# The FTC Staff's Interim PBM Reports Are Based on a Small, Non-Representative Sample of Drugs and Reach Conclusions that Do Not Hold When Analyzing All Drugs


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## EXECUTIVE SUMMARY

The FTC staff issued two interim reports on the pharmacy benefit manager (PBM) industry but neither report contains a systematic study of the available data and information. Even in the somewhat broader, second interim report, the FTC staff analyzed only 51 specialty generic drugs constituting less than 2% of total drug expenditures. In that analysis, the FTC staff estimates that the PBMs' reimbursement rates to affiliated pharmacies are far above the estimated acquisition cost of the drugs (measured by NADAC) and that the estimated reimbursement markup over acquisition cost is higher for affiliated pharmacies than non-affiliated pharmacies; the FTC staff concludes that legislative action may be warranted. Our analysis demonstrates, however, that the interim reports fail to provide a reasonable basis for policymakers to understand how PBM practices affect overall drug costs and whether PBM practices create problems that policymakers could or should attempt to solve.

- The FTC staff's analysis ignores 98% of drug expenditures and fails to demonstrate that the costs and markups on the small subset of drugs analyzed are representative of all drugs. Without such a demonstration, the FTC staff's interim reports cannot reliably support any conclusion about the impact of PBM pricing on overall drug costs paid by plan sponsors and members.
- We examine the data systematically and find that the subset of specialty generic drugs chosen by the FTC staff are not representative of all drugs: even if one accepts the FTC staff's methodology for calculating reimbursement markups, we find that the markups on the drugs the FTC staff analyze are extreme outliers compared to drugs that make up the vast majority of drug purchases. We examine all of the drugs purchased by affiliated pharmacies and find that the average reimbursement markup is negative, *i.e.*, reimbursement is below acquisition cost as measured by NADAC.
- Contrary to the FTC staff's finding that the reimbursement markup for the subset of drugs is higher at affiliated pharmacies than at non-affiliated pharmacies, we find that, when one analyzes all drugs purchased, the reimbursement markup is lower at affiliated pharmacies than at non-affiliated pharmacies. Using our available data and our methodology, we find that the cost to plan sponsors and members of the overall basket of drugs purchased is about the same whether the basket is purchased at affiliated or non-affiliated pharmacies. This shows that the FTC's suggestion that overall drug expenditures could be significantly reduced if all drugs were purchased at non-affiliated pharmacies instead of at affiliated pharmacies is wrong.

## THE FTC STAFF'S INTERIM PBM REPORTS ARE BASED ON A SMALL, NON-REPRESENTATIVE SAMPLE OF DRUGS AND REACH CONCLUSIONS THAT DO NOT HOLD WHEN ANALYZING ALL DRUGS

1. In its Second Interim Report issued on January 14, 2025, the FTC staff presents analyses of a subset of specialty generic drugs and concludes:[2]

> [L]egislative reforms may be warranted. FTC staff is encouraged to see bipartisan interest in Congress and among the states in addressing PBM practices, and we stand ready to provide assistance to policymakers as needed.

Neither the analyses of two specialty generic drugs in the FTC staff's First Interim Report, nor the analyses of additional specialty generic drugs in the Second Interim Report provide a reasonable basis for policymakers to understand how PBM practices affect overall drug costs and whether PBM practices create problems that policymakers could or should attempt to solve. Specifically, the FTC staff's most recent analysis ignores more than 98% of drug expenditures and fails to show that the 2% of expenditures on which it focuses are representative of drug expenditures overall.

2. The First Interim Report discusses two specialty generic drugs for which the FTC staff estimate that (i) reimbursement rates to pharmacies (both affiliated and non-affiliated) far exceed estimated acquisition costs as measured by NADAC; and (ii) reimbursement rates to PBM-affiliated pharmacies are higher than reimbursement rates to non-affiliated pharmacies.[3, 4] The implication is that the PBMs are increasing the costs of these drugs and steering prescriptions to their affiliated pharmacies to enrich themselves through higher revenue and profit at their

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[2] U.S. Federal Trade Commission, "Specialty Generic Drugs: A Growing Profit Center for Vertically Integrated Pharmacy Benefit Managers -- Second Interim Staff Report," January 2025, available at https://www.ftc.gov/system/files/ftc_gov/pdf/PBM-6b-Second-Interim-Staff-Report.pdf (hereinafter, "FTC Second Interim Report (2025)"), p. 30.

[3] NADAC is a third-party data source that gathers information on drug acquisition costs from pharmacies, primarily independent pharmacies. FTC Second Interim Report (2025), p. 7.

[4] U.S. Federal Trade Commission Office of Policy Planning, "Pharmacy Benefit Managers: The Powerful Middlemen Inflating Drug Costs and Squeezing Main Street Pharmacies -- Interim Staff Report," July 2024, available at https://www.ftc.gov/system/files/ftc_gov/pdf/pharmacy-benefit-managers-staff-report.pdf, Figure 11.

affiliated pharmacies. The First Interim Report speculates without any empirical support that these two drugs might be emblematic of the PBMs' treatment of other drugs as well, suggesting a widespread, systematic problem whereby the PBMs are earning unjustified profits on all drugs and plan sponsors and patients are paying too much.

3. The Second Interim Report examines the "markup" on a broader subset of specialty generic drugs (51 drugs instead of two), where the markup is defined as the ratio of the reimbursement rate paid to the pharmacy and the estimated acquisition cost as measured by NADAC.[5] The FTC staff estimates that, for many of the 51 specialty generic drugs selected, the PBMs' reimbursement rates to pharmacies (both affiliated and non-affiliated) are far above (*e.g.*, more than 100% above) the NADAC acquisition cost of the drugs and the markup over the NADAC acquisition cost is higher for PBM-affiliated pharmacies than for non-affiliated pharmacies.[6] The FTC staff also claims that the PBMs may be steering sales of specialty drugs with high markups to their own affiliated pharmacies and estimates that a small number of specialty generic drugs account for a large and growing share of PBM-affiliated pharmacy revenue and profit (as measured by the FTC staff's calculation of PBM-affiliated pharmacy operating income). In this section, we examine the FTC staff's analyses and conclusions.

- In Section A, we consider whether the FTC staff's analysis of an expanded list of drugs in the Second Interim Report provides a reasonable basis for conclusions about PBM pricing in general and its impact on overall drug costs. We find that the FTC staff's analysis still focuses on a tiny subset of all drugs (less than 2% of total expenditures), fails to provide any analysis of drugs that account for the vast majority (98%) of total expenditures for drugs dispensed through agreements with PBMs, and fails to demonstrate that the specialty generic drugs analyzed are representative of all drugs or even any other category of drugs. Thus, we find that the FTC staff's analyses do not support any conclusions about the impact of PBM pricing on overall drug costs paid by plan sponsors and members.

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5 The reimbursement rate and NADAC acquisition cost are both measured per 30-day equivalent prescription.

6 FTC Second Interim Report (2025), Figure 1.

- In Section B, we demonstrate that the FTC staff's findings regarding only 51 specialty generic drugs are not generalizable. We discuss how the FTC staff's "markups" are not useful for understanding the profitability of PBM-affiliated pharmacies because specialty generics are such a small, non-representative slice of total drug expenditure and the FTC staff's markup calculation ignores operating costs (see Section B.1).[7] Then we show that the overall margins earned by the PBMs and by the specialty pharmacies affiliated with the PBMs are much lower than would be suggested by the FTC staff's markup calculations on specialty generic drugs, indicating that those specialty generic markups are not representative of markups across all drugs (see Section B.2). Finally, we use the FTC staff's markup methodology to demonstrate that markups for the 51 specialty generics do not accurately represent markups overall: using the FTC staff's methodology where NADAC is a proxy for acquisition costs and operating costs are ignored, we find that the FTC staff's analysis focused on a subset of drugs that have markups at affiliated pharmacies that are extreme outliers; a comprehensive analysis by FTC staff would have shown markups on all drugs sold at affiliated pharmacies are *negative* in aggregate. Thus, even if, as the FTC staff reports, reimbursements for the examined specialty generics at affiliated pharmacies are $7.3 billion above NADAC, reimbursements for all drugs at affiliated pharmacies (including those examined by the FTC) are $15.9 billion *below* NADAC (see Section B.3). All of our analyses in this section show that one cannot reliably conclude anything about overall drug costs or overall profitability of PBMs or PBM-affiliated pharmacies from an analysis of only a subset of specialty generic drugs.

- In Section C, we examine the FTC staff's finding that the reimbursement markup for specialty generics is higher for affiliated pharmacies than non-affiliated pharmacies. Again, the FTC staff's findings are not generalizable beyond the subset of drugs examined: we find that the reimbursement markup is lower for affiliated pharmacies than non-affiliated pharmacies when calculated over all drugs sold at affiliated and non-affiliated pharmacies. Using our available data and our methodology, we reach the

[7] The FTC staff's markup calculations may also be flawed in cases where NADAC does not reflect true acquisition costs, which may be higher or lower.

general conclusion that plan sponsors and members would pay about the same amount whether they purchased the overall basket of drugs at affiliated pharmacies or at non-affiliated pharmacies.[8, 9] That is, any suggestion that overall drug expenditures would be substantially lower—and the FTC staff indicate that the lowering is on the order of 1000%—if all drugs were purchased at non-affiliated pharmacies instead of at affiliated pharmacies is simply wrong.

- Finally, in Section D, we examine the FTC staff's claims that the PBMs are steering sales of drugs to their affiliated pharmacies, with the implication that non-affiliated pharmacies' survival is threatened. Data on overall drug sales do not support such an implication. Sales of overall drugs and specialty drugs at non-affiliated pharmacies have increased substantially over time and non-affiliated pharmacies still account for the majority of overall drug sales.

