Introduction

Whether it is groceries, clothes, or Internet services, consumers typically demand to know the price of a good or service before they buy it. Yet, this common-sense principle does not apply when patients purchase prescription medicines. Instead, patients rarely know the actual prices of their medicines due to the opaque pricing system. Not unexpectedly, patients are being harmed. The connection between the opaque pricing system and the adverse impact on patients is complicated, but important to understand.

The list prices announced by drug manufacturers—which are also referred to as wholesale acquisition cost (WAC)—are often mistaken for the market price. The list prices do not account for the hundreds of billions of dollars in concessions that are paid each year in the form of discounts, rebates, and chargebacks. These concessions have been growing quickly. According to Drug Channels, between 2015 and 2019, concessions grew an average of 11.5 percent annually.¹ The list price minus the value of these concessions equals the net price, which is the actual market price.²

Table 1 compares the growth in list and net prices on medicines as measured by IQVIA to the growth in inflation for overall medical care as measured by the Bureau of Labor Statistics (BLS).³

Medical care inflation increased 14.5 percent between 2014 and 2019—medical costs were 14.5 percent higher in 2019 compared to 2014. During the same period, drug list prices increased 41.5 percent, nearly three times faster than the growth in overall medical inflation. The net prices of drugs, or the actual market price of the drugs, were only 8.9 percent higher in 2019 compared to 2014. This means that the growth in the market price of drugs has been less than the growth in overall medical care inflation.

Table 1
Cumulative Growth in List Drug Prices, Net Drug Prices, and Average Medical Inflation 2019 Relative to 2014

<table>
<thead>
<tr>
<th></th>
<th>DRUG LIST PRICES</th>
<th>DRUG NET PRICES</th>
<th>CPI-MEDICAL CARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>2015</td>
<td>7.9%</td>
<td>1.6%</td>
<td>2.6%</td>
</tr>
<tr>
<td>2016</td>
<td>17.9%</td>
<td>4.5%</td>
<td>6.5%</td>
</tr>
<tr>
<td>2017</td>
<td>26.2%</td>
<td>6.7%</td>
<td>9.2%</td>
</tr>
<tr>
<td>2018</td>
<td>34.5%</td>
<td>7.1%</td>
<td>11.4%</td>
</tr>
<tr>
<td>2019</td>
<td>41.5%</td>
<td>8.9%</td>
<td>14.5%</td>
</tr>
</tbody>
</table>

Source: IQVIA and BLS
The current drug rebate system incentivizes these trends. Since PBMs retain a percentage of the concessions, they are incentivized to encourage fast growing list prices that are offset by fast growing concessions because such a system generates more revenues for these firms. Plan sponsors benefit because they use a large share of these revenues to offset the costs of premiums for all policyholders. Meanwhile, manufacturers’ revenues depend on the ever-shrinking net price, but compete based on the size of the concessions. Ultimately the accumulation of these systemic incentives encourages fast growing list prices and concessions, but slow growing net, or actual market, prices.

Unlike plan sponsors, patient out-of-pocket costs do not depend on the net price of medicines, or the actual market price, because the typical insurance benefit design bases their out-of-pocket costs on the list prices of medicines when they pay their co-insurance costs or deductibles. As a result, the excessive growth in list prices is driving up drug costs for patients, especially those who rely on expensive medications. This has led to the unfortunate outcome that patients who are prescribed expensive medicines face rising costs despite the fact that the market price of drugs is actually growing slower than overall medical inflation. Since the current contracting tactics are driving the excessive growth in list prices, reforming the current drug rebate system is essential.

Changing the manner that rebates are paid in order to ensure that patient costs are tied to net prices, not list prices, would meaningfully address this problem. Twice, the current Administration has issued executive orders that would reform the current rebate system. One of the executive orders\(^4\) signed on July 24, 2020 would, if implemented, eliminate the rebates that drug manufacturers give to pharmacy benefit managers (PBMs) in the Medicare program. Instead, all rebates would need to be passed along to Medicare beneficiaries. A version of this reform was originally proposed in February 2019, but was eventually withdrawn.

Critics of the reform respond that eliminating the discounts would increase Medicare’s costs and ultimately lead to higher premiums for all other patients because PBMs utilize some of the concessions to reduce plan premiums. Even if this criticism were correct, it would not necessarily undermine the justification for the proposed reform.

