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PBMS AND PRESCRIPTION DRUG DISTRIBUTION:

AN ECONOMIC CONSIDERATION OF CRITICISMS LEVIED AGAINST PHARMACY BENEFIT MANAGERS

COMPASS LEXECON

INTRODUCTION

PBMs and Prescription Drug Distribution: An Economic Consideration of Criticisms Levied Against Pharmacy Benefit Managers is a comprehensive analysis of the PBM industry. This research, which included a review of data on approximately 20 billion 30-day equivalent prescriptions representing more than a trillion dollars in drug expenditures, was conducted over 16 months by Dr. Dennis Carlton and a team of economists at Compass Lexecon. The research team set out to analyze whether the data support common criticisms that have been made about PBMs and to inform the extensive debate that has formed around this topic.

Dr. Carlton is one of the country's preeminent economists. He is the David McDaniel Keller Professor of Economics Emeritus at the University of Chicago, Booth School of Business and a Research Associate of the National Bureau of Economic Research. From 2006 to 2008, he served as the Deputy Assistant Attorney General for Economic Analysis at the Antitrust Division of the U.S. Department of Justice. Dr. Carlton has advised the Department of Justice, the Federal Trade Commission, and private clients as an economic expert on antitrust issues. Dr. Carlton is a Distinguished Fellow at the Industrial Organization Society.

The co-authors of the report are Dr. Mary Coleman, Dr. Nauman Ilias, Dr. Theresa Sullivan, and Dr. Nathan Wilson.

RESEARCH QUESTIONS

Using datasets with billions of prescriptions, Compass Lexecon analyzed common criticisms of PBMs. Four particular areas of focus are the following:

1. **PBM operating margins –** Are PBMs responsible for high drug prices?
2. **Rebates –** Do PBMs fail to pass through manufacturer rebates and fees to plan sponsors? Do rebates result in higher growth rates in list prices and in net prices compared to non-rebated drugs?
3. **Generic drugs –** Are formularies restricting access to generics in favor of branded alternatives?
4. **Independent pharmacies –** Are PBMs driving independent pharmacies out of business? Do PBMs favor chain retail pharmacies over independent pharmacies?

DATA AND RESEARCH METHODOLOGY

Compass Lexecon's comprehensive analysis of the PBM industry, which was funded by CVS Caremark, Express Scripts Inc., and Optum Rx, analyzed confidential data from these three PBMs and other, publicly available, data.

Specifically, the data used by Compass Lexecon includes:

- **Information submitted by CVS Caremark, Express Scripts, and Optum Rx ("the companies") to the FTC under the 6(b) order for each year from 2017 through the first half of 2022.** These data include claims data (generally containing information on the amount paid by the PBM to pharmacies, the amount billed by the PBM to plan sponsors, the patient pay amount, etc.), for the companies covering: 1) the top 100 drugs each year by dollar amount; 2) the top 100 drugs each year by prescription count; 3) specialty drugs; and 4) rebated drugs (as requested by the FTC).
- **Supplemental confidential data provided by the PBMs.** These data include additional rebate and fee data; drug and pharmacy details; bid data; and internal profit and loss data (margins).
- **Third party and publicly available information.** This includes Clarivate Market Share Data, data from the National Council for Prescription Drug Programs (NCPDP) and the National Community Pharmacists Association (NCPA, the independent pharmacy trade association), and data from Macrotrends.net.

Within each primary focus area, Compass Lexecon performed the following analyses:

PBM operating margins
Compass Lexecon analyzed the average operating margins and gross margins for the companies' PBM services (including the affiliated mail-order and specialty pharmacy businesses of the three PBMs) using internal data provided by each company.

Rebates

- **Rebate and fee pass-through:** Compass Lexecon computed the average rebate and fee pass-through rate by dividing the total rebates and fees passed through by the companies to their plan sponsors by the total rebates and fees received by the companies from manufacturers.
- **List prices:** Compass Lexecon compared list price trends for drugs with rebates to list price trends for those without rebates by constructing price indexes for both rebated and non-rebated drugs. Compass Lexecon also performed an econometric/statistical analysis to determine if there was a positive correlation between list price increases and the size of the rebates for rebated drugs.
- **Net price:** Compass Lexecon computed the net price of each rebated and non-rebated drug in the data using the most disaggregated drug-level claims and rebate data available for the companies, adjusted these prices for inflation using the Consumer Price Index, and then created an index to compare net price trends for rebated drugs and non-rebated drugs, with net prices representing the total net payments made by plan sponsors and their members for prescriptions.

Generic drugs
Compass Lexecon analyzed submissions made to the FTC concerning the most commonly used standard formularies from each company where available, tracking changes to see when generics were added or brands were removed from preferred tiers.

Independent pharmacies
Compass Lexecon used public data from the NCPDP and NCPA, as well as internal PBM claims data, to analyze whether independent pharmacies are being disadvantaged by PBMs relative to other types of pharmacies.

FINDINGS & CONCLUSIONS

Compass Lexecon's comprehensive analysis provides significant, data-backed insights into critics' claims regarding PBMs' impact on the pharmaceutical industry.

Specifically, Compass Lexecon's research found that:

PBM operating margins

- PBMs have a net operating margin of around 5% and that shows that they are not responsible for high drug prices.

Rebates

- The PBMs pass through nearly 100% of rebates and fees from drug manufacturers to plan sponsors.
- Rebates are not associated with higher growth of either list or net prices.

Generic drugs

- PBMs quickly add generics to their formularies and do not favor brand name drugs.

