PARAGON HEALTH INSTITUTE POLICY BRIEF

January 14, 2026

PBM 101

What They Are and How They Affect Drug Prices

By Jackson Hammond

Americans routinely list high out-of-pocket costs for drugs as a major affordability issue. While net prices for brand-name drugs have decreased over the past seven years, list prices—which impact out-of-pocket payments for patients—have risen significantly.[1] The reason for this disparity is in large part due to the way drug prices are negotiated and the role played by pharmacy benefit managers (PBMs) in those negotiations. This brief will cover the basics of what PBMs are, what they do, and how they impact the economics of pharmaceuticals.

PBMs leverage large numbers of patients to secure drug manufacturer discounts and administer drug benefits. At the same time, increasingly opaque practices, fueled in part by incentives from government programs, distort pricing and premiums—including by incentivizing higher list prices for rebate maximization and injecting unnecessary additional complexity into the drug supply chain. Many policymakers have legitimate concerns that PBM practices lack transparency and distort the market.

KEY TAKEAWAYS

PBMs negotiate large rebates that are mostly passed back to insurers to reduce premiums. But because patient cost sharing is often based on list prices, patients who use expensive or specialty drugs frequently pay more at the pharmacy counter.

Manufacturers are encouraged to set high list prices so they can offer large rebates for favorable formulary placement. Legal constraints, including the Robinson-Patman Act, have reinforced this rebate-driven structure.

Research suggests that PBMs generate substantial savings through negotiation, generic use, and administrative efficiencies. However, the growing complexity of the rebate system obscures who benefits and who bears the costs.

Three PBMs control about 80 percent of the market and are vertically integrated with major insurers. While not unique to PBMs, this concentration intensifies scrutiny of pricing practices and formulary decisions.

What Is a PBM?

PBMs are entities that manage the pharmacy benefits of insurance plans, setting payment rules and amounts for prescription medications taken outside a hospital or physician office setting. This management primarily includes benefit design, negotiating drug prices with manufacturers, establishing and negotiating pharmacy networks, and reimbursing pharmacies. Some PBMs may offer additional services, such as supplying drugs directly to patients through the mail.

How PBMs Make Money

PBMs make money through a variety of sources, including fees from administrative services, data collection and analysis, copay accumulators and maximizers, and consulting. PBMs additionally earn revenue through flat fees per prescription and, frequently, a percentage of the rebates they negotiate with pharmaceutical manufacturers. A rebate is a payment from the manufacturer to the insurer after the drug has been purchased.

A study by the analysis firm Nephron Research found that PBMs derived 39 percent of their 2022 profits from specialty pharmacies (pharmacies that focus on providing high-cost drugs and additional care management to patients with complex conditions) and 13 percent from commercial rebates.[2] PBMs are passing more of the rebates back to plan sponsors (i.e., using them to reduce premiums) than they have historically. Between 2012 and 2022, rebates have gone from accounting for 46 percent of PBM profits to 13 percent. This is despite the fact that total rebates grew by 64 percent ($25 billion) between 2018 and 2022. According to the Nephron analysis, PBMs now derive around 20 percent of total profits from administrative fees, vendor fees, and data portal fees. The Nephron analysis also found that commercial rebates, along with pricing protection fees (where a manufacturer pays a PBM a fee if the list price increases above an agreed-upon amount over an agreed-upon timeframe) and spread pricing (where a PBM charges the insurance provider or a patient paying outside of insurance more for a drug than it paid the pharmacy for that drug) make up between 20 percent and 24 percent of PBM profits, while mail-order pharmacy revenue makes up another 16 percent.

PBMs' Role in the Money-Product Flow

The money-product flow of pharmaceuticals illustrates who pays how much to whom and who delivers what drug to whom, all of which ultimately results in the patient receiving the drug. Figure 1 illustrates the complexity of this system.[3] Multiple actions are often occurring before, simultaneous to, or after the drug is given to the patient. PBMs are both administrators and primary actors in this system. In their role as administrators for insurers, their relationships in the money-product flow can generally be categorized as business-to-business. PBMs can also be primary actors when they own pharmacies (typically either mail-order or specialty pharmacies), though this is a relatively recent development.