### A. THE 51 SPECIALTY GENERICS ANALYZED BY THE FTC STAFF ACCOUNT FOR ONLY A SMALL PERCENTAGE OF OVERALL SPENDING ON PRESCRIPTION DRUGS

4. In conducting its study of the PBM industry, the FTC staff's stated concern is about high drug prices and whether PBMs are responsible for high drug prices. However, when studying reimbursements made by PBMs to pharmacies (the measure of "price" on which the FTC staff focuses), the FTC staff studies only a small number of specialty generic drugs out of the thousands of drugs purchased by plan sponsors and members.[10]

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8 We understand that the data we have are more likely to exclude out-of-network prescriptions for non-affiliated pharmacies compared to affiliated pharmacies. Since out-of-network pharmacies are likely to have higher prices than in-network pharmacies, this will likely bias upward our calculations of prices at affiliated pharmacies compared to non-affiliated pharmacies.

9 The FTC staff report suggests that PBMs are responsible for high drug prices, and so we focus on overall prices for all payors (commercial, Medicare, and Medicaid), while the FTC staff reports results for commercial and Medicare payors separately. Where relevant, we indicate in subsequent footnotes whether the results we report for all plan sponsors combined lead to the same general conclusions if we examine commercial and Medicare plan sponsors separately.

10 As acknowledged by the FTC staff, the analysis still does not consider all 171 specialty generic drugs for which at least one of the three PBMs reported a prescription but rather a subset of those 171 drugs; drugs were excluded from the FTC staff's analysis primarily

5. Specialty generics comprise just one category of drugs purchased by plan sponsors and members. Drugs purchased also include specialty branded drugs, non-specialty generic drugs, and non-specialty branded drugs. For a study of a subset of specialty generic drugs to be informative as to whether PBMs are contributing generally to high drug prices or earning excessive profits, these specialty generics would have to represent a significant fraction of spending or be representative of other drugs purchased. The FTC staff's report does not indicate the relative importance of this subset of specialty generics to overall drug spending nor whether its findings for these drugs are representative of other drugs.

6. In fact, the 51 specialty generic drugs represent only a small percentage—less than 2%—of drug sales, whether measured by payments, reimbursements, or prescription volume. Table 1 shows the relative size of different categories of drugs in terms of payments made by plan sponsors and members (which reflect overall spending on prescription drugs), reimbursements to pharmacies (which is the metric on which the FTC staff focuses), and the number of 30-day equivalent prescriptions.[11] We provide this information for all types of plan sponsors combined.

7. Table 1 also shows, across all pharmacies (both affiliated and non-affiliated), the share of each metric accounted for by the specialty generic drugs studied by the FTC staff in the Second

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because the FTC staff's measure of acquisition cost, NADAC, is not available for those drugs. FTC Second Interim Report (2025), p. 8. The FTC staff reports that the 51 drugs used in its study represent 91% of prescriptions dispensed for specialty generics and 67% of reimbursements of specialty generics during the time period studied. *Id*, p. 9.

[11] The FTC staff's analysis focuses on reimbursements to pharmacies rather than on what plan sponsors and members pay for prescriptions. The combined amount paid by plan sponsors and members ("total payments") is the relevant metric for measuring drug expenditures as it reflects the overall cost of prescriptions for plan sponsors and their members; reimbursements to pharmacies do not necessarily capture all expenditures by plan sponsors and their members. Moreover, reimbursement rates to PBM-affiliated pharmacies involve transfer prices that are not based on market transactions between independent parties and that can potentially raise issues of interpretation; payments by plan sponsors and members, in contrast, are based on market transactions between independent parties and reflect actual expenditures. We note that total payments by plan sponsors and members are gross payments before rebates, as we are not able to allocate formulary rebates by affiliated versus non-affiliated pharmacies for all PBMs. However, when we do a version of the analysis for the PBM for which we can allocate rebates, the results are similar to Table 1, with the specialty generic drugs analyzed by the FTC staff representing a small fraction of spending by plan sponsors and payors.

Interim Report. The 51 specialty generic drugs analyzed by the FTC staff ("FTC Specialty Generic Drugs") represent a small fraction of spending or volume for the three PBMs across all payors: 1.8% of payments by plan sponsors and members, 1.7% of reimbursements, and 0.3% of prescription volume.[12]

[12] To identify the NDCs associated with the 51 FTC specialty generic drugs in the PBM data, we matched the drug names provided in the FTC staff's Second Interim Report to drug names in the PBMs' Specs 12-14 data. We note that brand, generic, specialty and non-specialty designations may differ between the PBMs based on how they or their clients identify drugs in the ordinary course of business. In this report, we have identified drug designations based on information provided by each PBM. In a few cases, an NDC associated with the FTC's 51 drugs may not be designated as a specialty generic in a particular PBM's data. In such a case, to focus on specialty generic drugs as defined by each PBM and to be consistent with how we have assigned drug types elsewhere, we have not included that NDC as one of the FTC's 51 specialty generic drugs for that PBM. If we include these NDCs (*i.e.*, if we include all NDCs associated with the drug names identified in the FTC staff's Second Interim Report across PBMs no matter how each PBM categorizes the NDC) it would not meaningfully impact the results.

**Table 1: Payments and Volume of Prescriptions by Drug Type at All Pharmacies (2017-2022)[13]**

| Drug Type | Share |
|---|---|
| **Gross Plan Sponsor + Member Payment** | |
| FTC Specialty Generic Drugs | 1.8% |
| Other Specialty Generic | 0.4% |
| Specialty Branded | 47.5% |
| Non-Specialty Generic | 11.4% |
| Non-Specialty Branded | 39.0% |
| | |
| **Reimbursement** | |
| FTC Specialty Generic Drugs | 1.7% |
| Other Specialty Generic | 0.4% |
| Specialty Branded | 47.7% |
| Non-Specialty Generic | 10.8% |
| Non-Specialty Branded | 39.5% |
| | |
| **No. of 30-Day Prescriptions** | |
| FTC Specialty Generic Drugs | 0.3% |
| Other Specialty Generic | 0.0% |
| Specialty Branded | 0.9% |
| Non-Specialty Generic | 88.5% |
| Non-Specialty Branded | 10.4% |

Sources: Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.

[13] Values might not add to 100% due to rounding. Other specialty generic drugs constitute 0.01% of 30-day prescriptions.

8. Even if one focuses on specialty drugs[14]—which are typically sold at specialty pharmacies—Table 1 also shows that the category of specialty generic drugs accounts for less than 5% of all specialty drug payments.[15]

9. Thus, the FTC staff's analysis in its Second Interim Report—although broader than the analysis in its First Interim Report where it only analyzed two drugs—excludes drugs that account for over 98% of drug payments by plan sponsors and members, over 98% of reimbursements to pharmacies, and over 99.5% of 30-day equivalent prescriptions. The FTC staff's report does not even attempt to show that its findings regarding markups for its small subset of drugs apply to all drugs or even to all specialty drugs. Nor does the report explain why an analysis of such a limited subset of drugs would potentially be representative or informative

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[14] There is no precise definition of "specialty" drug. Drugs referred to as specialty drugs are typically expensive compared to other drugs, may require special professional care or detailed instructions and assistance from professionals to administer, may have limited distribution as designated by the pharmaceutical manufacturer, may require additional patient services such as monitoring of side effects and dynamic adjustments of dosing, and often treat chronic conditions that require additional patient services. These drugs may be sold at retail pharmacies, at pharmacies called specialty pharmacies (which typically focus on dispensing specialty drugs and offering extra services related to the administration of those drugs), or at mail-order pharmacies. We follow the usage of this term by the FTC staff or, if that is not possible, use the classification that the PBMs use to classify a drug as specialty or non-specialty. The classification can differ among PBMs. Specialty drugs can be branded or generic, and non-specialty drugs can be branded or generic.

A sale at a "PBM-affiliated pharmacy," as used by both the FTC staff and us, means the claim for the drug is processed by a particular PBM and dispensed by a pharmacy owned by that same PBM or a related entity. For example, a Caremark member's prescription filled at a Caremark mail-order pharmacy or at a CVS retail pharmacy is a sale at a PBM-affiliated pharmacy, but an Express Scripts member's prescription filled at a Caremark mail-order pharmacy or at CVS is not.

For more information on limited distribution drugs, *see* Ashley Wong, "Limited Distribution Drugs: A Guide to Networks and Specialty Pharmacies," GoodRx, September 12, 2023, available at https://www.goodrx.com/drugs/medication-basics/limited-distribution-drugs (accessed April 19, 2025).

[15] Specialty generics in total account for 2.1% of payments and specialty branded account for 47.5% of payments, so specialty generics are less than 5% of all specialty drugs. (2.1% ÷ (2.1% + 47.5%) = 4.3%.)

as to the broader market basket of drugs purchased. As we describe in the next section, the evidence demonstrates it is not.

### B. ANALYSIS OF MARGINS AND MARKUPS SHOW THAT THE FTC STAFF'S ESTIMATED MARKUPS FOR ITS SMALL SUBSET OF DRUGS AT AFFILIATED PHARMACIES ARE NOT REPRESENTATIVE

10. Plan sponsors provide members with access to a wide variety of drugs—including branded and generic drugs, and specialty and non-specialty drugs—and, in an attempt to minimize overall drug plan costs, plan sponsors typically issue RFPs and take bids from PBMs for facilitating coverage of a basket of drugs. Because of this, an analysis such as the FTC staff's that focuses on a small subset of drugs—certain specialty generics—could be misleading if the implication is that PBMs have elevated the cost of all drugs to plan sponsors and members and thereby are earning very high margins or markups. In this section, we show that the FTC staff's analysis does not apply more broadly and that the FTC staff's analysis is therefore not indicative of a systematic problem with PBM drug pricing.

