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Executive Summary

Pharmacy Services Administrative Organizations (PSAOs) are organizations that provide a range of services to independent pharmacies, including supporting the evaluation and execution of contracting with Pharmacy Benefit Managers (PBMs). Independent pharmacies are recognized as trusted points of access for obtaining medications and other healthcare services, and often serve as the sole provider of pharmacy services in medically underserved areas. Independent pharmacies face evolving financial and administrative challenges as small businesses and many independently owned pharmacies engage PSAOs for a range of administrative and operational services to improve efficiency.

PSAOs offer administrative services that facilitate interactions between independent and small chain pharmacies and PBMs. These services can include evaluating and executing contracts, evaluating newly updated contract terms, reconciling payments from PBMs for accuracy and completeness, and tracking pharmacy performance through data analytic services. Although independent and small chain pharmacies can contract with and reconcile payments from PBMs on their own, most choose to have a PSAO facilitate this process instead due to administrative efficiencies. In particular, independent pharmacies may lack the staff and expertise to execute these functions on their own, unlike the resources that larger organizations, such as large chain pharmacy operations would possess in-house. Stakeholder interviews conducted between May and June 2021 provide insight into the additional services provided by PSAOs in response to the new challenges that independent pharmacies faced during the COVID-19 pandemic.

The percent of the prescription market that PSAOs work with relatively small – independent pharmacies account for less than 15% of total US

Relevant Terms

Independent Pharmacy: Pharmacy owned and operated privately, often by one or more pharmacists

Pharmacy Services Administrative
Organization (PSAO): Organization that
evaluates and executes contracts and interacts
with PBMs on behalf and in support of
participating independent pharmacies

Pharmacy Reimbursement: The amount that a payer (e.g., PBM, health plan) pays a pharmacy for dispensing a drug and providing consultative services.

Pharmacy Network: A network of pharmacies established by a PBM and that is usually associated with pharmacy reimbursement and patient out of pocket terms

Pharmacy Benefit Manager (PBM): An organization that manages the drug benefit or formulary for a health plan or employer and is often the entity that contracts and interacts with pharmacies and PSAOs.

Drug Formulary: A list of drugs covered under a drug benefit and the tier they belong to, which dictates out-of-pocket costs and any applicable utilization management tools

retail prescription volume (based on prescription claims) and PSAOs contract with approximately 80% of independent pharmacies. ^{2,3,4} The largest PSAOs represent up to several thousand pharmacies. By way of comparison, the 6 largest PBMs represent around 95% of total US prescription claims and manage the pharmacy benefits for tens of millions of patient lives.⁵

Introduction

Design & Operations

This paper provides an overview of PSAOs which are organizations that support independent and small chain pharmacies with their interactions, contract evaluation and execution, and communications with PBMs and health plans. Since PSAOs serve independent retail pharmacies, we provide an overview of the independent pharmacy market along with key challenges that independent pharmacies and their PSAOs face. We then describe the range of operational and administrative services that PSAOs provide to independent pharmacies. Avalere relied on publicly available information as well as select interviews with key stakeholders from independent pharmacies, PSAOs, and PBMs.

Overview of the Pharmaceutical Supply Chain Ecosystem

Drug manufacturers, wholesalers, PBMs, health plans, PSAOs, and pharmacies all play critical roles in the pharmaceutical supply chain. Pharmacies, including independent pharmacies, are a critical part of the supply chain because they are the point where patients receive their drugs, and many independent pharmacies leverage the services of PSAOs to add administrative efficiency and facilitate their "back of office" operations to supplement administrative and operational capacity.