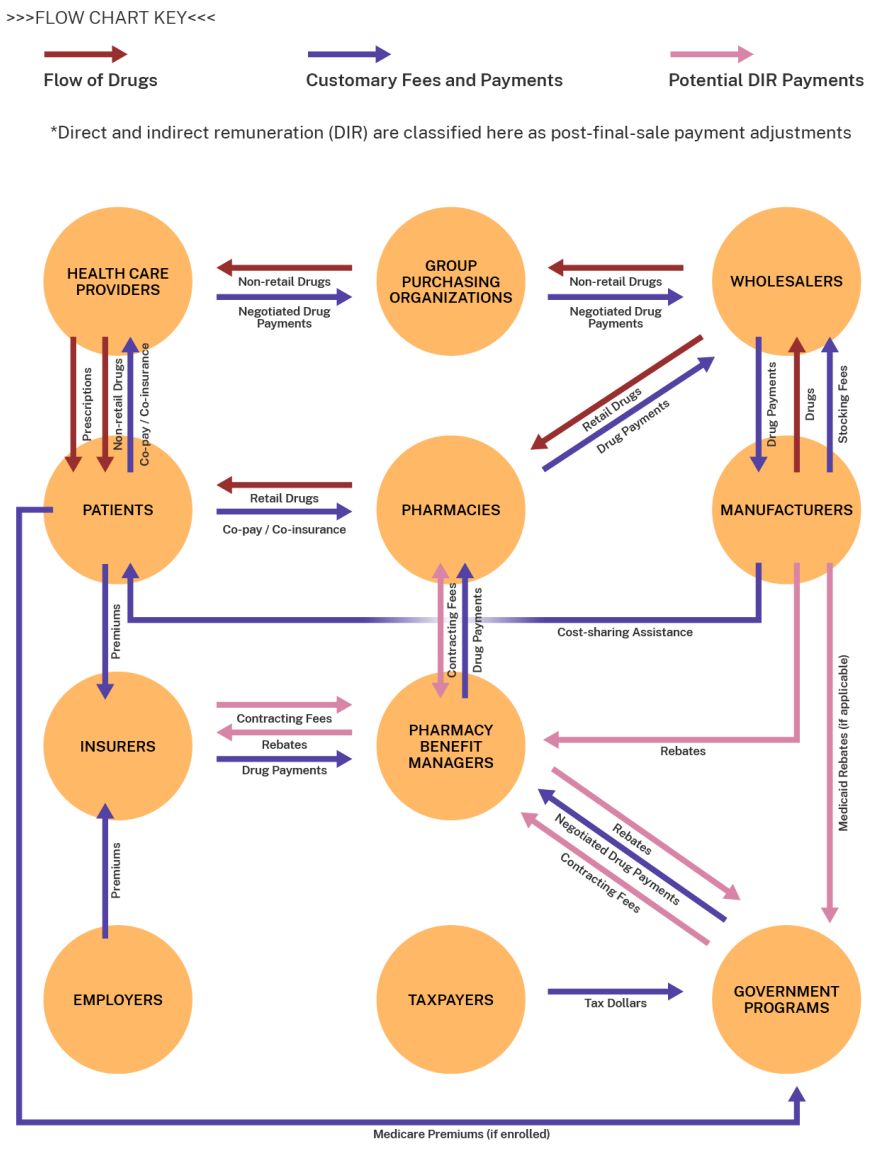
It is important to note that in their role as pharmacy benefit administrators, PBMs do not physically take possession of the drugs or have relationships with the patients who receive them. They are not part of the supply chain but instead handle the money flowing among insurers, pharmacies (including those they own), wholesalers, and manufacturers. In their administrator capacity, PBMs do not bill or interact with patients.

History of PBMs

With the increase in prescription drugs in the 1960s, PBMs emerged as a means of providing claims processing and administrative support services for newly created prescription drug benefits offered by insurers.[4] In the 1970s and 1980s, new innovations including drug benefit identification cards and electronic drug claims processing allowed for a smoother purchasing process and the paperless exchange of clinical and claims data between PBMs and pharmacies.[5]

Figure 1: Money-Product Flow of Pharmaceuticals

The path of a prescription drug from the manufacturer to the patient is a long and winding road with many stopping points along the way. The number of middlemen between the manufacturer and the patient complicates the pricing structure. Adding to the complexity are rebates, discounts, and other forms of compensation that are provided between middlemen.



The lack of price transparency makes it difficult to know where all the money is going, who is benefitting from these price discounts, and who is impacted by the fees. Policymakers should seek additional data to more fully understand the extent of the payments and how they should be used to provide the greatest benefit to patients and taxpayers.

SOURCE: Adapted from the original by American Action Forum.

Government-Driven Increases in Drug Prices

Increased list prices and patient out-of-pocket costs are a function not only of the incentives that are created by rebates. Government policies also drive increases in drug prices.

1. *The Medicaid Prescription Drug Rebate Program requires that manufacturers offer Medicaid the best price on the market for a given drug, net of rebates. Medicaid calculates the "best price" rebate using the average manufacturers' price (AMP), which is the average price wholesalers pay to manufacturers. The formula incentivizes higher AMPs, because a higher AMP means a higher payment from Medicaid. PBMs often base patients' coinsurance payment on AMP, so the higher the AMP, the higher the out-of-pocket cost to patients.*
2. *The 340B Drug Pricing Program requires manufacturers to provide special discounts to qualifying hospitals and clinics. This calculation is also based on AMP, so manufacturers are incentivized to increase AMP to increase overall payment. Furthermore, because hospitals can resell these drugs at a markup, they are incentivized to purchase more expensive drugs that receive larger discounts, creating demand for more expensive drugs and thus further upward pressure on prices.*

Also at this time, PBMs began designing pharmacy networks and mail service benefits.[6]

The enactment of the Employee Retirement Income Security Act of 1974 further enabled the use of PBMs by large employers.[7]

Pharmaceutical research and development brought about a wave of new cures and treatments beginning in the 1980s and accelerating rapidly into the 1990s with the advent of the digital age. This created a growing variety of outpatient drugs that were also more expensive than previous drugs, driving increased demand for third-party prescription drug payers to help defray the cost.