#### 1. The FTC staff's estimated markups are flawed because they focus on too narrow a set of drugs and ignore operating costs

11. Observing that markups are "high" for individual drugs is not informative as to whether a pharmacy is earning excess profits. The FTC staff does not calculate markups or margins on categories of drugs other than certain specialty generics, but there is no logical requirement that a multiproduct firm must charge similar markups or earn similar margins across each of its many products. It is more appropriate to consider the overall PBM margin if one is concerned with overall drug expenditures.[16] Given the small percentage of overall drug spending accounted for

[16] If one looks at specialty pharmacy margins, the margin should be considered overall for the specialty pharmacy rather than for a subset of drugs. It is not clear, however, that assessing margins earned by the specialty pharmacies affiliated with PBMs is probative of whether PBMs are contributing to high drug prices overall. First, operating specialty pharmacies is only one way in which PBMs may earn revenues and incur costs. Second, the margins earned by affiliated specialty pharmacies are determined, in part, by reimbursements received from their affiliated PBM. Such payments involve transfer prices, as discussed previously. (*See* Dennis W. Carlton, Mary Coleman, Nauman Ilias, Theresa Sullivan, and Nathan Wilson, "PBMs and Prescription Drug Distribution: An Economic Consideration of Criticisms Levied Against Pharmacy Benefit Managers," Compass Lexecon (2025) (hereinafter, "Carlton, *et al*. (2025)"), note 150.)

by specialty generics, it is especially important to examine whether patterns found for certain specialty generics also hold for other categories of drugs before coming to conclusions about the need for policy intervention.

12. In addition, the percentage markups calculated by the FTC staff (or related gross margins) do not take into account the costs associated with dispensing drugs and providing patient services.[17] Operating margins take into account these costs and thus provide a better measure of profitability than the FTC staff's markups.[18] Failure to account for operating costs can cause the FTC staff's "markups" to be misleading because they do not accurately reflect the profitability of dispensing individual drugs. For example, higher "markups" (or associated gross margins) may exist for some products when acquisition costs are low to reflect the need to cover operating costs, though that need not imply higher per unit profit. To see how ignoring operating costs can bias calculations of relative markups or margins, consider a specialty drug that requires the pharmacy to provide additional services to assist the patient with management of the drug (and for simplicity that these represent all costs associated with operating the pharmacy in

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[17] The FTC staff estimates the percentage markup on a drug as the average reimbursement rate per 30-day prescription divided by the average NADAC cost per 30-day prescription, minus 1, times 100%. Because FTC staff is using NADAC as a proxy for actual acquisition costs, these markups may not reflect markups based on actual acquisition costs.

When comparing the total dollar value of markups on the 51 specialty generic drugs it analyzed to overall PBM operating income, the FTC staff tried to adjust for operating costs but did not use actual PBM operating costs; instead it used an estimate based on the standard markup employed by the Mark Cuban Cost Plus Drug Company. *See* FTC Second Interim Report (2025), p. 24 and note 98. The FTC staff does not explain why the Mark Cuban Cost Plus Drug Company, which is not itself a pharmacy, provides a good benchmark for the services incurred by pharmacies affiliated with the PBMs. (Cost Plus Drug Company, "FAQs: Who fills my prescription?" available at https://www.costplusdrugs.com/ (accessed April 1, 2025). "We work with HealthDyne, our trusted fulfillment partner to fill your prescriptions. HealthDyne's accredited pharmacists will ensure your medication is safe and delivered to your doorstep on time.")

[18] Comparing accounting measures of profitability across firms often raises concerns as different firms may record revenues and costs differently. Gross margins (often called price-cost margins) have their own set of caveats as measures of profitability (Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization*, 4th ed. (Pearson, 2004), pp. 246-254.). (More generally, we recognize that to the extent our calculations in this report rely on accounting figures, they have their own sets of caveats.)

addition to acquisition costs).[19] Suppose that the reimbursement rate is such that the pharmacy earns $10 in profit after all its costs. Further suppose that the specialty branded drug's acquisition cost is $100, the generic drug's acquisition cost is $10, and the pharmacist's time required to provide services to the patient costs $10. The reimbursement rate to the pharmacy that covers the pharmacy's acquisition cost, pharmacist's cost, and pharmacy profit is $120 for the branded drug but only $30 for the generic. Notice two things. First, it is cheaper for the plan sponsor and patient to purchase the specialty generic drug than to purchase the specialty branded drug. Second, the markup, as calculated by the FTC staff, is 200% (((30/10)-1)*100%) for the specialty generic but only 20% for the specialty branded drug (((120/100)-1)*100%). Despite the percentage markup being much higher on the specialty generic drug in this hypothetical example, the plan sponsor and patient save money by buying the specialty generic rather than the specialty branded drug. The pharmacy's profit is the same for both drugs. Furthermore, if one calculated the margin over NADAC, but also accounting for dispensing costs, that margin would be only 50%, rather than 200%, for the generic drug.

13. In general, ignoring operating costs, as the FTC staff does in its percentage markup calculations, can be expected to lead to higher markups on some low-priced items compared to some high-priced items. This phenomenon is not unusual. For example, according to its website, the Mark Cuban Cost Plus Drug Company sells 30 10mg capsules of fluoxetine (the generic for Prozac) for $10.37; with a manufacturing cost (reported on the website) of $0.32, the markup on generic fluoxetine is more than 3000%.[20] In contrast, the Mark Cuban Cost Plus Drug Company sells 30 100mg tablets of the branded drug Invokana (canagliflozin) for $540.02; with a manufacturing cost of $460.89, the markup on branded Invokana is 17%.[21] As another example, grocery stores often sell both branded items and cheaper, store brand items. The gross

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19 For this simplified example, we assume that operating costs can be described as only acquisition costs and dispensing costs. More generally, there may be operating costs that cannot be ascribed to the dispensing of an individual drug.

20 Cost Plus Drug Company, "Fluoxetine (Generic for Prozac)," available at https://www.costplusdrugs.com/medications/fluoxetine-10mg-capsule/ (accessed April 1, 2025).

21 Cost Plus Drug Company, "Invokana (Canagliflozin)," available at https://www.costplusdrugs.com/medications/invokana-100mg-tablet-30/ (accessed April 1, 2025).

margin (ignoring operating costs) is often much higher on the store brands than on the corresponding branded items.[22]

### 2. PBM financials show that gross and operating margins for the PBMs overall and for PBM-affiliated specialty pharmacies are under 10%, which is inconsistent with the FTC staff's suggestion that the large markups (greater than 100%) on many of the subset of specialty generics they examined are typical of all drugs

14. If PBM-affiliated pharmacies were systematically receiving very high markups for all drugs, then one would expect that the overall PBM margin would be high.[23] In Carlton, *et al*. (2025) Section V, however, we provided an analysis of overall margins for the three PBMs. Those margins include not only revenues and costs associated with affiliated mail-order and specialty pharmacies but also revenues and costs for providing other PBM services, including revenues from the retail spread earned by PBMs and any rebate retention.[24] We showed that average margins are relatively low and not growing: the PBMs' average overall gross margin decreased from 8.4% in 2017 to 7.6% in 2022 and their average operating margin decreased from 5.6% in 2017 to 4.5% in 2022.[25]

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22 *See* Ratula Chakraborty, "Do Retailers Manipulate Prices to Favour Private Label over Brands?" Working Paper 18-2, *Centre for Competition Policy* (2018): 1-40 at 4; Dennis W. Carlton and James D. Dana, Jr., "Product Variety and Demand Uncertainty: Why Markups Vary with Quality," *The Journal of Industrial Economics* LVI, no. 3 (2008): 535-552 at 548.

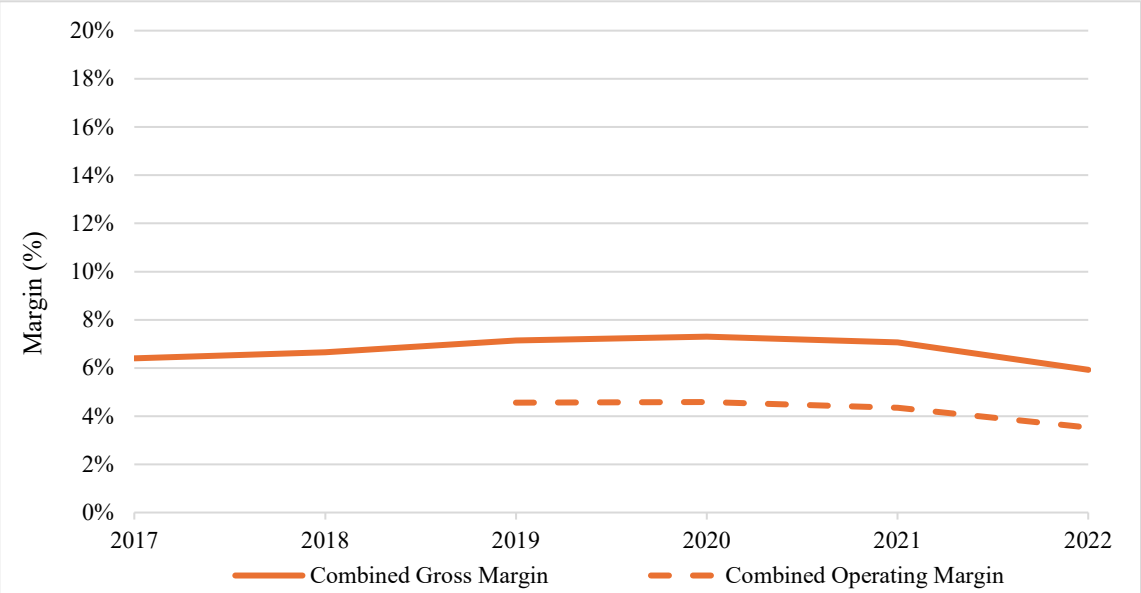
23 Margins are typically defined as revenues received less costs. Gross margins are measured as revenues received less cost of goods sold (COGS). Operating margins are revenues less COGS and operating costs. Percentage margins are typically measured as a percentage of revenues (*i.e.*, revenue minus cost, divided by revenue), but can also be presented as a percentage of costs (what the FTC staff calls a "markup"), as there is a fixed relationship between the two measures. If M is the percentage margin as a percent of revenue, then the markup as a percent of cost is M/(1-M).