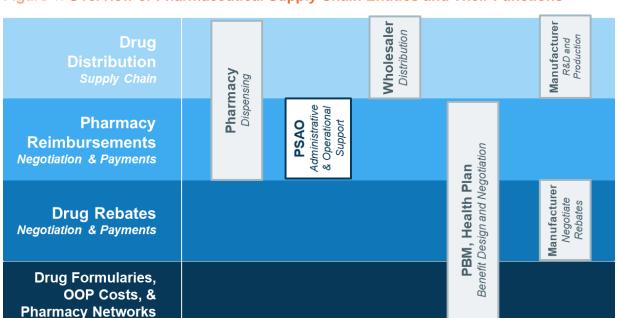


Figure 1: Overview of Pharmaceutical Supply Chain Entities and Their Functions

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Independent Pharmacies

Independent pharmacies typically refer to pharmacies that are privately and independently owned and operated, often by one or more pharmacists, and whose primary function is to provide direct pharmaceutical care to patients. This includes dispensing drugs, providing immunizations, performing health screenings, testing at point-of-care, and providing medication counseling in the community setting.⁶ Independent pharmacies can also diversify their offerings to the community with other services, including delivering medicines in specialized packaging to long term care facilities, and home delivery. There are more than 21,000 independent pharmacies today, accounting for 35% of retail pharmacies nationally in 2019 and approximately 15% of total retail pharmacy prescriptions dispensed in 2020.^{7,8} The number of independent pharmacies has been declining over the past several decades, dropping from 23,000 in 2011 and 40,000 in 1980.^{9,10}

Spotlight on Independent Pharmacies in Underserved Communities

Independent pharmacies expand access to
healthcare services in rural and medically underserved areas. The National Community
Pharmacists Association (NCPA) reports that 77% of community pharmacies provide
services to areas with populations of 50,000 people or fewer and in many cases are the
only pharmacy serving a particular geographic area. ¹¹ An analysis of a 16-year period
found that the number of rural independent pharmacies decreased by 16.1%, between
March 2003 and March 2018. The analysis also found that over this period, 630 rural
communities lost all local independent pharmacies, and 302 rural communities went down to
having only one local independent pharmacy. ¹²

Table 1: Number of Pharmacies by Practice Setting 13

	2015	2016	2017	2018	2019
Independents	22,160	22,041	21,909	21,767	21,683
Traditional Chains	22,164	22,400	22,720	22,812	22,773
Supermarket	8,208	8,402	8,618	8,523	8,427
Mass Merchant*	8,477	8,640	8,873	8,698	8,597

^{*} Mass merchants include companies like Costco, Sam's Club, etc.

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Pharmacy Benefit Managers

PBMs negotiate and contract with all the various types of pharmacies, which partially includes independent pharmacies and small chains, on reimbursement and pharmacy network related terms. PBMs also play a key role in designing, negotiating, implementing, and managing formulary designs for prescription drugs, including negotiating rebates and drug coverage terms with drug manufacturers. PBMs are responsible for the design and implementation of preferred/non-preferred pharmacy networks, metric-based payment arrangements, and formulary design elements such as drug coverage, out-of-pocket responsibilities for patients, and utilization management protocols. PBMs engage in negotiation and financial transactions between drug manufacturers, health plans, and pharmacies. PBMs interact with:

- Health plans to design and implement a drug benefit, which largely involves formulary
 design elements such as tiering, utilization management, patient cost-sharing, and general
 drug coverage.
- Drug manufacturers to negotiate discounts and drug manufacturer rebates, typically based on volume-based utilization or other terms. PBMs are often paid through a combination of retaining a portion of rebates negotiated from drug manufacturers and separate administrative fees paid by health plans.¹⁴
- Pharmacies to establish pharmacy networks where a health plan's enrollees can get prescriptions filled and receive other pharmacy services, as well as reimbursement terms with pharmacies. Additionally, the pharmacies' reimbursement terms and preferred/non-preferred pharmacy network status is determined by PBM contract terms. These interactions with independent pharmacies may be handled through PSAOs, although PBMs are free to contract directly with independent pharmacies and often do so.

Since the first modern PBM launched in the late 1980s, the PBM industry has undergone large shifts, which includes many horizontal (with other PBMs) and vertical (with non-PBMs) consolidations. One estimate puts the percent of total US prescription claims managed by the 6 largest PBMs in 2018 at 95%. Recent trends have also made it common for PBMs to wholly or partially own pharmacy entities (e.g., chain pharmacies, mail order, specialty pharmacies) or other health entities (e.g., health plans, rebate aggregators, provider groups, data analytics firms).

Pharmacy Services Administrative Organizations

PSAOs facilitate interactions between PBMs and independent pharmacies. PSAOs evaluate, execute, and navigate PBM contracts on behalf of independent pharmacies and provide a range of administrative, clerical, audit, and data analytics support services. Independent pharmacies typically pay PSAOs a fixed monthly fee.