As a result, PBMs increasingly became price negotiators. Originally, PBMs worked to get up-front, volume-based discounts on drugs from manufacturers. However, in 1994, pharmacies sued manufacturers for antitrust violations, alleging in essence that manufacturers gave insurers and hospitals volume-based discounts that pharmacies and wholesalers could not qualify for in violation of the Robinson-Patman Act (RPA).[8] The RPA provides that competing purchasers must be given an "equal opportunity" to obtain lower prices, and pharmacies and wholesalers alleged that pharmaceutical manufacturers refused to offer them discounts comparable to those offered to others. Manufacturers settled, and the eventual result of the RPA enforcement actions—along with other changes to the drug and insurance industry—was a shift to retrospective rebates for purchasers that could meet certain market share volume requirements (i.e., PBMs and plans) and therefore did not raise the same RPA issues.[9] Since that time, rebates have historically been one of the primary streams of PBM revenue (though no longer the majority),[10]

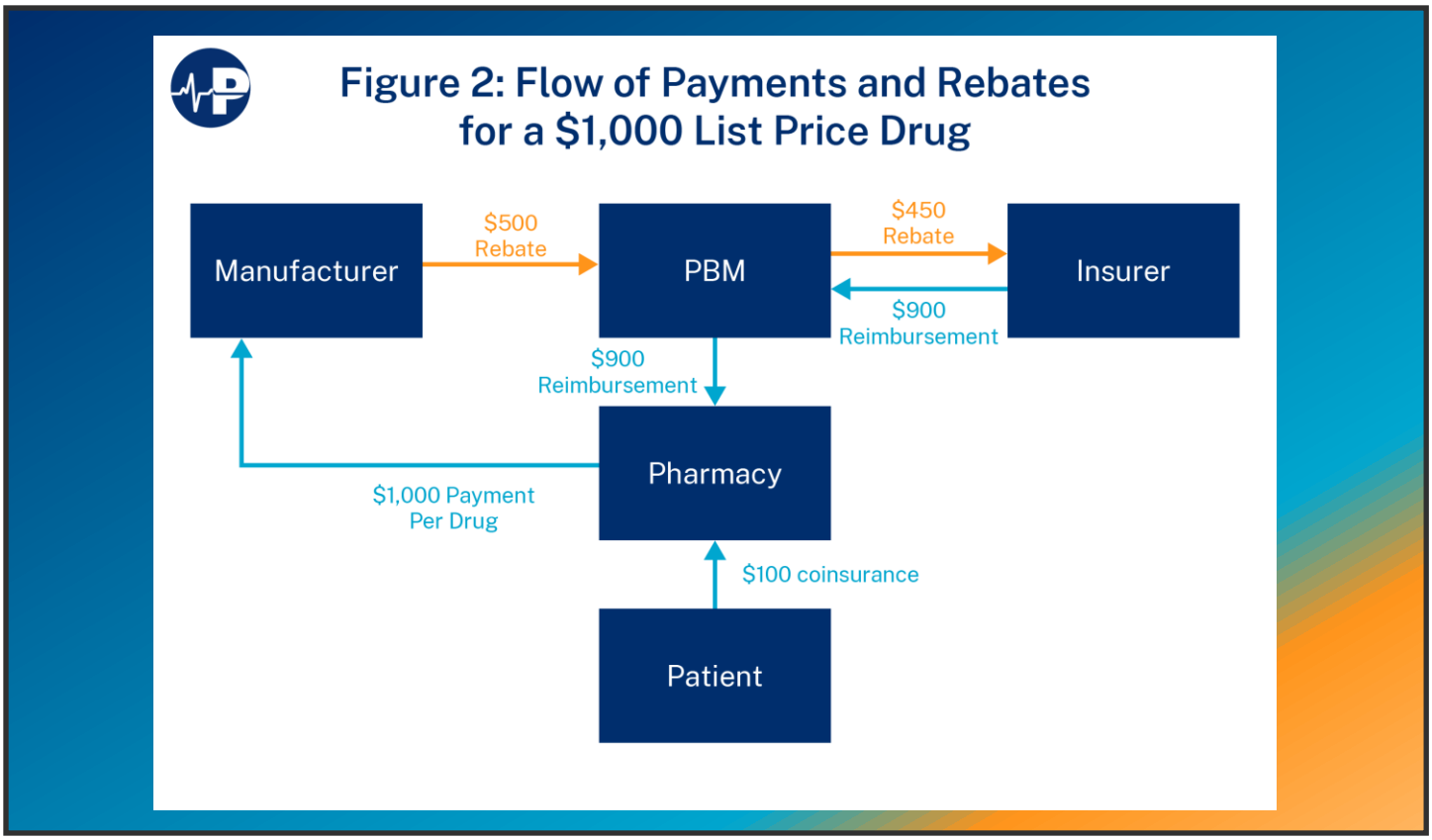
and the same general retrospective structure remains.