24 The FTC staff also analyzed the total dollar value associated with the retail spreads earned by PBMs on the 51 specialty generics in the Second Interim Report although FTC staff acknowledged that taking into account adjustments likely would lower this amount. (*See* FTC Second Interim Report (2025), pp. 23-24). Our analysis of PBM margins already takes these spreads into account.

25 *See* Carlton, *et al*. (2025), ¶ 96. If we converted these gross margins to a percentage markup over acquisition costs, consistent with the approach taken by the FTC staff, the gross markup over COGS for 2022 would equal 8.2%.

15. Because the FTC staff focuses on specialty generic drugs, it also could be informative to investigate the validity of any suggestion that PBM-affiliated specialty pharmacies are earning high margins. PBM financials include gross and operating margin estimates for their affiliated specialty pharmacies (primarily, CVS Specialty for Caremark, Optum Specialty Pharmacy for Optum Rx, and Accredo for Express Scripts).[26] Figure 1 shows average gross and operating margins for affiliated specialty pharmacies for the three PBMs combined using internal financial data from the PBMs. Average gross margins for the affiliated specialty pharmacies are around 7% through the period and average operating margins are around 4%.[27]

**Figure 1: Margins at PBM-Affiliated Specialty Pharmacies**




Sources: Caremark internal data, Express Scripts internal data, Optum Rx internal data.
Notes: Aetna is excluded from CVS Caremark gross margins and operating margins.

26 The margins at affiliated specialty pharmacies include all sales at the specialty pharmacy whether the sale was to a member of a plan using the affiliated PBM or a non-affiliated PBM for claims adjudication.

27 The gross margins at specialty pharmacies are calculated as specialty pharmacy revenues less COGS (PBM financials break out their affiliated pharmacy revenues and costs into specialty pharmacy and regular mail-order buckets). COGS includes the cost to purchase drugs for affiliated pharmacies and direct costs associated with dispensing drugs. Operating margins are calculated as gross margins less operating costs, which include costs such as labor costs and Sales, General, and Administrative ("SGA") costs.

16. The 7% average gross margins for PBM affiliated specialty pharmacies are calculated as a percentage of revenues.[28] If instead we calculate these as a percentage of cost (in order to make the calculation comparable to the FTC staff's calculation of markups), the average gross margin as a percentage of cost at PBM affiliated pharmacies is 7.2%. Thus, the overall gross markup earned at the affiliated specialty pharmacies are far less than the markups reported by the FTC staff for a subset of specialty generic drugs (which are on average around 309%). As another point of comparison, consider the Mark Cuban Cost Plus Drug Company, which the FTC staff uses to estimate operating costs for affiliated pharmacies.[29] The Mark Cuban Cost Plus Drug Company offers certain prescription drug products online, charging patients a standard markup over acquisition cost of 15%, plus $10 in fees (a $5 dispensing fee and a $5 shipping fee).[30] The 7.2% markup at affiliated specialty pharmacies is substantially lower than the markup at the Mark Cuban Cost Plus Drug Company. To the extent critics believe the PBMs' affiliated specialty pharmacy markups are "too high" and that the Mark Cuban Cost Plus Drug Company provides a relevant reference point, they should consider that the markups at the Mark Cuban Cost Plus Drug Company are substantially higher.

17. Fundamentally, the overall margins earned by the PBMs and by the specialty pharmacies affiliated with the PBMs are much lower than suggested by the FTC staff's markup calculations, and this indicates that the markups for the specialty generic drugs selected by the FTC staff are not indicative of those for all drugs.

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28 The gross margin for the three PBMs affiliated specialty pharmacies was around 6.5% in 2017 and 2018. This margin is comparable to other specialty pharmacies at the time. For example, Diplomat, which was acquired by Optum in 2020, had a gross margin of around 6% during the same period. Diplomat Pharmacy, Inc. Form 10-K for the year ended December 31, 2018, p. 111. According to the Fein Report, "Diplomat's prescription profitability figures were typical for a business that dispenses primarily brand-name specialty medications and few generic prescriptions." Adam J. Fein, *The 2024 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers* (Drug Channels Institute: 2024), p. 344.

29 *See* note 17 above.

30 *See* Cost Plus Drug Company, "Here's exactly how we price your drugs," available at https://www.costplusdrugs.com (accessed March 17, 2025).

### 3. The FTC staff's analysis of the markup of select specialty generic reimbursement rates over estimated acquisition costs at affiliated pharmacies is not representative of all drugs and therefore does not provide a reasonable basis for policymaking

18. In both interim reports, the FTC staff analyzes the markup on individual drugs, defined as the ratio of the amount pharmacies affiliated with PBMs are reimbursed for individual specialty generic drugs and the estimated acquisition cost for those drugs using estimates of drug acquisition costs from NADAC.[31, 32] In the First Interim Report, the FTC staff analyzes two specialty generic drugs and calculates that the markup is 25-40 times the NADAC acquisition cost of the two drugs. In the Second Interim Report, the FTC staff analyzes 51 specialty generic drugs and reports that several of these drugs have very high markups, in excess of 1000%, but doesn't report the weighted average over the drugs analyzed. We have calculated the weighted average (weighting by share of NADAC acquisition costs) and find that the weighted average markup of the drugs selected by the FTC staff is 309%. Based on its analyses of this limited set of drugs, the FTC staff suggests that there is a systematic problem that has allowed certain specialty generic drug prescriptions sold at PBM-affiliated pharmacies to be "highly profitable," and appears to suggest that PBM pricing practices overall thus deserve closer scrutiny. Even if one accepts the FTC staff's calculation of markups as being relevant, the FTC staff's suggestion of a systematic problem is not supported by a more comprehensive analysis that goes beyond the 51 selected drugs.

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31 FTC Second Interim Report (2025), p. 6.

32 Although NADAC may not be representative for measuring specialty drugs' acquisition costs, we nonetheless accept the use of NADAC for purposes of this analysis in order to point out the other pitfalls of the FTC staff's approach. *See* FTC Second Interim Report (2025), p. 7; CMS, "Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs," December 2024, available at https://www.medicaid.gov/medicaid-chip-program-information/by-topics/prescription-drugs/ful-nadac-downloads/nadacmethodology.pdf, pp. 7, 10 (explaining that surveys used to calculate NADAC are limited to chain and independent retail community pharmacies and that specialty pharmacies are currently excluded).

*a) The specialty generics selected by the FTC staff are extreme outliers in terms of markups over NADAC at affiliated pharmacies*

19. As we described above, specialty generics account for a tiny fraction of spending on drugs by plan sponsors and members or reimbursements by PBMs. We find that the subset of specialty generics selected by the FTC staff is also not representative of other drugs, because the selected drugs' markups are outliers among all drugs.

20. We use the FTC staff's method for estimating markups to determine whether the results for specialty generics are representative of all drugs.[33] We limit the analysis to NDCs for which information on acquisition costs is available from NADAC. Figure 2 below shows the distribution of markups for pharmacy reimbursements at affiliated pharmacies for 2020-2022, across all payors, for the NDCs for which NADAC information is available.[34]

21. As Figure 2 below shows, the weighted average markup[35] for the FTC staff's specialty generic drugs is 309%. The drugs focused on by FTC staff are extreme outliers compared to other drugs.[36, 37] In fact, the majority of reimbursements to affiliated pharmacies are for drugs

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33 The percentage markup on an NDC is ((total pharmacy reimbursement per 30-day prescription / NADAC cost per 30-day prescription) minus 1) x 100%. This is consistent with our understanding of how the FTC staff has defined percentage markup. The total pharmacy reimbursement is equal to the reimbursement by the PBM, plus member payments, plus any other payments received by the pharmacy. The NADAC cost is the average NADAC per unit cost per year multiplied by a unit-to-30-day prescription conversion (the conversion is calculated at the NDC level using the claims data: affiliated + non-affiliated quantity divided by affiliated + non-affiliated 30-day prescriptions. The NADAC cost is thus the same regardless of whether the drug is purchased from an affiliated or non-affiliated pharmacy.).

34 We note that there is no mathematical limit on how large a positive markup can be, but a negative markup can be no larger than -100%. (This is because a markup of -100% means that the price of the drug is zero.)