As of 2011, the GAO reported that there were 22 PSAOs, owned by a mix of wholesalers, member pharmacies (of the PSAO), group purchasing organizations, and other private entities.¹⁸ That number has decreased to fewer than 10 PSAOs in operation today. As listed in Table 2, one analysis estimates that the 6 largest PSAOs in the US in 2021 ranged from having

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1,700 to 6,800 participating independent pharmacies each, with a median of 4,250 per PSAO.¹⁹ This number, in part, reflects consolidation in the ownership of PSAOs from 2011 to 2021.

Table 2: A Select List of PSAOs and Characteristics, 2021 20,21

PSAO	Number of Member Pharmacies	Affiliation
Health Mart Atlas	6,800	Wholesaler
Cardinal Health LeaderNET/Medicine Shoppe/Managed Care Connection	5,600	Wholesaler
Elevate Provider Network	5,000	Wholesaler
AlignRx* ^{22,23}	3,500	Member-owned
Pharmacy First	2,300	Wholesaler
EPIC Pharmacy Network, Inc.	1,700	Member-Owned

^{*} Note: PPOK and Arete Pharmacy Network merger July 2021^{24,25}

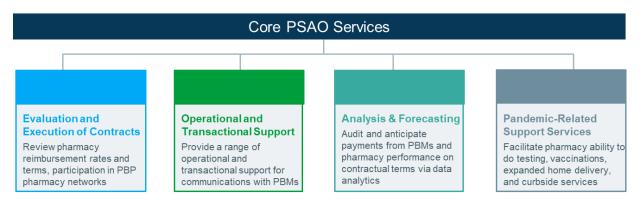
PSAO Services Provided to Independent Pharmacies

PSAOs provide a variety of services to independent pharmacies, which include evaluating and executing contracts, providing operational and transaction support for communications with PBMs, analyzing and forecasting performance, and pandemic-related support. Overall, PSAOs lend to independent pharmacies their knowledge and experience in navigating difficult processes that often require specialized subject matter expertise.

PSAOs represent their independent pharmacies for inclusion in a PBM or health plan's network and do not play a role in determining either the actual amount of cost-sharing or whether utilization management tools would be used (this is established by health plans and PBMs).

Independent pharmacy interviewees noted that they particularly value and rely on their PSAO for services that they could not do on their own while simultaneously operating a pharmacy – these services include contract evaluation, analyses on accounts receivables, as well as auditrisk assessment services.

Figure 2: Core Services PSAOs Provide to Independent Pharmacies



Evaluation and Execution of Contracts between Independent Pharmacies and PBMs

Contract terms with PBMs are important to independent pharmacies as they establish various elements critical to the pharmacy's operation, including the pharmacy's reimbursement levels, networks a pharmacy can participate in, performance measures and associated adjustments to reimbursement, as well as payment terms. Reimbursement for dispensing is particularly important for independent pharmacies since 90% of all their revenue comes from prescription drugs, compared to the large chain pharmacies that rely on a much smaller percentage of their revenues (64-71% in 2014) coming from their prescription sales.²⁶ ²⁷ Independent pharmacies and PSAOs interviewed indicate that they continue to face challenging contractual terms such as performance-based contracts, retroactive recoupment of funds, and limited ability to modify offered contract terms.

PSAOs act as an administrative intermediary, allowing PBMs to avoid contracting separately with 20,000 independent pharmacies. Conversely, a PSAO also lets pharmacies avoid directly managing dozens of contracts with PBMs, which often have frequent amendments. The interviewees also attributed the importance of the efficiency PSAOs provide towards maintaining adequate networks in certain rural and underserved areas, where independent pharmacies are more likely to be an exclusive provider of pharmacy services. In cases where PSAOs do not directly engage in contracting between PBMs and pharmacies, interviewees noted that pharmacies still received support from PSAOs for their direct pharmacy-to-PBM contract evaluation. This can occur when PSAOs are unable to reach a workable contract for their independent pharmacies with PBMs. An example that a PSAO interviewee provided was that they often help independent pharmacies both collect helpful or necessary information and based on that offer analyses on various performance areas. This allows such pharmacies to be better informed and prepared for discussions with PBMs.

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Interviewees indicated that the independent pharmacy market, regardless of PSAO interaction, may ultimately lack the ability to heavily dictate more favorable PBM network contract terms, but they suggested that PSAOs may provide some degree of assistance in achieving that goal.

