, on the same day, at the same pharmacy organization and/or across different classes of trade. The differences are such that the PBM-achieved price of epinephrine pens can be 48% more expensive from one pharmacy to another. Or a drug like mesalamine DR 1.2 gm can be 378% more expensive at mail-order versus retail. Or perhaps in the most extreme instance, a drug like omeprazole 40 mg can be more than 32 times more expensive despite the medication being filled at the same chain (just different locations of that chain).

Figure 29: Same Drug, Same Day, Same PBM; Plan Sponsor Differential Cost Examples







In recent years, PBMs have faced growing scrutiny from plan sponsors, journalists, and state and federal regulators over business practices that have inflated drug costs and allowed the previously overlooked pharmaceutical administrators to increase profits at a cost to taxpayers and consumers.[46] [47] [48] This practice of spread pricing has become one of the primary focal points of that industry scrutiny.

Our prior work has found strong evidence of spread pricing in Medicaid programs in New York, Illinois, and Michigan, while state government work in a number of other states have definitively quantified significant spread pricing issues in their state's Medicaid programs as well.[49, 50, 51, 52, 53, 54, 55, 56, 57] In 2018, Ohio reported finding around $225 million in PBM spread in one year (and an additional $20 million in spread from other insurer/PBM subsidiaries), $208 million of which came from generic drugs (31.4% of gross generic cost).[58] Kentucky reported similar findings in their audit with an overall spread of $124 million (13% gross drug cost) in one year despite only 57.6% of all claims being transacted in a spread model.[59] Maryland's audit found $72 million in spread, amounting to a sizable $6.96 per prescription.[60] Lastly, Florida's analysis found $113 million in spread pricing.[61] With these Medicaid analyses and audits as a backdrop – as well as a federal push by some employer groups to prohibit the practice of spread pricing – we felt that sizing spreads in the commercial marketplace would add great insights and context to the current discourse.[62]

To investigate potential spreads within our commercial pharmacy claims data sets is challenging given that for privacy reasons, we did not ask for, and thus do not have, unique claim identifiers from our study participants. This means that while we have significant amounts of claims data from Washington pharmacies and significant amounts of claims data from Washington employers, we did not acquire the necessary data fields that could allow us to match exact claims that may overlap (i.e., unique pharmacy prescription number or unique claim transaction number).

That limitation notwithstanding, we attempted to quantify **likely spreads** based upon an algorithm (see **Methodology**). In short, we attempted to make drug cost comparisons across the plan sponsor and

pharmacy data based upon claims where the health plan sponsor incurred a cost for a specific medication that had the same NDC, quantity, days' supply, date of service, pharmacy provider number, and member out-of-pocket cost (i.e., patient cost share) under the same PBM as that of the pharmacy providers that participated in our study. While multiple potential matches resulted, we limited our comparisons to any claims where **there was only one match** between the provided health plan sponsor and pharmacy provider data sets. The results were put into our sub-analysis on 'spread pricing.' It should be recognized that this methodology is imprecise and subject to limitations. The most significant limitation is the rise of PBM partnerships with discount card programs to re-adjudicate claims during transmission.[63] Because it is increasingly common for commercial plan sponsors to re-direct claims from anticipated processors (based upon BINs) to competitor processors through discount card programs like GoodRx partnerships, it is possible that the identified claims with similarities are not actually the same claim. Nevertheless, we believe our findings regarding 'spread' are directionally correct but would require further investigation to confirm.

Of the millions of claims within our data sets, less than 1% of claims "matched" based upon the criteria we outlined above (approximately 20,000 records). Of the matches made, approximately 35% of the claims had a health plan cost higher than the pharmacy reimbursement amount, 17% had a health plan cost below the pharmacy reimbursement, and the remaining 48% had equal pricing. Interestingly, PCMA claims that roughly a third of plan sponsor clients are selecting spread pricing, which our findings are roughly aligned to (despite our imperfect methods of investigation).[64]

Plan Sponsor Cost Higher than Pharmacy Reimbursement

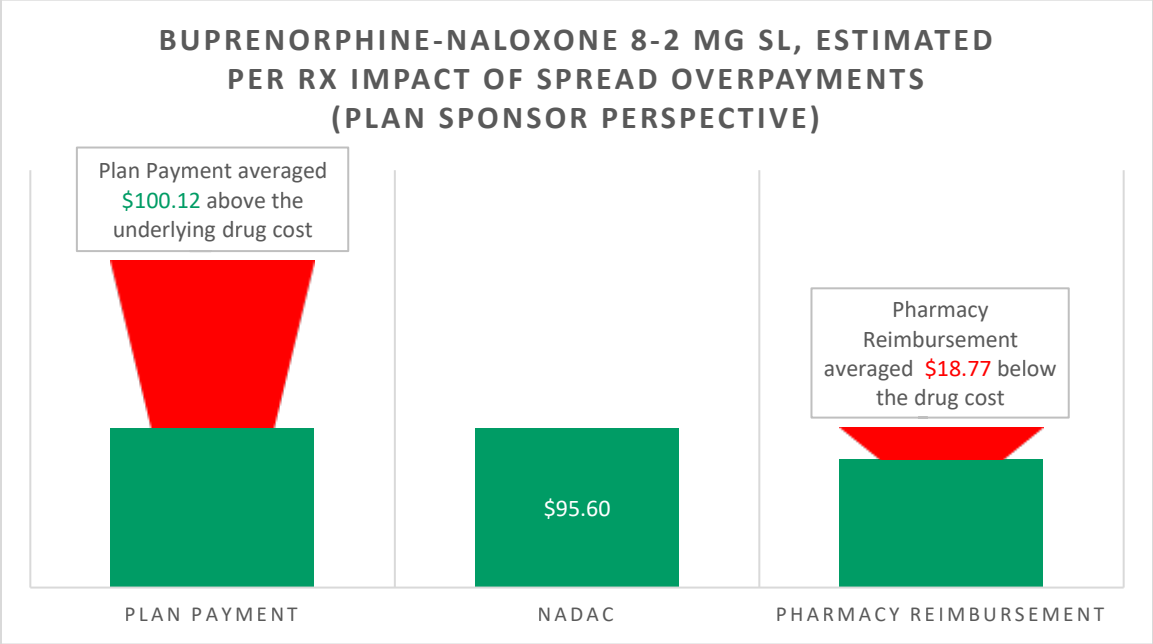
We do not know the PBM relationships employed by the health plans who provided data to our study. Some of them may be contracted via 'spread' arrangements, whereas others may be contracted via 'pass-through' arrangements. However, as we are investigating spread, we want to focus on the 52% of claims whose pricing is different between the observed health plan experience and the pharmacy provider reimbursement. Beginning with the 35% of matched claims where the health plan sponsor appears to have been charged more than the pharmacy provider was reimbursed (**Figure 30** below), we note that the spread is represented across brand and generic claims in a ratio that mirrors the overall utilization pattern between brands and generics (i.e., roughly 10% of claims with spread are brand drugs).

Figure 30: Spread Pricing Claims Resulting in Plan Sponsor Cost being Higher than Pharmacy Reimbursement (2020 – 2023)

The average spread observed on these claims is essentially the same regardless of whether the claim is brand or generic ($25 and $27 per claim respectively). However, the lower costs of generic claims means that the generic spreads resulted in PBMs charging plan sponsors roughly 80% more than the yielded payment to pharmacy providers. The challenges with PBM generic drug pricing to plan sponsors has been previously investigated; however, we believe that our methodology can provide unique insights into the potential challenges with 'spread' arrangements related to generic drug costs.[65]

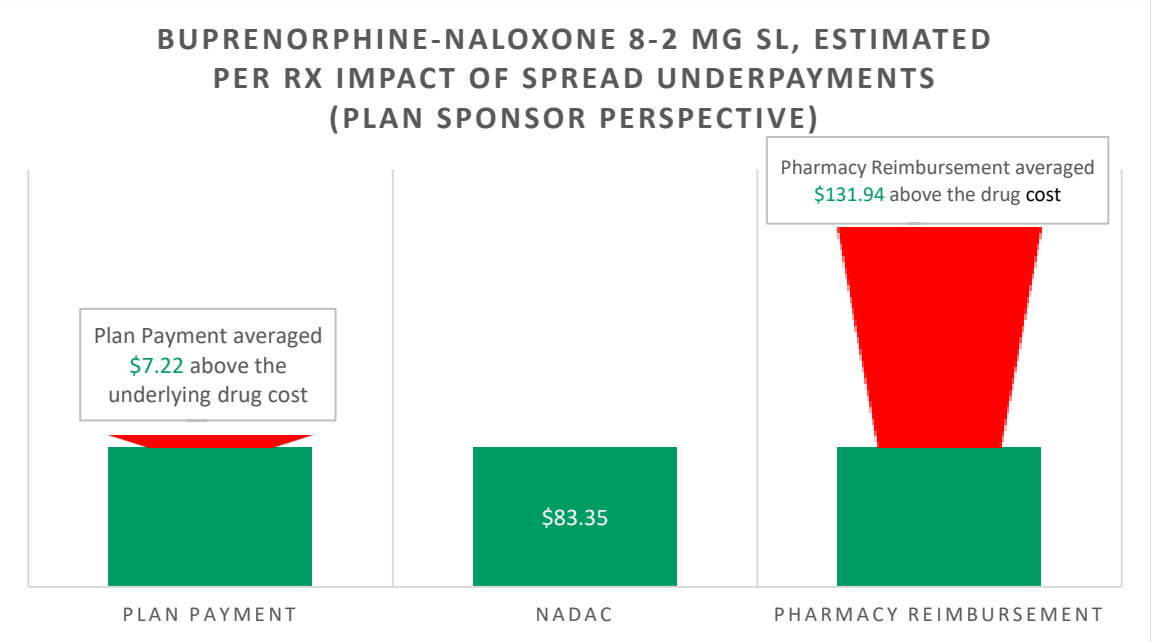
Consider for example, this subset of data suggests certain health plan sponsors were billed $195.73 per generic Suboxone (buprenorphine-naloxone) 8-2 MG SL prescription (used to treat opioid dependency), equivalent to a $100.12 health plan cost over NADAC, but adjudicated rates from matched billings from the pharmacy claims data suggest pharmacies are receiving on average of $76.83 in reimbursement per prescription for the same claim (or -$18.77 below NADAC). To be clear, the resulting gap is a $118 difference in perceived costs across the resulting overlapping claims. The results of this spread analysis for this drug are summarized in **Figure 31**. As you can see, while the pharmacies were paid 20% below the cost of this common addiction treatment, the plan sponsors were charged 155% more than those pharmacies were paid.

Figure 31: Buprenorphine-Naloxone Estimated Per Rx Spread, Plan Sponsor Cost Higher than Pharmacy Reimbursement



At the same time, the experience for generic Suboxone is not universally one that shows inflated 'spread pricing' is occurring. There are 16 generic Suboxone claims where the pharmacy provider appears to have been paid more for the claim relative to the charge to the plan sponsor. For these claims, the pharmacy provider on average made over $100 relative to what the plan sponsor was charged. The results of these claims are summarized in **Figure 32** (on the next page).

Figure 32: Buprenorphine-Naloxone Estimated Per Rx Spread, Plan Sponsor Cost Lower than Pharmacy Reimbursement



We note that the difference between the plan sponsor's perspective on these claims is roughly equivalent, in terms of dollar differences (i.e., the average overpayment is offset by the average underpayment; approximately $120 per Rx difference), but the end result of these differences is a net negative to the plan sponsor based upon the proportion of claims. There were more than three times the number of claims where the pharmacy was paid less than the plan sponsor was charged, meaning that this drug was a net negative experience to the plan sponsor (in terms of incurring higher costs relative to the pharmacy provider's reimbursement).

To be clear, generic Suboxone (buprenorphine-naloxone) prescriptions are not unique. Of all the matched generic Adderall (amphetamine and dextroamphetamine) prescriptions within our subset analysis, 100% had a higher cost to plan sponsors than reimbursement to pharmacy providers, with 71% of the pharmacy providers being reimbursed at a price below their acquisition cost (i.e., NADAC). Alternatively, while health plan sponsors incurred a cost above NADAC for 100% of the matched generic EpiPen (epinephrine autoinjector) claims within this subset analysis, 57% of those claims were paid below NADAC to the pharmacy provider on their reimbursement.

Figure 33 (on the next two pages) shows the top 10 drugs identified by their observed spreads. As can be seen in the chart, we are presenting the data for both sides of spread pricing; that is the top 10 where the plan sponsor was charged above the yielded pharmacy reimbursement but also the top 10 where the plan sponsor was charged below the yielded pharmacy reimbursement. We identified the top 10 based upon there being at least 10 claim observations, and when appropriate, we highlighted the value of claims associated with the drug on the opposite spectrum (i.e., if claim was within the top 10 of overpayments, then we also showed the value of any underpaid claims).

Figure 33: Top Spread Pricing Drug Products, Studied Washington Plan Sponsor Data vs Washington Retail Pharmacy Data (2020 – 2023)

#	Spread Category	Drug Name	Avg Cost Per Plan Sponsor Per Rx	Avg Reimbursement Per Pharmacy Per Rx	Per Rx Delta	Corresponding Spread Category	Per Rx Delta	Frequency Delta
1	Plan Cost > Rx Reimbursement	Emtricitabine-Tenofovir DF Oral Tablet 200-300 MG	$1,094.67	$592.44	$502	Plan Cost < Rx Reimbursement	-$211	Plan Cost Higher than Rx Reimbursement occurs 10-times more often
2	Plan Cost > Rx Reimbursement	Fluticasone-Salmeterol Inhalation Aerosol Powder Breath Activated 500-50 MCG/ACT	$409.16	$72.27	$336	N/A		
3	Plan Cost > Rx Reimbursement	Erythromycin Ethylsuccinate Oral Suspension Reconstituted 200 MG/5ML	$921.02	$630.64	$290	N/A		
4	Plan Cost > Rx Reimbursement	Buprenorphine HCl-Naloxone HCl Sublingual Film 8-2 MG	$456.19	$270.70	$185	Plan Cost < Rx Reimbursement	-$124	Plan Cost Higher than Rx Reimbursement occurs 3-times more often
5	Plan Cost > Rx Reimbursement	Fluticasone-Salmeterol Inhalation Aerosol Powder Breath Activated 250-50 MCG/ACT	$320.99	$173.85	$147	N/A		
6	Plan Cost > Rx Reimbursement	Wixela Inhub Inhalation Aerosol Powder Breath Activated 250-50 MCG/ACT	$268.05	$124.00	$144	N/A		
7	Plan Cost > Rx Reimbursement	Febuxostat Oral Tablet 80 MG	$175.80	$33.78	$142	N/A		
8	Plan Cost > Rx Reimbursement	EPINEPHrine Injection Solution Auto-injector 0.3 MG/0.3ML	$417.09	$276.58	$140	N/A		
9	Plan Cost > Rx Reimbursement	Buprenorphine HCl-Naloxone HCl Sublingual Tablet Sublingual 8-2 MG	$195.73	$76.84	$118	N/A		
10	Plan Cost > Rx Reimbursement	Descovy Oral Tablet 200-25 MG	$1,835.61	$1,718.54	$117	N/A		
1	Plan Cost < Rx Reimbursement	Emtricitabine-Tenofovir DF Oral Tablet 200-300 MG	$1,050.20	$1,261.51	-$211	Plan Cost > Rx Reimbursement	$502	
2	Plan Cost < Rx Reimbursement	Buprenorphine HCl-Naloxone HCl Sublingual Tablet Sublingual 8-2 MG	$90.57	$215.29	-$124	Plan Cost > Rx Reimbursement	$185	
3	Plan Cost < Rx Reimbursement	Propranolol HCl Oral Tablet 60 MG	$13.87	$51.87	-$38	N/A		
4	Plan Cost < Rx Reimbursement	Eliquis Oral Tablet 5 MG	$493.39	$530.85	-$37	N/A		
5	Plan Cost < Rx Reimbursement	Trelegy Ellipta Inhalation Aerosol Powder Breath Activated 100-62.5-25 MCG/ACT	$588.78	$624.44	-$35	N/A		
6	Plan Cost < Rx Reimbursement	Anoro Ellipta Inhalation Aerosol Powder Breath Activated 62.5-25 MCG/ACT	$418.61	$453.96	-$35	N/A		
7	Plan Cost < Rx Reimbursement	Atorvastatin Calcium Oral Tablet 40 MG	$8.77	$33.75	-$24	Plan Cost > Rx Reimbursement	$5	Plan Cost Higher than Rx

#	Spread Category	Drug Name	Avg Cost Per Plan Sponsor Per Rx	Avg Reimbursement Per Pharmacy Per Rx	Per Rx Delta	Corresponding Spread Category	Per Rx Delta	Frequency Delta
								Reimbursement occurs 6-times more often
8	Plan Cost < Rx Reimbursement	Nystatin Mouth/Throat Suspension 100000 UNIT/ML	$10.60	$35.20	-$24	N/A		
9	Plan Cost < Rx Reimbursement	Ondansetron Oral Tablet Disintegrating 4 MG	$11.09	$34.86	-$23	Plan Cost > Rx Reimbursement	$62	Plan Cost Higher than Rx Reimbursement occurs 1.2-times more often
10	Plan Cost < Rx Reimbursement	Labetalol HCl Oral Tablet 300 MG	$11.99	$35.31	-$23	N/A		

The data points in **Figure 33** present several interesting findings. First, 'spread' occurs on both brand and generic claims and results in both the plan sponsor being charged more or less than the pharmacy is reimbursed (this means that there are times when the pharmacy receives more than the plan sponsor is charged [and vice versa]). The data points demonstrate that just because the majority of the claims are associated with plan sponsor costs that exceed pharmacy payments, there may be claims for the same drug where the plan is being charged less than the pharmacy was reimbursed. The disparate financial incentives across the same drug highlights that spread pricing models may make it difficult for health plans to effectively manage their overall benefit design, costs, and medical loss ratio adherence, as desired financial incentives to influence health outcomes may be lost within the 'spread.' Said differently, attempting to encourage proper treatment of a medical condition through a financial incentive may not be possible because the incentive may exist sometimes and not exist in other situations due to 'spread' pricing.

Another consideration is the impact of spread pricing on the recognized value of the patient out-of-pocket (OOP) expenses. Within our methods, we held patient cost share amounts per claim as equivalent between the plan sponsor data and the pharmacy provider data as a key variable to evaluate 'spread.' This is because it would seem impossible for a PBM to present to a plan sponsor claims data that would get the patient out-of-pocket expenditures wrong. Said differently, unless an error has occurred in either the health plan sponsor or pharmacy data sets, it would appear fraudulent for the PBM to report patient cost share amounts that are different from what they actually directed pharmacies to collect from patients, regardless of the contractual 'spread' arrangement. However, while this methodology may enrich the value of patient cost share as a percentage of the total claim cost, what it does highlight is that the 'cost' of spread pricing depends upon one's perspective within the claim transaction.

In **Figure 34** (on the next page), we analyze the percentage of member cost share perceived on the claim based upon whether we evaluate the cost share amount (which is the same in both data sets due to the methodology) as a percentage of the health plan's cost or the pharmacy reimbursement. As can be seen within the selection of drugs highlighted, the patient out-of-pocket costs are a higher percentage of the pharmacy reimbursement than the associated health plan sponsor costs.

Figure 34: Member OOP Experience as a Percentage of 'Spread Claims,' % of Health Plan Cost vs. % of Rx Reimbursement

Product	Average Member Out of Pocket (OOP)	Member OOP as % of Health Plan Cost	Member OOP as % of Pharmacy Reimbursement
Atorvastatin Calcium Oral Tablet 20 MG	$1.17	21%	41%
Albuterol Sulfate HFA Inhalation Aerosol Solution 108 (90 Base) MCG/ACT	$8.79	16%	27%
Gabapentin Oral Capsule 300 MG	$8.51	28%	64%
Losartan Potassium Oral Tablet 100 MG	$4.03	38%	78%
Testosterone Cypionate Intramuscular Solution 200 MG/ML	$8.13	25%	42%
DULoxetine HCl Oral Capsule Delayed Release Particles 60 MG	$9.35	46%	83%
buPROPion HCl ER (XL) Oral Tablet Extended Release 24 Hour 150 MG	$9.11	52%	88%
Gabapentin Oral Tablet 600 MG	$8.00	34%	77%
Emtricitabine-Tenofovir DF Oral Tablet 200-300 MG	$95.27	9%	12%
metFORMIN HCl ER Oral Tablet Extended Release 24 Hour 500 MG	$3.97	34%	69%

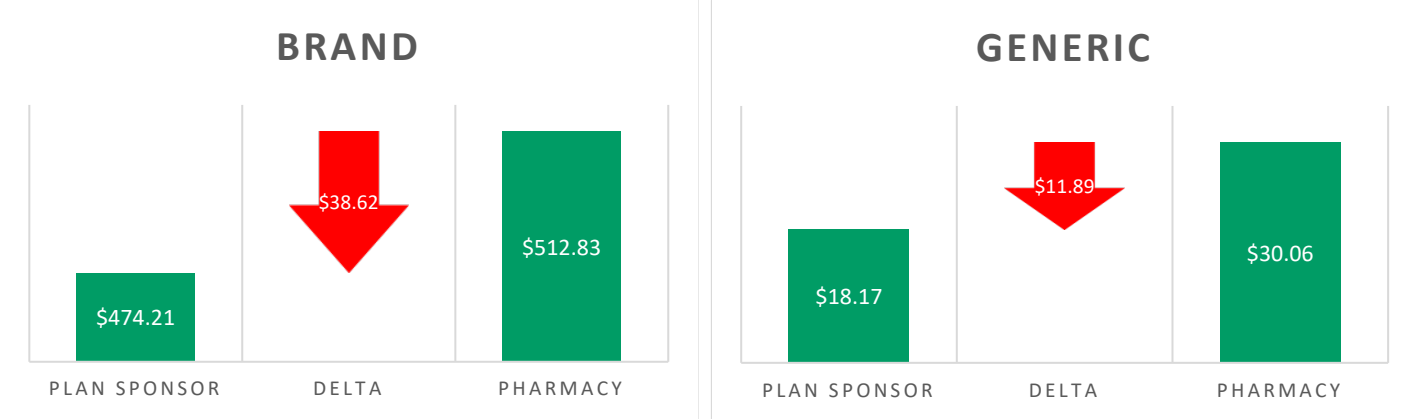
On the one hand, because patient cost sharing amounts are equal to both health plan sponsor and pharmacy provider, the health plan could be viewed as bearing the full cost of spread pricing. Any difference in the total claim price between what is paid to the pharmacy provider and what the health plan sponsor is charged can only be attributed to the amount the health plan was responsible for (as patient cost dollar amount is constant). This cost may be technically acceptable, because the health plan sponsor ultimately was the party that elected the benefit design of spread pricing (see PCMA statement re: plan benefit design flexibility). However, from an alternative perspective, the presence of spread devalued the health benefit to the patient. As a proportion of health expenses, the patient was bearing more drug costs at the pharmacy counter (as a percentage of pharmacy reimbursement). But because their health plan allows the PBM to engage in spread pricing, the health plan perceives the patient as bearing less cost sharing than they actually are. This can have knock-on effects to benefit design that are detrimental to patients. For example, the health plan may address rising health costs by increasing patient deductibles or cost-sharing amounts. An internal analysis of the claims would suggest that patients are not responsible for as much drug costs as they actually are paying (assuming the price to the pharmacy provider is the 'real' price). Or more simply put, if you are a plan sponsor considering health plan changes in the coming year based upon rising drug costs, you may perceive that your enrollees are bearing less costs than they actually are, which may lead you to shift additional cost sharing onto members beyond what you would have considered if you evaluated costs transparently. Alternatively, spread-based contracting may result in health plans seeking to acquire drugs outside of their PBM relationship to save on universally those perceived costs (such as alternative sourcing programs like international [i.e., Canada] or programs like Mark Cuban Cost Plus Drug Company). However, contracts with exclusive PBM service provisions may limit the ability for health plan sponsors to seek drug savings outside of their legacy PBM spread-based model.

That said, it should be recognized that not all claims will incur higher plan sponsor costs relative to pharmacy provider reimbursements under a spread arrangement. While less common in our sub-analysis, our next section seeks to better understand the claims where the health plan sponsor may have received the benefit of 'negative spread.'

Plan Sponsor Cost Lower than Pharmacy Reimbursement

While less than half as common, and already investigated to a degree, there is a portion of claims where the studied Washington health plan sponsor's cost was lower than what the studied Washington retail pharmacy providers were actually reimbursed on those likely-matched claims within this sub-analysis. As can be seen in **Figure 35**, the plan sponsor was charged $38.62 less than the pharmacy provider was reimbursed on average for these brand claims, and $11.89 less on the generic claims. In reviewing **Figure 35** in comparison to the earlier **Figure 30**, the brand under-charges to the health plan are roughly 50% greater than the over-charges, whereas the under-charges on the generics are roughly 50% less than the generic over-charges.

Figure 35: Spread Pricing Claims Resulting in Plan Sponsor Cost Lower than Pharmacy Reimbursement (2020 – 2023)



While most plans would identify brand drug spending as a significant and problematic area in managing their overall drug expenditures, we should note that proportionally, the over-performance on brand claims would not appear to be adequately 'paid for' across all claims. Because claims where the plan sponsor is being over-charged relative to the pharmacy provider's reimbursement outnumber the opposite by about 2-to-1, and because brand claims are only roughly 10% of overall utilization (see **Figure 17**), the plan sponsor is, in the aggregate, consistently getting charged more than the pharmacy provider's reimbursement. Taking an aggregate plan sponsor view on 'spread' claims results in the plan sponsor costs being approximately $165,000 higher than the reimbursement provided to pharmacy providers (approximately $8 more per prescription).[vii] To be clear, the plan sponsor saved approximately $35,000 on the claims where their costs were lower than pharmacy reimbursement; however, these savings were not sufficiently offset, as their costs were $200,000 higher when their cost exceeded pharmacy reimbursement (see **Appendix** to this report for details).