Independent pharmacies

- Independent pharmacies are not being driven out of business by PBMs.
- PBMs are not favoring retail chain pharmacies over independent pharmacies.

PBM OPERATING MARGINS

According to the data, PBMs' operating margins are not responsible for high drug prices.

- PBMs' operating margins are less than 5%. Specifically, the PBMs' average operating margins decreased from 5.6% in 2017 to 4.5% in 2022. This includes income earned not only on PBM services but also from dispensing at affiliated mail-order and specialty pharmacies.
- If PBMs earned zero profit while keeping their operations unchanged (an extreme hypothetical), it would only reduce the price of a $100 drug to $95.

REBATES

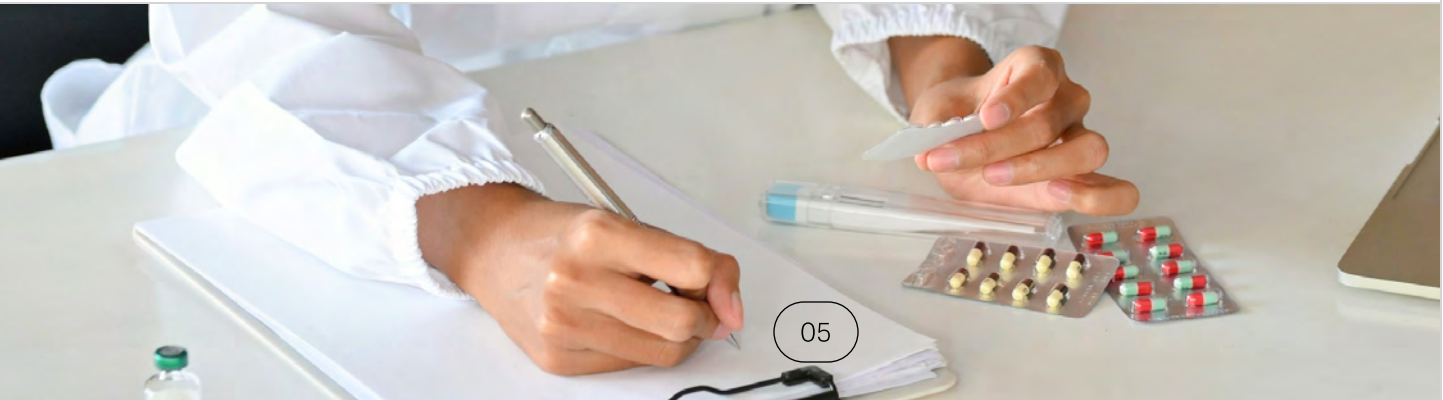
According to the data, PBMs pass through the vast majority of manufacturer rebates and fees to plan sponsors, and rebates and fees are not associated with higher growth in list or net prices relative to non-rebated drugs.

- The data show that PBMs are passing through the vast majority of manufacturer rebates and fees—and in 2020 and 2021, this number has neared 100%.
- The research does not support the claim that the growth in net price is much higher for rebated drugs than for non-rebated drugs. In fact, the growth in the net price of rebated drugs was lower than for non-rebated drugs between 2018 and 2021. During these years, the overall real net price decreased by 5% for rebated branded drugs (i.e., drugs that face competition), while it increased by 4% for non-rebated branded drugs (i.e., drugs that do not face competition).
- The research also does not support the claim that the growth in list prices is much higher for rebated drugs than for non-rebated drugs. Between 2018 and 2022, the average wholesale price (adjusted for inflation) on rebated branded drugs increased by 2% while it increased by 3% on non-rebated branded drugs.

GENERIC DRUGS

The research does not support the claim that PBMs are restricting patient access to generic drugs.

- 91% of scripts are generics, and this number has increased substantially over time. Approximately 20% of drug expenditures are on generics.
- The data show that, following generic entry, formularies quickly shift generic drugs to preferred tiers and branded drugs to non-preferred tiers, incentivizing generics over name-brand alternatives. Consequently, PBMs are not preventing generics from being added to formularies in an attempt to favor brand-name drugs.



INDEPENDENT PHARMACIES

According to the data, PBMs are not driving independent pharmacies out of business or favoring chain pharmacies over independent pharmacies.

- Data from NCPDP show that there are more than 20,000 independent pharmacies, with the number of independent pharmacy locations increasing by 9% between 2011 and 2021. By contrast, the number of chain pharmacy locations decreased by more than 5% during this same period.
- Claims data from the three PBMs show that the number of prescriptions for non-specialty drugs at independent pharmacies has increased since 2017 and the independent share of retail prescriptions for non-specialty drugs has decreased only slightly from 24% to 22%.
- Publicly available data from the NCPA show that the average gross margin of its member independent pharmacies has been stable at around 23% since 2011 while gross margins for two major chain pharmacies have declined to around 20% in 2023.
- The data shows that PBMs reimburse independent retail pharmacies at higher rates than chain retail pharmacies. Specifically, the data indicate that PBMs' reimbursement rates to independent pharmacies are, on average, 24% higher for generic drugs and 4% higher for branded drugs than those paid to chain pharmacies.

Although critics commonly target PBMs as the culprit behind high drug prices, the data do not support this conclusion. Compass Lexecon's findings—rooted in a systematic economic analysis of PBM and third-party data—raise concerns about regulatory and legislative policies that seek to address high drug prices *without* drawing from evidence-based analysis. Reforms that fail to consider the empirical evidence may fail to address the true drivers of high drug costs.

> My analysis shows that a systematic review of the evidence does not support the claims of many of the critics of the PBMs, including the FTC.

DR. CARLTON