35 We use cost shares as weights.

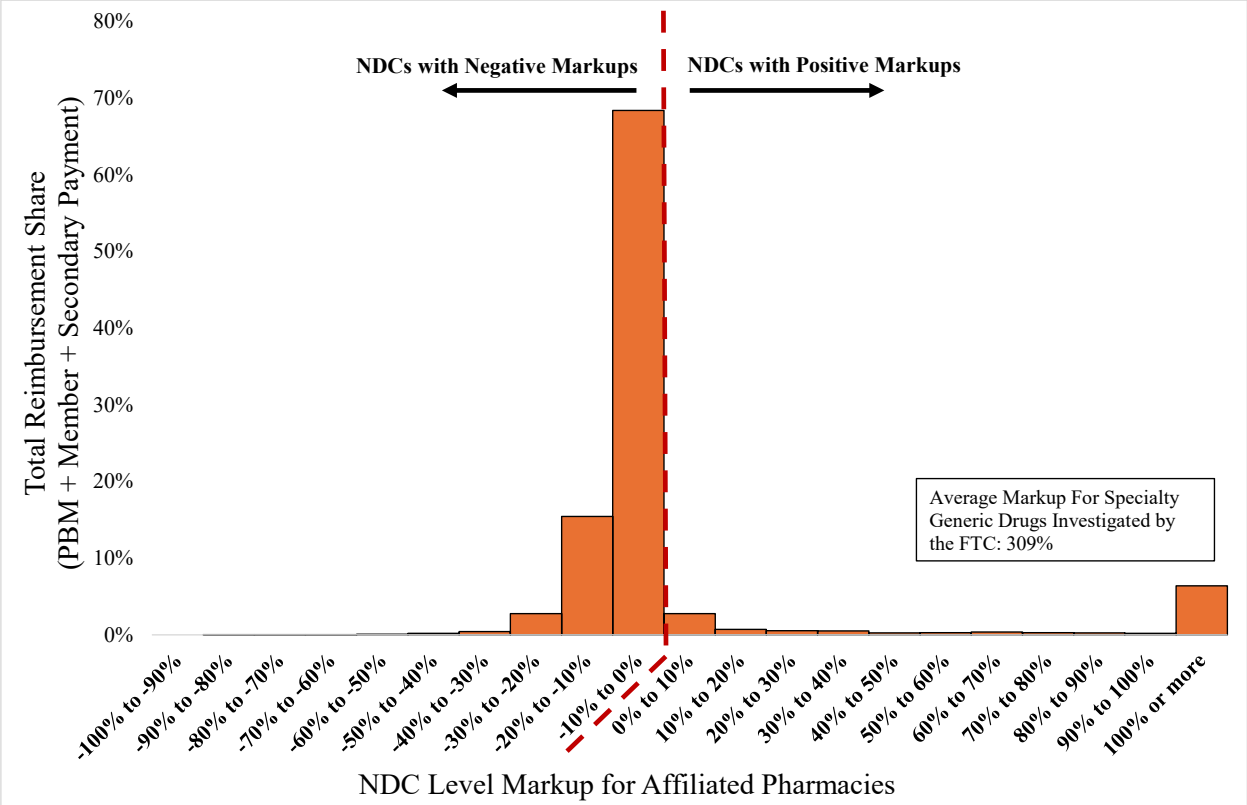
36 Note that the average is calculated across all specialty generic drugs identified by the FTC report for which we have NADAC data. The average expressed as a percent is calculated as total pharmacy reimbursement for the relevant specialty generic drugs for affiliated pharmacies divided by the total NADAC cost (NADAC per 30-day prescription * number of affiliated prescriptions) minus 1, and then multiplied by 100%.

37 We have not determined what accounts for the different markups across specific drugs for the more than 1,000 drugs for which data was provided to the FTC. However, our

where the markup is between 0% and negative 10%, *i.e.*, the reimbursement rate is below NADAC acquisition costs.

understanding is that some of the large PBMs are now offering an option to plan sponsors in which the payment by plan sponsors and members for a particular drug is more tailored to that individual drug's cost. *See, e.g.*, CVS Health, "Helping enable a more transparent, simple health care system," March 19, 2024, available at https://www.cvshealth.com/news/pharmacy/helping-enable-a-more-transparent-simple-health-care-system.html (accessed August 29, 2024); Written Testimony of Adam Kautzner, President, Express Scripts, Before the House Committee on Oversight and Accountability, U.S. House of Representatives, July 23, 2024, p. 18; UnitedHealth Group, "New Optum Rx payment solutions continue to empower clients with more choice, transparency in pharmacy benefits," April 24, 2023, available at https://www.unitedhealthgroup.com/newsroom/posts/2023/2023-04-24-optum-rx-enhancements-preserving-choice.html (accessed August 30, 2024) ); UnitedHealth Group, "Optum Rx to Modernize Pharmacy Payment Models," March 20, 2025, available at https://www.unitedhealthgroup.com/newsroom/2025/2025-03-20-orx-modernize-payment-models.html (accessed April 1, 2025).

**Figure 2: Distribution of Markups Over NADAC by Size of Markup for Affiliated Pharmacies**




Sources: Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC, 2020-2022 Medicaid NADAC Data
Notes: The percentage markup on an NDC is (total pharmacy reimbursement per 30-day prescription / NADAC cost per 30-day prescription) minus 1 x 100%. Bar height is determined based on the share of total reimbursements for all NDCs in a given markup bucket.

*b) Applying the FTC staff's methodology to all drugs shows that average markups over NADAC are negative for affiliated pharmacies*

22. The FTC staff focuses its analysis on 51 specialty generic drugs, but those specialty generics are a small subset of all drugs and have markups that are outliers. One must instead consider the full set of drugs. In this section, we apply the FTC staff's approach to all drugs and show that the average markup over NADAC for affiliated pharmacies is negative, *i.e.*, reimbursements to affiliated pharmacies are less than NADAC pricing on average. For comparison, we also show in the next section that the average markup over NADAC for non-affiliated pharmacies is positive, *i.e.*, reimbursements to non-affiliated pharmacies are more than NADAC pricing on average and thus higher than at affiliated pharmacies.

23. Table 2 shows the average markup at affiliated pharmacies, by category of drugs (brand/generic and specialty/non-specialty). The analysis shows that average markups at affiliated pharmacies are negative overall (-2.1%). In general, branded drugs have small negative markups while generic drugs have positive markups (although of course generic drugs are generally lower priced than branded drugs so that any percentage markup may be very small in dollar terms; see discussion below). Markups on specialty generics are higher than markups on other categories of drugs. Although the FTC staff's report states that the markups over NADAC at affiliated pharmacies for its selected specialty generics total $7.3 billion from 2017-2022 across the three PBMs, this ignores that markups are negative for branded drugs and negative overall, more than offsetting the markup for the selected specialty generics. If the FTC staff's measure of markup over NADAC is meaningful, it is important to note that, overall, markups over NADAC at affiliated pharmacies are not $7.3 billion and in fact are not even positive. Instead, total markups over NADAC at affiliated pharmacies for all drugs are *negative* $15.9 billion.[38, 39] In contrast to the FTC staff's suggestion, these findings show that PBMs are keeping drug costs below NADAC on average at their affiliated pharmacies, showing—using the FTC staff's own logic—that reimbursements by PBMs to their affiliated pharmacies are not contributing to high drugs costs.

[38] FTC Second Interim Report (2025), p. 19. The FTC staff's calculation is based on prescriptions covered by commercial and Medicare payors only. Our calculation includes all payors, including Medicaid in addition to commercial and Medicare payors. In addition, the data processing and methodology used by FTC staff to calculate the $7.3 billion markup may be different from ours. When we attempt to replicate the FTC staff's calculation for commercial and Medicare, our results are similar.

[39] Although the markup analyses in FTC staff's Second Interim Report are generally based on data from 2020 to 2022, the $7.3 billion figure is based on data from 2017 to 2022. *See* FTC Second Interim Report (2025), note 8. To be consistent with the FTC staff's analysis, the markup analyses in this report are also based on data from 2020 to 2022 and the *negative* $15.9 billion figure is based on data from 2017 to 2022.

**Table 2: Average Markup of Reimbursement Rates Over NADAC for Affiliated Pharmacies, All Payor Types, 2020-2022**

| Specialty Status | Brand or Generic | Affiliated Markup |
|---|---|---|
| All | All | -2.1% |
| All | Branded | -8.0% |
| All | Generic | 102.7% |
| Non-Specialty | All | -3.4% |
| Non-Specialty | Branded | -11.6% |
| Non-Specialty | Generic | 73.2% |
| Specialty | All | -0.9% |
| Specialty | Branded | -5.0% |
| Specialty | Generic | 309.0% |

Sources: NADAC data; Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.
Notes:
1. Markup calculated as Reimbursement / NADAC Amount -1.
2. Reimbursement reflects: amount paid by PBM to pharmacy + patient pay amount + other payor recognized amount.
3. Restrictions (brand vs generic, specialty vs non-specialty) are based on PBM internal drug designations.

24. The fact that generics generally have higher percentage markups than branded drugs should not by itself raise concerns. First, because generics typically have much lower prices than branded drugs, a higher percentage margin need not lead to a higher per-prescription (dollar) margin for the generic versus the comparable brand.[40] Second, to the extent there is a set cost for dispensing a prescription, lower cost drugs will need a higher percentage margin to cover that cost. Third, PBMs and plan sponsors want to incentivize pharmacies to dispense generic drugs where possible since generic drugs are typically substantially cheaper for plan sponsors and patients than branded drugs. One way to create this incentive is to enable pharmacies to earn higher margins on generic drugs than on branded drugs.

25. For the analyses we have described in this section, we have followed the FTC staff's use of reimbursement rates when calculating markups. Arguably, the more relevant metric is what plan sponsors and members pay because it reflects total actual spending on drugs (including the

[40] *See* ¶ 13 above.

retail spread, if any, earned or lost by PBMs) and avoids potential concerns about transfer prices between PBMs and their affiliated pharmacies. In the Appendix, we show a version of Table 2 where markups are calculated using gross spending by plan sponsors and members (See Appendix Table 5). The patterns are similar to those shown above.[41]

### C. THE FTC STAFF'S ANALYSIS SUGGESTS THERE IS A LARGE DIFFERENCE BETWEEN MARKUPS AT AFFILIATED AND NON-AFFILIATED PHARMACIES, BUT A MORE COMPREHENSIVE ANALYSIS OF ALL DRUGS SHOWS THIS IS INCORRECT

26. Based on its analysis of a subset of specialty generics, the FTC staff estimates that markups for certain specialty generic drugs at affiliated pharmacies far exceed those at non-affiliated pharmacies. This limited analysis is not sufficient for concluding that affiliated pharmacies are being paid more across all drugs than non-affiliated pharmacies. Examining markups on less than 2% of drug expenditures does not reliably indicate that markups or prices overall are higher at affiliated pharmacies compared to non-affiliated pharmacies.