Taking a step back from our analysis, these results appear unsurprising within the context of spread pricing. The financial incentives of the PBM are to minimize losses and maximize opportunities to make margin, just like any other member of the prescription drug supply chain. Our analyses would suggest PBMs are broadly

[vii] Note our estimate of spread value per prescription aligns with the findings of prior audits of the practice ($6 to $8 per Rx range), see Ohio AG report

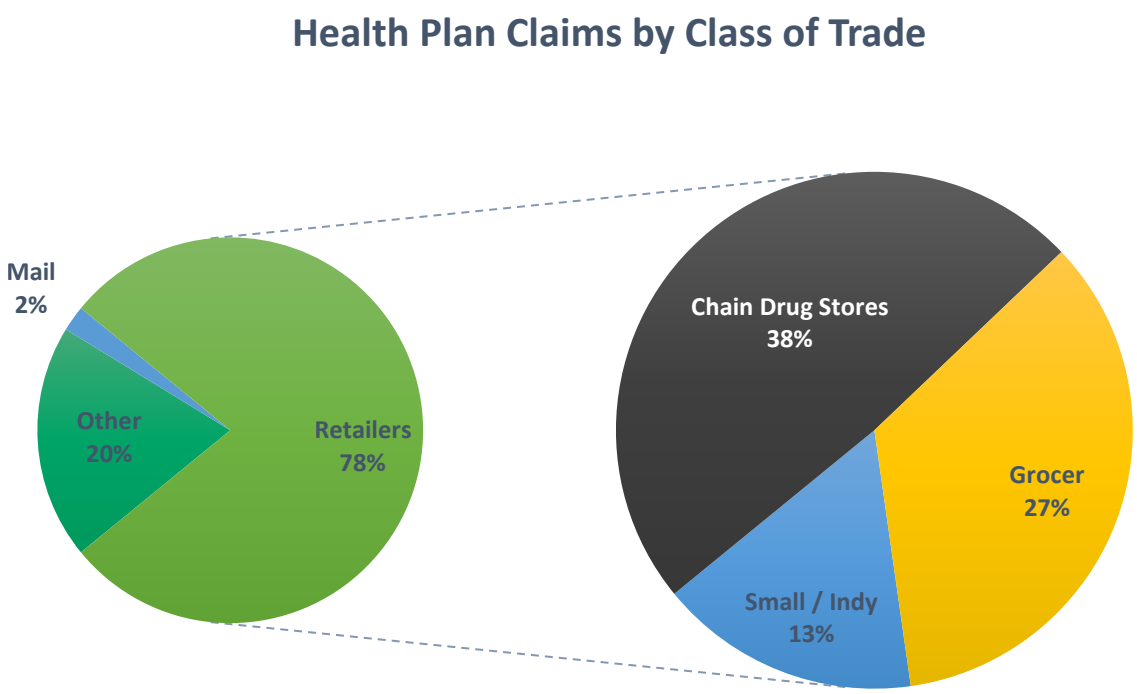
successful in ensuring that spread pricing models do not financially disadvantage their own opportunities to make money. If PBMs engaging in spread contracts with health plan sponsors bid the contracts at rate guarantees that are greater than their average pharmacy network reimbursement performance – meaning that the PBM would be receiving less dollars from plan sponsors than what they had to eventually pay out to pharmacies – it is highly likely that they would struggle to make money within the benefit. As with any business, if they struggle to make money, their long-term viability would be threatened and PBMs would contract and/or go out of business. Alternatively, if PBMs bid the contract closer to their highest-cost network pharmacies, then most covered prescriptions would be positioned to make them money. The analysis in this section suggests that the latter is occurring more frequently than the former (i.e., charging plan sponsors more frequently a greater amount than they reimburse pharmacies).

To investigate this dynamic, we return to our earlier observations regarding pharmacy classes of trade and seek to evaluate health plan costs across the broad type of pharmacies (chain drug stores [e.g., CVS, Rite Aid, Walgreens], grocery stores, small chain/independent pharmacies, and mail-order pharmacies [i.e., PBM affiliated/specialty]).

Health Plan Class of Trade Analysis

To conduct our analysis to investigate potential cost differentials between the various pharmacy classes of trade, all health plan sponsor claims were evaluated based upon the type of pharmacy that dispensed the drug. The type of pharmacy was identified within the studied Washington commercial plan sponsor data we received. As can be seen in **Figure 36** (on the next page), the majority of claims reflected within the plan sponsor data were dispensed at retail pharmacies (most of them being chain drug stores). A relatively small number of claims were dispensed at mail-order, and the remaining claims were dispensed at other pharmacy types (such as long-term care or clinics). For the purposes of our class of trade analyses in this report, "mail-order pharmacies" is comprised exclusively of mail-order and specialty pharmacies that are owned and/or affiliated with PBMs. For the uninitiated, this means that the resulting charges to the plan sponsors are largely the result of negotiations that occur between sister companies that exist under the name parent organization.

Figure 36: Health Plan Claims by Pharmacy Class of Trade, Studied Washington Plan Sponsor Data (2020 to 2023)

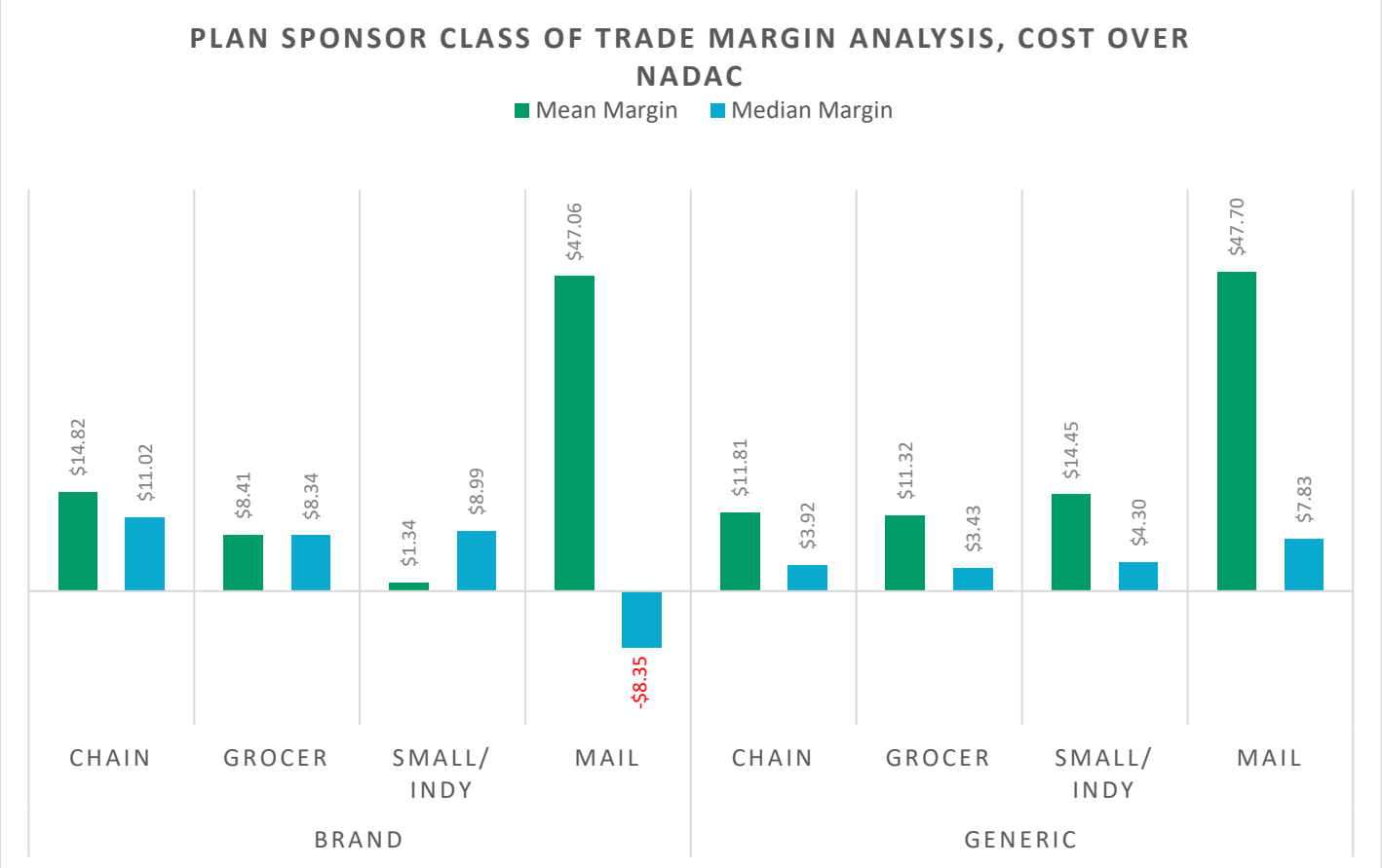


Having separated the studied Washington health plan sponsor claims data into the pharmacy classes in **Figure 36**, we returned to our evaluation by analyzing plan sponsor claims based upon the underlying drug (i.e. NDC) having a NADAC value. Overall, claims with a NADAC price covered 97% (2.34 million of 2.42 million) of plan sponsor drug utilization and 77% ($243 million of $318 million) of spend for this subset of data. Generic drugs had a NADAC price for 99% (2.14 million of 2.15 million) of billed claims and 94% of spend ($54.1 million of $57.6 million), while brands had a NADAC price for 76% (207,585 of 273,926) of billed claims and 73% of spend ($189.6 million of $260.4 million). With these numbers in mind, it's worth noting moving forward that any NADAC-based analyses of the pricing experiences of our studied Washington plan sponsors and retail pharmacies will cover an overwhelming majority of the pharmacy claims and reimbursement.

In this analysis, the primary rationale for limiting claims to those that have a corresponding NADAC price was to evaluate the potential financial incentives being provided by health plan sponsors to pharmacy providers (broadly). This is because we can compare plan sponsor costs relative to the underlying drug acquisition costs to evaluate the financial incentives being offered to the various types of pharmacy providers. Or more simply put, by identifying the underlying costs of medicines, we can also assess the degree to which certain drugs or certain pharmacy types may be more profitable than others, and from the plan sponsor's perspective, which drugs or pharmacy types might bear higher markups than others.

As can be seen on the next page (**Figure 37**), while pharmacy retailers represent some of the largest pockets of health plan drug utilization (**Figure 36**), there are significant disparities in the margin opportunities for different types of providers.

Figure 37: Plan Sponsor Class of Trade Margin Analysis, Cost Over NADAC (2020 to 2023)



In the competition for outpatient retail drugs, **Figure 37** identifies that the value associated with the pharmacy class of trade is differentiated, favoring mail-order pharmacies over other classes of trade to a significant degree. As the plan sponsor data shows, when it comes to the dispensing of medicines that typically flow through the retail channel, the greatest beneficiary from a profitability perspective would appear to be non-retail pharmacies. On generic drugs, the studied Washington plan sponsor data suggests that the average markups on these medicines in the mail-order channel are more than four times the estimated margins yielded by grocery store pharmacies. Meanwhile, for brand drugs, the studied Washington plan sponsor data suggests that the average markups on these medicines in the mail-order channel are more than 35 times the estimated margins yielded by small chain and independent pharmacies.

To demonstrate the impact of these markup differentials, we performed an analysis that sought to identify the cost to plan sponsors if the average margins across each class of trade were universally recognized. To do this, we kept the underlying NADAC cost the same, but added costs above NADAC based upon the averages in **Figure 37** to get the new calculated total claim cost. This analysis attempts to recognize that the drug's cost is theoretically best quantified in one manner (i.e., there will be one, most appropriate price for each drug [i.e., one atorvastatin price]; such concept is inherent to the idea of MAC list – one price to properly incentivize purchasing the lowest price product). However, because it is drug prices (and not dispensing fees[viii]) that are differentiated within pharmacy transactions, we get variable costs for the same drug, on the same day. As shown in **Figures 38 & 39** (on the next page), the most expensive repricing experience would

[viii] Recall, we previously identified the average dispensing fee in the retail pharmacy data is just $0.70.

be for the plan sponsor to recognize the total payment at the average price above the drug's cost associated with the mail-order pharmacy channel.

Figure 38: Plan Sponsor Costs Repriced at Avg Cost Over NADAC per Channel (2020 – 2023)

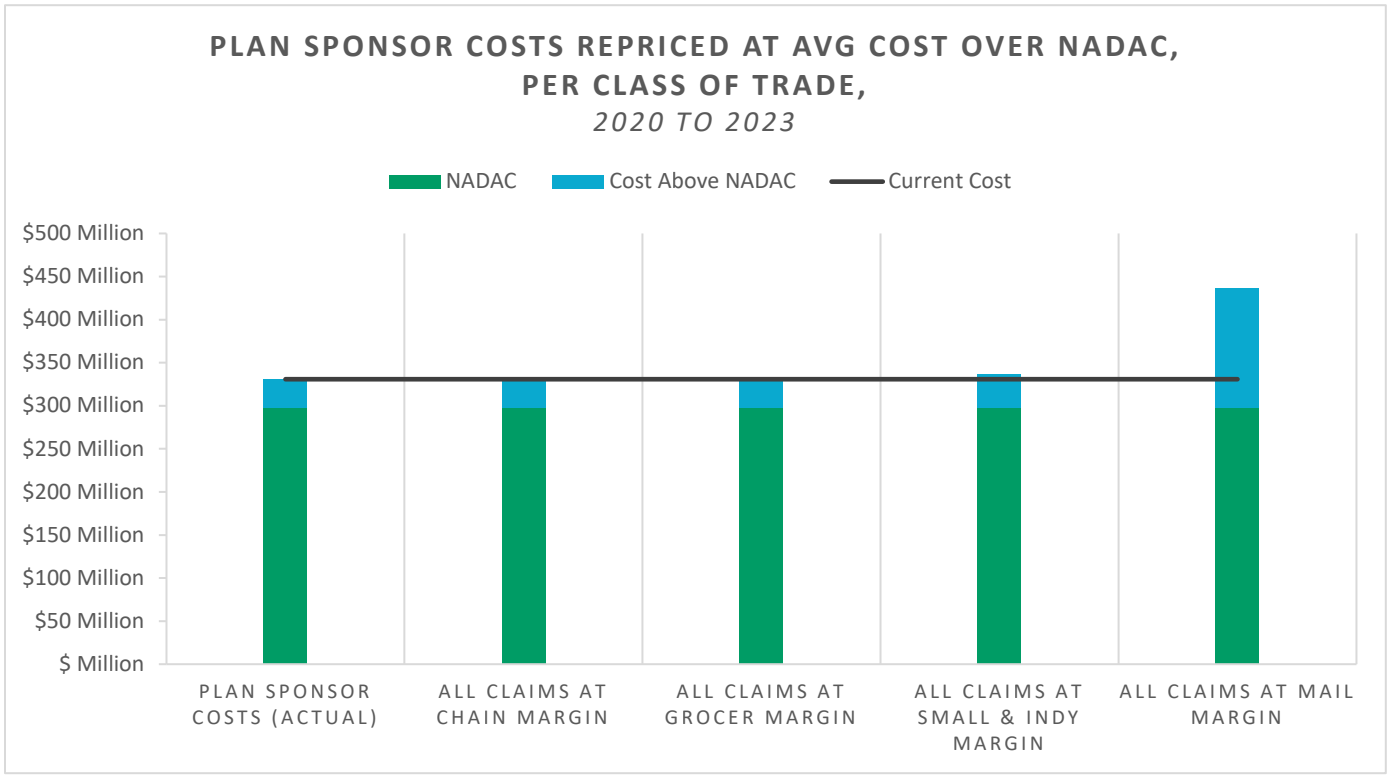
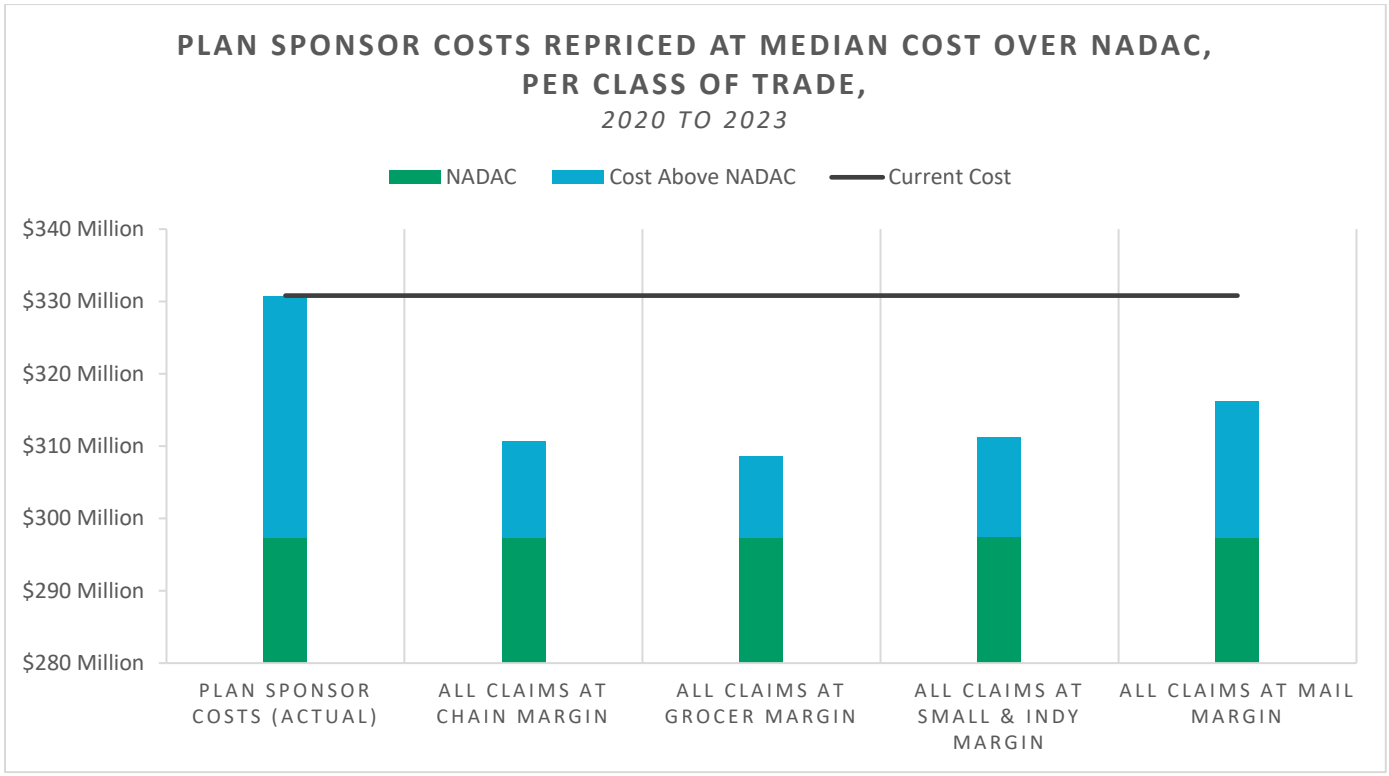


Figure 39: Plan Sponsor Costs Repriced at Median Cost Over NADAC, Per Class of Trade (2020 to 2023)



As can be seen in **Figures 38 & 39**, there is little difference between the retail pharmacy experience and overall plan costs within this exercise with the exception of the mail-order claims. To be specific, there is less than a 2% difference identified in **Figure 38** between actual plan sponsor costs and the reprice amount of chain, grocer, or small and independent; however, there is a 32% increase to costs with the mail-order margin experience (an approximate $100 million increase). For the median values (**Figure 39**), there is no real difference in the observation (specifically, the data shows a 38% increase with mail relative to the others rather than a 32% increase). Because our analysis keeps drug cost the same, the impact is such that the cost above drug acquisition cost triples for the mail-order experience relative to the other classes of trade. Said differently, if retail pharmacies were to recognize the typical mail-order pharmacy reimbursement experience, their margins would increase more than three-fold. While the typical mail-order pharmacy claim may appear low cost, the averages indicate that significant margins can be made in the aggregate. Because we are analyzing claims that have an accompanying NADAC data point, in essence, these results are suggestive that plan sponsor costs were more inflated for mail-order claims that could otherwise have been acquired via local pharmacies within the state (i.e., traditional retail drugs).

Because of the significance of the findings in **Figures 38 & 39**, we re-performed the analysis but this time focused on the plan sponsor cost above NADAC per day and then multiplied that value by 30 to get the 30-day equivalent amount (rather than a per prescription total). We undertook this analysis for the same reasons we did previously – mainly that in a system that values the drug cost over other forms of payment (i.e., dispensing fee), the inherent nature of mail-order pharmacy having more days' supply per prescription on average relative to retail may be responsible for some of the observations in **Figures 38 & 39**. For example, if a retail pharmacy yields a $10 markup average per prescription, that $10 may also be equivalent to a $10 cost above drug acquisition cost (i.e., NADAC) per 30-day (since most retail prescriptions are 30-day supplies). However, a mail-order prescription that produces a $30 cost above NADAC might be equivalent to a $10 above NADAC per 30-day supply (since the mail-order prescription is associated more frequently with a 90-day supply). While in our experience, most PBM contracts pay pharmacies at a lesser rate for 90-day supplies relative to30-day supplies – and technically speaking, the pharmacy's overhead is in essence the same regardless of how many days' supply are in a prescription – we felt that the comparison was worthwhile context regardless.

As observed in **Figures 40, 41, & 42** (on the next pages), we find that directionally, mail remains more expensive than other retail classes of trade (i.e., chain, grocer, and small & independents) with an average 30-day cost above NADAC of approximately double the other compared classes of trade.

Figure 40: Plan Sponsor Class of Trade Analysis, Cost over NADAC, 30-day Equivalent (2020 – 2023)

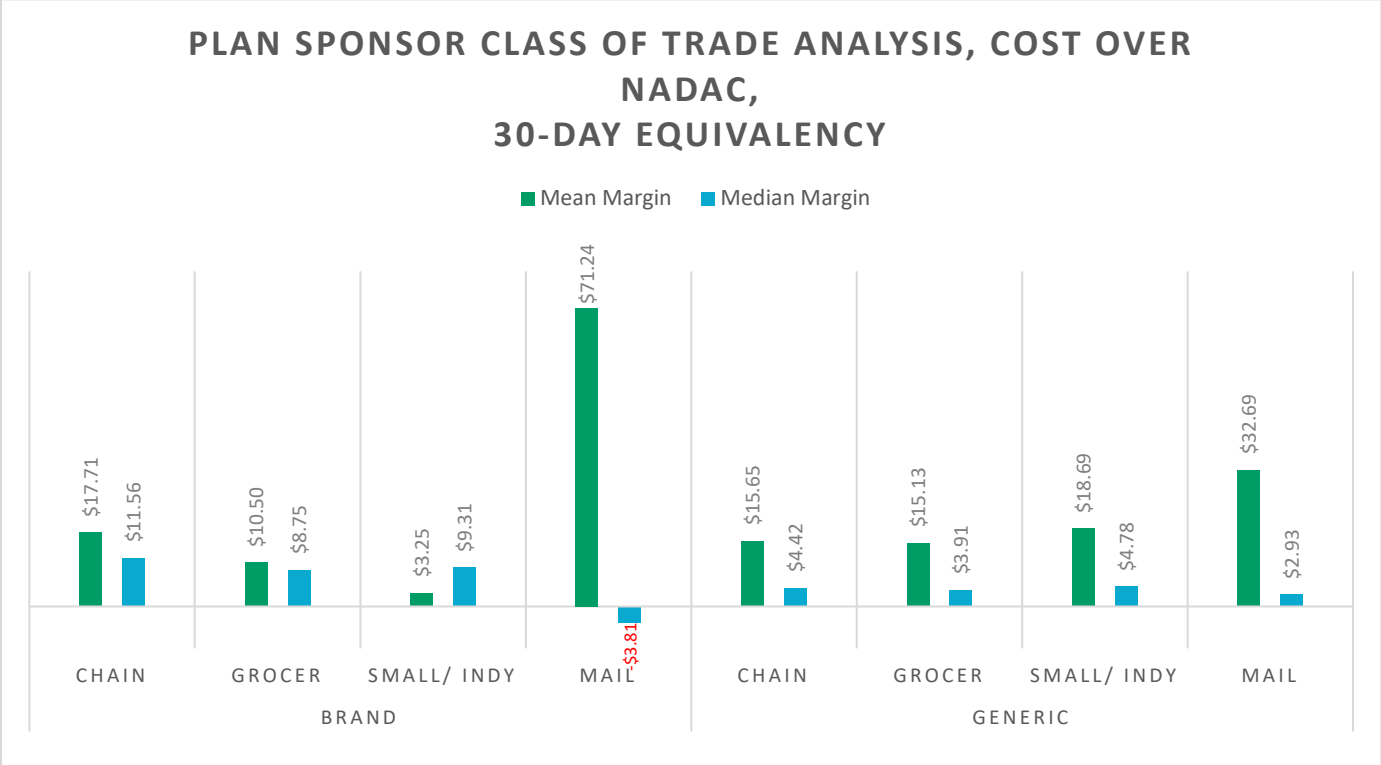


Figure 41: Plan Sponsor Costs Repriced at Avg Cost Over NADAC, 30-day Equivalent, Per Class of Trade (2020 – 2023)

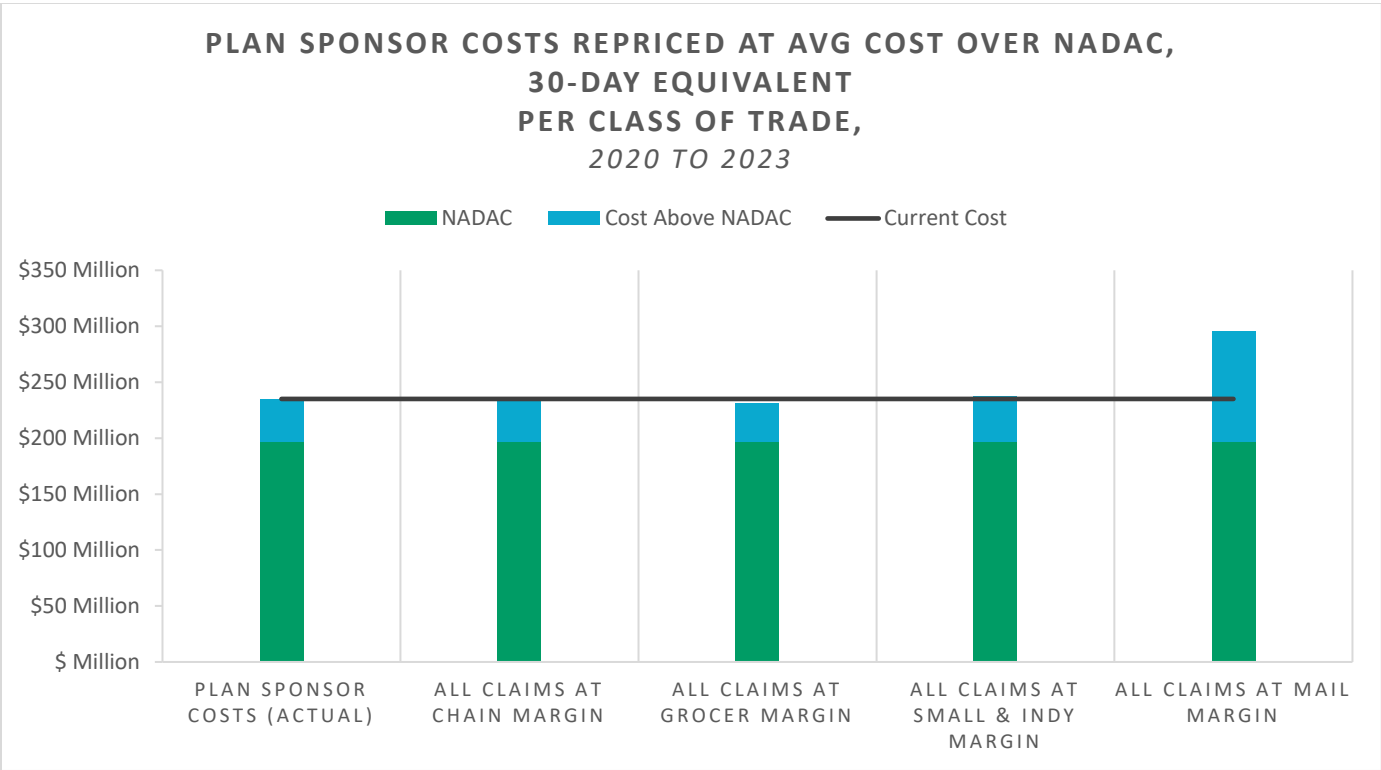
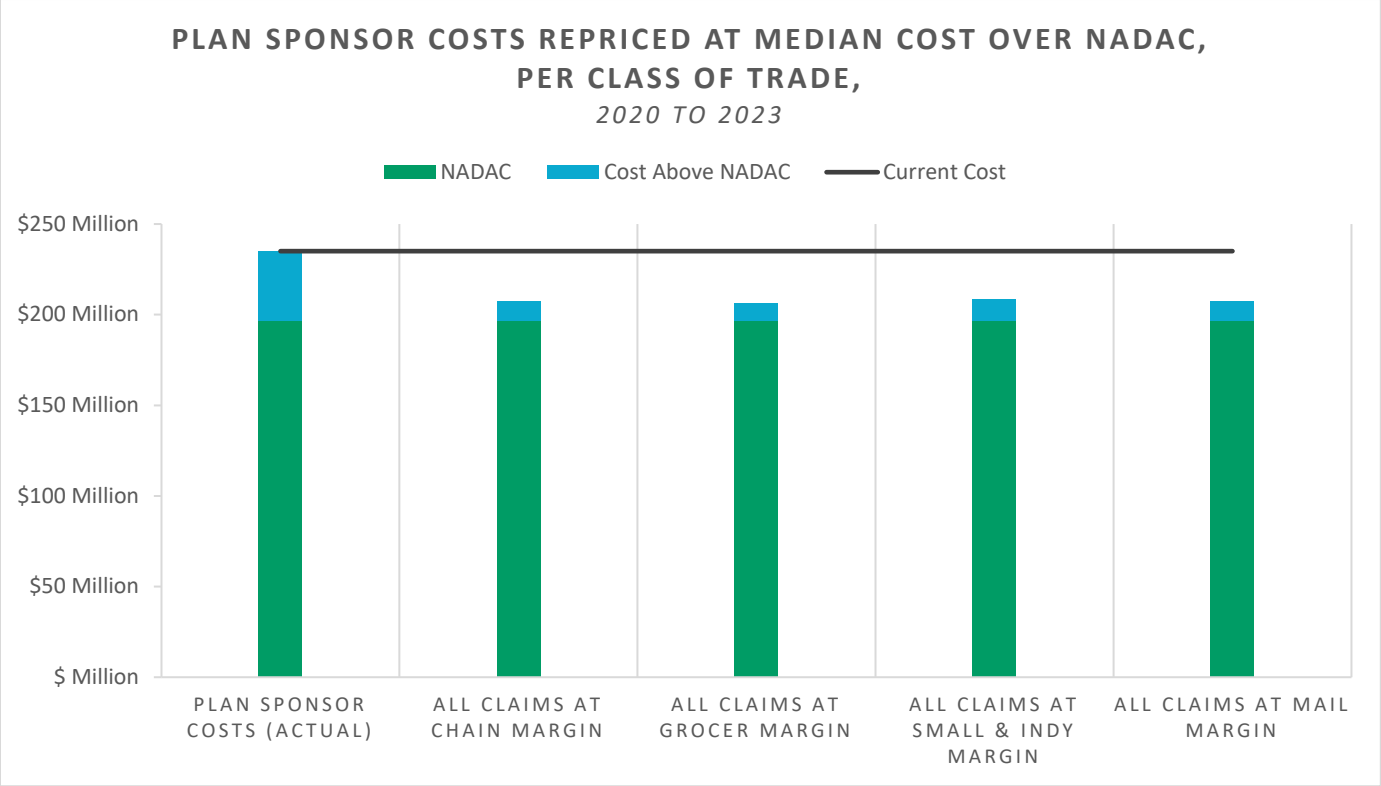