How PBMs Impact Drug Pricing

Rebates

As noted above, rebates are retrospective discounts that factor in volume of sales. Generally, a manufacturer will offer a rebate off the list price in exchange for preferential placement on the PBM's formulary. (A formulary contains the drugs that an insurer will cover. This list includes brand-name drugs, generics, biologics, and biosimilars.) This preferential placement generally reduces a patient's cost sharing and, consequently, results in greater sales volume. The PBM has to hit a certain volume of sales, and once the PBM can demonstrate that it met that volume (usually at the end of the year), the manufacturer then sends the PBM the rebate. The PBM takes its percentage—along with any bonuses for hitting certain contractual targets—and passes the rest of the rebate on to the insurer the PBM is contracted with, which typically uses it to offset premiums. Figure 2 demonstrates a simple example of the flow of money in the purchase of a hypothetical drug with a $1,000 list price.

As this process typically takes about a year, it is unknown what the net price (which includes the rebate) will be at the time the patient gets the drug from the pharmacy counter. For most products, particularly generics, the patient's share of the cost is defined in dollar terms (e.g., $10 copay for a brand name drug on a PBM's preferred tier). In these cases, the difference



between the drug's list price and the net price does not affect what the patient pays at the

counter. But especially for more expensive drugs, PBMs typically require the patient to pay a percentage of the list price. A patient's coinsurance is based on the drug's list price and not its net price, because at that point in time at the pharmacy counter, the true net price cannot be known, although it is actuarially estimated and taken into account by plans in setting premiums.

Because PBMs pass most of the rebate onto insurers (while retaining a portion of the rebate as revenue), all enrollees pay lower premiums than they otherwise would.[11] But patients who fill prescriptions for more costly products pay more at the counter, because the cost sharing is often based on the higher list price.[12] This is the basic trade-off of the rebate system: Premiums are lower than otherwise for everyone, but out-of-pocket costs are higher for patients who buy more (and more expensive) prescriptions.[13] Insurers make this trade-off because most individuals buy insurance based on the premium, which is a known and easily compared cost, whereas most people will not know what their drug spending is likely to be in a given year or how it will compare among plans.

This does not change the net economics of prescription drug coverage. As with all health insurance, healthier individuals with lower drug costs are subsidizing the premiums of less healthy individuals with higher drug costs. But the rebate system also created a premium subsidy that flows from those with high drug costs toward those with lower costs. An upfront discount system would help avoid this. However, in large part because of the RPA and subsequent settlement of the aforementioned lawsuit in the mid-1990s, upfront discounts are no longer used, even long after the settlement agreement expired.

Additional Rebate System Distortions

Sometimes, a higher rebate may not result in a lower net-price for the plan even if patient cost sharing is included. However, if the PBM is being rewarded based on the rebate, and the contract does not stipulate that the PBM must chose the lowest net cost drug for the plan — or if the plan sponsor has limited insight into the rebate structure and net prices — the PBM may still select the drug with the highest rebate.

Because PBMs do not pass all rebates through to plans, critics of PBMs contend that employer plans in particular may have little visibility into the negotiated rebates and net prices and may as a result be paying more for drugs than they otherwise would, because the PBM selected the drug with the highest rebate instead of the lowest net cost for the plan.

Negotiations and Formularies

PBMs incentivize higher rebates through formulary design. PBMs often create tiered formularies, wherein the PBM offers lower cost-sharing requirements for certain drugs that typically offer the lower net costs for the plan. Patients are more likely to choose drugs with lower cost sharing (in consultation with their physicians when all else is equal or similar between drugs), so the manufacturer has an incentive to provide a higher rebate to ensure that its drug has the lowest cost sharing among

competitors and is thus more attractive to the patient.

A typical tier system has the lowest coinsurance or copay for generic drugs, a more expensive tier for "preferred" brand-name drugs, and the most expensive tier for "non-preferred" branded drugs or branded drugs that have generic equivalents.[14] Most PBMs have also established specialty tiers for the most costly drugs that require beneficiaries to pay a percentage of the list price when they pick up their medicines. The rebate system makes many of these drugs extremely expensive for the patient at the pharmacy counter, whose out-of-pocket payments are determined by high list prices of specialty drugs.