Operational and Transactional Support

Independent pharmacies often lack the dedicated staff and legal expertise to effectively manage audits, and payment reconciliation for each PBM they contract with. PSAOs **provide operational support** to member pharmacies such as assistance with claims submission validation, identification of reimbursement opportunities, and audit risk assessments. One pharmacy interviewed noted that their PSAO flags errors in their claims before submission to insurance companies, identifies areas where there is audit risk (according to state law requirements and PBM requirements), and educates them on whether they are being reimbursed at the customary price. In a margins-focused environment, these services, especially the latter, are important for pharmacies to ensure sustainable and competitive reimbursement rates for services. In addition to informing pharmacies on their reimbursement terms, PSAOs often consolidate reimbursements from health plans on behalf of pharmacies.

PSAOs also act as the **intermediary for PBM-pharmacy communications**. They streamline operational messages to independent pharmacies to ensure transparent and consistent communications. A PBM interviewee stressed the importance of this service, stating that PSAOs play an important role in maximizing efficient communication with pharmacies. The interview indicated that communicating with several PSAOs is a more efficient process than communicating individually with each independent pharmacy.

Spotlight on PSAO Compensation

While PSAOs may vary in their payment structures, most PSAOs offer services, often on an à la carte basis, for a flat monthly fee. ²⁸ These payments are not tied to the volume of drugs dispensed through member pharmacies nor are they dependent on the price or type of drugs dispensed.

Pharmacy Performance Analysis and Forecasting

Independent pharmacies may face difficulties in forecasting and navigating the contractual arrangements with PBMs or plans, many of which are modified annually, that could include negative reimbursement terms (e.g., performance-based contracts with potential downside pharmacy risk). These negative reimbursement terms can be based on generic dispensing rates, certain adherence measures, etc. (additional details described in appendix). ^{29,30}Under these contract terms pharmacies are reimbursed at pre-established levels and then there are retroactive adjustments made to prior payments based on how a pharmacy or group of pharmacies performed on contracted measures. ³¹ PSAOs assist pharmacies in analyzing their past performance to validate the accuracy of payments and recoupments to and from pharmacies for claims during the payment reconciliation period (which can be over a year-long).

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In addition to analyzing past performance, PSAOs also offer services to forecast future performance to provide pharmacies insight into their potential future cash flow and recoupments to be owed. Interviewees stated PSAOs often provide independent pharmacies with performance analytics and advisory services for medication therapy management, and any other support needs.

COVID-19 Pandemic-Related Support

Many pharmacies, including independent pharmacies, have adapted their service delivery models and needed to evolve their business process during the COVID-19 pandemic in order to provide of point-of-care testing, large-scale vaccinations, expanded home delivery, and curbside services.

Interviewees indicated that PSAOs offered important support to independent pharmacies throughout the pandemic. Amidst the rise of curbside prescription pick-up services, an independent pharmacy interviewee stated that their PSAO provided additional assistance with negotiating prescription drug signature requirements from PBMs. PSAOs also helped streamline numerous contract amendments and changes throughout the pandemic, including the inclusion of addendums that allowed pharmacies to be paid for administering COVID-19 vaccines. Interviewees indicated that there is a continued need to rely on evolving PSAO services as independent pharmacies navigate other potential pandemics in the future.

Conclusion

In an environment where independent pharmacies lack sufficient resources to adequately evaluate PBM contract terms, PSAOs provide services for independent pharmacies to address operational and administrative challenges. Evidence suggests that a majority of independent pharmacies contract with a PSAO and view them as critical to providing services that allow them to gain access to pharmacy networks and otherwise manage interactions with PBMs and providing them operational efficiencies as business owners. PSAO services have and will need to continue to adapt to the needs of independent pharmacies by supporting member pharmacies' business revenues and sustainability and responding to new pressures faced by the independent pharmacy market such as new management approaches for pharmacy networks.