Figure 42: Plan Sponsor Costs Repriced at Median Cost Over NADAC, 30-day Equivalent, Per Class of Trade (2020 – 2023)



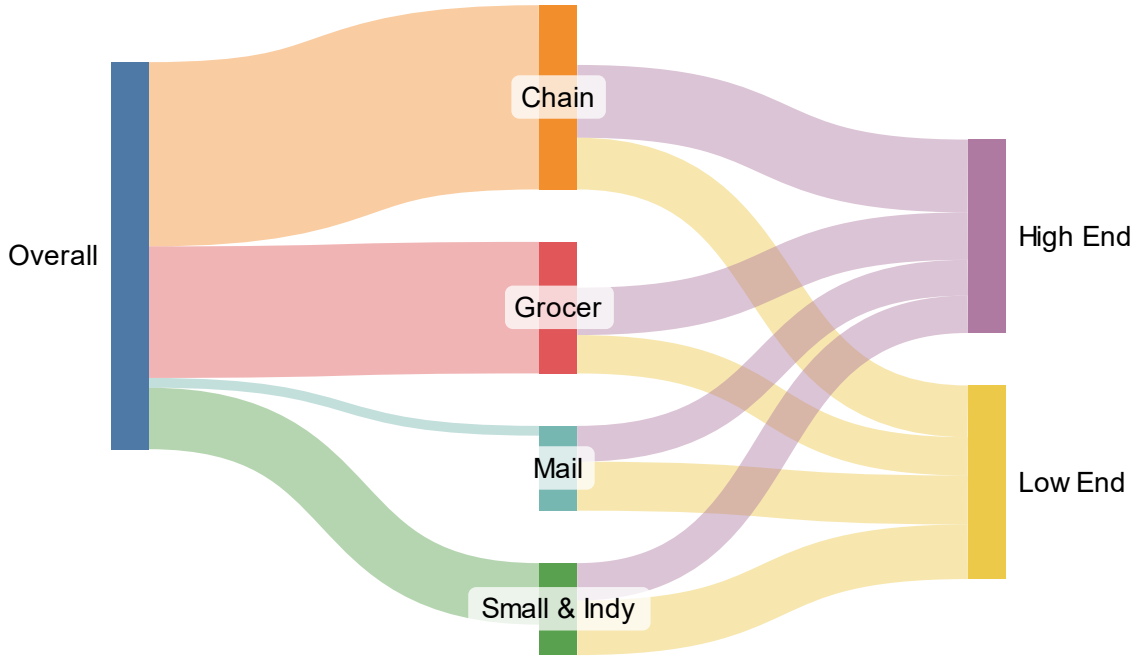
To evaluate what is driving these markup and margin disparities (**Figures 40, 41, & 42)**, we can attempt to do so by recognizing that while mail-order pharmacies represented just 2% of total covered plan sponsor prescriptions, those mail channels captured 18.5% of the 1% of most profitable claims based on margin over NADAC (normal distribution would suggest a 2% capture rate). For comparison, small chain and independent pharmacies represented 13% of total prescription fills and received 19.3% of the most profitable claims (i.e., top 1%); while chain pharmacies had 38% of total prescription fills and received 38% of the most profitable claims. At the same time, exposure to low-cost claims was disproportionately experienced as well. Of the bottom 1% of claims (i.e., paid the worst relative to NADAC drug costs), chain pharmacies captured 27% of the low-end claims, grocery stores captured 20%, mail got 25%, and small chain and independent pharmacies got 28% of the low-end claim volume. As can be seen in **Figure 43** (below), the results are unexpected relative to the overall proportionality of claims such that a concentration of winners and losers (in terms of margin opportunities for dispensing pharmacies) favor mail to a significant proportion.

Figure 43: Hit Rate Analysis for High-End & Low-End Claims, Washington Plan Sponsor Pharmacy Class of Trade Comparison (2020 – 2023)

Class of Trade	% of Overall Utilization	% of Top 1% Margin Claims	Hit Rate for Top 1%	% of Bottom 1% Claims	Hit Rate for Bottom 1%
Chain	38%	38%	1 to 1	27%	1 to 0.71
Grocer	27%	24.2%	1 to 0.89	20%	1 to 0.74
Small & Independent	13%	19.3%	1 to 1.48	28%	1 to 2.15
Mail	2%	18.5%	1 to 9.25	25%	1 to 12.5

The Sankey Chart (**Figure 44** below) demonstrates the flow of claims in **Figure 43** from overall utilization and into the highest and lowest buckets (of margin opportunity relative to NADAC).

Figure 44: Washington Plan Sponsor Pharmacy Class of Trade Margin Analysis, Top and Bottom 1% Claim Average Experiences (2020 – 2023)



Pharmacy Class of Trade	Mean Top 1% Claim Cost Above NADAC	Mean Bottom 1% Claim Cost Below NADAC
Chain	$325.23	-$67.83
Grocer	$340.58	-$70.89
Mail	$586.39	-$100.37
Small Chain and Independents (Small & Indy)	$479.15	-$163.64

Based on our studied Washington plan sponsor data, the most profitable prescriptions showed up at mail-order facilities in greater frequencies than its overall utilization would have suggested (size of light blue in the middle of **Figure 44**), particularly when compared to other classes of pharmacy trade. This finding is significant because the value of these high-end claims is critical to the overall viability of pharmacy business (see earlier **Figures 20 & 21**). Focusing on the mail order experience for example, the high-end value is such that it can 'pay for' almost 6 instances (technically 5.8) of the bottom 1% claims; however, the high to low experience is not a 6-fold difference. In essence, while mail may experience more lows, it experiences enough highs that the lows are paid for, and the overall experience is beneficial for the operation of the mail pharmacy. This observation within commercial plan sponsor data appears to directionally mirror similar analyses of these disparate pricing and access dynamics within Medicare and Medicaid (majority of pharmacy margin is concentrated into relatively few claims).[66] [67] [68]

To investigate this behavior further, we expanded our analysis to evaluate health plan sponsor drug costs for claims without a NADAC price. Recall that NADAC is built by using drug acquisition cost survey data provided by retail pharmacies from across the country. A limitation of NADAC as it is currently constructed today is that if a particular medication is not routinely dispensed within the retail channel, that drug will not have sufficient data point inputs from pharmacy providers that would necessitate the yielding of a NADAC

price. As many PBMs will limit distribution of what they designate as specialty drugs to only specialty pharmacies (more commonly, the specialty pharmacies that are owned by and/or affiliated with the PBM), it is understood that of the drugs that NADAC is lacking price points are generally considered specialty.

Analysis of Drugs without a NADAC Price

Because of this limitation – that the NADAC benchmark will lack pricing visibility into many drugs that are being predominantly dispensed outside of the retail channel, but instead at the PBM-affiliated mail/specialty pharmacies – it can be challenging to assess the high-markup medicines that don't have a NADAC value without any way to directionally quantify the going rate for pharmacies to acquire those medicines. Or more simply put, if PBM-affiliated pharmacies are dispensing a majority of a subset of specialty drugs where there are no NADAC values that point to the underlying costs of those medicines, we have little way to ascertain whether or not reimbursements for those medicines are appropriately and equitably sized – unless we can use other pricing benchmarks to provide the desired pricing insights.

In order to investigate these costs for 'non-NADAC drugs,' we need a benchmark outside of NADAC. We elected to use two benchmarks to have as much context around these products as reasonably available. The two benchmarks we relied upon were WAC, a reflection of the manufacturer's list price of the drug, and the other was the Texas Medicaid published retail drug price.[69] As a Medicaid program, Texas has an obligation to pay for drugs at AAC. As a result, they have had to develop a methodology to pay for retail drugs regardless of whether the drug has a NADAC. Texas Medicaid makes their pricing list available in the public domain, enabling us to get a sense for retail prices beyond what NADAC would enable in a way that has been vetted and approved by CMS as being a reasonable approximation for AAC.[ix] Texas Medicaid relies upon the following to generate its AAC (see side panel).

With the Texas Medicaid retail price and the WAC joined into the claims data based upon the date of service and NDC, we were able to evaluate drug pricing for claims without a NADAC price and draw comparisons between these benchmark prices and the costs incurred by studied Washington plan sponsors within their supplied claims data. As can be seen in the **Figure 45** (on the next page), the PBM pricing to the health plan sponsors suggests PBM cost management within each class of trade was relatively uniform (in terms of estimated margin), as estimated by either the Texas Medicaid retail price (i.e., AAC) or the drug's WAC.

Texas Medicaid Vendor Drug Program – Drug Pricing

Reimbursement of outpatient prescription drugs is based on the drug's Actual Acquisition Cost (AAC) according to the Covered Outpatient Final Rule of the Affordable Care Act of 2010. AAC is defined as an estimate of prices generally and is verifiable by invoice audit conducted to include necessary supporting documentation verifying the final cost to the provider. Prices are established using market or government sources, which include, but are not limited to:

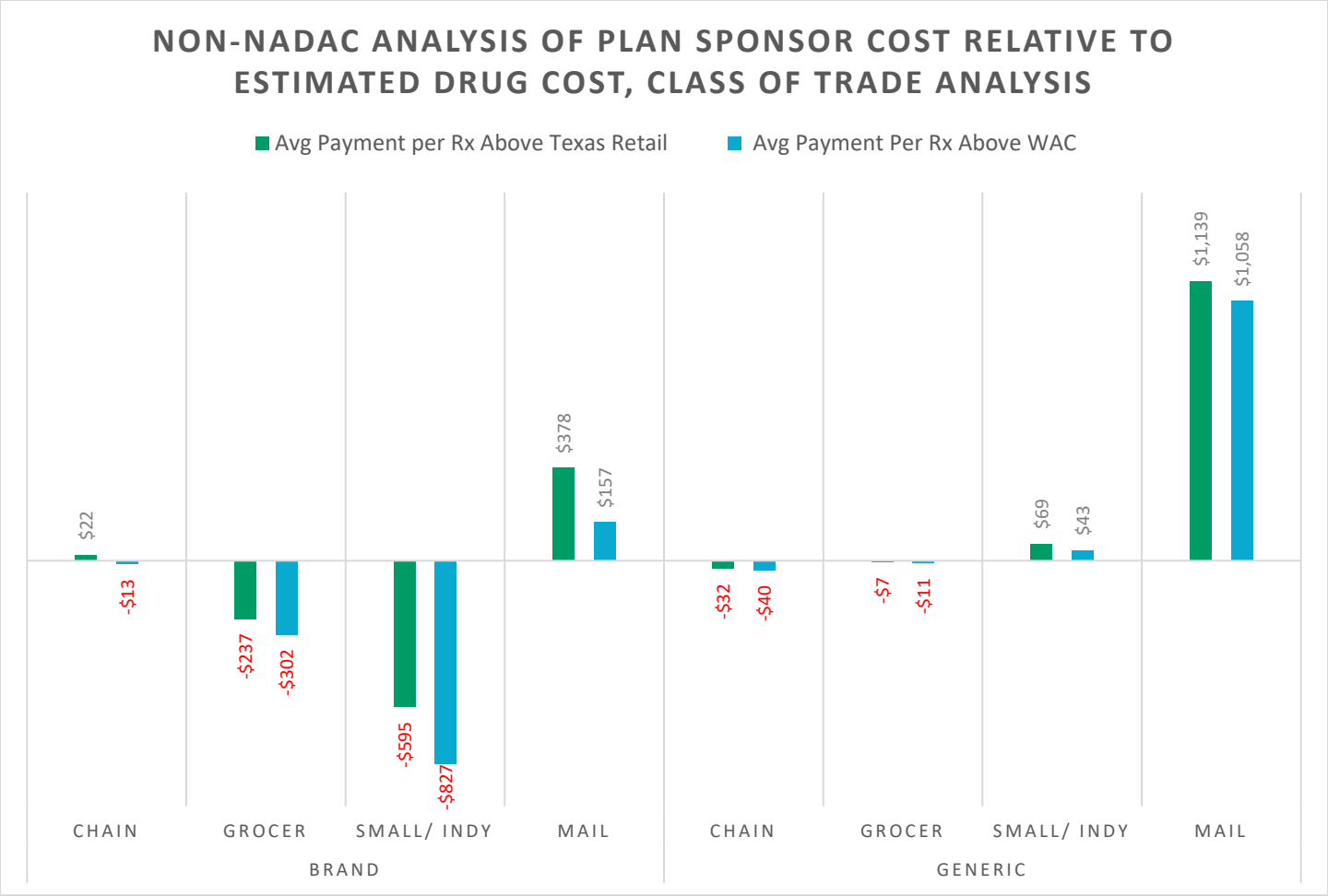
- Reported manufacturer pricing;
- First Databank;
- Redbook;
- Weighted AMP, as published by CMS;
- NADAC, as published by CMS; or
- Gold Standard pricing service

For more information see: https://www.txvendordrug.com/about/manuals/pharmacy-provider-procedure-manual/p-12-pricing-and-reimbursement/drug-pricing

[ix] As a Medicaid program, Texas Medicaid reimbursement methodology must be approved by CMS for use to price claims and pay pharmacies.

The primary exception was the degree of average expected margin, with mail-order pharmacies. Washington commercial plan sponsor mail-order claims are reimbursed by PBMs significantly higher than competitors for both brand and generic claims within this subset analysis. Interestingly, whether we rely upon Texas AAC or WAC is largely inconsequential to determining payments relative to estimated drug costs, as both produce similar estimates.[x]

Figure 45: Non-NADAC Analysis of Plan Sponsor Costs Based on Pharmacy Class of Trade Relative to Texas Medicaid Retail Price or WAC (2020 to 2023)



As can be seen in **Figure 45**, the typical mail-order pharmacy is making, in comparison to chain drug stores, roughly 20-times more margin relative to the estimated underlying drug cost for brand drugs and roughly 1,000-times more margin for generic drugs (note: the other classes are even more varied). However, while this data begs the question of what possible value could warrant such significant PBM compensation differences between mail and retail pharmacies, the difference between the retailers (chain, grocer, and small/independents) versus the mail-order pharmacy for non-NADAC claims could be due, at least in part, to differences in drug mix (i.e., mail-order pharmacies dispensing some drugs not dispensed within the other retail channels and vice versa). As we are investigating non-NADAC drug costs, we no longer have the base retail class of trade understanding within these claims.

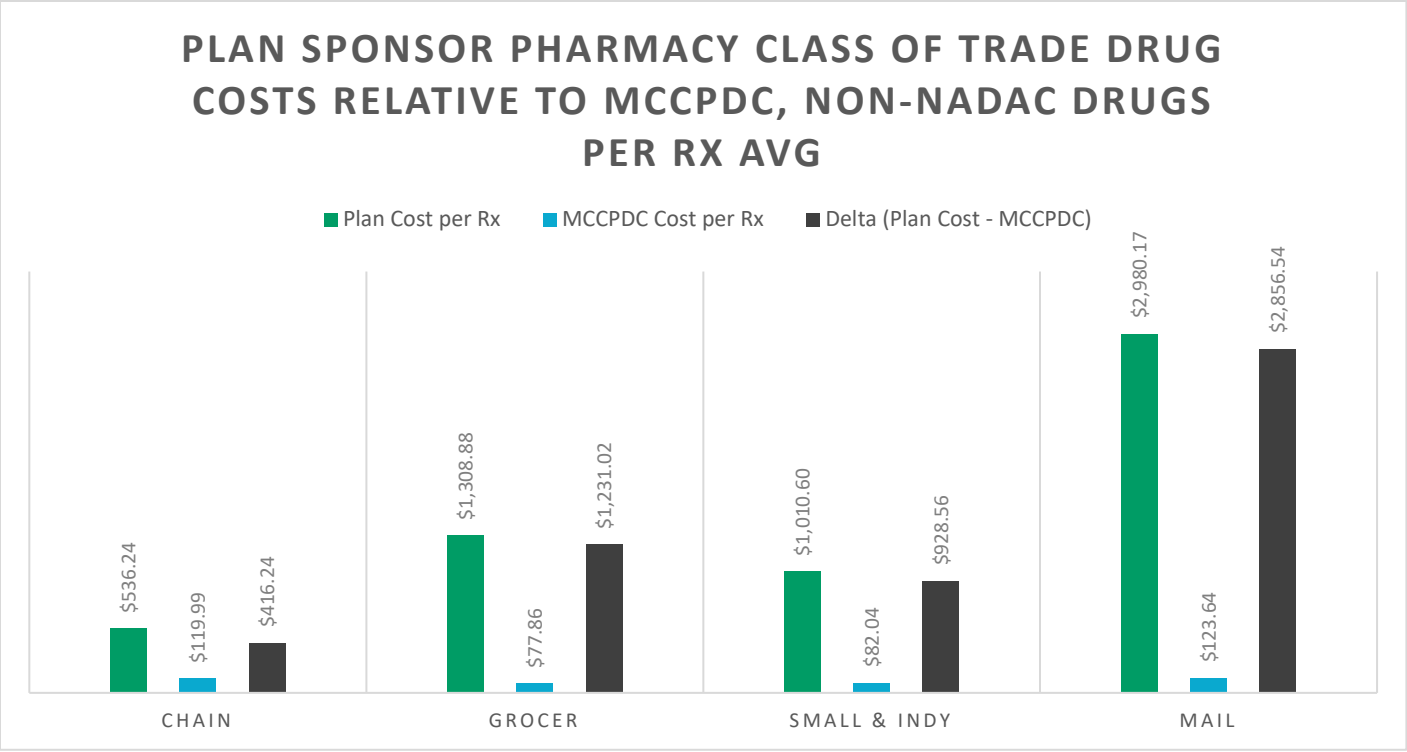
[x] The Appendix provides the data for the median analysis equivalent to **Figure 45** and produces similar results.

Mark Cuban Cost Plus Drug Company Price Comparison

To investigate these possible drug mix dynamics, we elected to evaluate this subset of claims further based upon the availability of Mark Cuban Cost Plus Drug Company (MCCPDC) pricing[xi] on these claims relative to the rates paid by plan sponsor. We selected MCCPDC, as previous analysis has demonstrated a potential disconnect between PBM-based drug costs and prices at cash-pay pharmacies.[70] [71] [72] As our earlier NADAC analysis was structured on understanding what incentives may be available for retail class of trade medications, this sub-analysis will investigate whether there would appear to have been any drug pricing efficiencies gained or lost through these non-NADAC claims relative to *cash-pay* mail-order prices.

To perform this analysis, we took the historic MCCPDC prices, inclusive of their standard 15% markup, shipping and labor costs charged, and joined them into the claims without a NADAC price point available. Because MCCPDC generally offers a single source per drug product (NDC), we made the join in this analysis on a drug name basis (i.e., strength, dosage form, active ingredient).[xii] From there, we were able to make comparisons against studied Washington plan sponsor drug costs and the anticipated cost to get the same drug through MCCPDC. As can be seen in the per prescription averages in **Figure 46** below, mail-order pharmacies continue to have the highest cost to the plan sponsor relative to the underlying Mark Cuban prices.

Figure 46: Plan Sponsor Pharmacy Class of Trade Drug Costs Relative to Mark Cuban Cost Plus Drug Company, Non-NADAC Drugs (2022 – 2023)



While there are significant cost differences between the lowest cost and highest cost pharmacies for this subset of non-NADAC drugs, a potential criticism of the more than five-fold difference in costs between the low end (chain pharmacies) and the high end (mail-order pharmacies) is that perhaps the underlying drug

[xi] 3 Axis Advisors, LLC, are consultants to the Mark Cuban Cost Plus Drug Company (MCCPDC), although we performed this analysis independently and not as a part of our consulting relationship with MCCPDC.

[xii] We specifically joined products based upon Medi-Span's GPI.

costs could be materially different. However, as you can see from the light blue bars in **Figure 46**, these differences are negligible, with MCCPDC-equivalent costs being only 3.8% higher at mail-order pharmacies versus chain pharmacies. Conversely, while the underlying cost differences may be minimal, the markups are not, with mail-order pharmacies yielding margins relative to MCCPDC prices that were 586% higher than those received by chain pharmacies. Further, one could argue that a more appropriate comparison of the costs of these medicines would be between Mark Cuban Cost Plus Drug Company – which is a mail-order pharmacy – and the costs plan sponsors incurred from the mail-order pharmacies within their benefit plans, as essentially both represent the same class of trade. Through this lens, the Washington plan sponsors were charged 2,291% more for non-NADAC drugs than what could have been achieved through alternative mail-sourcing at Mark Cuban Cost Plus Drug Company.

Digging into this data deeper, there are only 10 products (four unique active ingredients) where we can make direct comparisons (a relatively small sample size). Of these, only one had a comparison between the mail-order price and a retailer price within. For this product, the mail-order pharmacy filled the prescription at a rate of 10-to-1 relative to the retailers in the studied Washington plan sponsor data; however, both the retail pharmacy and the mail-order pharmacy were paid similar rates for the drug (**Figure 47**).

Figure 47: Washington Plan Sponsor Data vs MCCPDC Product Examples (2022 – 2023)

Drug Name	Pharmacy Class of Trade	Avg Plan Cost per Rx	Avg MCCPDC Cost per Rx	Delta (Plan Cost MCCPDC)
Fingolimod HCl Oral Capsule 0.5 MG	Mail	$505.27	$300.03	$205.24
Fluticasone-Salmeterol Inhalation Aerosol 115-21 MCG/ACT	Chain	$334.83	$291.56	$43.27
Fluticasone-Salmeterol Inhalation Aerosol 115-21 MCG/ACT	Small	$377.63	$291.56	$86.07
Fluticasone-Salmeterol Inhalation Aerosol 230-21 MCG/ACT	Chain	$483.86	$380.32	$103.54
Fluticasone-Salmeterol Inhalation Aerosol 230-21 MCG/ACT	Grocer	$496.47	$380.32	$116.15
Fluticasone-Salmeterol Inhalation Aerosol 45-21 MCG/ACT	Grocer	$304.05	$236.64	$67.41
Fluticasone-Salmeterol Inhalation Aerosol 45-21 MCG/ACT	Small	$304.05	$236.64	$67.41
Lurasidone HCl Oral Tablet 120 MG	Chain	$1,296.21	$22.00	$1,274.21
Lurasidone HCl Oral Tablet 120 MG	Small	$1,005.20	$46.00	$959.20
Lurasidone HCl Oral Tablet 20 MG	Chain	$244.40	$14.21	$230.19
Lurasidone HCl Oral Tablet 20 MG	Grocer	$2,679.21	$22.00	$2,657.21
Lurasidone HCl Oral Tablet 20 MG	Small	$8.96	$14.50	-$5.54
Lurasidone HCl Oral Tablet 40 MG	Grocer	$580.58	$16.75	$563.83
Lurasidone HCl Oral Tablet 40 MG	Small	$1,019.15	$16.00	$1,003.15
Lurasidone HCl Oral Tablet 60 MG	Chain	$737.84	$16.00	$721.84
Lurasidone HCl Oral Tablet 80 MG	Chain	$902.23	$17.80	$884.43
Lurasidone HCl Oral Tablet 80 MG	Grocer	$415.83	$16.50	$399.33
Lurasidone HCl Oral Tablet 80 MG	Small	$20.25	$17.80	$2.45
Teriflunomide Oral Tablet 14 MG	Mail	$4,465.11	$17.80	$4,447.31
Teriflunomide Oral Tablet 14 MG	Small	$4,330.37	$17.80	$4,312.57

Teriflunomide (generic Aubagio) provides the opportunity for an interesting discussion on the value of class of trade designations. As an oral tablet, the medication is relatively easy to administer and is safe for storage and transportation at USP Controlled Room Temperature.[73] As a medication indicated for multiple sclerosis (M.S.), it is also a medication that chronic need would be anticipated for, as there is no current cure for M.S. And yet, despite its ease of administration, ease of storage, and chronic need, it is often a medication that ends up on PBM and/or plan sponsor specialty drug lists. According to prevailing understanding (as an industry consensus on what 'specialty' means does not exist), a medication meets the definition for specialty drug on the basis of having one or more of the following characteristics[74]:

- High cost
- Treats complex clinical conditions
- May require special handling, storage or administration
- Requires robust patient education and monitoring

Teriflunomide can potentially meet all of these definitions, in part because of the arbitrary nature of its drug costs within the plan sponsor data. Although the average cost per prescription exceeds $4,000 in the studied Washington plan sponsor data (an approximate 50% discount to the average AWP for the generic medication), MCCPDC is offering the medication for approximately $20, inclusive of all service and shipping fees (an AWP discount of 99%). To be clear, MCCPDC does not appear alone in its offer of low-cost teriflunomide, as other pharmacies are also offering the drug at $20 or less as of the issuance of this report (and presumably historically).[xiii] [75] [76] The broader point being that almost any drug could be deemed 'special' based upon the above definition, particularly when drug price (i.e., high-cost) is so unpredictable of a concept. Said differently, if we remove high-cost from the definition of 'specialty' (because we acknowledge costs can be manipulated via AWP-based discounting or other means), then nearly any medication is likely to be one that treats a complex medical condition, require special storage, and/or requires robust patient education and monitoring.