For example, if Drug A provides the PBM with a $100 rebate, and its competitor Drug B provides a $200 rebate, the PBM may place Drug B in the first tier of its formulary and charge the patient a $5 copay, with Drug A placed in the second tier and the patient charged a $10 copay. This incentivizes the patient to choose Drug B and thus help Drug B meet its volume requirements to attain its rebate.

The rebate system can also create distortions. Suppose that Drugs A and B are specialty drugs and so the PBM requires coinsurance (a percentage of the list price) of 20 percent instead of a copayment (a flat fee) and will cover only one drug in that specialty class. If Drug B has a list price of $2,000 and a $1,200 rebate (creating a net price of $800), and Drug A has a list price of $1,000 and a $100 rebate (a net price of $900), the PBM will still select Drug B for coverage because of the higher rebate and lower net price. (See text box for another example of a distortion.) However, the patient will be paying $400 in coinsurance at the pharmacy counter instead of $200 for Drug A. Assuming both drugs are similarly efficacious, there is a clear incentive for the manufacturer to raise the list price in order to provide a higher rebate while only having a marginally lower net price than its competitor. Consolidation, opacity, and the complex distortions that abound in U.S. health care undermine the effectiveness of competition between PBMs to address this scenario.

PBMs' Impact on Prescribing Practices

PBM practices also have an effect on prescribing practices. A PBM will contact physicians to recommend switching patients to its preferred drug—which typically has the lowest copay or coinsurance costs for patients.[15] If the preferred medicine is more affordable for patients, doctors have greater incentives to prescribe it to better ensure adherence. The better the adherence, the more likely the PBM is to meet its volume goals to attain the rebate. A PBM generally pays the same flat amount for all the generic equivalents of a given drug, meaning pharmacists are encouraged to substitute the cheapest generic in order to maximize their profit between what the PBM pays and the pharmacies' acquisition cost of the generic.[16] This is one of the reasons generics have become 90 percent of all prescriptions in the United States and are cheaper than generics in other developed countries. This is also in part due to state legislation, supported by pharmacists and PBMs to allow generic substitution.

PBMs also impact prescribing patterns with utilization management policies. These include step therapy and prior authorization. Step therapy requires the patient to try different (usually cheaper) treatments before a more expensive drug will be covered. Prior authorization requires the provider to get approval from the payer before

prescribing the given treatment, typically done by payers to ensure that a given treatment is medically necessary and covered. While these tools can be important for cost control, they are also a source of great frustration to patients and providers.

Economic Impact of PBMs

Savings Produced by PBMs

Academic estimates suggest that PBMs generate significant value by negotiating lower prices and encouraging generic use, though estimates vary and depend on assumptions. Casey Mulligan, a University of Chicago economist, estimated that PBMs create $145 billion in annual net economic benefit via consumer savings from reduced brand prices, increased generic usage, better health outcomes from increased access to pharmaceuticals, a faster pace of drug development, and government savings on subsidies for premiums in Medicare and other federal drug programs.[17] Mulligan also finds that specialization creates an advantage favoring PBMs. He calculates that, if plan sponsors provided their own PBM services, they would capture only about 60 percent of the net value that PBMs provide.

Much of this value comes from the savings produced through rebates. Most rebates are passed back to plan sponsors, which use them to tamp down premiums. The analysis firm Milliman found that in 2025, employer-sponsored insurance plans used rebates to reduce premiums by 9 percent.[18] One of the largest PBMs, CVS Caremark, claims that it passes 95 percent of the negotiated rebate back to plans.[19] In a 2023 survey by Pharmaceutical Strategies Group, 59 percent of employers reported receiving 100 percent of rebates for traditional drugs, and 57 percent reported the same for specialty drugs, while a further 16 percent received guaranteed percentage shares of rebates back from their PBMs for both traditional and specialty drugs.[20] This value provided to insurers and employers is at least in part why PBMs provide services for over 90 percent of Americans with prescription drug coverage.

Costs to Consumers

However, PBM practices can negatively impact certain consumers. Rebates mean that some patients are paying higher prices, because they are paying a percentage of the list price but not the actual net price of those drugs. The coinsurance is based on the list price because the net price can be determined only after all sales are accounted for at the end of the contract year and the final rebate amounts can be calculated.

In addition, rebates are a contributing factor to rising list prices, because a manufacturer is incentivized to start negotiations with a high list price and then negotiate down to the net price so it can offer PBMs a higher rebate (but with a more profitable net price) and receive favorable formulary treatment. This incentive structure is one of the factors contributing to increasing list prices for brand-name drugs, which has ultimately led to out-of-pocket costs that have risen significantly for patients, even as net prices for brand-name drugs have fallen.[21]

This rebate structure is the result of legal and regulatory actions—particularly the RPA—that have narrowed the ways that private businesses can contract with each other. This leads to an increasingly complex drug pricing system in the United States that companies frequently attempt to game, adding further market distortions.