Appendix

There are multiple types of terms and fees involved in the reimbursement process for pharmacies. These terms include the following:

Term	Definition
Direct and Indirect Renumeration (DIR) Fees	Pharmacy DIR are fees collected from or payments paid to a pharmacy after the point-of-sale and are most often associated recoupments based on pharmacy metrics. These fees can occur in any market but are frequently present in the Medicare Part D program.
Generic Effective Rate (GER)	GER is a contractual rate set by PBMs for the reimbursement of generic drugs. GER can be applied at both the point of sale and retroactively. If a pharmacy receives a reimbursement that is higher or lower than the GER, reimbursements will be adjusted to match the contracted rate.
Maximum Allowable Cost (MAC) Pricing	MAC prices are the upper limits that PBMs or health plans will pay pharmacies for generic drugs and multi-source drugs. The calculation methodology is often proprietary to and is determined by the PBM. MAC prices may not only be updated frequently by the PBM, but they also can also vary by pharmacy or PBM contract.

References

¹ NPCA. "Independent Pharmacy Today." https://ncpa.org/independent-pharmacy-today (accessed May 17, 2021).

² Drug Channels. Fein, Adam. "CVS, Express Scripts, and the Evolution of the PBM Business Model." https://www.drugchannels.net/2019/05/cvs-express-scripts-and-evolution-of.html (accessed June 11, 2021).

³ IQVIA. "The Use of Medicines in the U.S." https://www.iqvia.com/insights/the-iqvia-institute/reports/the-use-of-medicines-in-the-use-of-medici

⁴ PCMA. "Pharmacy Services Administrative Organizations (PSAOs) and Their Little-Known Connections to Independent Pharmacies." https://www.pcmanet.org/wp-content/uploads/2021/01/PSAO-Report_Health-Evaluations-1.pdf (accessed October 18, 2021)

⁵ Drug Channels. Fein, Adam. "The Top Pharmacy Benefit Managers of 2020: Vertical Integration Drives Consolidation." https://www.drugchannels.net/2021/04/the-top-pharmacy-benefit-managers-pbms.html (accessed October 5, 2021).

⁶ Newman, Terri V., et al. "Optimizing the Role of Community Pharmacists in Managing the Health of Populations: Barriers, Facilitators, and Policy Recommendations." JMCP, 25, no. 9 (September 2019): 995-1000. https://doi.org/10.18553/jmcp.2019.25.9.995.

⁷ NCPA. "2020 NCPA Digest." <u>https://ncpa.org/newsroom/news-releases/2020/10/19/ncpa-releases-2020-digest-report</u> (accessed June 11, 2021).

⁸ IQVIA. "The Use of Medicines in the U.S." https://www.iqvia.com/insights/the-iqvia-institute/reports/the-use-of-medicines-in-the-use-of-medici

⁹ Drug Topics Journal. Appold, Karen. "Independent Pharmacies: Not Dead Yet." https://www.drugtopics.com/view/independent-pharmacies-not-dead-yet (accessed June 15, 2021).

¹⁰ The Business Journals. "How the small, neighborhood pharmacy prevails." https://www.bizjournals.com/triangle/news/2017/04/24/how-the-small-neighborhood-pharmacy-prevails.html (accessed June 15, 2021).

¹¹ NCPA. "2020 NCPA Digest." https://ncpa.org/newsroom/news-releases/2020/10/19/ncpa-releases-2020-digest-report (accessed June 11, 2021).

¹² Rural Policy Research Institute. "Update: Independently Owned Pharmacy Owned Pharmacy Closures in Rural America, 2003-2018." https://rupri.public-

<u>health.uiowa.edu/publications/policybriefs/2018/2018%20Pharmacy%20Closures.pdf</u> (accessed June 14, 2021).

¹³ NCPA. "2020 NCPA Digest." https://ncpa.org/newsroom/news-releases/2020/10/19/ncpa-releases-2020-digest-report (accessed June 11, 2021).

¹⁴ Health Affairs. Werble, Cole. "Pharmacy Benefit Managers." https://www.healthaffairs.org/do/10.1377/hpb20171409.000178/full/ (accessed June 25, 2021).

¹⁵ Health Commentary. "The Origin Story of PBM's." http://www.healthcommentary.org/2020/08/13/the-origin-story-of-pbms/ (accessed June 15, 2021).

¹⁶ Drug Channels. Fein, Adam. "CVS, Express Scripts, and the Evolution of the PBM Business Model." https://www.drugchannels.net/2019/05/cvs-express-scripts-and-evolution-of.html (accessed June 11, 2021).