As an example, a medication to treat high-cholesterol such as atorvastatin (generic Lipitor) treats a complex clinical condition (there are multiple origins of high-cholesterol, including hereditary and environmental factors), requires special administration (i.e., must avoid grapefruit juice), and requires patient monitoring of liver and muscle function to evaluate potential side effects or harm from therapy. And while atorvastatin has a typical NADAC price of $0.05 per pill (i.e., not high cost), the undiscounted AWP can be 100 or 1,000-times greater (i.e., potentially rising to the subjective threshold of high cost).

Regardless, we can appreciate that the drug mix was likely a key-driver in the expenditures associated with mail we observed above (in **Figure 45**) based upon which drugs were and were not dispensed at mail-order pharmacy in this analysis (**Figure 47**). Because mail-order was positioned to fill the specific drugs it dispensed, with their associated costs and not others, the mail-order class of trade would appear to have been much better positioned for profitability relative to their retail competitors.

[xiii] At the time of writing, GoodRx showed pharmacies in our area offering equivalent dose of teriflunomide 14 mg for as low as $13.84 per prescription (Discount Drug Mart in Central Ohio).

As a means of testing the differences between plan sponsor recognized costs and the various pharmacy types for an equal representation of drugs, we conducted an analysis to reprice generic claims based upon the average paid cost to each class of trade for the plan sponsor. To do this analysis, we identified the plan sponsor median monthly ingredient cost per generic product identifier (GPI). Medi-Span GPI is a hierarchical therapeutic classification system that enables the identification of the same drug (in terms of active ingredient and dosage form; see description to the side).[77] As an example, the use of GPI enables us to identify all atorvastatin 10 mg tablet NDCs individually, one code can quickly identify all products that meet this characteristic. Therefore, we used Medi-Span's GPI classification system to solve this limitation and determine monthly median drug cost per each class of trade within the studied Washington plan sponsor data. The reprice was accomplished by taking the monthly median price identified and recalculated drug ingredient costs based upon the repriced median unit price multiplied by the quantity of each claim. Results were limited to GPIs where a price could be calculated across each class of trade (i.e., atorvastatin 10 mg tablets would need a price point in chain, grocer, small chain and independents, and mail). In **Figure 48** below, we can identify on aggregate, through this new analysis, that the mail-order class of trade is generally more expensive for plan sponsors, even when results are limited to comparisons on the same drug product.

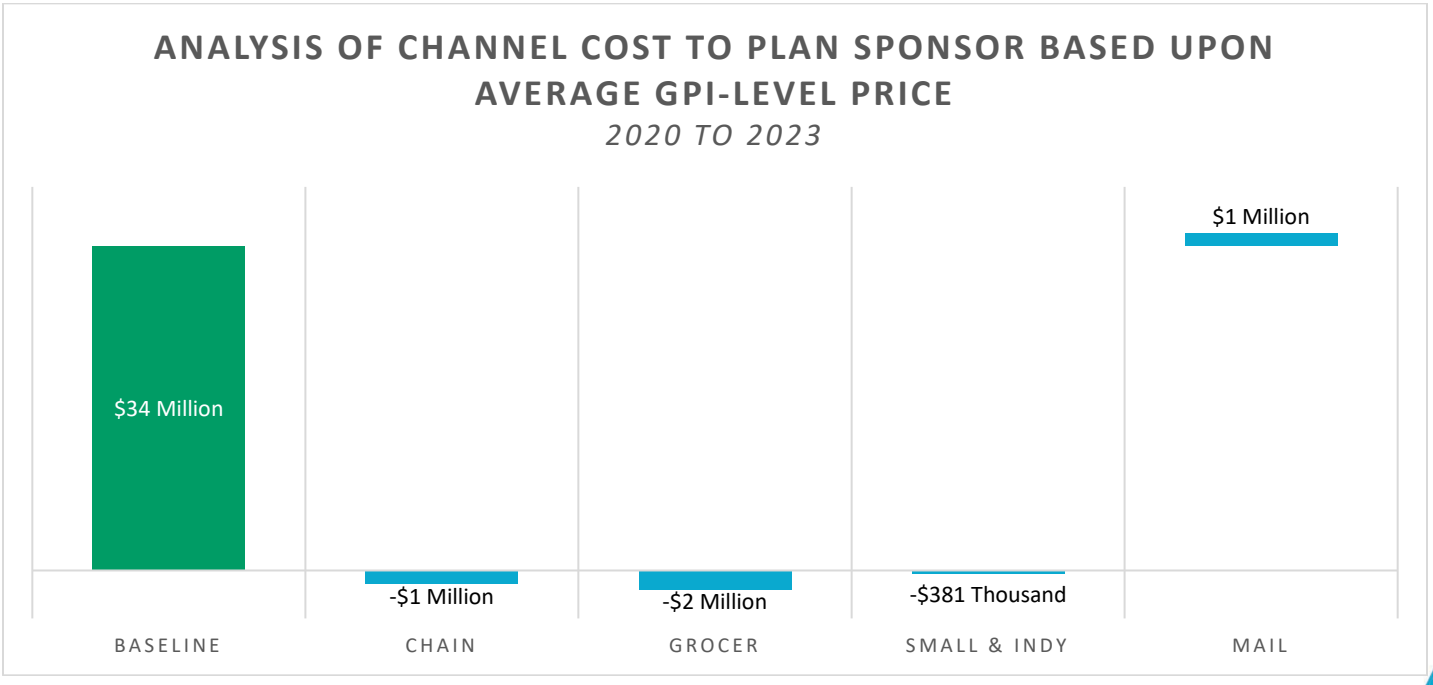
Example: GPI for Lipitor Oral Tablet 10MG

Drug Group	39	ANTIHYPERLIPIDEMICS
Drug Class	39-40	HMG CoA Reductase Inhibitors
Drug Subclass	39-40-00	HMG CoA Reductase Inhibitors
Drug Base Name	39-40-00-10	Atorvastatin
Drug Name	39-40-00-10-10	Atorvastatin Calcium
Dose Form	39-40-00-10-10-03	Atorvastatin Calcium Tablet
GPI Name	39-40-00-10-10-03-10	Atorvastatin Calcium Tab 10MG

This GPI has 39 brand and generic NDCs associated with it

Source: https://www.wolterskluwer.com/en/solutions/medi-span/about/gpi

Figure 48: Analysis of Channel Cost to Plan Sponsor Based upon Average GPI-level Price per Product Within each Channel (2020 – 2023)

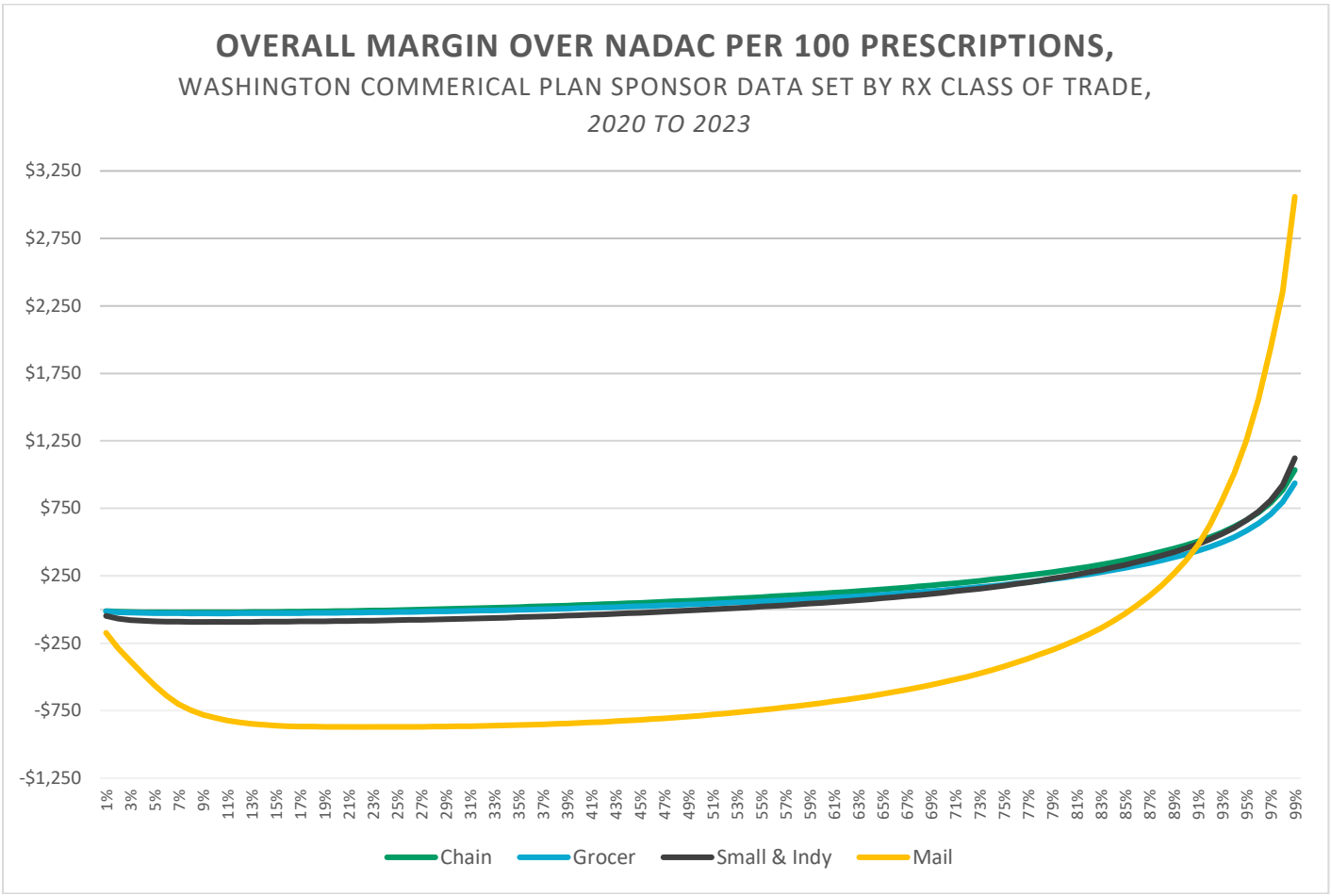


Note, **Figure 48** can only make comparisons when the GPI has a monthly median price for all comparisons. As a result, we were able to compare most (85%; 1.83 million of 2.15 million studied Washington generic plan sponsor claims), but not all, generic claims. Nevertheless, the analysis is suggestive that relative to other means to receive medications, mail-order pharmacy's median monthly unit price does not typically produce savings when compared to retail pharmacy channels (relying on only one channel's experience to set overall drug costs). When one considers the potential additional hurdles to access medicines – including waiting for and arranging mail delivery and potential delays or damages – that can result from delivery rather than getting the medication filled locally, the results of **Figure 48** likely require further investigation.

Evaluation of Plan Sponsor Costs by Class of Trade per 100 Prescriptions

Our final attempt at assessing the impact of the pharmacy classes of trade on plan sponsor drug costs is to produce another version of the earlier generated favorite chart, the margin over NADAC per 100 prescriptions for plan sponsors (see **Drug Costs Relative to Acquisition Costs** section on page 39). However, rather than presenting one chart for the entire plan sponsor experience, in **Figure 49** below, we evaluate the plan sponsor cost experience relative to NADAC on a per-100-prescription basis differentiated by each pharmacy class of trade. In so doing, we're able to identify potential trends that can help explain the observed differences within this section.

Figure 49: Overall Margin Over NADAC Per 100 Prescriptions, Washington Commercial Plan Sponsor Data Set by Pharmacy Class of Trade (2020 to 2023)



To be frank, we find **Figure 49** fascinating. Within the view presented, we can identify almost no noticeable differences between the chain, grocer, and small chain / independent pharmacy experiences. This is largely because the scale of the highly differentiated mail-order pharmacy experience is shrinking the axis to the point that the differences between the different classes of retail pharmacies that exist cannot be readily observed. However, the experience of the non-mail claims identified within plan sponsor data largely aligns with our prior pharmacy research (i.e., roughly the first 10% of claims are filled at a loss relative to drug acquisition cost, and it takes until approximately the 45th percentile of claims to dig out of that hole). We observe within **Figure 49** that the first 22% of claims within mail-order pharmacy will be provided below cost and that it will take until the 83rd percentile to dig mail-order costs out of the 'hole' dug on those underpayments. However, plan sponsors will "pay for" the cheap mail prices via higher costs relative to NADAC on the tail events. This directional learning is effectively the same one we've observed for pharmacy claims in our prior studies; the difference though is the size of the tail event. Said in a different way, **Figure 49** can help explain several of our earlier observations. First, the observations in **Figure 37**, which showed a large gap between the average (mean) and median experience within mail claims. As seen in **Figure 49**, there are a large portion of claims cost below acquisition cost in the mail-order pharmacy channel (which pulls down the median number), while at the same time, the size of the tail end of the chart shows why the average can be so high relative to other pharmacy classes of trade. **Figure 49** also helps explain why the mail-order reprice in **Figures 38 & 39** were so unfavorable for plan sponsors. The last 5% of claims within the mail-order pharmacy experience are responsible for 73% of all the plan sponsor costs above NADAC for mail claims (in comparison to that same last 5% of claims being just ~50% of costs above NADAC for the other channels).

Note that while not presented within **Figure 49**, we provide an **Appendix** at the end of this report that reproduces the chart broken out by the brand and generic claim experience.

Patient Cost Sharing in Commercial Claims

Our analysis of commercial trends has thus far focused primarily on the total cost of prescription drugs (i.e., total payment) or drug ingredient costs (as dispensing fees are a minimal part of the overall payment). However, we know that prescription drug costs are often recognized and proportion between insurers and enrollees. Said differently, when a pharmacy collects payment for the drug at the prescription drug counter for a patient, the amount of money collected is generally only part of the overall reimbursement expected on the claim (with the plan sponsor providing additional payment at a later date). In this next section, we sought to get an understanding for how prescription out-of-pocket (OOP) changes occurred over time within both of our studied Washington plan sponsor and retail pharmacy data sets. On the next page, we present the trends related to patient cost sharing. On the next page, **Figures 50** (plan sponsor) & **51** (retail pharmacy), we first analyze the number of claims that had OOP cost sharing amounts over time.

Figure 50: Proportion of Claims with Member Cost-Sharing, Washington Plan Sponsor Data Set (2020 – 2023)

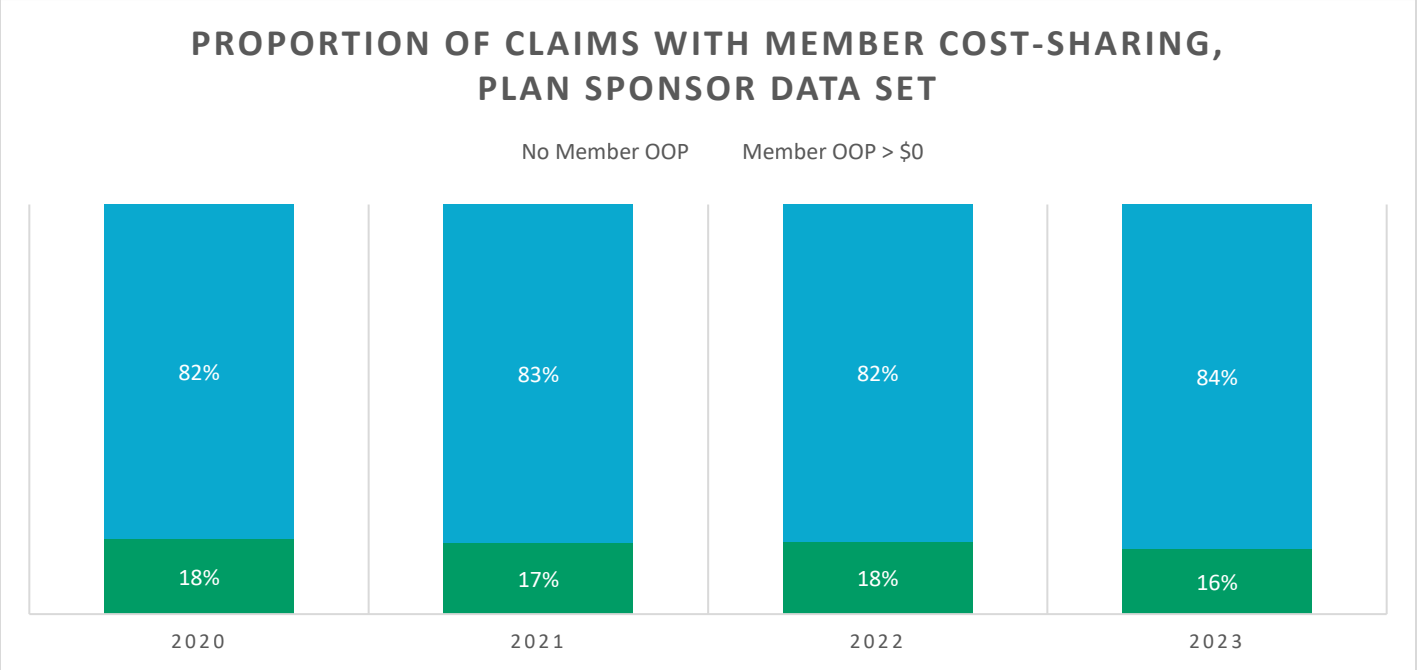
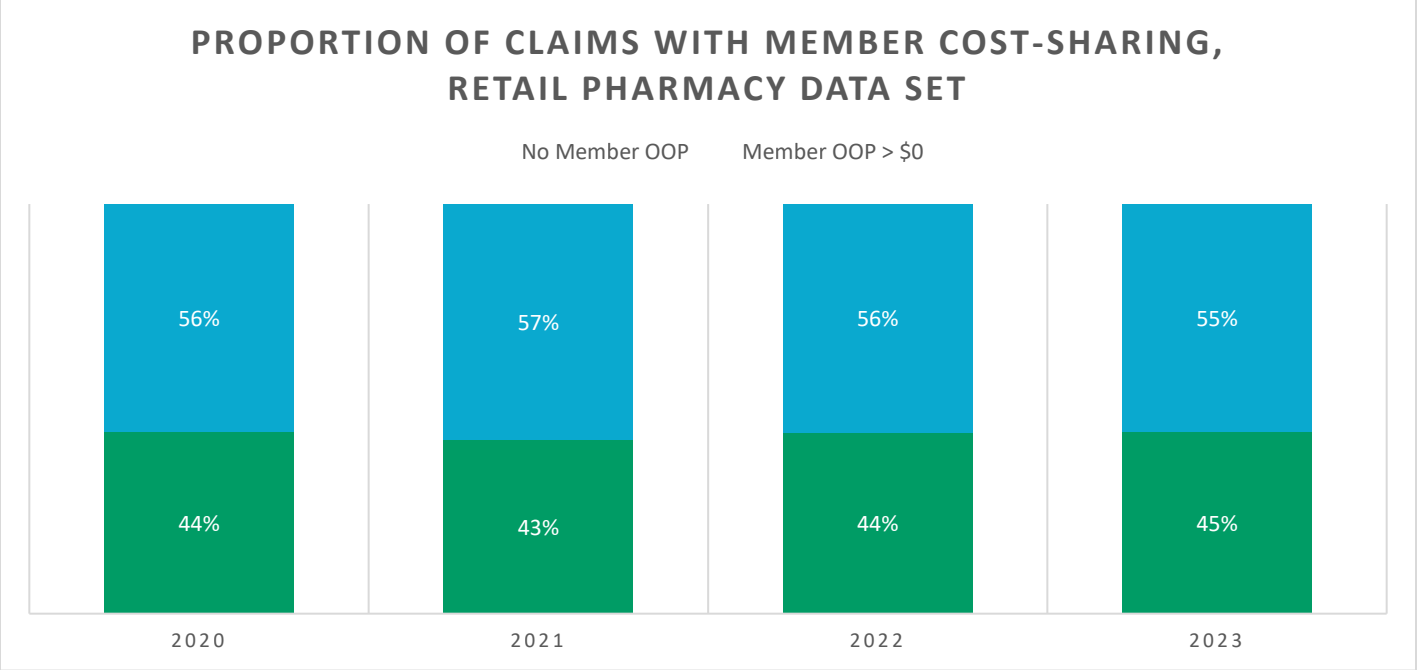


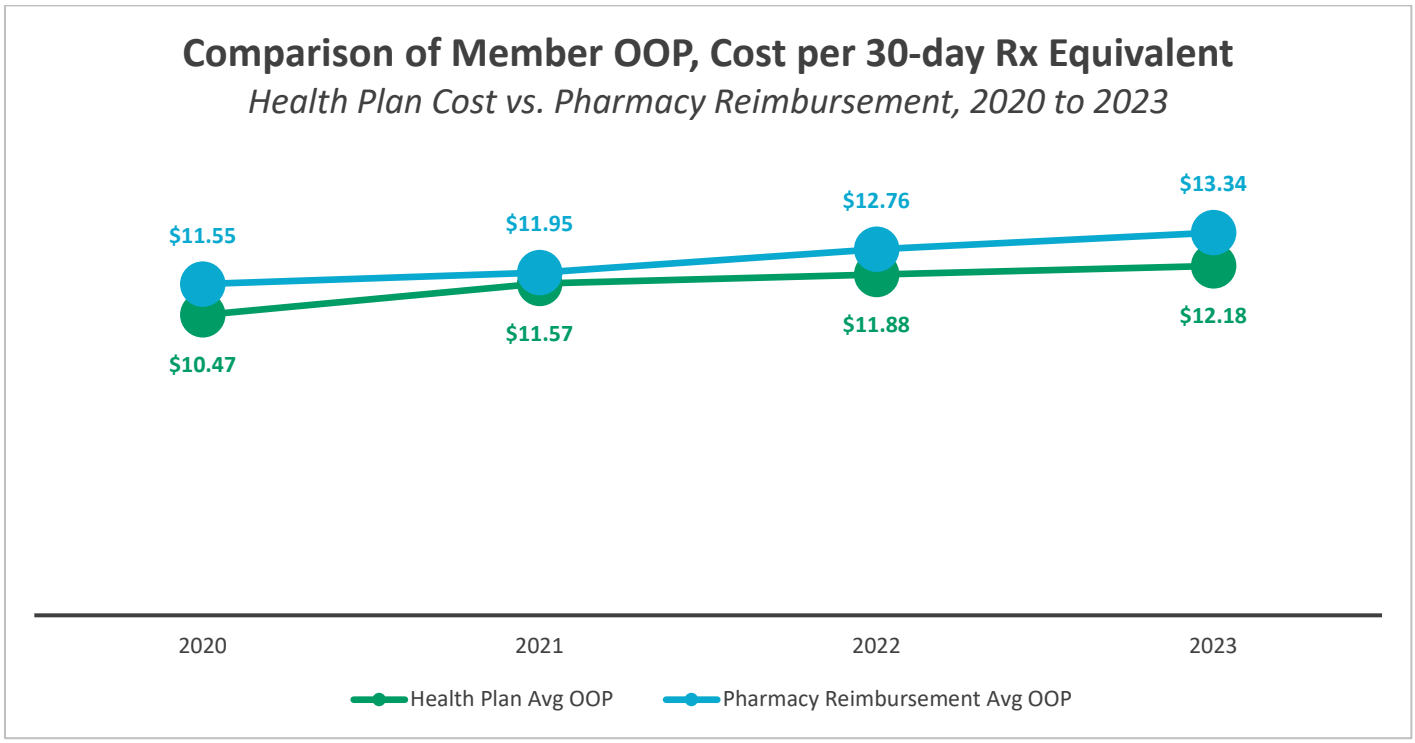
Figure 51: Proportion of Claims with Member Cost-Sharing, Washington Retail Pharmacy Data Set (2020 – 2023)



As can be seen above, plan sponsor claims (**Figure 50**) are more likely to have an amount of cost sharing than what an independent and small chain pharmacy experiences overall (**Figure 51**). We can infer that this means that commercial claims are generally associated with more frequent cost sharing requirements relative to the other means by which people access prescription drug insurance. Federal requirements regarding Medicaid cost sharing mean that the class of trade that is Medicaid will more or less make the analysis of cost sharing insignificant for these claim types for pharmacies, which influences the overall experience of pharmacy collecting cost share downward (i.e., less frequently).

In **Figure 52** (below), we analyze the average OOP costs for claims with any amount of cost sharing greater than $0. As before, we are presenting the information in 30-day equivalent cost. While this analysis excludes the value of any plans that are fully covering cost-sharing amounts, we believe it presents a more accurate view of the average cost share amount experienced by members given that we do not know the underlying premium costs anyone is incurring. Said differently, it is possible a plan is offering no cost sharing through higher premiums; however, this analysis is attempting to understand just cost sharing trends.

Figure 52: Comparison of Member OOP, Cost per 30-day Rx Equivalent (2020 – 2023)

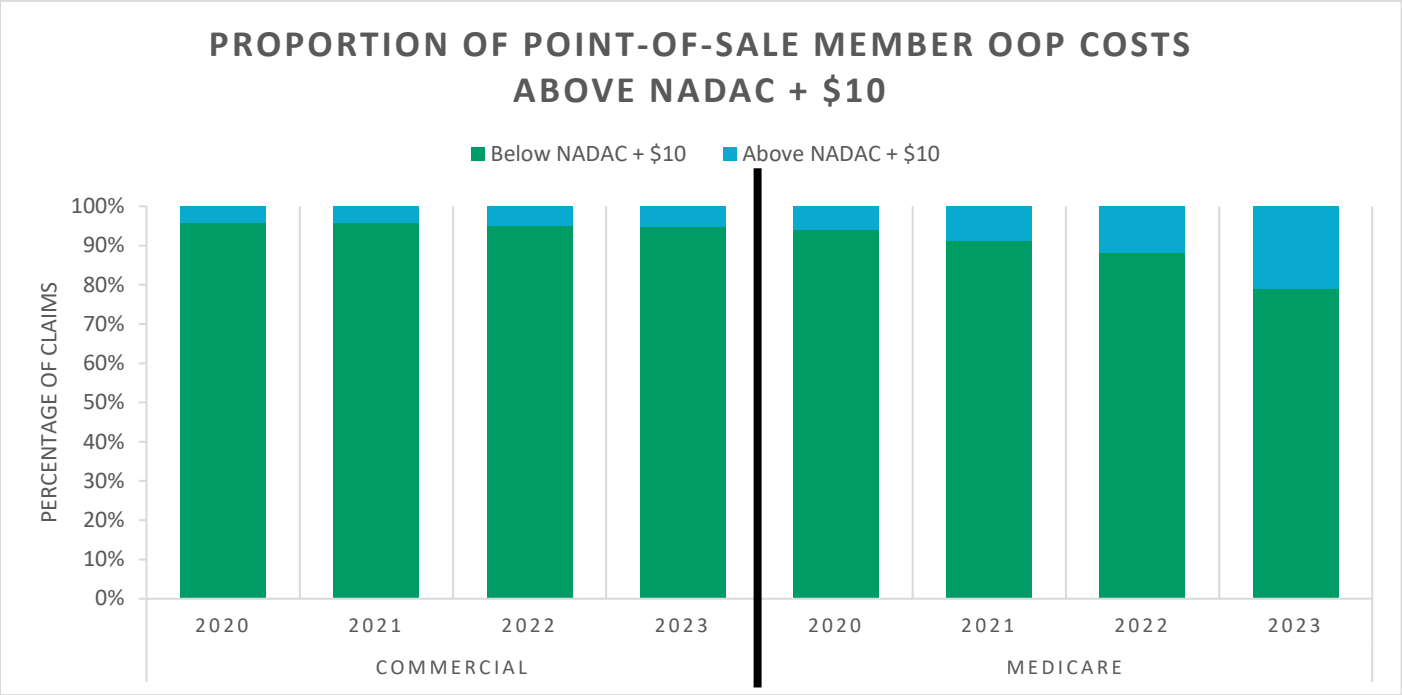


Retail pharmacy and plan sponsor data have similar experiences regarding member OOP costs over time in this view. Both show an increase in member cost sharing of approximately 15% over the four-year study period. Interestingly, for commercial claims, this is roughly half the overall rate of change in total claim costs observed, suggesting that members are being exposed to less cost sharing increases relative to the overall change in gross drug costs. Of course, after the fact changes to drug costs, such as drugmaker rebates, may make such simple proportionality analysis inappropriate.