Perverse Pricing of Generic Drugs

Generic drugs are medicines for which patent protection and exclusivity have expired, which means that manufacturers other than the owners of the patent are free to manufacture and sell copies of the drug after an abbreviated review by the FDA. Prices drop quickly: Generic prices are 20 percent lower than the corresponding branded drug prices after three generic competitors have entered the market and drop 70 percent to 80 percent after three years (with at least 10 generic competitors supplying copies).[22]

A paper by researchers at the University of Southern California's Schaeffer Center argues that PBM practices such as "copay clawbacks" (where the copay is higher than the total cost of the prescription) and spread pricing have increased costs for generics, which make up around 90 percent of all prescriptions filled.[23] These costs are borne by both patients paying copays — which are, in some cases, higher than the cash prices of the generics — and taxpayers when they increase the price that government programs (such as Medicaid) pay for generic drugs. The paper cites estimates that purchasers (including insurers and patients) may be paying as much as 20 percent more than the cash price of a given generic drug because of practices by PBMs and other intermediaries such as wholesalers.

This perverse pricing incentive invites the question of why most generic drugs are even covered by insurance at all given that most are not catastrophically expensive.[24] Among the 184 most commonly prescribed generic drugs in Medicare Part D in 2018, 90% could be purchased at Costco for less than $20 for a 30-day supply.[25] Even expensive generic drugs are much less expensive when acquired through direct-to-consumer (DTC) channels than when going through insurers. In a shocking example from a recent survey, a 30-day supply of abiraterone (for advanced prostate cancer) was listed at $43 at Mark Cuban Cost Plus Drugs versus $2,987 at Walgreens – the *lowest* retail price among pharmacies linked to PBMs.[26] Although this was an extreme example, the survey found significant savings from shopping at DTC pharmacies versus PBM-linked pharmacies among both expensive and inexpensive generics. This is likely due to contracts between PBMs and pharmacies that compel those pharmacies to discriminate against cash-paying customers who do not use insurance.

Corporate Ownership of PBMs and the Influence of Public Policy

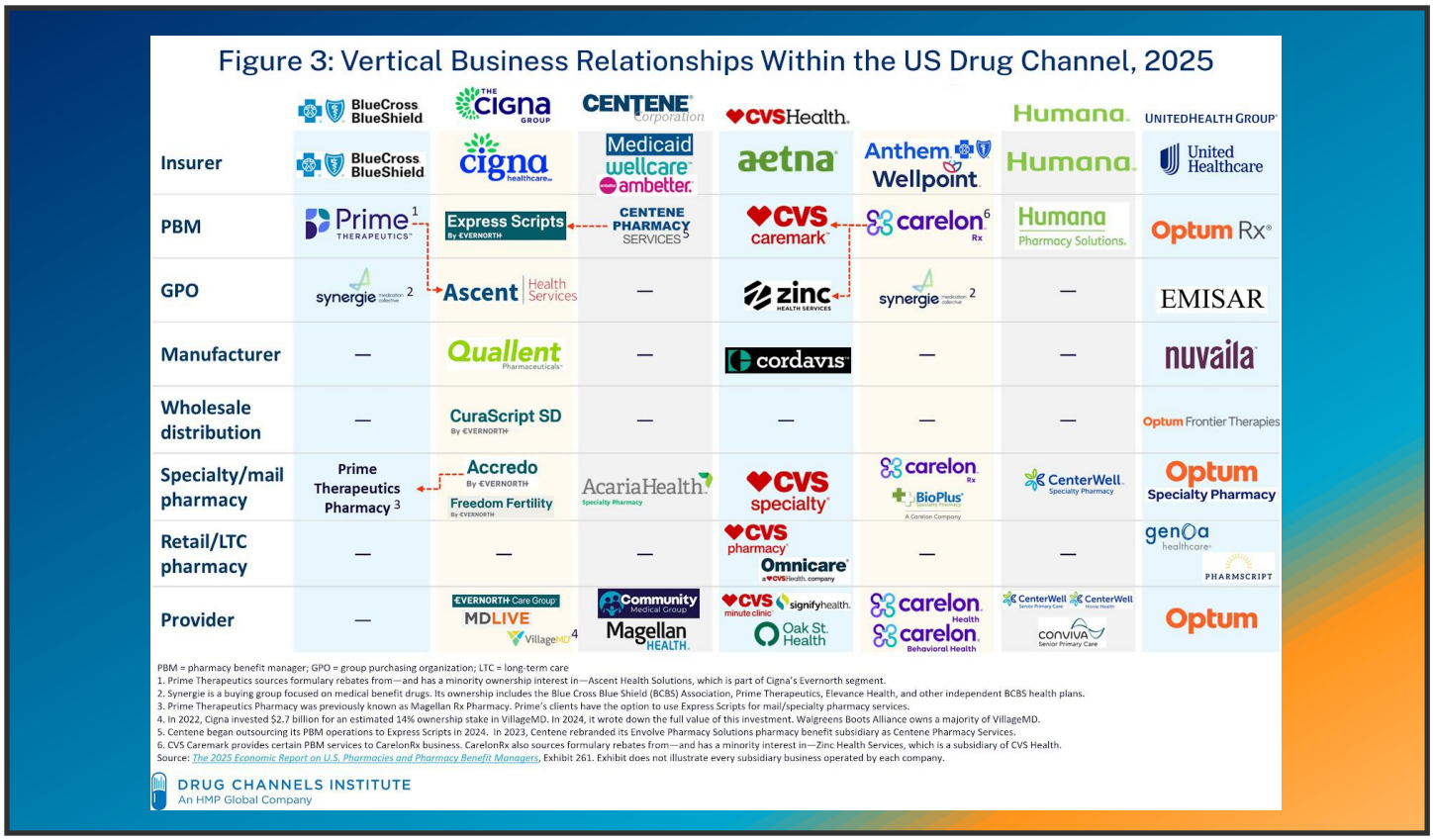
The modern PBM industry is heavily vertically integrated. Three PBMs control roughly 80 percent of the market: CVS Caremark, OptumRx, and Express Scripts.[27] The remaining 20 percent consists of generally "boutique" firms that provide tailored services to specific niches. In addition, UnitedHealth owns Optum Rx, Cigna owns Express Scripts, and CVS Caremark owns Aetna, thus placing the PBMs with the largest market share under the corporate umbrellas of major insurance companies. The chart from the Drug Channels Institute demonstrates the corporate connections for the major players in the insurance and PBM industries. This level of consolidation is not unique to the PBM industry,[28] and it is debatable about how harmful this is to the consumer.