27. As an analogy to the FTC staff's study, consider two grocery stores, each of which sells thousands of products. The prices of similar (or even identical) products need not be the same at the two stores for them to provide similar value overall to consumers. Consumers will generally consider the cost of the total basket of groceries they purchase, not the cost of one item. Observing that flour costs $2 at Brown's Market and $1 at Green's Market does not establish that shoppers at Brown's are paying twice as much for their groceries than shoppers at Green's. Perhaps flour is more expensive at Brown's, for example, but milk is cheaper. Consumers who purchase both flour and milk do not necessarily spend more on the basket of groceries if they shop at Brown's than at Green's. Because consumers buy a basket of items, one cannot know whether shoppers on average are paying more at Brown's than at Green's unless one analyzes the cost of the basket of goods that shoppers purchase at Brown's and at Green's. What the FTC staff has done is akin to focusing on the cost of flour alone to conclude that Brown's has high markups or is a more expensive store than Green's. It would be similarly inappropriate to focus

[41] We also calculate average markups based on net spending by plan sponsors and members for the PBM where we had the necessary disaggregated net spending data. Those results are similar to results based on gross spending by plan sponsors and members.

on the cost of milk alone and conclude that Brown's has lower markups or is a less expensive store than Green's.

28. Using a variety of methodologies, we now examine whether the data support the FTC staff's suggestion that, generally, markups at affiliated pharmacies may be substantially higher than markups at non-affiliated pharmacies or that affiliated pharmacies are substantially more expensive for plan sponsors and members than non-affiliated pharmacies. We find that the data do not support such conclusions.

### 1. Applying the FTC staff's markup methodology to all drugs purchased at affiliated and at non-affiliated pharmacies

29. Examining markups at non-affiliated pharmacies, we find that they follow a similar pattern to those at affiliated pharmacies.[42] As shown in Table 3, overall markups are low compared to the markups on specialty generics analyzed by the FTC staff, markups on branded products are negative, and markups on both specialty and non-specialty generics are positive. Moreover, although markups on specialty generics are higher than other categories of drugs, as Table 2 and Table 3 show, this is true for both affiliated and non-affiliated pharmacies. Therefore, if the FTC staff is condemning the pricing of specialty generic drugs at PBM affiliated pharmacies, it should be similarly condemning the pricing at non-affiliated pharmacies.[43]

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42 *See* note 8.

43 Of course, "high" reimbursements at non-affiliated pharmacies conflicts with the theory that non-affiliated pharmacies are underpaid and are consequently being driven out of business.

**Table 3: Average Markup of Reimbursement Rates Over NADAC for Non-Affiliated Pharmacies, All Payor Types, 2020-2022**

| Specialty Status | Brand or Generic | Non-Affiliated Markup |
|---|---|---|
| All | All | 3.8% |
| All | Branded | -5.1% |
| All | Generic | 93.6% |
| Non-Specialty | All | 5.2% |
| Non-Specialty | Branded | -5.2% |
| Non-Specialty | Generic | 89.3% |
| Specialty | All | -0.5% |
| Specialty | Branded | -4.8% |
| Specialty | Generic | 145.4% |

Sources: NADAC data; Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.
Notes:
1. Markup calculated as Reimbursement / NADAC Amount -1.
2. Reimbursement reflects: amount paid by PBM to pharmacy + patient pay amount + other payor recognized amount.
3. Restrictions (brand vs generic, specialty vs non-specialty) are based on PBM internal drug designations.

30. Comparing Table 2 and Table 3 shows that the FTC staff's suggestion regarding relative markups at affiliated and non-affiliated pharmacies are contradicted by an analysis of all drugs. The FTC staff calculated that markups for certain specialty generics are higher at affiliated pharmacies than at non-affiliated pharmacies, but when applying the same calculation across all drugs, we find that markups are lower at affiliated pharmacies than at non-affiliated pharmacies.[44] In fact, overall markups at affiliated pharmacies are negative (-2.1%) while markups at non-affiliated pharmacies are positive (+3.8%). In the aggregate, markups are also lower for all specialty drugs at affiliated pharmacies than at non-affiliated pharmacies. To the extent that high-priced, non-affiliated pharmacies are excluded by plan sponsors from pharmacy networks to reduce drug costs, our results and the FTC staff's results may understate the markups at non-affiliated pharmacies.

[44] The same conclusion applies if we analyze Medicare and commercial plan sponsors separately.

### 2. Applying the FTC staff's markup methodology to the entire basket of drugs purchased, adjusting for drug mix

31. The analysis in Table 2 and Table 3 is based on the actual number of and type of prescriptions dispensed at affiliated and non-affiliated pharmacies in the data provided to the FTC. Because the mix of drugs sold at each type of pharmacy may differ, differences in markups across pharmacy types could be driven by differences in the mix of drugs purchased at different pharmacy types. To control for this, we calculate markups assuming that the entire basket of drugs purchased at affiliated and non-affiliated pharmacies combined is purchased at affiliated pharmacies and compare that to the markup assuming that the entire basket of drugs is purchased at non-affiliated pharmacies. The results show very similar patterns to Table 2 and Table 3: affiliated markups overall are lower than non-affiliated markups (see Appendix Table 6), and the dollar value of the difference in markups between affiliated and non-affiliated pharmacies across all drugs is *negative* $19.4 billion. (See Appendix Table 7 and Table 8).

### 3. Examining total payments for the entire basket of drugs purchased

32. Another way to analyze the FTC staff's suggestion that affiliated pharmacies are generally more costly than non-affiliated pharmacies is simply to look at total payments by plan sponsors and members to affiliated and non-affiliated pharmacies. We find that the data do not support the FTC staff's suggestion that affiliated pharmacies are substantially more expensive than non-affiliated pharmacies, across all drugs.

33. Just as the mix of drugs purchased can affect the comparison of markups at affiliated and non-affiliated pharmacies, as discussed above, mix can also affect a comparison of total payments at affiliated and non-affiliated pharmacies. We therefore analyze what the basket of all drugs purchased by plan sponsors and members at both affiliated and non-affiliated pharmacies combined would cost plan sponsors and members if the entire basket were purchased at affiliated pharmacies versus what it would cost if the entire basket were purchased at non-affiliated pharmacies. Our analysis indicates that total payments (from plan sponsors and members combined) are about the same at affiliated pharmacies and non-affiliated pharmacies, although the amount can be a little more or a little less, depending on the methodology. Table 9 in the

Appendix shows that the ratio of total payments at affiliated pharmacies to total payments at non-affiliated pharmacies is 1.01 across all NDCs, PBMs, payors, and years.[45]

34. Although our analysis uses what we consider to be reasonable assumptions to estimate the "prices" paid at affiliated and non-affiliated pharmacies—or simply adopts the FTC staff's assumptions—these assumptions can influence the calculations, and there are adjustments one could try to make to confirm the robustness of the results. For example, instead of using the FTC staff's convention of using the number of 30-day prescriptions, we could use a different measure of quantity; the ratio of affiliated to non-affiliated decreases slightly to 1.00 if we use quantity dispensed.[46] (See Table 10 in the Appendix.)

35. As another example, PBMs and plan sponsors also may negotiate discount rate guarantees specific to affiliated pharmacies that are not typically recorded in the available FTC data at the claim level. These guarantees would further reduce the cost of drugs at affiliated pharmacies in our analyses once accounted for.

36. In addition, we understand that the data we have are more likely to exclude out-of-network prescriptions for non-affiliated pharmacies compared to affiliated pharmacies. Since out-of-network pharmacies are likely to have higher prices than in-network pharmacies, this will likely bias upward our calculations of prices at affiliated pharmacies compared to non-affiliated pharmacies, causing our calculated ratio of costs at affiliated to non-affiliated pharmacies to be higher than the actual ratio.[47]

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45 The same conclusion applies if we analyze Medicare and commercial plan sponsors separately.

46 Quantity dispensed refers to "the number of units, grams, milliliters, or other relevant unit indicating the amount of an individual drug product included in a transaction or transactions." Federal Trade Commission, *Order to File a Special Report*, FTC Matter No. P221200 (June 6, 2022), p. 13.

47 As an alternative approach to analyzing the differences in payments to affiliated and non-affiliated pharmacies for the basket of drugs purchased, we separately estimated a regression relating the gross plan sponsor + patient payment per 30-day prescription for an NDC (in logarithms) to an indicator variable for affiliated pharmacy, indicator variables for years (2017 through 2022), indicator variables for the type of payor (commercial/Medicare/Medicaid), indicator variables for each of the three largest PBMs, and indicator variables for NDCs. We estimated versions both weighting by 30-day

*  *  *

37. In summary, the FTC staff suggests that broad conclusions about the PBMs' treatment of overall drug costs at affiliated and non-affiliated pharmacies can be drawn from an analysis of a very small set of drugs, notwithstanding the reality that plan sponsors negotiate for and purchase a large basket of drugs. From the perspective of plan sponsors, who care about the overall cost of providing prescription drug benefits to their members, "high" prices or markups on some drugs may be offset by "low" prices or markups on other drugs. Our broader analyses—using the FTC staff's markup methodology as well as examining total payments by plan sponsors and members—show that the data do not support the FTC's suggestion. Our analysis shows that, when calculated across all drugs, markups are *negative* at affiliated pharmacies and are not higher at affiliated pharmacies than non-affiliated pharmacies. Furthermore, the overall cost to plan sponsors and members of the total basket of drugs purchased by plan sponsors and members would be about the same at affiliated pharmacies and non-affiliated pharmacies.