Based upon the results of **Figures 50, 51, & 52**, and in part because of some of the earlier findings within this report, we wanted to evaluate for potential instances where the patient OOP was greater than the anticipated cost to service the underlying drug product dispensed. To do this, we limited claims to just those claims with a NADAC price point and evaluated member OOP against NADAC (an estimate of the drug's acquisition cost) + $10 (an estimate of the cost of a pharmacy incurs to prepare the prescription; based upon Medicaid Cost of Dispensing Survey results).[78] Because of the similarities between plan sponsor and pharmacy data, we conducted the following analysis just for pharmacy claims so that we could analyze any differences in experience between commercial lines of business and Medicare (we do not have plan sponsor data for Medicare). Any claims where the member OOP was greater than NADAC + $10 were flagged for analysis, as any member OOP that exceeds NADAC + $10 would arguably be above the combined cost of the drug and the pharmacy's average overhead costs. As can be seen in **Figure 53** (on the next page), over

time, the Medicare and commercial market appears unique in that more and more member claims are experiencing higher drug costs relative to the underlying drug acquisition costs.[xiv]

Figure 53: Proportion of Claims Above NADAC + $10, Commercial vs Medicare Retail Pharmacy Data Set (2020 – 2023)



As can be seen in **Figure 53**, the number of claims meeting this threshold grew from 4% in 2020 to 5% in 2023 for commercial claims and 6% to 12% for Medicare claims. While the growth is a relatively small percentage of claims, the rate of growth for both is fairly significant (25% to 100% growth in four years)

In a manner not too dissimilar from the earlier point made regarding premiums, it is possible that this data is signaling that lower premiums are being 'purchased' through shifting greater costs onto members over time. Said differently, industry trends suggest that aggregate drug costs have gone up over time. If premiums have stayed unchanged over the same timeframe (as we often see as a goal within Medicare, for example), then as more patient cost sharing exceeds the underlying drug and service cost, the greater costs are potentially being shifted onto members over time.[79]

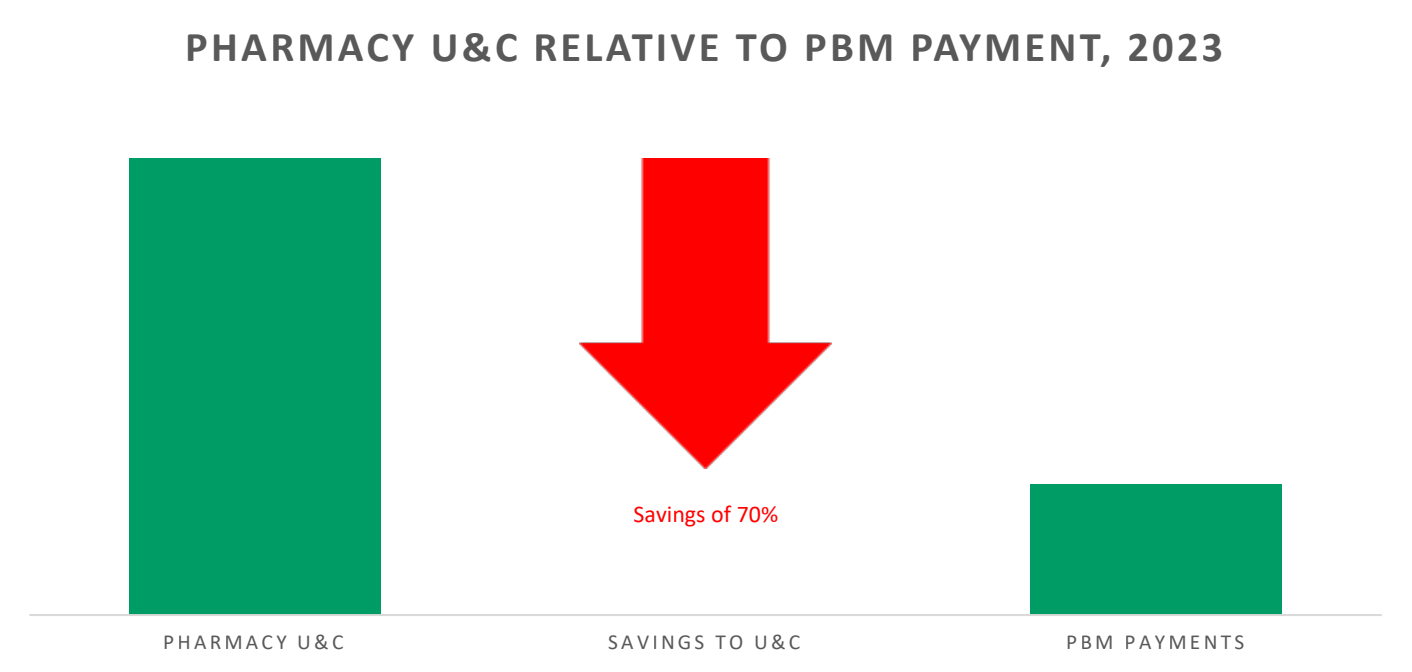
Drug Costs Relative to Drug Discounts

As we end our analysis of commercial claims data, we recognize that the absence of transparent, straightforward drug pricing reduces the efficient functionality of the marketplace of prescription drugs. Without clear and accessible pricing information, healthy competition can be compromised, leading to market inefficiencies. Information asymmetry arises, providing certain participants with advantages that are not afforded to others, allowing for pricing exploitation. The lack of pricing transparency can sow distrust in the market, as participants perceive hidden or manipulated pricing information, negatively impacting transactions and the overall well-being of both consumers and businesses. To be clear, drug pricing transparency is a long-running problem. As recently as 1989, many health plans were paying 100% of AWP

[xiv] Changes to CMS definition of 'negotiated price' and the corresponding impact to direct and indirect (DIR) suggest that Medicare will trend in the opposite direction in 2024 and beyond.

costs for prescription drugs; now, many are receiving discounts in excess of 80% for the majority of the products under their benefit (i.e., generics).[80] [81] Nevertheless, the perception around drug pricing dysfunction remains in no small part due to the fact that pricing is often tied to pricing benchmarks that have no specified meanings (i.e., AWP lacks a federal definition, MAC rates are highly subjective). Said differently, the origins of drug pricing dysfunction are in no small part related to the fact that pharmacies were charging – and being paid – full AWP-based prices for their medications as recently as 30-years ago. As a result, PBMs were brought into the market to not just transact claims in real-time, with the associated efficiency savings, but to expand their scope to help secure discounts to pharmacy costs.[82] As can be seen in **Figure 54** below, relative to pharmacy usual & customary (U&C) asking prices, PBMs are providing significant savings (~70% reduction) for medications in 2023.

Figure 54: PBM Payments to Pharmacies Relative to U&C, Retail Pharmacy Data (2023)



Historically, prescription drug pricing is secured by health plans in the form of leveraged discounts. These discounts are generally reflected as a bulk percentage discount to the drug pricing benchmark AWP. Discounting drug costs to AWP has been the industry standard practice since at least the 1990s; however, after years of controversy and litigation over the disconnected and inflated nature of AWP, efforts beginning just before 2010 and the passage of the Affordable Care Act (ACA) have sought to recategorize drug pricing not as a leveraged discount but to calculate drug costs in relation to their actual acquisition cost (AAC) plus the cost to dispense.[83] This approach to drug pricing, often referred to as "cost plus," is intended to reimburse pharmacies based upon the cost the pharmacy paid to acquire the drug from their wholesaler and the cost of their services, known as a professional dispensing fee.

It is important to note that the approach to prescription drug pricing as either a leveraged discount or cost plus is independent from the concept of transparency in prescription drug pricing. Prescription drug pricing transparency reflects the desire of payers, such as plan sponsors or patients, to understand the manner in which drug costs were recognized. In general, the goal is to ensure that drug costs, as recognized by the payer, reflect drug costs as reimbursed to the provider. Traditional PBM contracts did not provide prescription drug pricing transparency. Rather, PBMs were able to charge health plans differing amounts

relative to the amount paid to pharmacy providers. The difference in charge to the plan and payment to the provider would result in pricing arbitrage with the spread amount accruing value to the PBM. We can demonstrate the different perspectives on drug costs from the point of view of either a leveraged discount or cost plus for both the plan sponsor and the retail pharmacy claims data set by looking at drug costs both from their AWP-based discounts but also relative to their underlying NADAC costs (and any amount of money paid above NADAC). We can also put plan payment relative to member OOP costs to fully contextualize how drug costs were realized in Washington from 2020 to 2023. In **Figures 55, 56, 57 & 58** (below and on the next page), we present the various perspectives on drug costs through this lens.

Figure 55: Health Plan Perspective on Brand Drug Cost, AWP-Discount, Cost Plus, and Plan to Member Payment Proportionality (2020 – 2023)

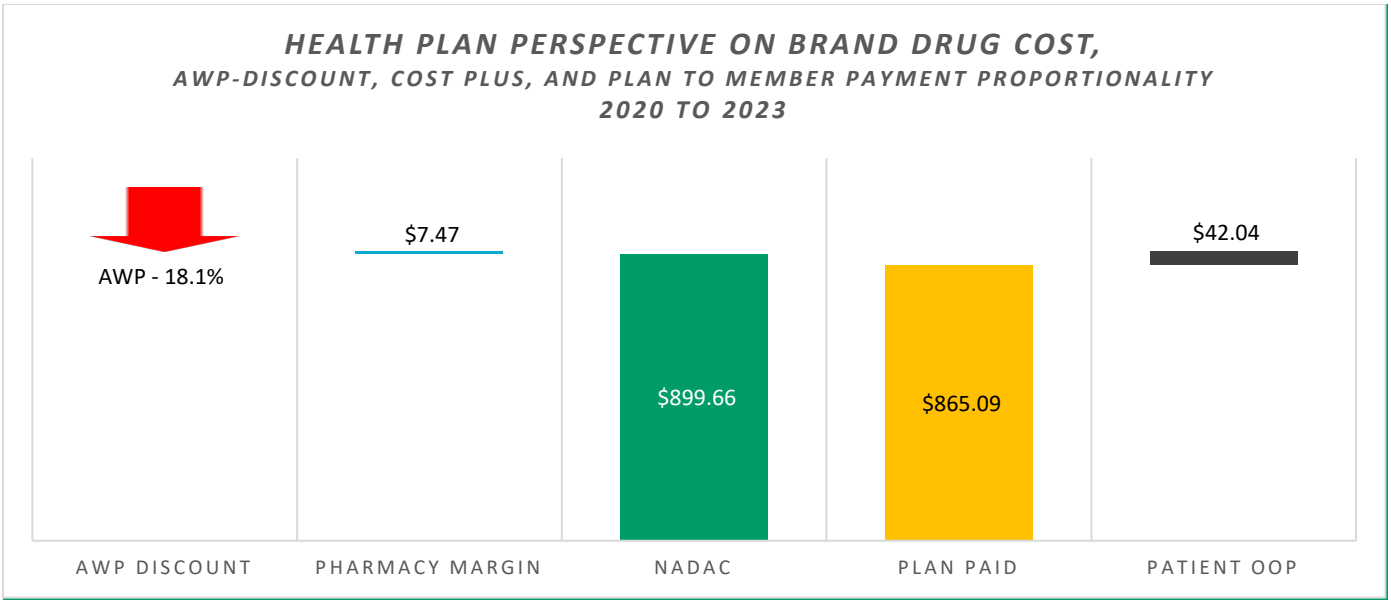


Figure 56: Health Plan Perspective on Generic Drug Cost, AWP-Discount, Cost Plus, and Plan to Member Payment Proportionality (2020 – 2023)

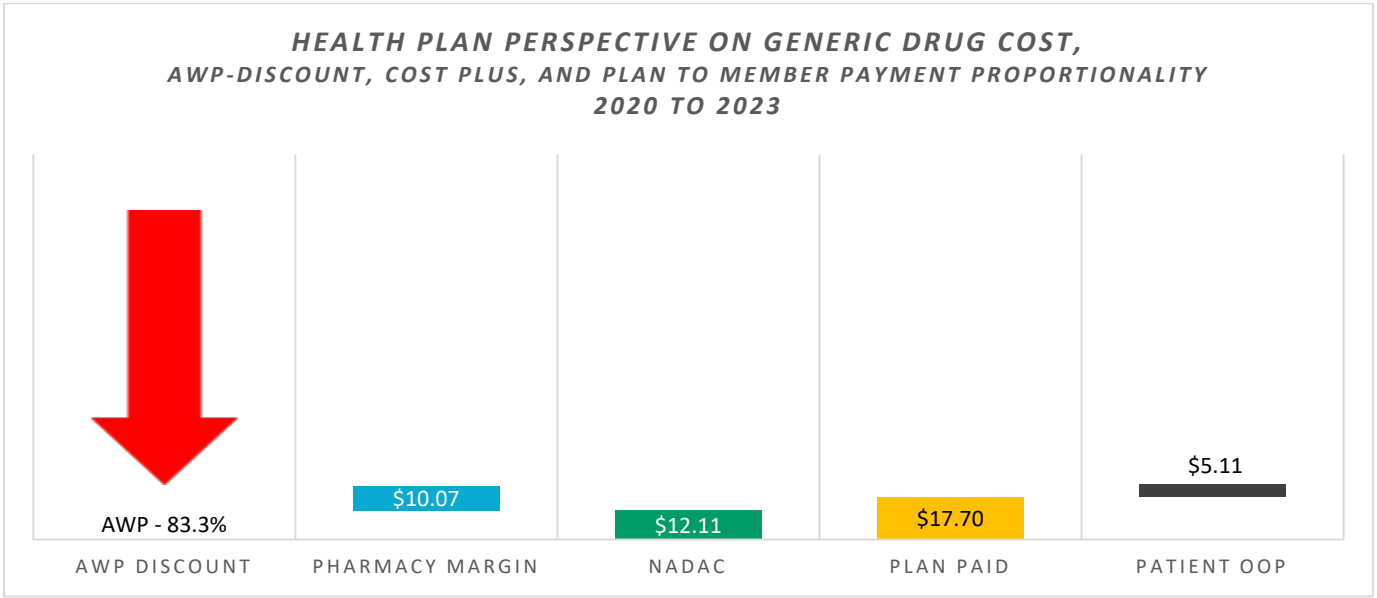


Figure 57: Pharmacy Perspective on Brand Drug Cost, AWP-Discount, Cost Plus, and Plan to Member Payment Proportionality (2020 – 2023)

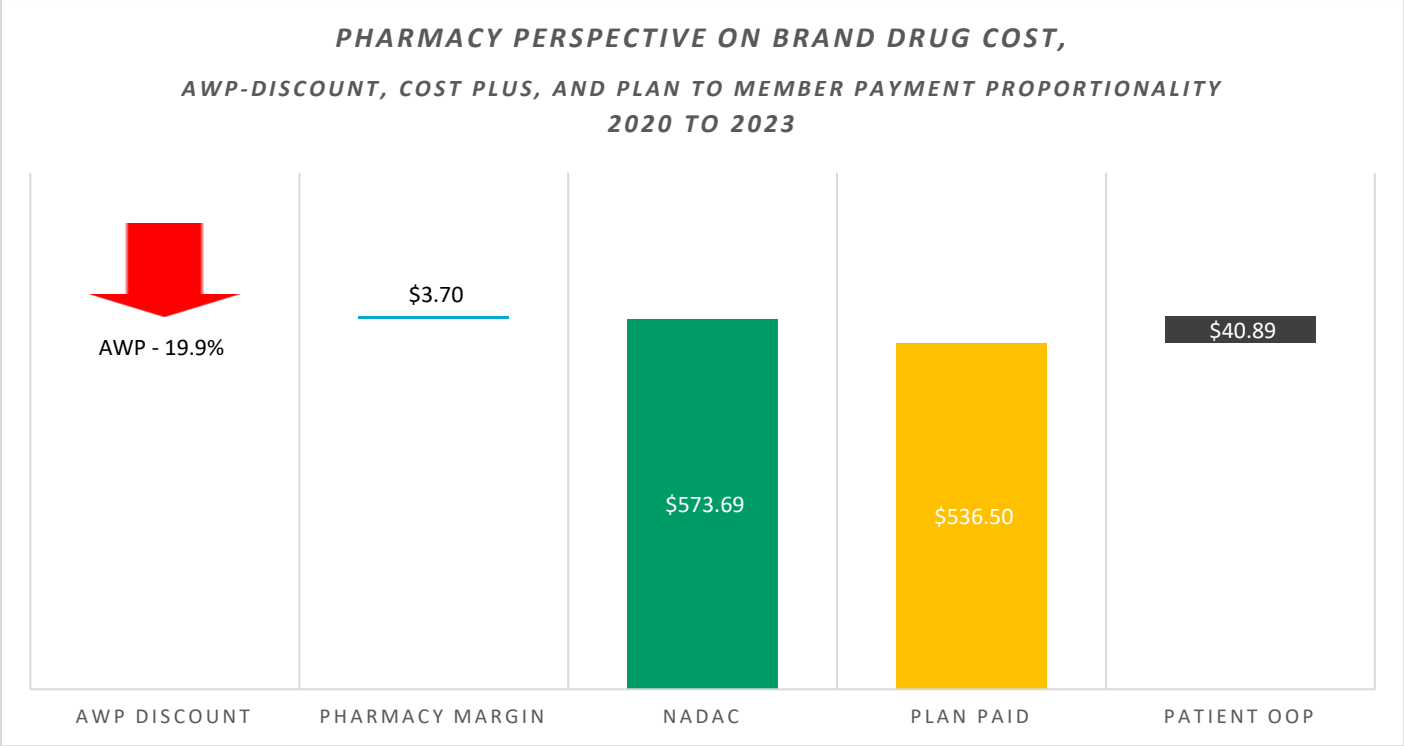
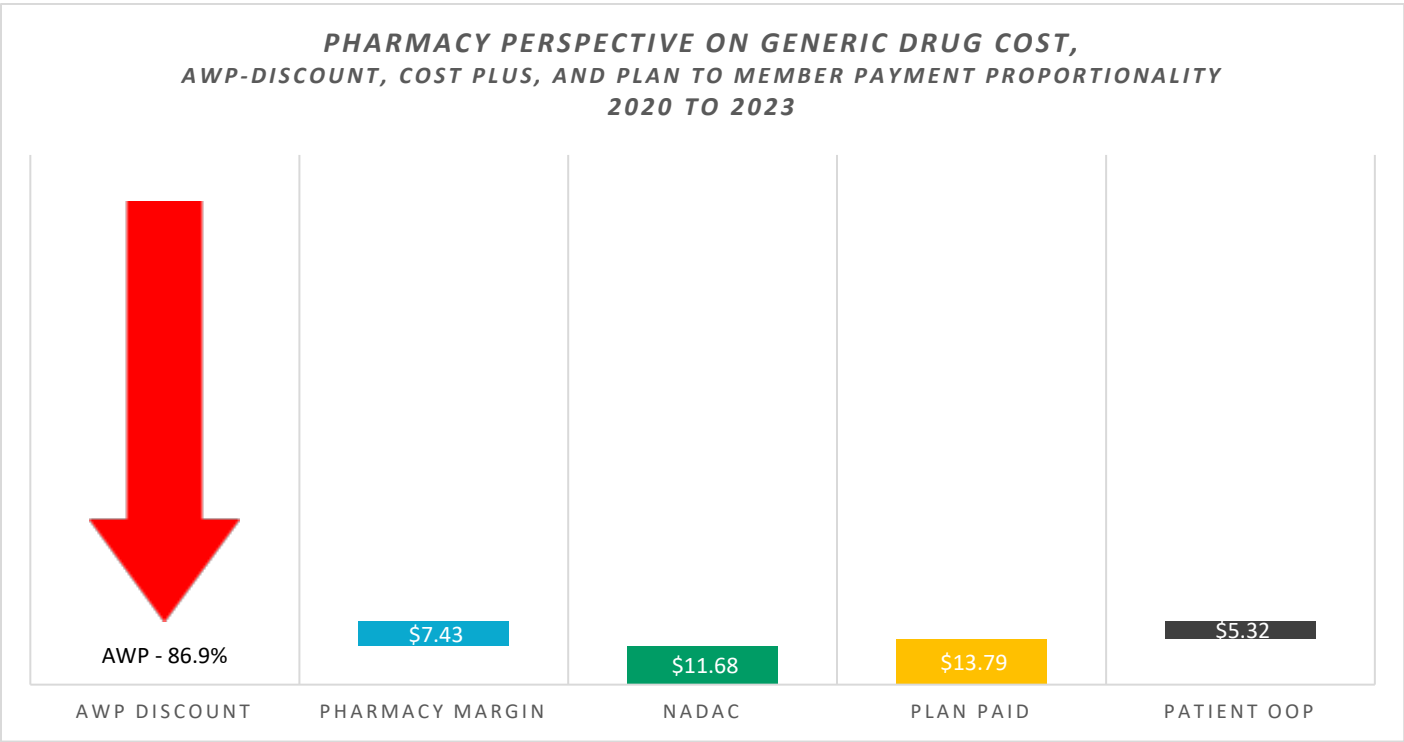


Figure 58: Pharmacy Perspective on Generic Drug Cost, AWP-Discount, Cost Plus, and Plan to Member Payment Proportionality (2020 – 2023)



Because brand drugs will eventually become generic after lapses in patent exclusivity, it will almost always be possible to obtain a higher discount on drug costs. Consider our earlier example with teriflunomide

(generic Aubagio). Having an AWP-based price of approximately $9,000 per prescription means that a 50% discount to the drug's AWP cost can produce a price anywhere between $4,455 and $4,536 (or an $81 difference in actual cost per prescription due to the impact of rounding 50% at either 49.5% or 50.4% and the high AWP-value of $9,000). As drug prices increase over time, the value of just 1% of AWP will be an ever-larger number, enabling a greater difference in equivalent AWP-based discounts. For example, a product with a $10,000 AWP can have an AWP – 99% discount of anywhere between $1 to $100 in actual drug costs. Both values, even though they are a 100-fold difference in price, would produce an equivalent AWP-perceived discounting. As can be seen above in **Figures 55, 56, 57, & 58**, no comparison between plan sponsor and pharmacy reimbursement data produces anything above a 3.6% difference in perceived AWP-based discount (the difference between plan sponsor generic experience and pharmacy experience is 3.6% based upon AWP-discount). In most circles, any delta of 5% or less is generally considered insignificant; however, the real value difference in drug pricing is significant. For generic claims, the dollar difference is $2.64 in total claim costs (35% more expensive in the plan sponsor experience relative to pharmacy). Over the course of millions of claims, this gap adds up to significant value ($7.9 million; or roughly 3% of overall drug costs).

Medicaid

Although we do not have plan sponsor data for all payer lines of business, we do have a public source of expenditures that enables a comparison of the Washington Medicaid sector. Unlike the prior section, which made comparisons between studied Washington commercial plan sponsor data and studied Washington retail pharmacy reimbursement data, this section will analyze the CMS State Drug Utilization Data (SDUD) against pharmacy reimbursement data to analyze the trends within Washington Medicaid claims from 2020 to 2023.

Comparisons to Washington State Medicaid expenditures over this period presents unique challenges given the settlement reached between the Washington State Pharmacy Association (WSPA), the National Community Pharmacists Association (NCPA), and the National Association of Chain Drug Stores (NACDS) and the State of Washington in September 2023.[84] For the unfamiliar, these pharmacy organizations had challenged the Washington State Health Care Authority's planned reimbursement for pharmacy claims as "substantively and procedurally flawed" that would result in underpayment of medications relative to their actual acquisition costs.[85] Ultimately, the case was remanded back to CMS by a judge, and a settlement reached where the State of Washington would[86]:

- conduct a cost of dispensing study to move to cost-based dispensing fees, subject to necessary state and CMS approval;
- provide more than $60 million in retroactive payments to pharmacies in Washington State's Fee-for-Service Medicaid program – covering under-paid claims from April 1, 2017-July 1, 2023; and
- use, as an intermediate step, Oregon's cost-based dispensing fees and tiers from July 1, 2023, going forward, until a new cost-based dispensing fee obtains necessary state and CMS approval.

As a result of the settlement related to Washington Medicaid, it is important that we recognize that this section and its analysis may not be fully reflective of anticipated go-forward costs for the program (given the anticipated changes to reimbursement after September 2023).

Medicaid Drug Costs Relative to Retail Pharmacy Reimbursement

We begin our analysis as we often do, by making comparisons between pharmacy reimbursement trends and SDUD for Washington Medicaid. As can be seen below, we compare the aggregate experience of SDUD expenditures between Washington Medicaid Managed Care Organizations (MCOs) and Fee-for-Service (FFS) programs (**Figure 59**) to the aggregate Medicaid-recognized expenditures between MCO and FFS in the pharmacy reimbursement data (**Figure 60**).