The purpose of insurance is to spread the financial costs associated with a risk across a wide population, with those people who did not experience the adverse event subsidizing the costs of those people who did. Since the current rebate system increases costs on patients who are prescribed expensive medicines in order to lower the premiums for everyone else, it is the antithesis of actual insurance. Fixing this system that imposes large financial costs on patients when they are most vulnerable is a worthy goal regardless of the impacts on premiums and Medicare’s costs. However, there are reasons to be suspicious that rebate reform would meaningfully increase premium costs or Medicare’s costs.

First, this conclusion is driven by a budget impact analysis performed by the Center for Medicare and Medicaid Services, Office of the Actuary (CMS). The CMS analysis was based on arbitrary assumptions that are inconsistent with the current market dynamics.
Second, based on the health plan premium breakdown estimated by the California Department of Managed Health Care (DMHC), eliminating the manufacturer drug rebates will only marginally increase the average annual premium on a static basis.

Third, the significant reduction in patient out-of-pocket costs enabled by rebate reform will improve patients’ medication adherence. Greater medication adherence will improve patient health outcomes and generate healthcare savings that will offset the higher premium and Medicare costs that result from static analyses.

**CMS’ Flawed Assumptions**

On August 30, 2018, CMS released an evaluation of the proposed “Safe Harbor Regulation” from the Department of Health & Human Services (HHS). Like the July 24, 2020 Executive Order, this regulation would have eliminated the payment of rebates in the Medicare system. Since the executive orders will have the same impact, critics of the policy refer to this CMS analysis as an estimated budget impact from the latest executive order.

The CMS analysis was flawed, however, because the conclusions were driven by assumptions that are inconsistent with market realities. According to the CMS analysis,

\[
\text{overall drug spending net of rebates and the new chargeback discounts would increase by approximately $137 billion, and Federal spending would increase by $196 billion.}^6
\]

This finding is the arithmetic result from CMS’ assumptions

\[
\text{that 15 percent of the existing manufacturer rebates for Medicare Part D and Medicaid supplemental rebates would be retained by drug manufacturers… [and] 75 percent of the remaining rebates would be applied to the chargeback system, with 25 percent applied to lower list prices.}^7
\]

Essentially, CMS is arguing that rebate reforms that improve price transparency also increase market prices. In order for this assumption to be correct, then it must be the case that the PBMs and plan sponsors are either unaware of the published list prices, unaware of their actual net spending, or that a more transparent pricing system increases the bargaining power of manufacturers relative to PBMs. Clearly, the first two justifications that professional pharmacy benefit managers and insurers are unaware of basic industry data or their own financials are unreasonable assumptions.

As for the third justification, PBMs, acting on behalf of plan sponsors and patients, already reach an agreement with manufacturers regarding the net price. The current system incentivizes manufacturers to compete with each other using a complicated system of concessions to reach this net price but, ultimately, it is the net price that drives the revenues for manufacturers and costs for plan sponsors. Rebate reforms disincentivize the use of concessions as a competitive tool and encourages competition based on the actual market price. As a result, the reforms will improve the efficiency of the market because actual market prices are now empowered to drive competitive behavior, rather than the current system that applies the logic of a Rube Goldberg machine to reach the negotiated market price.
The combined effects of improved market transparency and increased competition based on net prices eliminates the unintended, but harmful, cost impacts on patients. Since the reforms simplify the market process that has led to the current net prices, but has not changed the basic value fundamentals driving the competitive behavior, it is more likely that the current net price that manufacturers, PBMs, and insurers have already agreed to will continue to prevail and decrease, rather than increase, net prices as CMS assumes. The estimated out-of-pocket savings for patients will, as a result, be significantly higher than CMS’ estimate of $5.3 billion in 2020 ($93.2 billion between 2020 and 2029).

However, not only does the CMS analysis underestimate the out-of-pocket savings, it also overestimates the expected increase in patient insurance premiums (increased cost of $2.7 billion in 2020 and an increase of $49.9 billion between 2020 and 2029) and the federal government’s costs (increased cost of $13.5 billion in 2020 and an increase of $196.1 billion between 2020 and 2029). The data provided by the DMHC provides important context that demonstrates the extent of CMS’ overestimation.