¹⁷ Drug Channels. Fein, Adam. "Insurers + PBMs + Specialty Pharmacies + Providers: Will Vertical Consolidation Disrupt Drug Channels in 2020?" https://www.drugchannels.net/2019/12/insurers-pbms-specialty-pharmacies.htm (accessed October 1, 2021).

¹⁸ GAO. "Prescription Drugs: The Number, Role, and Ownership of Pharmacy Services Administrative Organizations." https://www.gao.gov/assets/gao-13-176.pdf (accessed May 17, 2021).

¹⁹ Computer Talk for the Pharmacist. "PSAOs: Giving Independents a Fighting Chance." https://www.computertalk.com/psaos-giving-independents-a-fighting-

chance/?utm_source=ActiveCampaign&utm_medium=email&utm_content=PSAOs+Giving+Pharmacy+A

+Fighting+Chance&utm campaign=202101+Jan-

Feb+lssue+Content+Featured&vgo_ee=g9KbBJe7DNCYKMOO6ZWAQEEHPqPjm1CdfuuzFfdu5mc%3D (accessed June 16, 2021).

²⁰ GAO. "Prescription Drugs: The Number, Role, and Ownership of Pharmacy Services Administrative Organizations." https://www.gao.gov/assets/gao-13-176.pdf (accessed May 17, 2021).

²¹ ComputerTalk for the Pharmacist. "PSAOs: Giving Independents a Fighting Chance."

https://www.computertalk.com/psaos-giving-independents-a-fighting-

chance/?utm_source=ActiveCampaign&utm_medium=email&utm_content=PSAOs+Giving+Pharmacy+A
+Fighting+Chance&utm_campaign=202101+Jan-

<u>Feb+Issue+Content+Featured&vgo_ee=g9KbBJe7DNCYKMOO6ZWAQEEHPqPjm1CdfuuzFfdu5mc%3D</u> (accessed June 15, 2021).

²² PPOk. "Who We Are."

https://www.ppok.com/#:~:text=PPOk%20provides%20Third%20Party%20Contracting,for%20over%2038 00%20pharmacies%20nationwide (accessed June 28, 2021).

²³ Arete Pharmacy Network. "What Makes Arete Pharmacy Network Different." https://areterx.com/about.php (accessed June 28, 2021).

²⁴ Cision PR Newswire. "Arete Pharmacy Network and Pharmacy Providers of Oklahoma Join Forces to Create AlignRx, the Nation's Largest Independent PSAO." https://www.prnewswire.com/news-releases/arete-pharmacy-network-and-pharmacy-providers-of-oklahoma-join-forces-to-create-alignrx-the-nations-largest-independent-psao-301323775.html (accessed September 27, 2021).

²⁵ Business Wire. "McKesson Launches Health Mart Atlas. AccessHealth and APNS Joint Venture Creates Largest Network of Community Pharmacies to Deliver Better Patient Care." https://www.businesswire.com/news/home/20180409005410/en/McKesson-Launches-Health-Mart-Atlas

(accessed October 18, 2021)

²⁶ Pharmacy Times. "Independent Pharmacies Must Express Their Value to Support Long-term Viability." https://www.pharmacytimes.com/view/independent-pharmacies-must-express-their-value-to-support-long-term-viability (accessed May 17, 2021).

²⁷ Pharmacy Times. "5 Most Lucrative Retail Pharmacies in Rx Revenues" https://www.pharmacytimes.com/view/5-most-lucrative-retail-pharmacies-in-rx-revenues (accessed October 18, 2021)

²⁸ NCPA. "Pharmacy Services Administrative Organizations: What You Need to Know." https://ncpa.org/sites/default/files/2021-03/PSAOs-What-You-Need-to-Know.pdf (accessed June 11, 2021).

²⁹ Pharmacy Times. "White Paper: DIR Fees Simply Explained."

https://www.pharmacytimes.com/view/white-paper-dir-fees-simply-explained (accessed June 11, 2021).

³⁰ NCPA. "Frequently Asked Questions (FAQs) About Pharmacy "DIR" Fees." http://www.ncpa.co/pdf/dirfaq.pdf (accessed June 11, 2021).

³¹ Urick, Benjamin Y et al. "Design and effect of performance-based pharmacy payment models." *Journal of Managed Care* + *Specialty Pharmacy* 27, no. 3 (March 2021): 306-315. https://doi.org/10.18553/jmcp.2021.27.3.306

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