Figure 59: Washington Medicaid SDUD Expenditures, FFS vs. MCO (2020 – 2023)

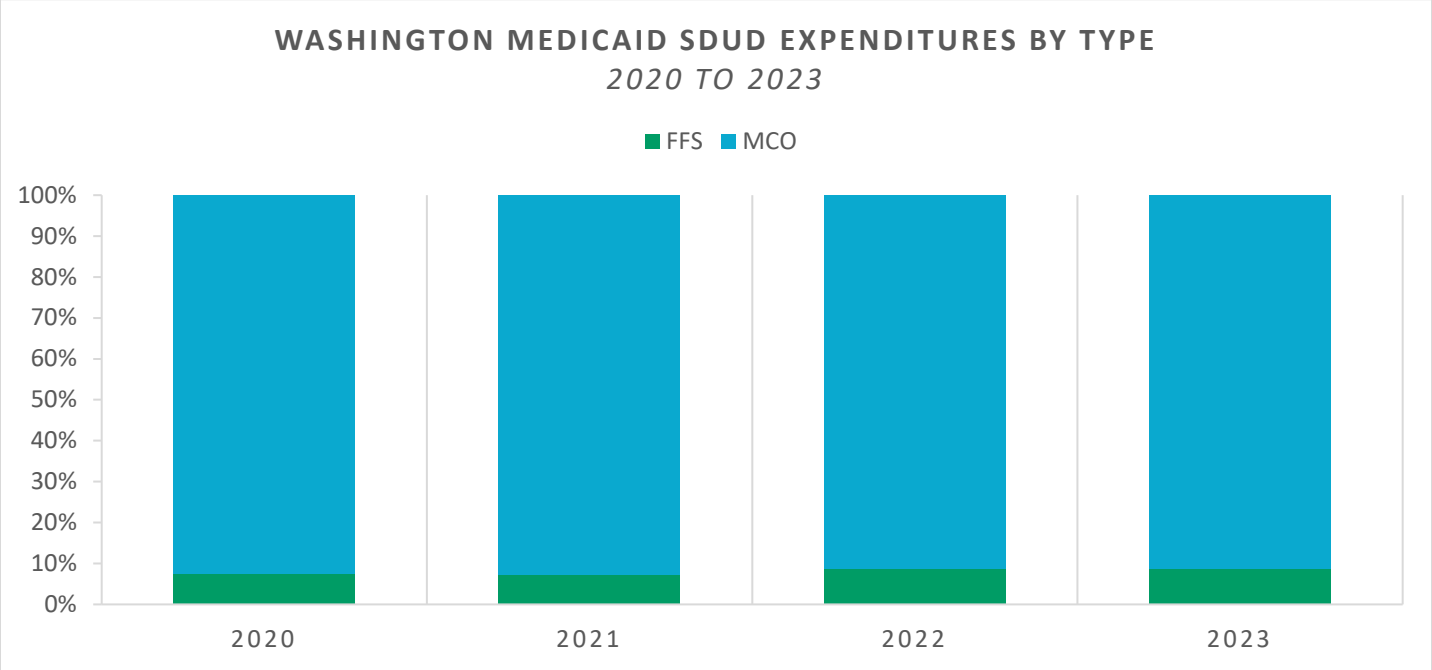
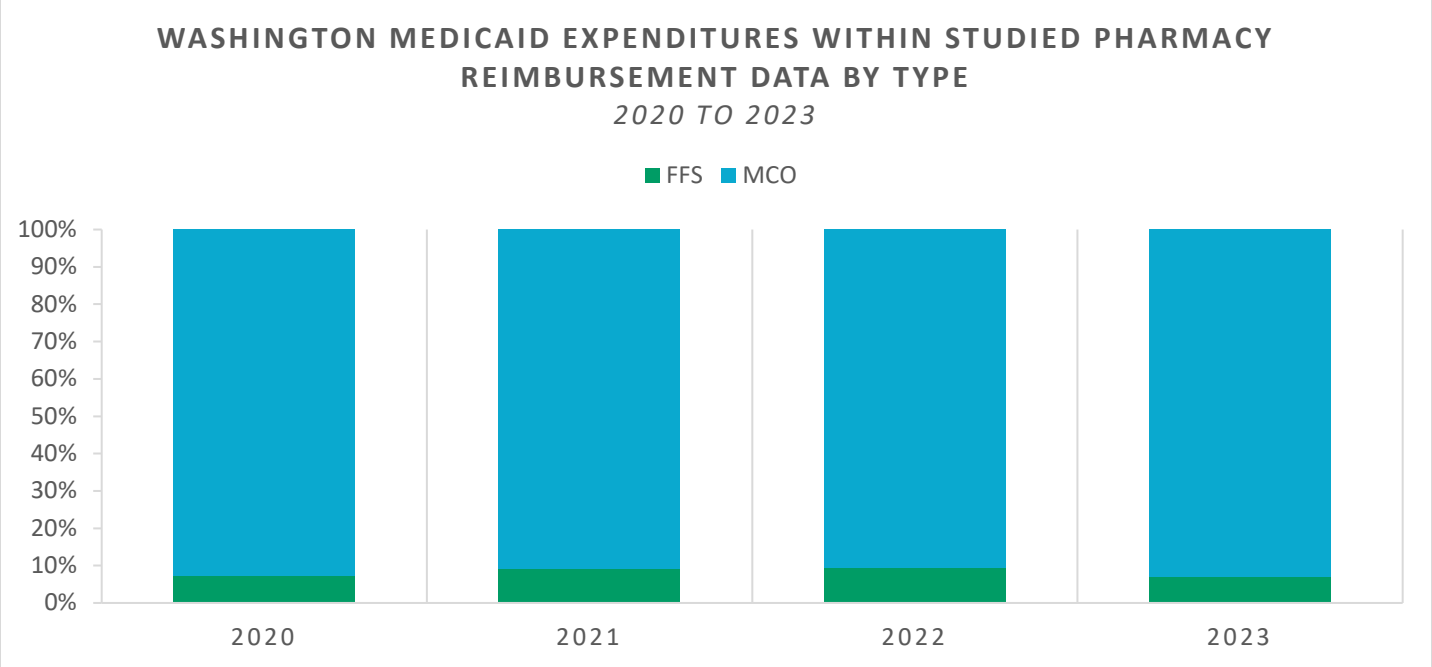


Figure 60: Washington Medicaid Expenditures within Studied Retail Pharmacy Reimbursement Data, FFS vs. MCO (2020 – 2023)

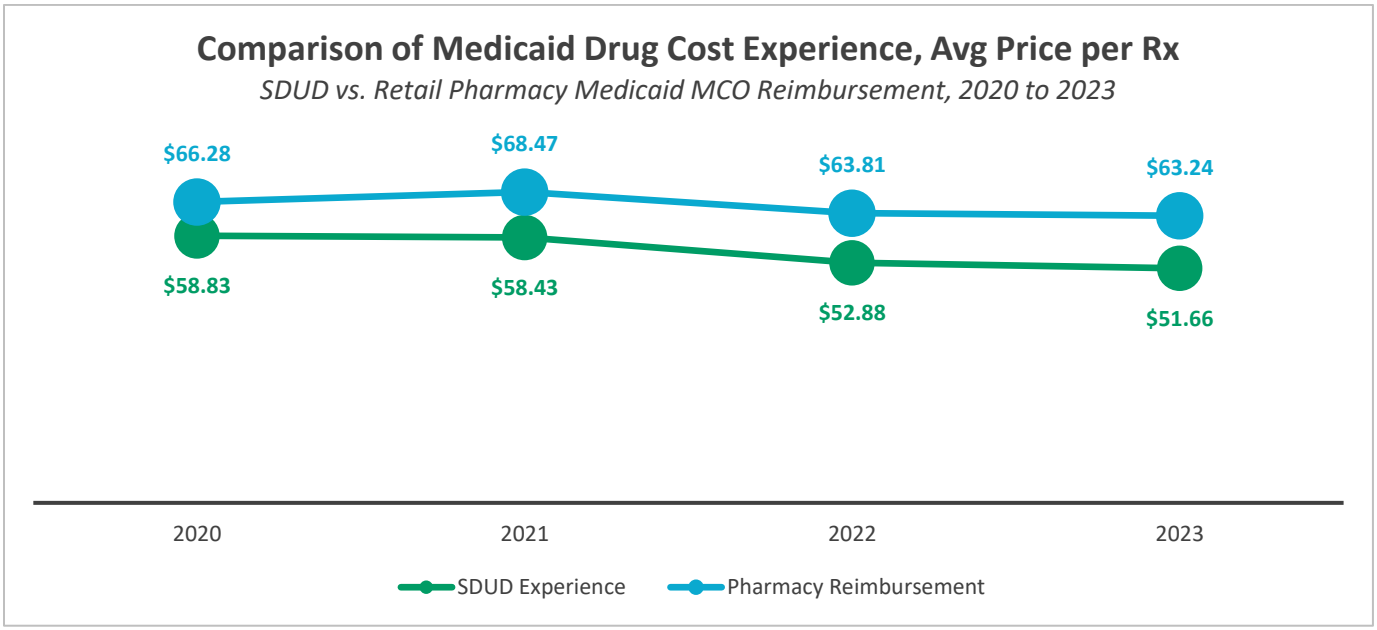


As can be seen within the figures on the previous page, our studied Washington retail pharmacy reimbursement data and the SDUD both demonstrate that the FFS program is relatively insignificant within the Washington Medicaid program relative to the size and scale of the state's managed care program; with the majority (90%+) being recognized within the MCOs. As a result, we will limit our analysis and assessment to the MCO claims to avoid the limitations associated with the historic FFS reimbursements.

Washington Medicaid Managed Care

Because SDUD is reported on a quarterly basis on an NDC-level aggregated between MCO and FFS, we need to aggregate the studied Washington retail pharmacy reimbursement to a similar level. To perform this analysis, we took the retail pharmacy reimbursement data and calculated costs based upon assigning the date of service to the specific year and quarter such that we could appropriately join our pharmacy reimbursement data. As stated above, we are limiting the Medicaid claims within the pharmacy reimbursement data to just the MCO claims and doing the same with the SDUD. From there, we limited claims to those whose NDCs appeared within both data sets. To address potential differences in utilization patterns between the overall SDUD experience and our specific pharmacy reimbursement data, we compared the price of our actual pharmacy reimbursement claims against a repriced claim experience based upon the average price per unit reimbursed for the NDC within the SDUD experience. **Figure 61** presents our analysis of claim costs between the retail pharmacy reimbursement and SDUD MCO aggregate cost experience.[xv]

Figure 61: Comparison of Medicaid Drug Cost Experience, SDUD vs Retail Pharmacy Medicaid MCO Reimbursement (2020 – 2023)



In reviewing **Figure 61**, there is an approximate $10 per prescription difference between the average reimbursement represented within our small and independent pharmacy experience and the state-wide average. This suggests that Washington MCOs are providing higher-than-average reimbursement to the types of pharmacies we collected data for (and lower than average reimbursement to larger pharmacies [i.e., grocery stores and/or chain]). In relation to our prior pharmacy reimbursement studies, this rate of payment

[xv] Because SDUD does not include days' supply information, the information in Figure 52 is presented as a per prescription average (not a per 30-day equivalent).

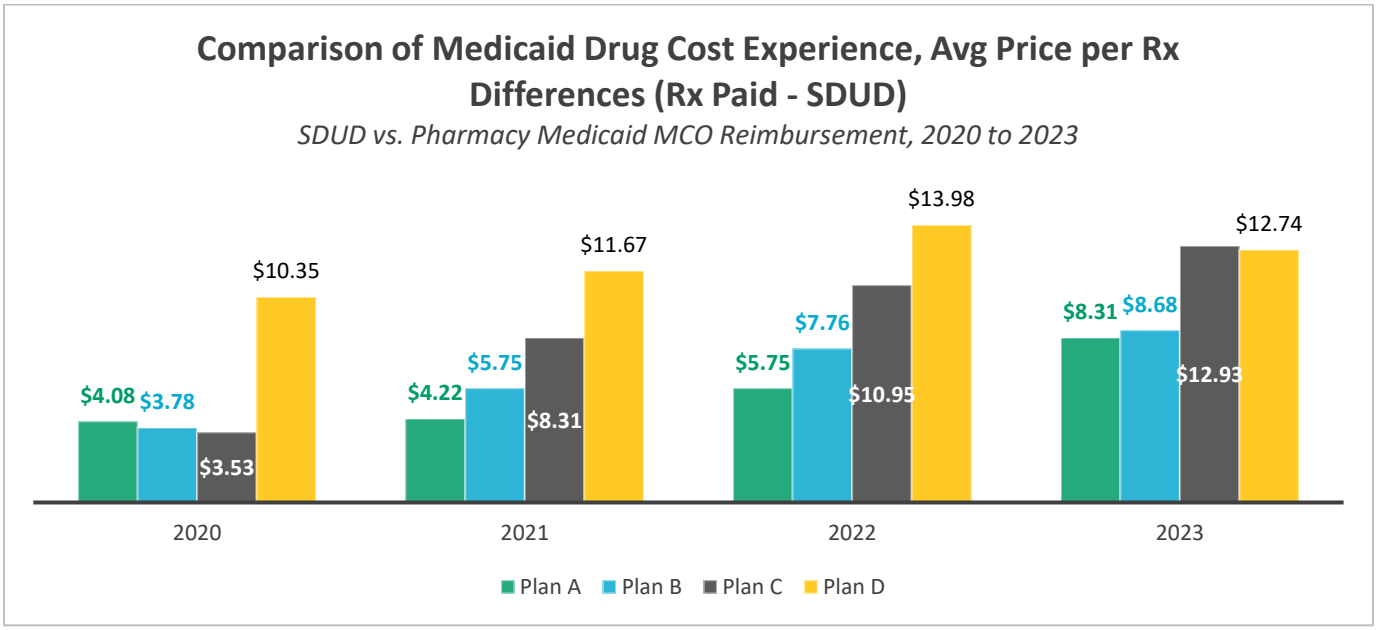
to small and independent pharmacies in excess of reported aggregate drug costs in SDUD is an outlier, as most state-based data has demonstrated pharmacies being paid well below the state averages – especially independent and small chain pharmacies. While not presented in **Figure 61**, our analysis did not reveal any differences in the $10 difference across the brand or generic claims (i.e., both had approximately $10 difference in experience YoY). However, there were differences within the specific MCOs.

Washington partners with five MCOs:

- The Community Health Plan of Washington (CHPW)
- Coordinated Care (CC)
- Molina Healthcare of Washington (MHW)
- UnitedHealthcare Community Plan (UHC)
- Wellpoint Washington (WLP) (formerly Amerigroup)

Note that our pharmacy claims data had no identified claims associated with the managed care health plan for the foster care program. As a result, in **Figure 62** below, we present our analysis for the difference in the studied Washington retail pharmacy reimbursement relative to the aggregate Washington SDUD experience broken out between the MCOs.[xvi] To facilitate the graphing of our analysis, we are presenting just the calculated delta between the SDUD average and the pharmacy reimbursement observation. As can be seen in **Figure 62**, not all MCOs appear to be providing the same level of reimbursement above SDUD averages to these pharmacies (plan names were blinded and randomized for presenting the plan specific breakouts).

Figure 62: Comparison of Medicaid Drug Cost Experience, Washington SDUD vs Retail Pharmacy MCO Reimbursement by Plan (2020 – 2023)



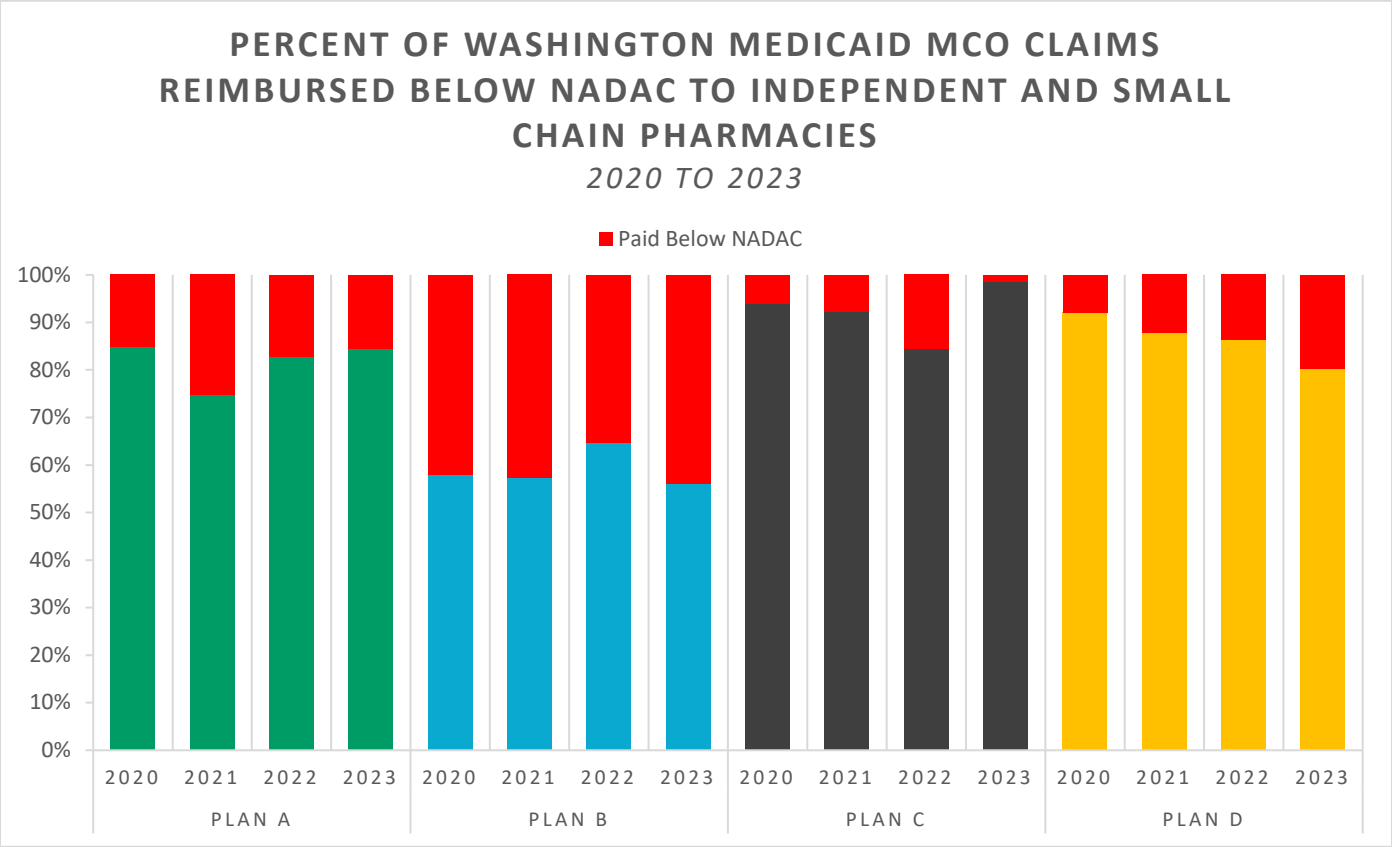
Note that because the spending within SDUD is not broken out by each specific MCO, our comparisons of the recognized reimbursement pharmacies received from MCOs relative to the SDUD average may not accurately reflect the reimbursement practices of the Washington MCOs collectively, as their representation within the SDUD average may not match their representation within our pharmacy claims data. Nevertheless,

[xvi] We did not have any pharmacy claim experience for one of the MCOs (Coordinated Care); which has approximately 2% of overall enrollment in Washington.

patterns do appear to be observed within **Figure 62** regarding typical MCO experience that we can investigate further.

To conduct our next analysis, we wanted to compare the rate of reimbursement recognized by pharmacies within our data set relative to NADAC. In such a way, we can attempt to identify whether the utilization patterns of the MCO are resulting in underpayments relative to the drug acquisition costs. To the extent that such underpayments are observed for the same plans that have the lower payment gap observed in **Figure 62**, we may identify that those plans are taking a more aggressive approach to drug reimbursement than their peers within the Washington managed care program (at least as it relates to small chain and independent pharmacies). Note that we do not need to rely upon the SDUD to perform this analysis. In **Figure 63** (below), we present the percentage of claims whose pharmacy reimbursement as recognized within our data was below the NADAC-equivalent drug cost for each of the MCOs.

Figure 63: Percent of Washington Medicaid MCO Claims Reimbursed Below NADAC to Independent and Small Chain Pharmacies (2020 – 2023)



Based upon the results in **Figure 63**, it would appear that not all MCOs are approaching pharmacy reimbursement in the same manner. The trends observed in **Figure 62** appear to extend into **Figure 63** (the plans with the smallest gap between SDUD and pharmacy payment generally have larger red bars in **Figure 63**). Interestingly, **Figure 63** suggests that although the aggregate Plan D experience is greater than SDUD averages (**Figure 62**), it is associated with approximately 15-20% of claims paying below NADAC. Said differently, Plan D may be creating more significant "overpayments" offset by greater "underpayments" for claims (at least relative to NADAC).

To investigate these trends on an individual drug basis, our last analysis will focus on the claims associated with the highest and lowest retail pharmacy claim payments relative to drug costs and the Washington SDUD

MCO average. In **Figures 64, 65, 66, & 67** below and on the next page, we analyze the top drug reimbursement differences between the margin acquired by our studied Washington retail pharmacies relative to the statewide average margins available for those same drugs. Ultimately, these figures speak to the potential high degree of variability that can occur on a per-drug basis.

Figure 64: Top 10 Observed Generic Drug Claims where Retail Pharmacy MCO Reimbursement Greater than SDUD Average (2020 – 2023)

Product Name	Pharmacy Data Observed MCO Margin Over NADAC	SDUD Observed Cost Over NADAC	Avg Difference (Rx SDUD)
metFORMIN HCl ER (MOD) Oral Tablet Extended Release 24 Hour 1000 MG	$1,105.77	-$37.16	$1,142.93
Entecavir Oral Tablet 0.5 MG	$708.84	$4.41	$704.44
Cinacalcet HCl Oral Tablet 30 MG	$647.47	-$5.08	$652.55
lamoTRIgine ER Oral Tablet Extended Release 24 Hour 100 MG	$649.10	$9.33	$639.77
Efavirenz-Emtricitab-Tenofo DF Oral Tablet 600-200-300 MG	$533.88	-$40.90	$574.78
Budesonide Oral Capsule Delayed Release Particles 3 MG	$541.40	$4.33	$537.07
Febuxostat Oral Tablet 40 MG	$525.03	$6.23	$518.81
Atazanavir Sulfate Oral Capsule 300 MG	$509.05	-$1.06	$510.11
Vancomycin HCl Oral Capsule 250 MG	$516.00	$34.48	$481.51
Erythromycin Oral Tablet Delayed Release 250 MG	-$184.63	-$615.84	$431.22

Figure 65: Top 10 Observed Brand Claims where Retail Pharmacy MCO Reimbursement Greater than SDUD Average (2020 – 2023)

Product Name	Pharmacy Data Observed MCO Margin Over NADAC	SDUD Observed Cost Over NADAC	Avg Difference (Rx SDUD)
YAZ Oral Tablet 3-0.02 MG	-$17.09	-$1,708.17	$1,691.08
Keppra XR Oral Tablet Extended Release 24 Hour 750 MG	$127.87	-$884.80	$1,012.67
OxyCONTIN Oral Tablet ER 12 Hour Abuse-Deterrent 80 MG	$6.67	-$974.13	$980.80
Topamax Oral Tablet 100 MG	-$3.65	-$951.48	$947.83
Lyrica Oral Capsule 300 MG	$11.62	-$734.81	$746.43
Viberzi Oral Tablet 75 MG	$637.66	$7.87	$629.79
Lialda Oral Tablet Delayed Release 1.2 GM	$52.65	-$522.68	$575.33
Dificid Oral Tablet 200 MG	$219.72	-$314.94	$534.65
Effexor XR Oral Capsule Extended Release 24 Hour 150 MG	$12.32	-$476.84	$489.16
OxyCONTIN Oral Tablet ER 12 Hour Abuse-Deterrent 40 MG	$31.39	-$369.37	$400.76

Figure 66: Top 10 Observed Generic Claims where Pharmacy MCO Reimbursement Less than SDUD Average

Product Name	Pharmacy Data Observed MCO Margin Over NADAC	SDUD Observed Cost Over NADAC	Avg Difference (Rx SDUD)
Topiramate ER Oral Capsule ER 24 Hour Sprinkle 200 MG	-$681.38	-$228.67	-$452.71
Felbamate Oral Tablet 400 MG	-$256.60	-$59.26	-$197.34
Etravirine Oral Tablet 200 MG	-$275.45	-$133.88	-$141.57
Carvedilol Phosphate ER Oral Capsule Extended Release 24 Hour 20 MG	-$69.26	-$27.46	-$41.80
cycloSPORINE Oral Capsule 100 MG	-$84.50	-$52.11	-$32.40
Rufinamide Oral Tablet 200 MG	-$41.41	-$9.42	-$32.00
Mesalamine Oral Tablet Delayed Release 800 MG	-$184.75	-$155.89	-$28.87
Zenatane Oral Capsule 40 MG	-$37.59	-$20.18	-$17.40
Budesonide ER Oral Tablet Extended Release 24 Hour 9 MG	-$134.86	-$120.31	-$14.55
Topiramate ER Oral Capsule ER 24 Hour Sprinkle 50 MG	-$50.73	-$37.63	-$13.10

Figure 67: Top 10 Observed Brand Claims where Pharmacy MCO Reimbursement Less than SDUD Average

Product Name	Pharmacy Data Observed MCO Margin Over NADAC	SDUD Observed Cost Over NADAC	Avg Difference (Rx SDUD)
Microgestin 1/20 Oral Tablet 1-20 MG-MCG	-$24.19	-$2.66	-$21.52
Klor-Con/EF Oral Tablet Effervescent 25 MEQ	-$30.35	-$9.55	-$20.80
Velphoro Oral Tablet Chewable 500 MG	-$36.08	-$30.02	-$6.06
Aptiom Oral Tablet 400 MG	-$13.65	-$7.63	-$6.02
Savaysa Oral Tablet 30 MG	-$9.33	-$4.02	-$5.31
Lybalvi Oral Tablet 10-10 MG	-$13.65	-$9.03	-$4.63
Xigduo XR Oral Tablet Extended Release 24 Hour 5-500 MG	-$6.19	-$2.59	-$3.60
Daliresp Oral Tablet 250 MCG	-$1.24	$2.18	-$3.43
Janumet XR Oral Tablet Extended Release 24 Hour 100-1000 MG	-$8.22	-$5.13	-$3.10
Microgestin FE 1/20 Oral Tablet 1-20 MG-MCG	-$2.79	-$1.11	-$1.68

Discussion

Drug pricing is a complicated endeavor subject to many potential complications and competing incentives. Historically, before there was prescription drug insurance, there were just drug prices. In the pre-insurance era, drug prices were determined by the providers of medications (and their customers' willingness to buy). However, as insurance grew to offer coverage of prescription medications, helping to advance drug development and pay for ever more complicated and impressive cures, payers sought to leverage their purchasing power to achieve negotiated discounts against providers and manufacturer drug costs. While initial discounts were relatively small (less than 10%), the passage of time has led to ever larger discounts to drug prices, such that today, the vast majority of claims are associated with discounts in excess of 80% of their benchmark (i.e., AWP). In no other market that we are aware of is the expectation for cost contextualized in such a manner whereby if you are not getting an 80%+ discount relative to price, you are overpaying. Inherent within such a system is an underlying irrationality that makes contextualizing drug costs relative to our other experiences a challenging endeavor (often requiring hundreds of pages of drug pricing research).

Across our various drug pricing studies over the years, we have identified that leveraged discounts are not well suited to value individual drug costs, and thus the individual purchasers of prescription drugs can face irrational prices. Consider, for example, an accounting exercise related to a 'buy one, get one free (BOGO)' sale (one of the only experiences where we might expect a significant discount on cost; i.e., 100% off the second product's cost). If the two products cost $100 each outside of the BOGO, the anticipated costs under the BOGO is $100 for two of the products. However, if we had to account for the two purchases on a line-item basis, would we recognize the costs as $100 for product #1 and $0 for product #2, or $50 each, or some other permutation? While the aggregate results may not matter for our overall accounting, the individual decisions do. Applying this learning to drug costs can help us contextualize some of the challenges with aggregated, leveraged discounts. If some people pay the full price of a drug (i.e., $100 in our BOGO example) so that others can get the drug for free (e.g., $0 in our BOGO example), then arguably some people will get more value than others under the same benefit or insurance. The inherent inequity in attempting to apply individual costs in the BOGO example to the individual costs under an aggregate and leveraged drug pricing discount can help us begin to understand the significance of the findings within this report. Only through reflecting on the inherent nature of drug prices contractually (i.e., via leveraged discount) can we appreciate why the same drug, on the same day, at the same provider, may have different results. Said differently, it matters to the individuals how we apportion the leveraged (i.e., BOGO) deal.