### Drug Rebates are a Small Share of Health Insurance Premiums

The 2018 DMHC report looked “at the impact of the cost of prescription drugs on health plan premiums and compare[d] this data across two reporting years.” Table 2 summarizes DMHC’s findings with respect to the share of premiums associated with different categories of healthcare spending. Table 2 demonstrates that both in 2017 and 2018, approximately three-quarters of the health insurance premiums were used to cover medical expenses. Netting out the impact of drug rebates, which were the equivalent of around 1.5 percent of premiums) net drug spending accounted for approximately 11 percent of total health insurance premiums.

#### Table 2
Share of Health Insurance Premiums by Expenditure Category
2017 and 2018

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Plan Expenditures on Prescription Drugs</td>
<td>12.9%</td>
<td>12.7%</td>
</tr>
<tr>
<td>Medical Expenses</td>
<td>76.8%</td>
<td>74.3%</td>
</tr>
<tr>
<td>Manufacturer Drug Rebates</td>
<td>-1.4%</td>
<td>-1.5%</td>
</tr>
<tr>
<td>Administrative Expenses</td>
<td>5.0%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Commissions</td>
<td>2.4%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Profit</td>
<td>1.5%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Taxes and Fees</td>
<td>2.8%</td>
<td>3.5%</td>
</tr>
<tr>
<td><strong>Total Health Plan Premium</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
<tr>
<td><strong>Net Pharmaceutical Expenditures</strong></td>
<td><strong>11.5%</strong></td>
<td><strong>11.2%</strong></td>
</tr>
</tbody>
</table>

Source: California Department of Managed Health Care
Leveraging this data, the estimated impact on the average Medicare Part D premium from the proposed rebate rule can be calculated, see Table 3. The first row of Table 3 presents the average Medicare Part D premium for all Medicare Part D plans in 2019, which was $29.20 per month or $350.40 annually. Based on the DMHC analysis, these costs account for 12.7 percent of the total health insurance premium. These data imply that the equivalent total health insurance premium for these patients should be approximately $230 monthly, or $2,761 annually.

The DMHC study also provides the size of the rebates relative to the total insurance premium, which was 1.5 percent as of 2018. This is reflected as a negative in Table 3 to denote that these are revenues for the insurer. Based on a monthly health insurance premium of $230, the loss of the premium subsidy implies that if the insurer wanted to maintain its current revenues, it would have to increase premiums by $3.41 per month, or by $41 annually. This implies that the total Medicare Part D premiums would rise from $350 annually to $391 annually.

Table 3
Estimated Impact on Average Medicare Part D Premium From Mandating Rebates Benefit Patients (based on 2019 premium costs)

<table>
<thead>
<tr>
<th></th>
<th>MONTHLY PREMIUM</th>
<th>ANNUAL PREMIUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare Part D Premium</td>
<td>$29.20</td>
<td>$350.40</td>
</tr>
<tr>
<td>Pharmaceutical Expenditure</td>
<td>12.70%</td>
<td>12.70%</td>
</tr>
<tr>
<td>Implied Healthcare Premium</td>
<td>$230.11</td>
<td>$2,761.31</td>
</tr>
<tr>
<td>Percentage Drug Rebate</td>
<td>-1.50%</td>
<td>-1.50%</td>
</tr>
<tr>
<td>Dollar Value of Drug Rebate</td>
<td>$(3.41)</td>
<td>$(40.96)</td>
</tr>
<tr>
<td>Medicare Part D Premium Excluding Drug Rebates</td>
<td>$32.61</td>
<td>$391.36</td>
</tr>
</tbody>
</table>

Sources: Author calculations based on data from the Kaiser Family Foundation and California Department of Managed Health Care

These additional premium costs on a static basis pale in comparison to the reduction that the small number of patients who take expensive medicines could expect from this reform. Based on the IQVIA data, total drug spending measured at list prices was $671 billion in 2019, with concessions equaling $303 billion (excluding retail coupons that directly benefit patients). If patients’ out-of-pocket (OOP) share was the same percentage as currently, but based on these net prices rather than the current list prices, then 2019 total OOP expenditures would have been $45 billion, or $37 billion less than the actual cost of $82 billion. The majority of these cost reductions would benefit the patients with high out-of-pocket costs (high OOP) that, in 2017, averaged $3,214.