### D. THE FTC STAFF ALSO INCORRECTLY SUGGESTS THAT NON-AFFILIATED PHARMACIES' SURVIVAL IS THREATENED BECAUSE PBMS MAY BE STEERING PRESCRIPTIONS TO AFFILIATED PHARMACIES

38. The FTC staff raises concerns that the PBMs may be steering prescriptions away from non-affiliated pharmacies and towards their affiliated pharmacies, with the implication that this may be putting the survival of the non-affiliated pharmacies in jeopardy.[48]

39. The data do not support the FTC staff's suggestion that steering of prescriptions to affiliated pharmacies is driving non-affiliated pharmacies out of business. Spending by plan sponsors and members on drugs at non-affiliated pharmacies has grown significantly over time,

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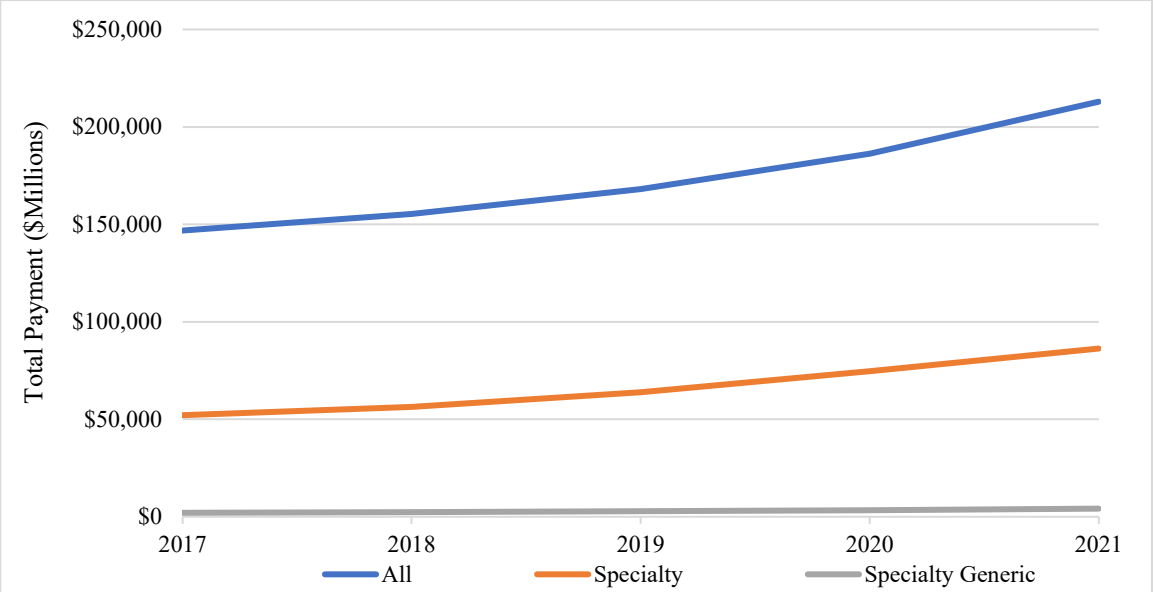
prescriptions and without weighting. Both regressions are reported in Appendix Table 13. The results of the weighted regression indicate that total payments on all drugs in the basket would be about 3.6% lower at affiliated pharmacies than they would be at non-affiliated pharmacies. The results of the unweighted regression indicate that total payments on all drugs in the basket would be about 2.2% lower at affiliated pharmacies than they would be at non-affiliated pharmacies.

48 The FTC staff does not consider that there may be other reasons why affiliated pharmacies have higher shares of certain specialty generic drugs than non-affiliated pharmacies, such as the ability to provide services that may be more important for certain specialty drugs than for other drugs.

whether one considers all drugs, all specialty drugs, or specialty generic drugs.[49] (See Figure 3; see also Figure 18 in Carlton, *et al*. (2025) Section VI.) Thus, sales at these pharmacies are not declining and non-affiliated pharmacies are not losing revenue in absolute terms.

**Figure 3: Total Spending by Plan Sponsors and Members at Non-Affiliated Pharmacies, 2017-2021**




Sources: Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.
Notes: Not all PBM data runs through December 2022, and thus 2022 data is omitted.

40. Moreover, although the non-affiliated pharmacies' share of total spending declines from 62% to 59% between 2017 and 2021, PBMs continue to rely on non-affiliated pharmacies to fill prescriptions accounting for more than half of all drug payments. (See Table 11 in the Appendix.) These results are inconsistent with the suggestion that PBMs are threatening the viability of non-affiliated pharmacies by steering prescriptions.

[49] We obtain similar results for pharmacy reimbursement (amount paid by PBM to pharmacy, patient pay amount, and other payor recognized amount) over time.

## APPENDIX

**Table 4: Payments and Volume of Prescriptions by Drug Type at Affiliated Pharmacies (2017-2022)[50]**

| Drug Type | Share |
|---|---|
| **Gross Plan Sponsor + Member Payment** | |
| FTC Specialty Generic Drugs | 2.2% |
| Other Specialty Generic | 0.5% |
| Specialty Branded | 63.1% |
| Non-Specialty Generic | 7.2% |
| Non-Specialty Branded | 27.0% |
| | |
| **Reimbursement** | |
| FTC Specialty Generic Drugs | 2.1% |
| Other Specialty Generic | 0.5% |
| Specialty Branded | 62.9% |
| Non-Specialty Generic | 7.0% |
| Non-Specialty Branded | 27.4% |
| | |
| **No. of 30-Day Prescriptions** | |
| FTC Specialty Generic Drugs | 0.3% |
| Other Specialty Generic | 0.0% |
| Specialty Branded | 1.5% |
| Non-Specialty Generic | 87.5% |
| Non-Specialty Branded | 10.7% |

Sources: Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.

[50] Values might not add to 100% due to rounding. Other specialty generic drugs comprise 0.02% of 30-day prescriptions.

**Table 5: Average Markup of Gross Sponsor + Patient Payment Rates Over NADAC for Affiliated and Non-Affiliated Pharmacies, All Payor Types, 2020-2022**

| Specialty Status | Brand or Generic | Affiliated Markup | Non-Affiliated Markup |
|---|---|---|---|
| All | All | -3.4% | 4.6% |
| All | Branded | -9.5% | -5.5% |
| All | Generic | 104.7% | 106.1% |
| Non-Specialty | All | -5.1% | 6.0% |
| Non-Specialty | Branded | -13.7% | -5.8% |
| Non-Specialty | Generic | 74.7% | 100.4% |
| Specialty | All | -1.9% | 0.4% |
| Specialty | Branded | -6.0% | -4.6% |
| Specialty | Generic | 314.3% | 175.5% |

Sources: NADAC data; Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.

Notes:

1. Markup calculated as Gross Payment / NADAC Amount -1.
2. Gross Payment reflects: gross amount sponsor paid to PBM + patient pay amount.
3. Restrictions (brand vs generic, specialty vs non-specialty) are based on PBM internal drug designations.

**Table 6: Average Markup of Reimbursement Rates Over NADAC for Affiliated and Non-Affiliated Pharmacies While Controlling for Product Mix, All Payor Types, 2020-2022**

| Specialty Status | Brand or Generic | Affiliated Markup | Non-Affiliated Markup |
|---|---|---|---|
| All | All | -2.7% | 0.3% |
| All | Branded | -8.6% | -5.3% |
| All | Generic | 86.8% | 85.6% |
| Non-Specialty | All | -3.7% | 2.0% |
| Non-Specialty | Branded | -10.9% | -5.4% |
| Non-Specialty | Generic | 71.3% | 78.8% |
| Specialty | All | -1.1% | -2.7% |
| Specialty | Branded | -5.0% | -5.2% |
| Specialty | Generic | 235.8% | 150.6% |

Sources: NADAC data; Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.

Notes:

1. Markup calculated as Mix Adjusted Reimbursement Price / Mix Adjusted NADAC Price -1.
2. Reimbursement reflects: amount paid by PBM to pharmacy + patient pay amount + other payor recognized amount.
3. Restrictions (brand vs generic, specialty vs non-specialty) are based on PBM internal drug designations.
4. This analysis includes overlapping NDCs with at least 100 30-day prescriptions for each PBM, at each type of pharmacy, in each year.

**Table 7: Total Dollar Markup of Reimbursements Over NADAC for Affiliated and Non-Affiliated Pharmacies (millions USD) While Controlling for Product Mix, All Payor Types, 2020-2022**

| Specialty Status | Brand or Generic | Affiliated Dollar Markup | Non-Affiliated Dollar Markup |
|---|---|---|---|
| All | All | -$17,413 | $1,985 |
| All | Branded | -$51,444 | -$31,733 |
| All | Generic | $34,184 | $33,700 |
| Non-Specialty | All | -$14,811 | $8,156 |
| Non-Specialty | Branded | -$40,087 | -$19,972 |
| Non-Specialty | Generic | $25,429 | $28,108 |
| Specialty | All | -$2,628 | -$6,170 |
| Specialty | Branded | -$11,383 | -$11,761 |
| Specialty | Generic | $8,755 | $5,592 |

Sources: NADAC data; Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.

Notes:

1. Markup calculated as Mix Adjusted Reimbursement Price - Mix Adjusted NADAC Price.
2. Reimbursement reflects: amount paid by PBM to pharmacy + patient pay amount + other payor recognized amount.
3. Restrictions (brand vs generic, specialty vs non-specialty) are based on PBM internal drug designations.
4. This analysis includes overlapping NDCs with at least 100 30-day prescriptions for each PBM, at each type of pharmacy, in each year.

**Table 8: Difference between the Affiliated and Non-Affiliated Total Dollar Markup of Reimbursements Over NADAC (millions USD) While Controlling for Product Mix, All Payor Types, 2020-2022**

| Specialty Status | Brand or Generic | Affiliated Less Non-Affiliated Dollar Markup |
|---|---|---|
| All | All | -$19,398 |
| All | Branded | -$19,710 |
| All | Generic | $484 |
| Non-Specialty | All | -$22,967 |
| Non-Specialty | Branded | -$20,115 |
| Non-Specialty | Generic | -$2,679 |
| Specialty | All | $3,542 |
| Specialty | Branded | $378 |
| Specialty | Generic | $3,163 |

Sources: NADAC data; Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.

Notes:

1. Reimbursement reflects: amount paid by PBM to pharmacy + patient pay amount + other payor recognized amount.
2. Restrictions (brand vs generic, specialty vs non-specialty) are based on PBM internal drug designations.
3. This analysis includes overlapping NDCs with at least 100 30-day prescriptions for each PBM, at each type of pharmacy, in each year.