In this analysis, we attempted to understand the various perspectives on drug costs from two of the most interested parties in the sale of prescription medications – pharmacy providers and plan sponsor payers. Commercial plan sponsors incur most of (i.e., 80%+) of the drug costs that pharmacy providers dispense for their members (based upon our analysis).[xvii] And yet, despite retail pharmacy providers servicing the majority of commercial plan sponsor claims (i.e., greater than 70%), our analysis found that retail pharmacy providers face divergent drug pricing trends from those of plan sponsors. While commercial pharmacy reimbursement trends were generally low, with single digit changes year-over-year, plan sponsors in Washington appear to face drug prices that are rising faster over time than roughly any other anticipated cost to their business (as measured by inflationary measures). The divergence in perspective is significant enough that both would likely identify competing priorities for addressing drug costs going forward, which invites the question of why?

[xvii] Again, our analysis did not consider the value of premiums, deductibles or rebates. Nevertheless, we feel that commercial plan sponsors reasonably incur the majority of costs, though the 80% figure may be inappropriate in an analysis that considers all the unknown factors within our report.

The underlying analysis suggests that part of the divergence between pharmacy providers and plan sponsors relates to class of trade issues. Class of trade is a nebulous term that recognizes that the value of leveraged pricing discounts fails to treat the same drug equally (on the basis of a drug's price) based upon where the medication costs were incurred. Said differently, class of trade distinctions acknowledge that the value or pricing of drugs may differ depending on where they are dispensed or sold, such as retail pharmacies, specialty pharmacies, or mail-order pharmacies. One example explored within this report was for the medication teriflunomide (generic Aubagio). Teriflunomide products have relatively similar drug prices (as measured by AWP); however, the cost of this medication can vary significantly depending upon whether it is dispensed by a cost-plus mail pharmacy or a specialty mail-order pharmacy. Such pricing activity appears to occur separately and apart from the underlying drug manufacturer pricing, as even the same NDCs can have different prices on the same day (both within the studied pharmacy provider data and plan sponsor data). The divergent nature of drug costs in these respects is an often uninvestigated and understudied aspect of our nation's unique drug pricing paradigm.

Through creation of drug pricing 'highs' and drug pricing 'lows,' the ultimate value within the drug pricing transaction is largely predicated on the entity determining and setting drug prices. Most of the value of the pharmacy transaction is recognized on the drug ingredient cost, and so identifying 'service cost' differences (i.e., class of trade) can be challenging. It is unclear what methods may motivate drug pricing to diverge based upon the type of pharmacy that dispenses the medication; however, changes in drug prices by class of trade do not appear well aligned with recognizing the underlying value of the drug product. Rather, because the majority of drug costs are recognized in ingredient cost reimbursement (and not in drug dispensing or incentive fees), the market is given incentives to deceive on actual drug costs (pharmacies, manufacturers, wholesalers, PBMs). Only through arbitraging drug costs can those who participate in the drug supply chain hope to better their financial position year-over-year. Such incentives seem misaligned with broader goals to lower drug prices over time.

Pharmacy benefit managers (PBMs) claim expertise in managing drug costs and greater efficiencies with the more they can control in the drug channel. Through the use of maximum allowable cost (MAC) lists, PBMs claim to incentivize the rational sourcing of drug products to help plan sponsors avoid incurring higher costs. Through the fulfillment of specialty medications, PBMs seek to ensure that the most expensive therapies are reasonably and appropriately utilized. However, in taking on responsibility for drug pricing determinations, there is reasonable evidence to suggest concerns regarding conflicts of interest and a lack of transparency regarding drug prices. If PBMs are the experts of MAC-list-based incentives and specialty product sourcing, what reasonable explanations can be offered for our observations of the significant differences in overall costs between retail pharmacies and mail-order pharmacies for typical retail drugs? How can a medication, taken in tablet form, stored at room temperature, at times be associated with a $4,000 charge, whereas others sell the product for $20? Why is there such resistance to drug payment anchored to NADAC when the data suggests that plan sponsors are already incurring costs at or near NADAC + $10 (i.e., the prevailing cost-plus methods) but pharmacy providers are routinely reimbursed NADAC + $7? Said differently, why do AWP-based discounts continue to dominate plan sponsor contracts when their equivalent cost is already at or near NADAC + $10 (presumably a reasonable approximation of AAC-based costs)?

While our report is unable to answer these questions, it is undeniable that individuals will continue to need medications to improve their quality of life and prevent negative outcomes of untreated disease. What remains unknown is how medication costs will be afforded when drug prices are subject to such disparities in experience.

Methodology

All analytics performed in this study were based on the combination of the following data sources:

- Washington retail pharmacy reimbursement data
- Washington commercial plan sponsor pharmacy reimbursement data
- CMS' National Average Drug Acquisition Cost (NADAC) database
- CMS' State Drug Utilization Data (SDUD)
- Mark Cuban Cost Plus Drug Company (MCCPDC) pricing
- Medi-Span PriceRx by Wolters Kluwer Clinical Drug Information Inc
- Texas Medicaid Vendor Drug Program Pricing File
- CMS' Part D Information to Drug Manufacturers
- Washington Health Care Authority Apple Health Plan Information

Details regarding the handling of each of these databases, including any data joins and/or transformations are provided below.

Data Sources

The following data sources were gathered in advance of joining any data cleaning, transformations, and/or data joins.

Washington Retail Pharmacy Reimbursement Data

3 Axis Advisors obtained over six million de-identified pharmacy claims from 33 unique pharmacy locations in the State of Washington. Because the claims are coming from disparate sources (i.e., pharmacies without shared ownership or shared software), pharmacy claims were collected around NCPDP segments (Transaction Header [e.g., BIN, PCN, Date of Service, etc.], Claim Segment [e.g., NDC, quantity, days supply, etc.], and pricing segment [e.g. ingredient cost paid, dispensing fee paid, patient pay amount, etc.]) and ultimately unioned together based upon collecting these specific fields:

Field Requested	Description
NDC	11 Digit National Drug Code for product billed
NPI	National Provider ID number for billing provider
Usual And Customary	Providers Usual and Customary Charge
Ingredient Cost Paid	Ingredient Cost Paid for NDC billed
Plan Paid Amount	Total amount payer contributed to negotiated rate
Patient Paid Amount	Beneficiaries cost share
Total Payment	Total sum of payment paid to provider
Quantity	Metric quantity for billed product
Days Supply	Days supply for billed product
Date of Claim	Date of Claim
BIN Number	Bank Identification Number for billed payer
PCN Number	Processor Control Number for billed payer
Group Number	Group ID for billed payer
DAW Code	Dispense as written code
Basis of price determination	Numerical Code to identify the basis used to determine price

Washington Commercial Plan Sponsor Pharmacy Reimbursement Data

3 Axis Advisors obtained nearly three million de-identified pharmacy claims from eight unique plan sponsors in the State of Washington. Because the claims are coming from disparate sources (i.e., payers without shared ownership or the same PBM), pharmacy claims were collected around the same types of data as for pharmacy claims (see above) and unioned together.

Field Requested	Description
NDC	11 Digit National Drug Code for product billed
NPI	National Provider ID number for billing provider
Usual And Customary Submitted	Providers Usual and Customary Charge
Ingredient Cost Paid	Ingredient Cost Paid for NDC billed
Plan Paid Amount	Total amount payer contributed to negotiated rate
Patient Paid Amount	Beneficiaries cost share
Total Payment	Total sum of payment paid to provider
Quantity	Metric quantity for billed product
Days Supply	Days supply for billed product
Date of Claim	Date of Claim
BIN Number	Bank Identification Number for billed payer
PCN Number	Processor Control Number for billed payer
Group Number	Group ID for billed payer
DAW Code	Dispense as written code
Basis of price determination	Numerical Code to identify the basis used to determine price

Note, not all plan sponsor data had all of these fields, with the most common missing field being basis of price determination. To the extent that a field was relied upon for an analysis, the claim was dropped from consideration (e.g., in counting basis of reimbursement, count would be out of all claims with a non-null value within basis of reimbursement).

National Average Drug Acquisition Cost (NADAC) Database

NADAC was developed by the Centers for Medicare and Medicaid Services (CMS), "to provide a national reference file to assist State Medicaid programs in the pricing of Covered Outpatient Drug claims to reflect the actual acquisition cost (AAC) of drugs."[87] As such, NADAC's goal is to be the most comprehensive public measurement of market-based retail pharmacy acquisition cost. NADAC is compiled by Myers and Stauffer on behalf of CMS. It is generated from a voluntary monthly invoice cost survey of 2,500 randomly selected retail pharmacies (with 450-600 respondents). After Myers and Stauffer completes its data processing and clean-up activities, it publishes the survey results at the National Drug Code (NDC) level on Medicaid.gov.

As of December 2023, the NADAC database included prices for 29,464 different NDCs.[88] As state Medicaid fee-for-service programs have shifted to an actual acquisition cost (AAC) basis to comply with the Covered Outpatient Drug Rule (CMS-2345-FC), many states have utilized NADAC as the primary proxy for acquisition cost.[89] As such, we believe NADAC is the best publicly available pricing benchmark to approximate average pharmacy invoice costs. We relied on the NADAC database extensively throughout this report as our best estimate for a drug's actual acquisition cost.

State Drug Utilization Data (SDUD)

State agencies responsible for Medicaid operations are responsible for reporting drug utilization for covered outpatient drug expenditures incurred by their programs to the Centers for Medicare and Medicaid Services (CMS). Utilization is reported on a quarterly basis and published on Medicaid.gov approximately four months after the close of each quarter. The database includes total dollars spent, units reimbursed, and prescriptions for each 11-digit National Drug Code (NDC) per quarter, by state, and program type (i.e. Managed Care or Fee-for-Service). This data is used to understand Washington Medicaid expenditures for prescription drugs.

Mark Cuban Cost Plus Drug Company (MCCPDC) Pricing

Mark Cuban Cost Plus Drug Company offers home delivery for many brands and generic prescription drugs, as well as a program that allows their pricing to be achieved at local pharmacies that opt into their network. MCCPDC prices medications utilizing a transparent formula consisting of the price MCCPDC paid to acquire the drug plus a 15% markup. In addition, there is generally a $5 labor charge to fill a prescription along with a $5 mailing fee (some items (such as cold chain) may have additional fees). MCCPDC openly publishes acquisition prices at an NDC-level for the prescription drugs they carry, offering a public source for net retail drug acquisition prices.

Medi-Span PriceRx by Wolters Kluwer Clinical Drug Information, Inc.

Medi-Span PriceRx is an online pricing and drug information portal developed by Wolters Kluwer Clinical Drug Information, Inc. (WKCDI). PriceRx offers one of the most extensive histories of drug manufacturer pricing, with NDC-level drug pricing dating back to the 1980s. PriceRx was the source of the raw data that we used for AWPs for our analyses. It was used to classify brand vs. generic status. Medi-Span information is not in the public domain and requires a subscription service to access the data and field descriptions.

Texas Medicaid Vendor Drug Program Pricing Files

Reimbursement of outpatient prescription drugs within the Texas Medicaid program is based on the drug's Actual Acquisition Cost (AAC) according to the Covered Outpatient Final Rule of the Affordable Care Act of 2010.[90] AAC is defined as an estimate of prices generally and is verifiable by invoice audit conducted to include necessary supporting documentation verifying the final cost to the provider. Prices are established using market or government sources, which include, but are not limited to:

- Reported manufacturer pricing;
- First Databank;
- Redbook;
- Weighted AMP, as published by CMS;
- NADAC, as published by CMS; or
- Gold Standard pricing service

Medicare Part D Information for Plan Sponsors

The Centers for Medicare and Medicaid Services (CMS) provides information related to Part D program operations for pharmaceutical manufacturers.[91] Included within this information is a list of Bank Identification Numbers (BIN) and Processor Control Numbers (PCN) values unique to Medicare prescription drug claims processing according to the requirements of the Medicare Pharmacy manual. This list of BIN and PCN values was accessed for the years of claims data and relied upon to identify Medicare claims within our report.

In addition, because of our experience, any PCN value that contained "MCARE" within any portion of the field were also identified as Medicare claims within our analysis (see **Line of Business** section below).

Washington Health Care Authority Apple Health Plan Information

The Washington State Health Care Authority (HCA) provides information related to the Apple Health (Medicaid) plan pharmacy claim processors.[92] Included within this information is a list of BIN, PCN, and Group Numbers specific to Washington Medicaid prescription drug claims processing. This list was accessed for the years of claims data and relied upon to identify Washington Medicaid claims within our report.

In addition, because of our experience, any PCN value that contained "MCAID" within any portion of the field were also identified as Medicaid claims within our analysis (see **Line of Business** section below).

Data Connections

Utilizing the above data sources, the following describes how information was joined for the purposes of conducting our analyses. The raw data was initially cleaned using Polars and Duck DB libraries from the Python programming language. The claims were then normalized into relationship tables and loaded into a MS SQL Server Database.

Line of Business (LOB)

The majority of prescription drugs are obtained through insurance benefit, as roughly eight to nine out of every 10 Americans has health insurance.[93] However, the manner in which people obtain drug coverage varies from public entitlement programs (i.e., Medicaid and Medicare) to private plans generally obtained as part of a benefits package offered by a person's employer (i.e., commercial). The various means by which people get prescription drug insurance represents the pharmacy Lines of Business (LOB) that influences their overall payment experience. The following describes our methods to identify LOB within the pharmacy claims data (Note, all plan sponsor data was from commercial groups, and therefore, does not require separate LOB methods).

Medicaid

We used the billing information within the Washington State Health Care Authority (HCA) Apple Health Plan information to flag pharmacy claims as belonging to the Medicaid LOB based upon the claims having the identified BIN, PCN, and Group Number on the claim as reflected in the document. In addition, any PCN value that contained "MCAID" within any portion of the field were also identified as Medicaid. While we believe that these processes reasonably identify Medicaid claims, it is possible that it may underestimate Medicaid claims, particularly for pharmacies near the Washington border who may experience Medicaid claims from other states (see **Limitations** section later in this report for more information).

Medicare

We used the billing information within the CMS Information for Drug Manufacturers zip files of BIN and PCN values to flag pharmacy claims as belonging to the Medicare LOB based upon the claims having the identified BIN and PCN on the claim as reflected in the zip files. Note that CMS has provided historic direction that Medicare BINs and PCNs are to be unique to the Medicare program.[94] Therefore, we believe that this process reasonably identifies Medicare; however, to increase the likelihood of accurately capturing Medicare claims, we also include any PCN value that contained "MCARE" within any portion of the field and also identified them as Medicare.

Commercial

Pharmacy claims that were not flagged as either Medicaid or Medicare based upon the above steps were evaluated for inclusion into commercial claims based upon an exception analysis. Specifically, we evaluated the remaining pharmacy claims for the following characteristics and did not flag claims containing these characteristics as "Commercial":

- Claims with Multiple Payers (i.e., Coordination of Benefits [COB])
    - Claims containing the basis of reimbursement codes of 14 (other payer paid responsibility amount), 15 (patient pay amount), or 16 (coupon payment) were considered COB.
    - A relatively few numbers of companies process most manufacturer copay assistance cards and trial vouchers. From our experience, McKesson and Change Healthcare handle a significant share of such transactions and therefore, we considered claims processed through these vendors to be likely COB or non-PBM transactions and excluded such transactions from analysis.
    - A small percentage of our claims did not contain basis of price determination and were not processed through McKesson or Change Healthcare but appeared to have brand reimbursement rates that were significantly below typical retail pharmacy contracting rates. In such cases, we believe these to be secondary claims. Secondary claims occur when a beneficiary has both a primary insurance and secondary insurance. In such cases, the primary insurance is billed first and then any remaining out-of-pocket amount (for example, a $30 copay) is sent to secondary insurance. Depending on the software vendor, secondary claims may be present in the raw pharmacy data as gross underpayments because the pharmacy is only billing for the remaining out-of-pocket amount (for example, the $30 copay). To help correct for such occurrences, we further identified brand claims where the margin relative NADAC was greater than $50 below NADAC (a significant underwater claim), was not identified as having a basis of price determination of maximum allowable cost (MAC) (suggesting brand reimbursed as generic), and the AWP discount was >= 40% (a rate that is significantly more aggressive than the brand AWP-to-NADAC equivalency around AWP – 20% to -21%). There were not a significant number of claims that fell into this bucket, but the ones that did had a mean payment below NADAC that exceeded $400. We felt most small businesses would not voluntarily sustain such a loss and most of these claims were likely secondary claims representing the reimbursement portion of the beneficiary's cost share from the primary billing. While we are confident in the decision to exclude these claims from analysis, to the degree with which we incorrectly excluded any of these claims, it would mean that average studied pharmacy margins would be conservative and appear higher than reality.
- Claims Associated with Pharmacy Discount Cards
    - Transactions which produced an out-of-pocket charge and had a negative remittance due to the processor (PBM) were considered a discount card.
    - Additionally, processing fees on discount cards are not always reflected at the point-of-sale (POS). From our experience, it is highly unlikely any one payer would provide an experience across many pharmacies in which the pharmacy's total compensation solely came from 100% member out-of-pocket contributions (the plan did contribute to total reimbursement for a single claim). For this reason, we considered any unique BIN, PCN, Group Number in which 100% of claims where only member payment was responsible for pharmacy reimbursement (i.e., no apparent plan payment made on any claim).
- Claims for Medical Devices / Vaccines

    - At times, plans will designate specific BIN numbers for pharmacies to bill claims which fall under a medical benefit as opposed to a pharmacy benefit. This enables pharmacies to easily process traditional medical claims (such as diabetic testing supplies or certain vaccines) while improving provider accessibility to members. We identified BIN numbers 007895 and 004303 as largely nonprescription drug billings (DME or vaccines) and removed these claims from the analysis. Additionally, any PCN containing IMMUNE or FLU was determined to likely be immunization networks or Part B billings for the flu vaccine.
- Claims billed through Medicare Part B via a Pharmacy POS Service
    - Claims with a PCN containing 'PARTB' were considered Medicare Part B billings and excluded from the analysis.
- COVID-related billed claims
    - COVID-related billed claims were largely service-based reimbursement in which there was no cost of goods. For example, COVID vaccines were supplied to pharmacies at no charge and pharmacies received an administration fee that represented total compensation. For this reason, we feel it would not be appropriate to include service-based reimbursement in an analysis that primarily focuses on drug costs. We identified COVID billings on a Medi-Span GPI 8 basis identifying any GPI 8 name containing 'COVID'
- 340B Logic
    - A single pharmacy provider in our study had a significant number of underwater brand claims where the AWP discount was greater than 40%. A search of 340B entities revealed the provider was registered as a 340B contract pharmacy. We felt confident these claims were 340B dispensing despite the claims data lacking basis of price determination and removed these claims from the analysis.
- Zero Quantity Claims
    - Claims with a quantity of "zero" were excluded from the analysis.
- Cash
    - Some pharmacies elect to use a third party to manage pricing for cash-pay prescriptions. We have identified BIN numbers 014798, 013006, and 019363 to be associated with cash management pricing programs and have designated these transactions as 'CASH' and excluded them from the analysis.
- Over the Counter (OTC)
    - Employers and Public Payers may elect to cover OTC items. OTC items can have different reimbursement schedules than prescription drugs. We therefore identified OTC items as items which could be sold without a prescription and removed the items from the analysis.
- Misc
    - We notice significant discrepancies in how NARCAN Nasal spray was billed (inconsistent quantities per metric unit) vs reimbursed. Inconsistencies in package size billing prevent the ability to compare reimbursement to reference pricing and therefore we excluded NARCAN nasal spray from the analysis.
    -

All other remaining pharmacy claims after this exception analysis evaluation were considered "Commercial." The following table (on the next page) identifies the end result of the data cleaning of claim transactions into the LOB segments:

Pharmacy Claims Data

Category	Prescription Count	Percent Of Total
COMMERCIAL	2,278,095	37.4%
MEDICARE	1,980,640	32.6%
MEDICAID	1,191,004	19.6%
OTC	276,254	4.5%
COVID	113,865	1.9%
CASH	80,563	1.3%
DISCOUNT	75,799	1.2%
COB	38,750	0.6%
ZERO QUANTITY	27,949	0.5%
VACCINES AND MEDICAL	18,098	0.3%
340B	1,064	0.0%
PART B	128	0.0%
NARCAN	1,944	0.0%
Total	**6,084,153**	**100.0%**

Plan Sponsor Data

Category	Prescription Count	Percent Of Total
COMMERCIAL	3,031,578	96.6%
OTC	61,341	2.0%
COVID	34,983	1.1%
COB	11,105	0.4%
Total	**3,139,007**	**100%**

Brand and Generic Designation

Regrettably, there is not a uniformly established class of trade designation within pharmacy dispensing. Pharmacy providers, wholesalers, PBMs, and/or plan sponsors may have different proprietary formulas that identify and handle claims as "generic" which another entity (whether parallel or elsewhere in the drug supply chain) considers a "brand" or vice versa. The designation of a product as "brand" or "generic" can have significant financial implications to pharmacy claim payment for both pharmacy providers and plan sponsors. For example, generic claims may be eligible for payments according to a Maximum Allowable Cost (MAC) whereas brands would not.

In order to conduct our analyses, we needed a uniform way of handling brand and generic designation across both the pharmacy claims and plan sponsors. We used the following logic to flag records as brand or generic.

```
def _add_is_brand() -> pl.Expr:
    return (
        pl.when(pl.col('drug_application_type_fda') == 'ANDA').then(pl.lit(0))
        .when((pl.col('drug_application_type_fda') == 'Not Available') &
         (pl.col('brand_name_code_bnc') == 'G')).then(pl.lit(0))
```

```
            .when(pl.col('drug_application_type_fda') == 'BLA').then(pl.lit(1))
            .when((pl.col('drug_application_type_fda') == 'NDA') & (pl.col('brand_name_code_bnc') ==
'G')).then(pl.lit(0))
            .otherwise(pl.lit(1)).alias('is_brand')
)
```

The above script can be interpreted as follows:

- Claims for medicines that were approved to market within the U.S. based upon an Abbreviated New Drug Application (ANDA) by the FDA were designated as "generic." FDA application type was sourced from the Medi-Span data source joined to both the plan sponsor and pharmacy claims data on a NDC-to-NDC basis.
- Claims where FDA application information is not available, whose products are marketed according to their generic name (and not a brand name) are designated as "generic"). Marketing designation was based upon the flag within the Medi-Span data source joined to both the plan sponsor and pharmacy claims data on an NDC-to-NDC basis. Specifically, Medi-Span contains a field which identifies claims as either "Trademarked", "Branded Generic", or "Generic Name."
- Claims who were approved to market within the U.S. based upon Biologic License Application (BLA) by the FDA were designated as "brand." FDA application type was sourced from the Medi-Span data source joined to both the plan sponsor and pharmacy claims data on an NDC-to-NDC basis.
- Claims who were approved to market within the U.S. based upon a New Drug Application (NDA) by the FDA, but who are marketing themselves under their generic name were designated as "generic." FDA application type and marketing information were sourced from the Medi-Span data source joined to both the plan sponsor and pharmacy claims data on an NDC-to-NDC basis.
- All other claims were designated as "brand."

Pharmacy Class of Trade

- Pharmacies were grouped by class of trade into chain, small/independent, grocer, mail, or health system.
    - A pharmacy was considered a grocer pharmacy if the pharmacy's parent company's primary business was that of a grocer.
    - A pharmacy was considered a health system pharmacy if the pharmacy's parent company was a health system.
    - A pharmacy was considered a chain pharmacy if the pharmacy's parent company owned 20 or more stand-alone locations and the parent company's primary business was that of a pharmacy.
    - A pharmacy was considered a mail order pharmacy if the pharmacy was PBM owned or affiliated and was not a stand-alone retail location.
    - Otherwise, the pharmacy would be considered small/independent pharmacy.

Limitations

As with all research, our report is predicated on the accuracy of the data provided. The degree that such data differs from actual market conditions will have a notable impact on the analysis reflected within our report.

Limitations of SDUD

CMS is obligated by the Federal Privacy Act, 5 U.S.C. Section 552a and the HIPAA Privacy Rule, 45 C.F.R Parts 160 and 164, to protect the privacy of individual beneficiaries and other persons. Consequently, CMS suppresses data that are less than eleven (11) counts. CMS applies counter or secondary suppression in cases where only one prescription is suppressed for primary reasons, e.g., one prescription in a state. Also, if one sub-group (e.g., number of prescriptions) is suppressed, then the other sub-group is suppressed. The database should not include 340B claims per the data collection methodology. However, aggregate payment rates relative to AWP suggest that some claims paid at 340B rates may exist within the data. The lack of 340B claims can be impactful in understanding Medicaid claim expenditures in relation to brand name medications. The suppression of low count claims can be significant if those claims are significantly divergent from the overall claim experience. Due to the nature of generic claims, which are 90% of utilization, the absence of claims due to suppression is likely to be of low impact to the analysis.

Limitations of NADAC

NADAC's main limitation is that it does not include off-invoice rebates that pharmacies may receive from wholesalers. Rebates lower the net cost to the pharmacy for many drugs and tend to be a percent discount off the invoice cost (if a pharmacy meets various generic purchasing targets with its primary wholesaler or pays its wholesaler bill on-time). As such, NADAC should not be viewed as a reflection of pharmacy net costs – these will vary depending on pharmacy size and wholesaler contract terms. Our analysis does not account for these price concessions to pharmacies; however, we feel this limitation is appropriately controlled when we consider Medicaid programs and CMS are aware of these price concessions, and yet still rely on NADAC. It seems likely that if these prices concessions were to become known, then there would be changes to the existing dispensing fee calculations employed by states. Furthermore, any presence of an off-invoice discount would likely be low as the median NADAC across all claims is approximately $15 (meaning even a 10% unknown discount is valued at just $1.50). Since our reliance on NADAC in this report is also reliant upon Medicaid dispensing fees, we feel this limitation is appropriately controlled.

A secondary limitation of NADAC is that the survey of retail pharmacies that it is based on is voluntary. Myers & Stauffer randomly selects and surveys ~2,500 pharmacies a month. Of this group, 450-600 pharmacies per month provide their acquisition costs, which become the basis for NADAC. Of course, to the extent that there are NDCs that have not been purchased by the 450-600 pharmacies that respond to the survey, NADAC will not capture these NDCs. In April 2017, CMS assessed the materiality of this limitation. They found that NADACs were calculated for approximately 96% of all Medicaid claim submissions: 87% of brand claims, and 97% of generic claims.[95] This significant level of NDC coverage for generic drugs mitigates the risk introduced by the voluntary nature of the survey, in our view.

A final limitation that we will identify (although others exist) is that per the methodology of CMS, NADAC is limited to retail pharmacy purchases that meet CMS' definition of a Covered Outpatient Drug. In practical term, NADAC is not established for a limited number of high-cost drugs (most frequently these products are categorized as specialty drugs). Given these products are often a source of high expenditures by health

plans this limitation can be significant in individual drug instances. However, as we already identified, the majority of claims have an established NADAC, and we feel this limitation is appropriately controlled.