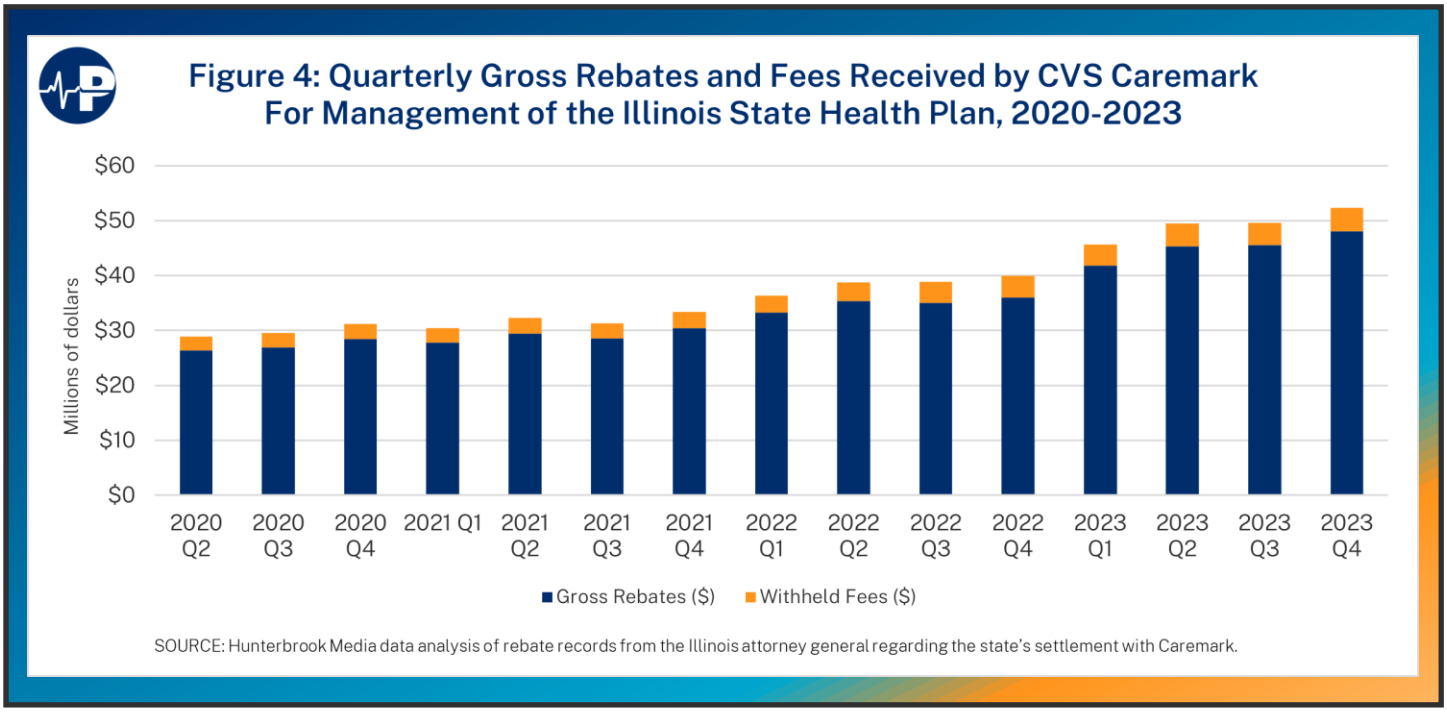
PBMs' ownership of pharmacies has received criticism for potential conflicts of interest, including steering patients toward pharmacies owned by the PBMs. Critics also argue that large, concentrated PBMs push contracts onto plan sponsors that limit the sponsors' visibility into rebate structures and net drug costs. Recently,

PBMs have created drug manufacturing subsidiaries, raising additional conflict-of-interest concerns. These complex relationships are illustrated in a graphic by the Drug Channels Institute[29] (Figure 3).