**Table 9: Comparison of Total Drug Payments at Affiliated and Non-Affiliated Pharmacies (based on Gross Plan Sponsor + Member Payment per 30-Day Rx), All Payor Types, 2017-2022**

| Specialty Status | Brand or Generic | Ratio of Affiliated to Non-Affiliated Expenditures |
|---|---|---|
| All | All | 1.01 |
| All | Branded | 1.01 |
| All | Generic | 0.99 |
| Non-Specialty | All | 0.97 |
| Non-Specialty | Branded | 0.98 |
| Non-Specialty | Generic | 0.95 |
| Specialty | All | 1.05 |
| Specialty | Branded | 1.04 |
| Specialty | Generic | 1.20 |

Sources: Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.

Notes:

1. Average payment per 30-day equivalent prescription is calculated at the year, payor type, PBM level for both affiliated and non-affiliated pharmacies for each overlapping NDC.

2. This analysis includes overlapping NDCs with at least 100 30-day prescriptions for each PBM, at each type of pharmacy, in each year.

Methodology: Affiliated and Non-Affiliated Expenditure Comparison with Gross Payments

To compare the overall cost of drugs purchased at affiliated and non-affiliated pharmacies, we first consider what plan sponsors and members' total payment would be if all drugs were purchased at the average cost at affiliated pharmacies and compare this to what their total payment would be if all drugs were purchased at the average cost at non-affiliated pharmacies.

For each PBM in each year 2017-2022, we identify all NDCs that had at least 100 30-day prescriptions covered by the PBM at an affiliated pharmacy and at least 100 30-day prescriptions covered by the PBM at a non-affiliated pharmacy. We then calculate, for each NDC/PBM/payor type/year combination, the average total payment per 30-day prescription by plan sponsors and members at affiliated pharmacies ($P_a$) and at non-affiliated pharmacies ($P_n$). We also calculate the total number of 30-day prescriptions for that NDC/PBM/payor type/year combination across both affiliated and non-affiliated pharmacies (Q). We then calculate what the total payment for each combination would have been if all purchases were made at (i) affiliated pharmacies (by multiplying the payment ($P_a$) by the quantity (Q) such that $TE_a = P_a * Q$); and (ii) non-affiliated pharmacies (by multiplying the payment ($P_n$) by the quantity (Q) such that $TE_n = P_n * Q$). We sum these total payments across all NDC/PBM/payor type/year combinations for affiliated pharmacies and for non-affiliated pharmacies and calculate the ratio of the two sums.

**Table 10: Comparison of Total Drug Payments at Affiliated and Non-Affiliated Pharmacies (based on Gross Plan Sponsor + Member Payment per Unit), All Payor Types, 2017-2022**

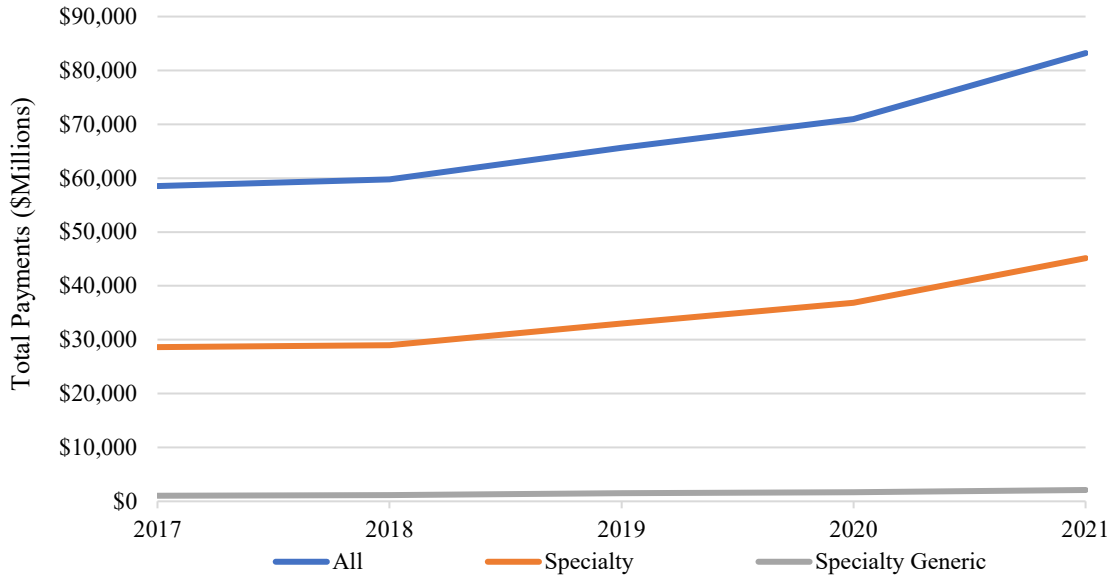
| Specialty Status | Brand or Generic | Ratio of Affiliated to Non-Affiliated Expenditures |
|---|---|---|
| All | All | 1.00 |
| All | Branded | 1.01 |
| All | Generic | 0.96 |
| Non-Specialty | All | 0.93 |
| Non-Specialty | Branded | 0.93 |
| Non-Specialty | Generic | 0.93 |
| Specialty | All | 1.08 |
| Specialty | Branded | 1.08 |
| Specialty | Generic | 1.17 |

Sources: Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.

Notes:

1. Average payment per unit equivalent prescription is calculated at the year, payor type, PBM level for both affiliated and non-affiliated pharmacies for each overlapping NDC.
2. This analysis includes overlapping NDCs with at least 100 30-day prescriptions for each PBM, at each type of pharmacy, in each year.

**Figure 4: Total Spending by Plan Sponsors and Members at All Non-Affiliated Independent Pharmacies 2017-2021**




Sources: Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.
Notes: Not all PBM data runs through December 2022, and thus 2022 data is omitted.

**Table 11: Non-Affiliated Pharmacy Share of Total Spending and Volume**

| Drug Type | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **Gross Sponsor + Patient Pay** | | | | | | |
| All Drugs | 62.0% | 60.8% | 60.1% | 59.2% | 59.3% | 58.2% |
| Specialty | 48.4% | 47.3% | 46.8% | 46.6% | 46.8% | 45.1% |
| Specialty Generic | 52.9% | 50.2% | 48.1% | 46.6% | 48.0% | 48.4% |
| **Pharmacy Reimbursement** | | | | | | |
| All Drugs | 61.6% | 60.3% | 59.6% | 58.8% | 58.9% | 57.8% |
| Specialty | 48.2% | 47.1% | 46.6% | 46.4% | 46.4% | 44.8% |
| Specialty Generic | 50.9% | 47.3% | 45.9% | 45.3% | 46.0% | 45.2% |
| **Volume** | | | | | | |
| All Drugs | 72.7% | 71.8% | 71.3% | 70.9% | 71.2% | 71.9% |
| Specialty | 56.9% | 55.5% | 55.1% | 54.4% | 54.7% | 53.5% |
| Specialty Generic | 65.6% | 65.0% | 64.4% | 64.5% | 65.7% | 66.1% |

Sources: Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.

**Table 12: Non-Affiliated Independent Pharmacy Share of Total Spending and Volume**

| Drug Type | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **Gross Sponsor + Patient Pay** | | | | | | |
| All Drugs | 24.7% | 23.4% | 23.5% | 22.6% | 23.2% | 22.8% |
| Specialty | 26.6% | 24.3% | 24.2% | 23.0% | 24.5% | 24.2% |
| Specialty Generic | 25.5% | 24.6% | 25.2% | 24.0% | 24.3% | 24.5% |
| **Pharmacy Reimbursement** | | | | | | |
| All Drugs | 24.7% | 23.2% | 23.3% | 22.4% | 23.1% | 22.7% |
| Specialty | 26.4% | 24.1% | 24.0% | 22.9% | 24.3% | 24.0% |
| Specialty Generic | 25.0% | 23.2% | 23.9% | 23.4% | 23.8% | 23.8% |
| **Volume** | | | | | | |
| All Drugs | 19.8% | 19.5% | 19.5% | 19.2% | 18.6% | 17.8% |
| Specialty | 28.0% | 25.8% | 24.8% | 23.7% | 24.6% | 24.2% |
| Specialty Generic | 23.4% | 23.5% | 23.2% | 22.8% | 23.6% | 23.7% |

Sources: Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.

## Table 13: Regression Analysis of Total Drug Payments at Affiliated and Non-Affiliated Pharmacies (based on Gross Plan Sponsor + Member Payment per 30-Day Rx), All Payor Types, 2017-2022

Dependent Variable: Log of Gross Sponsor + Member Payments per 30-Day Equivalent Prescription

| | Specialty Drugs Only | Non-Specialty Drugs Only | Specialty Drug Share of Total Payments | Weighted Average of Exponentiated Coefficients |
|---|---|---|---|---|
| | (1) | (2) | | |
| Affiliated Pharmacy Dummy Coefficient (30-Day Rx Weight) | 0.064*** | -0.144*** | 49% | -0.036 |
| Affiliated Pharmacy Dummy Coefficient (Unweighted) | 0.071*** | -0.121*** | 49% | -0.022 |
| Observations | 76,428 | 318,055 | | |

Sources: Specs 12-14 of Caremark, Express Scripts, and Optum Rx 6(b) Submissions to the FTC.

Notes:

1. *** p < 0.01, ** p < 0.05, * p < 0.1; Clustered standard errors on NDC are used; Observations are weighted by 30-day Rx volume.

2. Includes NDCs with at least 100 30-day prescriptions for each PBM, at each type of pharmacy, in each year.

3. The regression includes year fixed effects (2017-2022), payor fixed effects (commercial, Medicare, Medicaid), PBM fixed effects, and NDC fixed effects.

4. The weighted average coefficient is calculated as the sum of the specialty and non-specialty shares of drug total payments multiplied by their associated exponentiated coefficient values.