Limitations of Pharmacy Claims

There are approximately 1,200 pharmacies within the state of Washington.[96] Obtaining data from 33 small & independent pharmacies represents roughly 3% of the retail pharmacy footprint within the state. The analysis we conducted demonstrated potential differences within retail pharmacy experience that we could not directly investigate within our pharmacy reimbursement data set (as we did not have grocery store or chain store data). Nevertheless, we acknowledge that our data analysis represents a limited perspective on the overall market within Washington.

Another limitation of our claims data is that Rx BIN, PCN, and Group numbers are imprecise numbers in claims transactions and storage. For example, a plan whose prescription benefit card indicates it may should be billed with an Rx BIN and PCN but a blank Group may still accept claims with a group number transmitted. Another example would be a Group ID that is supposed to be billed under ADV may be accepted when billed under MCAIDADV. We limited this error by relying upon the Rx BIN, PCN, and Group numbers retrieved from the Washington Health Care Authority to identify Washington Medicaid claims and Part D billing information from the CMS website to identify Part D claims. All additional claims not classified were considered commercial (with modifications outlined in our methodology). These errors are potentially confounded as the pharmacy data received was not uniform, came from various software systems and formats and required merging like data fields together. As discussed, there are cases where transmitted information may be accepted by a payer for payment despite the payments fields not exactly matching. This error impacts an unknowable number of claims; however, given that the pharmacy received a successful transaction with the PBM we believe that the risk is appropriately controlled with our methods and therefore this limitation should not impact the overall results of our analyses.

A final limitation that we will discuss (although others exist), is that pharmacy claim payment may be subject to retrospective reconciliations. As discussed, payment guarantees between pharmacies and PBMs may result in changes to payment after the POS. Our report does not attempt to assess the potential value of these reconciliations, and so we may overestimate total pharmacy reimbursement.

Limitations of Plan Sponsor Data

Several other plan sponsors expressed a desire to participate in the survey but were unsuccessful in receiving the necessary pricing details from their PBM. The missing data fields and inability for some plan sponsors to receive the data necessary to participate highlights a recurring challenge plan sponsors have in evaluating the nature of the pharmacy benefits cost exposure and thus, their ability to adequately calibrate and control it. While we cannot reasonably estimate the total number of employer groups offering health benefits within the state of Washington, the size of received plan sponsor data is likely less representative than our pharmacy data set (particularly because we received less claims within the plan sponsor data relative to pharmacy providers). We cannot reasonably estimate the degree to which our plan sponsor data is representative of all plan sponsors within Washington given the unknown size and scale of the market.

Similar to our pharmacy data, the plan sponsor data was not uniform, came from various software systems and formats and required merging like data fields together. As with pharmacy data, the underlying nature of pharmacy transactions is such that merging the data is relatively simple, but to the extent that errors exist they may not be readily identified within our final data set (given the data mergers).

Another note of context that was mentioned earlier in the report but is worth reiterating here is that gross spending on brand-name drugs is commonly offset to a meaningful degree by retrospective rebates that flow from drug manufacturers to PBMs and health plans. Prescription drug rebates are payments by drug manufacturers to secure favorable coverage for drug manufacturer products. Health plans contract with PBMs to negotiate rebates with drug manufacturers on behalf of their members; however, the details regarding rebate payments are often unknown. The total estimated value of rebates to health plans generally varies based upon a variety of factors including the market in which they operate, the benefits offered, formulary decisions, the size of the plan, and others. Although individual drug rebates are generally unknown, estimates of rebate value exist within the public domain. In general, commercial plan sponsor rebates are believed to approximate 20% based on previous commercial rebate analyses. For this report, the value of rebates is unknown. While we acknowledge the value of rebates is an important consideration for plan sponsors, rebates exist independent of what occurs at the point-of-sale, where pharmacies buy and sell drugs. This report is principally focused on the transaction between plan sponsor, pharmacy, and patients, where the value of rebates is generally not recognized (as point-of-sale application of rebates is rare).

The final limitation we will discuss related to plan sponsor data (although others exist) is that claim payment may be subject to retrospective reconciliations. As discussed, payment guarantees between plan sponsors and PBMs may result in changes to payment after the fact. Our report does not attempt to assess the potential value of these reconciliations, and so we may overestimate total costs to plan sponsors.

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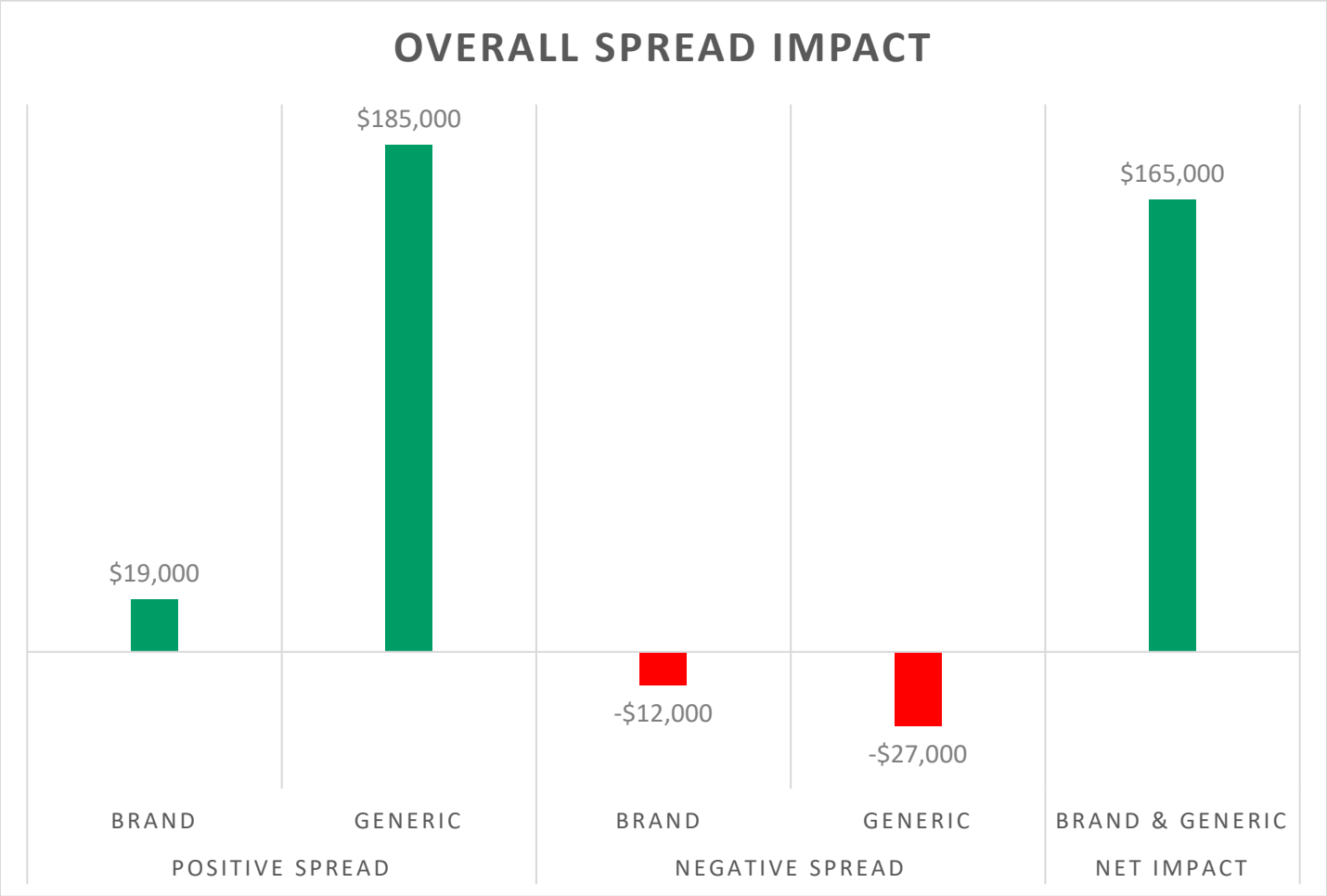
Appendix


OVERALL SPREAD IMPACT
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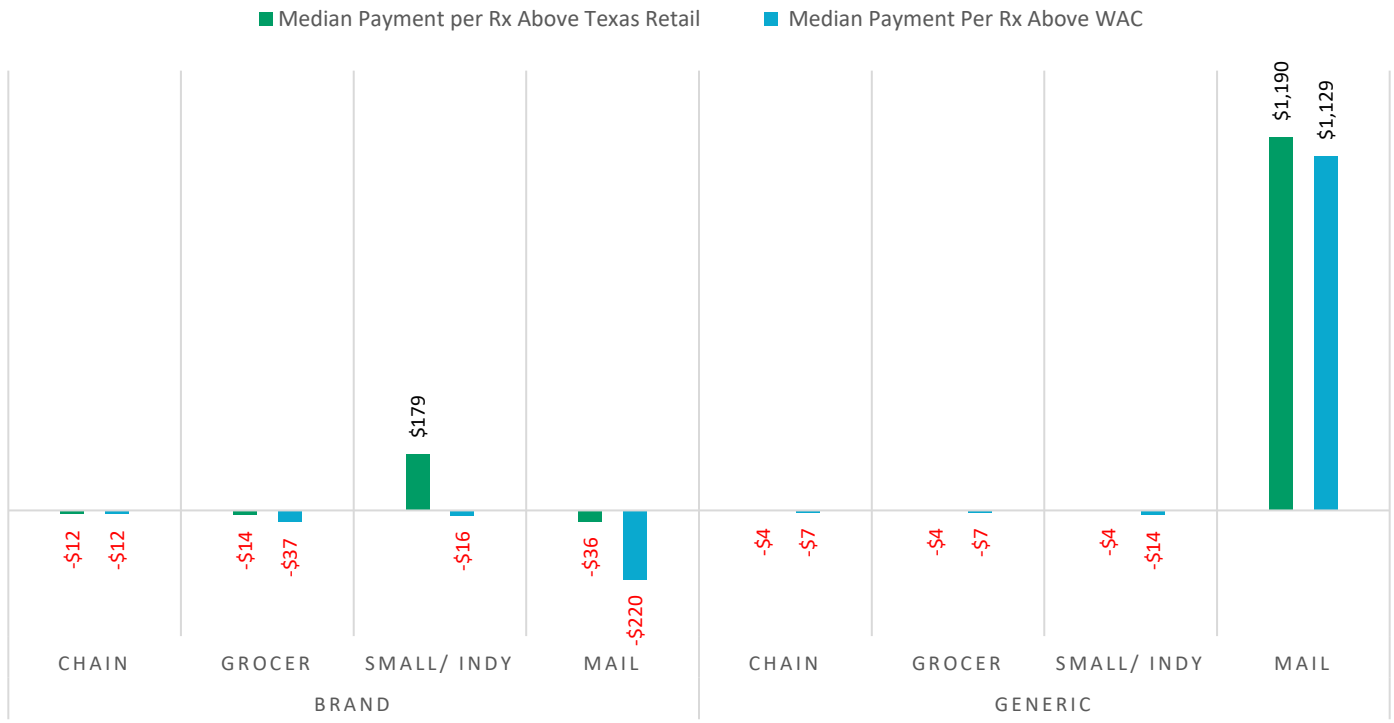
BRAND
GENERIC
BRAND
GENERIC
BRAND & GENERIC
POSITIVE SPREAD
NEGATIVE SPREAD
NET IMPACT

NON-NADAC ANALYSIS OF PLAN SPONSOR COST RELATIVE TO ESTIMATED DRUG COST, CLASS OF TRADE ANALYSIS



Top Mail Margin Over NADAC Claim Examples

Product	Brand or Generic	Est. Mean Margin	Est. Median Margin
Abiraterone Acetate Oral Tablet 250 MG	Generic	$5,687.42	$6,034.73
Imatinib Mesylate Oral Tablet 400 MG	Generic	$5,611.37	$5,345.06
Clobetasol Propionate External Gel 0.05 %	Generic	$4,786.84	$4,799.75
Teriflunomide Oral Tablet 14 MG	Generic	$4,166.07	$4,166.07
Afinitor Oral Tablet 10 MG	Brand	$3,556.69	$3,556.69
Imatinib Mesylate Oral Tablet 100 MG	Generic	$3,208.14	$4,427.55
niMODipine Oral Capsule 30 MG	Generic	$2,699.09	$2,782.56
Glatiramer Acetate Subcutaneous Solution Prefilled Syringe 40 MG/ML	Generic	$2,300.88	$1,853.80
Lacosamide Oral Tablet 150 MG	Generic	$2,220.79	$2,495.42

Product	Brand or Generic	Est. Mean Margin	Est. Median Margin
Dimethyl Fumarate Oral Capsule Delayed Release 240 MG	Generic	$1,925.41	$591.95
Cinacalcet HCl Oral Tablet 90 MG	Generic	$1,876.35	$1,876.35
Tobramycin Inhalation Nebulization Solution 300 MG/5ML	Generic	$1,824.42	$1,873.94
Tadalafil (PAH) Oral Tablet 20 MG	Generic	$1,612.25	$1,502.90
Emtricitabine-Tenofovir DF Oral Tablet 200-300 MG	Generic	$1,546.48	$812.62
Lurasidone HCl Oral Tablet 60 MG	Generic	$1,494.46	$1,494.46

Lowest Mail Margin Relative to NADAC Claim Examples

Product	Brand or Generic	Est. Mean Margin	Est. Median Margin
Pentasa Oral Capsule Extended Release 500 MG	Brand	-$193.38	-$240.66
Triumeq Oral Tablet 600-50-300 MG	Brand	-$196.98	$2.36
Ursodiol Oral Tablet 250 MG	Generic	-$201.57	-$255.42
Pramipexole Dihydrochloride ER Oral Tablet Extended Release 24 Hour 3 MG	Generic	-$203.18	-$203.18
Latuda Oral Tablet 40 MG	Brand	-$205.44	-$202.14
Lialda Oral Tablet Delayed Release 1.2 GM	Brand	-$216.57	-$221.50
Tresiba FlexTouch Subcutaneous Solution Pen-injector 200 UNIT/ML	Brand	-$228.35	-$199.89
Xifaxan Oral Tablet 550 MG	Brand	-$249.95	-$137.56
Micardis HCT Oral Tablet 80-12.5 MG	Brand	-$263.51	-$450.90
Wellbutrin XL Oral Tablet Extended Release 24 Hour 150 MG	Brand	-$272.12	-$256.21
Oxtellar XR Oral Tablet Extended Release 24 Hour 600 MG	Brand	-$287.07	-$314.06
Temozolomide Oral Capsule 100 MG	Generic	-$314.54	-$314.54
Banzel Oral Tablet 200 MG	Brand	-$314.85	-$307.69

Product	Brand or Generic	Est. Mean Margin	Est. Median Margin
Wellbutrin XL Oral Tablet Extended Release 24 Hour 300 MG	Brand	-$354.81	-$359.28
Odefsey Oral Tablet 200-25-25 MG	Brand	-$365.21	-$271.51

Top Mail Margin Over WAC (Non-NADAC Drugs) Claim Examples

Product	Brand or Generic	Est. Mean Margin	Est. Median Margin
Vonvendi Intravenous Solution Reconstituted 1300 UNIT	Brand	$14,491.26	$14,491.26
Vonvendi Intravenous Solution Reconstituted 650 UNIT	Brand	$13,899.78	$13,899.78
Everolimus Oral Tablet 10 MG	Generic	$6,428.52	$5,340.50
Deferasirox Oral Tablet 180 MG	Generic	$5,903.92	$5,903.92
Lumizyme Intravenous Solution Reconstituted 50 MG	Brand	$5,077.76	$5,473.95
Teriflunomide Oral Tablet 14 MG	Generic	$4,598.07	$4,020.88
Ambrisentan Oral Tablet 10 MG	Generic	$3,002.89	$3,118.37
Deferasirox Oral Tablet 360 MG	Generic	$2,818.04	$1,858.61
Lacosamide Oral Tablet 150 MG	Generic	$2,440.75	$2,440.75
Sodium Oxybate Oral Solution 500 MG/ML	Generic	$2,355.38	$2,355.38
Erlotinib HCl Oral Tablet 150 MG	Generic	$1,648.02	$1,648.02
Ambrisentan Oral Tablet 5 MG	Generic	$1,404.33	$1,404.33
Bosentan Oral Tablet 125 MG	Generic	$1,353.57	$1,129.34
Acthar Injection Gel 80 UNIT/ML	Brand	$1,315.25	$1,110.28
Fingolimod HCl Oral Capsule 0.5 MG	Generic	$1,301.96	-$194.73

Lowest Mail Margin Relative to WAC (Non-NADAC Drugs) Claim Examples

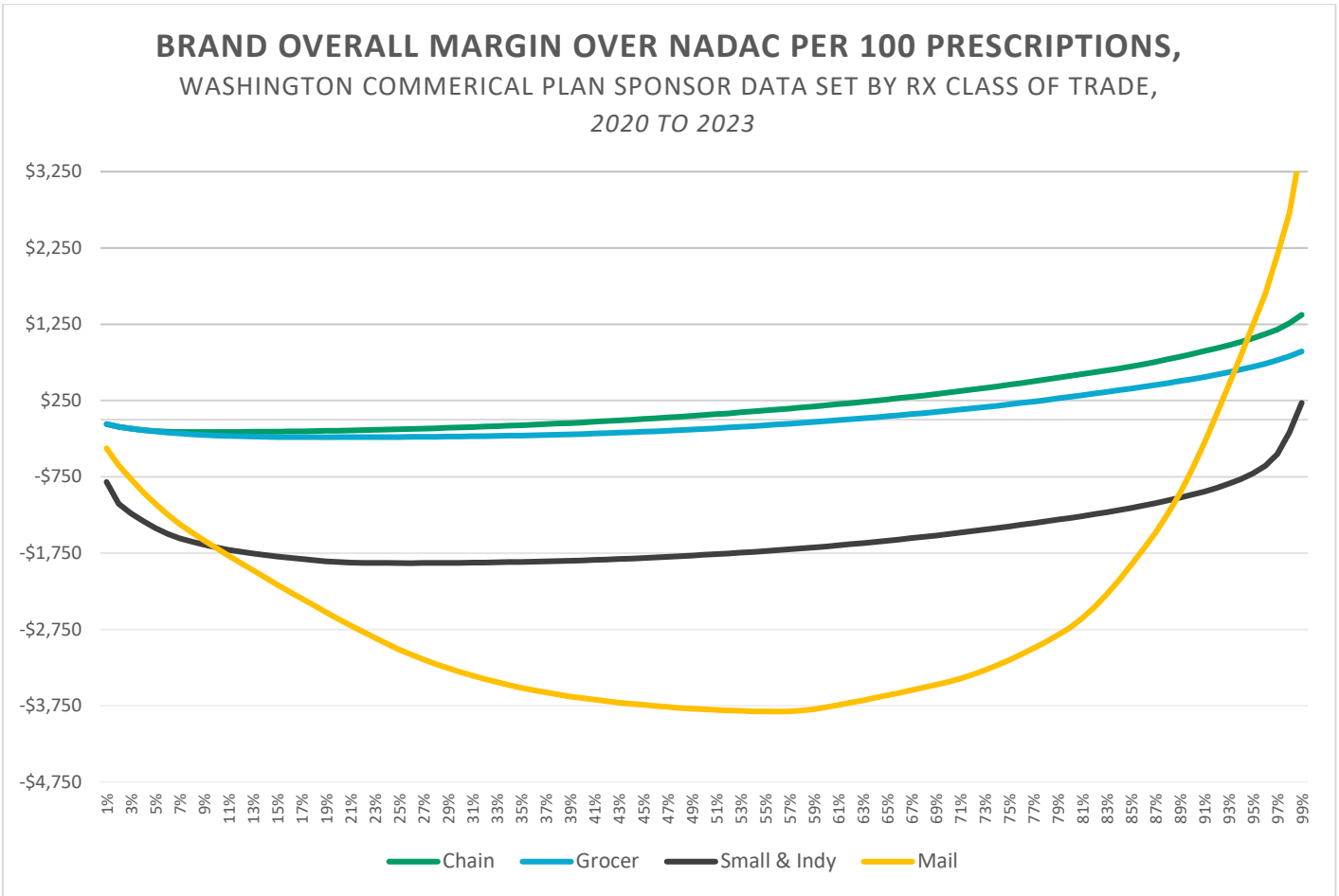
Product	Brand or Generic	Est. Mean Margin	Est. Median Margin
Nuvaring Vaginal Ring 0.12-0.015 MG/24HR	Brand	-$323.83	-$416.35
Loteprednol Etabonate Ophthalmic Gel 0.5 %	Generic	-$325.21	-$325.21
Humira Pen-Psor/Uveit Starter Subcutaneous Pen-Injector Kit 80	Brand	-$334.40	-$387.67

Product	Brand or Generic	Est. Mean Margin	Est. Median Margin
MG/0.8ML & 40MG/0.4ML			
Aubagio Oral Tablet 14 Mg	Brand	-$362.01	-$136.30
Cimzia Starter Kit Subcutaneous Prefilled Syringe Kit 6 X 200 Mg/Ml	Brand	-$372.61	-$453.64
Nocdurna Sublingual Tablet Sublingual 55.3 Mcg	Brand	-$387.72	-$395.82
Mesalamine Er Oral Capsule Extended Release 500 Mg	Generic	-$393.46	-$393.46
Mavenclad (7 Tabs) Oral Tablet Therapy Pack 10 Mg	Brand	-$463.63	-$463.63
Mavenclad (8 Tabs) Oral Tablet Therapy Pack 10 Mg	Brand	-$529.86	-$529.86
Doxycycline Hyclate Oral Tablet 50 Mg	Generic	-$835.56	-$835.56
Leuprolide Acetate Injection Kit 1 Mg/0.2ml	Generic	-$951.79	-$64.15
Abiraterone Acetate Oral Tablet 500 Mg	Generic	-$1,365.23	-$1,365.23
Sapropterin Dihydrochloride Oral Packet 500 Mg	Generic	-$1,571.88	-$1,571.88
Rufinamide Oral Tablet 200 Mg	Generic	-$2,011.63	-$2,011.63
Oxervate Ophthalmic Solution 0.002 %	Brand	-$3,776.30	$2,567.03

Top Examples where Mail Margin Greater than Retail Margin

Product	Estimated Retail Margin	Estimated Mail Margin	Delta (Mail Retail)
Clobetasol Propionate External Gel 0.05 %	$79.38	$4,786.84	$4,707.46
Humira Pen-CD/UC/HS Starter Subcutaneous Pen-Injector Kit 40 MG/0.8ML	-$3,378.31	$1,268.80	$4,647.10
Imatinib Mesylate Oral Tablet 400 Mg	$1,750.29	$5,611.37	$3,861.08
Abiraterone Acetate Oral Tablet 250 Mg	$2,401.31	$5,687.42	$3,286.11
Nimodipine Oral Capsule 30 MG	$294.94	$2,699.09	$2,404.14
Lacosamide Oral Tablet 150 Mg	$309.26	$2,220.79	$1,911.52

Product	Estimated Retail Margin	Estimated Mail Margin	Delta (Mail Retail)
Mavyret Oral Tablet 100-40 Mg	-$1,490.32	$213.51	$1,703.83
Cinacalcet Hcl Oral Tablet 90 MG	$273.09	$1,876.35	$1,603.26
Tadalafil (Pah) Oral Tablet 20 Mg	$240.21	$1,612.25	$1,372.04
Epclusa Oral Tablet 400-100 Mg	-$34.16	$1,270.92	$1,305.08
Budesonide Oral Capsule Delayed Release Particles 3 Mg	$221.87	$1,486.30	$1,264.44
Imatinib Mesylate Oral Tablet 100 Mg	$2,072.35	$3,208.14	$1,135.79
Lurasidone Hcl Oral Tablet 60 MG	$510.86	$1,494.46	$983.60
Harvoni Oral Tablet 90-400 Mg	$226.45	$1,170.75	$944.30
Dextroamphetamine Sulfate Er Oral Capsule Extended Release 24 Hour 10 Mg	$56.83	$936.89	$880.06



GENERIC OVERALL MARGIN OVER NADAC PER 100 PRESCRIPTIONS,
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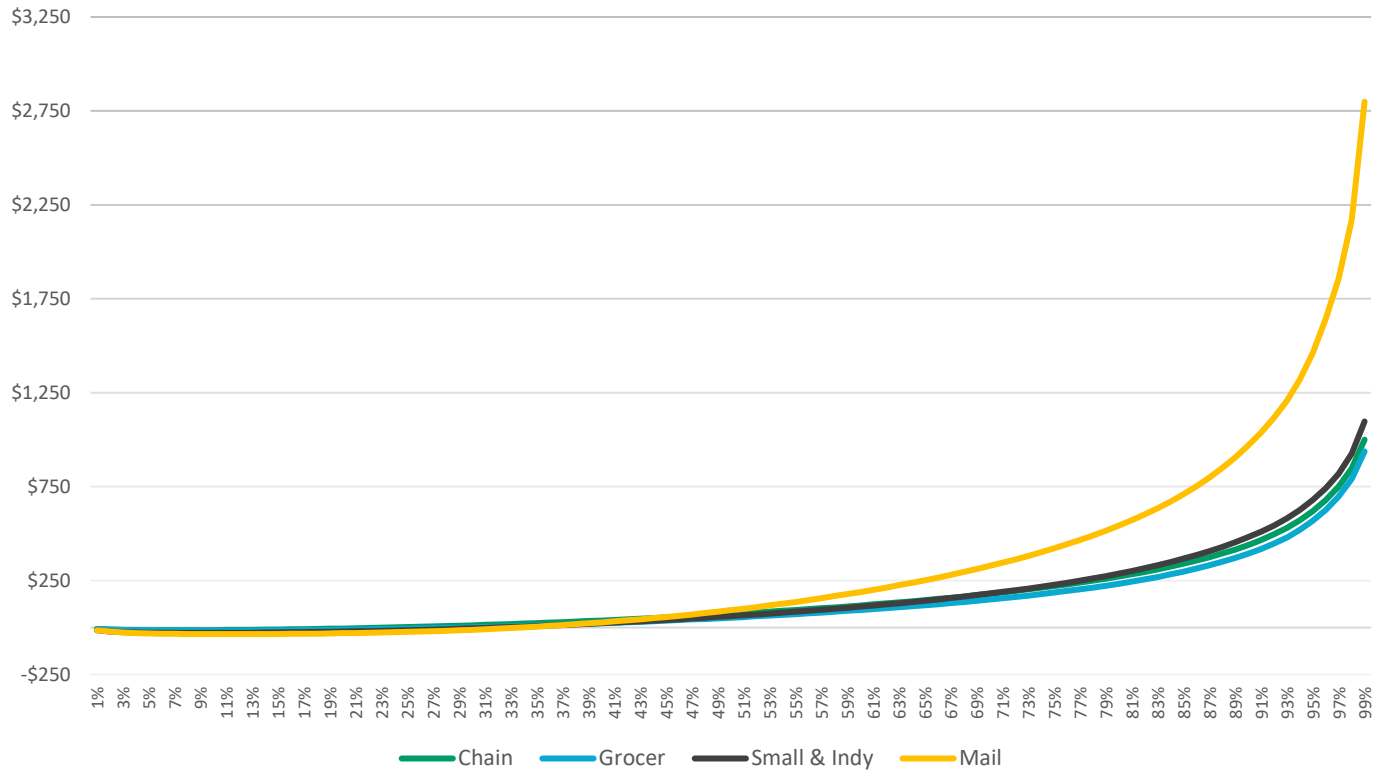
2020 TO 2023



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