PBMs have more recently come under fire for the use of entities known as group purchasing organizations (GPOs) to extract fees from pharmaceutical manufacturers. Historically, GPOs were used by health systems and providers to purchase non-retail drugs from wholesalers (see Figure 1). However, as highlighted in a recent investigative report by Hunterbrook Media (an investigative media company that generates revenue through litigation and investment decisions based on its own reporting), PBMs have been purchasing GPOs and using them to provide administrative services to pharmaceutical companies and, in some cases, conduct formulary negotiations.[30] These GPOs tack on fees paid by pharmaceutical manufacturers for administrative services in addition to the rebates they negotiate. The Hunterbrook report provides an analysis of fees and rebates collected from data that was part of a legal settlement between CVS Caremark and the state of Illinois (see Figure 4).

Hunterbrook also reports that the insurance providers and especially the employers they interviewed appeared to be unaware of, or know very little about, the use of GPOs by PBMs. According to Hunterbrook, these plans say that this additional sub-entity has obscured visibility into the pricing structure. Pharmaceutical manufacturers and others interviewed in the Hunterbrook report claim that these GPOs are "pay-to-play," where a PBM will require a





manufacturer to purchase administrative services from a GPO in order to be placed on a formulary.

The Hunterbrook report claims these fees are being paid in place of higher rebates and would otherwise go towards the rebate amount. While it is not immediately apparent that such a replacement is going on—it is notable that rebates continue to rise even as fees are implemented (see Figure 4)—this does match the trends highlighted above about the shift in revenue from rebates to other sources. This is partly because insurance providers—in particular, employers—are demanding more or all of the rebate be passed through to them, which we see in the Pharmaceutical Strategies Group data discussed earlier that showed 59 percent of employers received 100 percent of rebates.

However, the shift in revenue sources is also because of state and federal statutory and regulatory developments over the last decade that have attempted to regulate how PBMs generate revenue. Between 2017 and 2024, all 50 states passed a combined 186 laws that contained PBM-related provisions.[31] The federal government has attempted PBM regulation as well, including PBM provisions as a part of a health care policy package in 2024 that eventually failed to pass.[32] While no major federal legislation has yet to pass, the mere threat of such legislation will impact how PBMs plan for the future as they hedge against potential new restrictions.

These attempts to micromanage the market have predictably resulted in distortions that have altered the incentives, and thus the behavior, of market actors. Policies that regulate how PBMs can make money in the private market have caused them to seek alternative sources of revenue in increasingly complex and convoluted ways that have negative impacts on patients.[33] These policies include requirements to pass 100 percent of the rebate through, de-linking PBM premium revenue from list prices, and

requirements on insurers surrounding medical loss ratios[34] (the latter of which is beyond the scope of this paper), among others. The use of GPOs and the greater vertical structure of the insurance market are, in large part, responses to incentives that result from market distortions created by or in anticipation of government policies.

Conclusion

PBMs are an important but poorly understood part of the drug pricing ecosystem. They play significant roles in shaping pharmaceutical spending. While PBMs have contributed to decreased net prices for drugs, the rebate system—a result of distortions introduced by government policy—they oversee is also a factor in increased list prices that have resulted in higher out-of-pocket costs for patients. Additional criticisms of a lack of transparency into the rebates and net prices PBMs obtain have led to the development of competing models to PBMs, most notably Mark Cuban's Cost Plus Drugs.

This complex system, and the complex role of PBMs in it, makes reform difficult. Policy reforms solely targeted at PBMs risk adding further market distortions that may ultimately increase costs for patients. Any reform approaches should seek to remove distortions from the market—and, in particular, distortions created by government policies.

About the Author

Jackson Hammond is a Senior Policy Analyst at Paragon Health Institute. He has been active in the federal and state health policy space since 2017.

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[12] Notably, all Medicare Part B drugs have coinsurance payments that are typically 20 percent of the Medicare-approved amounts (usually average sales price plus 6 percent).

[13] Due to the Inflation Reduction Act's Part D out-of-pocket spending cap of $2,000, this trade-off is reversed for Part D enrollees: Premiums (and accompanying taxpayer subsidies) are higher, while out-of-pocket spending is lower.

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