Applying the 45.2 percent reduction to the average expenses for high OOP patients provides perspective on the policy trade-off involved. If the average expenses for high OOP patients were to fall by the full share of the concessions paid, then the average costs for high OOP patients would fall by $1,451 to $1,763. By this measure, on a static basis, the policy trade-off is a $1,451 reduction in costs for the patients bearing the brunt of the affordability crisis in exchange for a $41 increase in annual premiums for all Medicare Part D enrollees.
Since the expected impact on premiums from rebate reform is only $41 annually, the impact on overall federal expenses is significantly less than the CMS report estimates, on a static basis. Assuming that Medicare will pay for all of the extra costs for the 12.9 million recipients of the low-income subsidy, the additional annual expenditures from the reform will be $528.4 million—well below the $13.5 billion in annual costs estimated by CMS, see Table 4.

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Estimated Impact on Federal Costs From Mandating Rebates Benefit Patients (based on 2019 premium costs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare Part D Premium Increase Due to Drug Rebates</td>
<td>$40.96</td>
</tr>
<tr>
<td>Low-income subsidy recipients</td>
<td>12.9 million</td>
</tr>
<tr>
<td>Federal Government Increased Subsidy Costs</td>
<td>$528,375,791</td>
</tr>
</tbody>
</table>

Sources: Author calculations based on data from the Kaiser Family Foundation and California Department of Managed Health Care

Better Drug Adherence Will Save Money

The previous cost trade-offs are estimated on a static basis. However, there are many studies that have documented a link between reduced out-of-pocket expenditures on drugs and greater adherence to medicines. Further, greater adherence has been linked to reduced expenditures on other healthcare services. Therefore, overall health insurance premium costs will benefit from a decline in overall healthcare costs. The Congressional Budget Office, in its analysis of this issue, found that

policy changes that influence Medicare beneficiaries’ use of prescription drugs, such as those altering the cost-sharing structure of the Part D prescription drug benefit, probably affect federal spending on their medical services. After reviewing recent research, the Congressional Budget Office (CBO) estimates that a 1 percent increase in the number of prescriptions filled by beneficiaries would cause Medicare’s spending on medical services to fall by roughly one-fifth of 1 percent.

Accounting for the expected cost reductions for other medical services that are enabled by greater patient adherence to their drugs, the net increase in federal government expenditures would be even lower. Based on OptumRx’s experience with drug adherence and overall medical costs, it is possible to provide a sense of the potential savings.

To provide an estimate of the savings, the improved rate of adherence needs to be linked to a dollar savings value. An Optum white paper provided this estimate for patients living with diabetes, which is reproduced as Figure 1. Figure 1 demonstrates that as patients’ adherence with their medications improve, overall drug costs increases but total medical costs decrease by a larger amount. Based on the difference in spending between the top and bottom adherence categories, a 1 percentage point increase in diabetes patients’ adherence with their medications decreases overall spending by $95.14.
According to a UnitedHealthcare analysis, reducing patients’ out-of-pocket costs improves their adherence rates.

UnitedHealthcare data analytics demonstrate that when consumers do not have a deductible or large out-of-pocket cost, medication adherence improves by between 4 and 16 percent depending on plan design, contributing to better health and reducing total health care costs for clients and the health system overall.17

Applying Optum’s adherence-to-cost relationship ($95.14 decrease in costs per 1 percentage point increase in adherence) to the broader patient population, and UnitedHealth Group’s range of improved adherence due to lower out-of-pocket costs (between 4 percent and 16 percent), yields an estimated range of the per patient reduction in total healthcare spending due to greater medication adherence that is between $381 and $1,522. Across the more than 1 million Medicare Part D patients who the Kaiser Family Foundation documented as having high out-of-pocket expenditures,18 total healthcare expenditures for Medicare could decline between $386.9 million and $1.5 billion due to the improved medication adherence enabled by the rebate reform proposal, see Table 5.
Table 5
Estimated Medicare Savings Due to Increased Medication Adherence

<table>
<thead>
<tr>
<th></th>
<th>PERCENTAGE IMPROVEMENT IN MEDICATION ADHERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.0%</td>
</tr>
<tr>
<td>Medical Savings Per Patient</td>
<td>$381</td>
</tr>
<tr>
<td>High Cost Medicare Part D Patients</td>
<td>1,016,660</td>
</tr>
<tr>
<td>Medicare Savings</td>
<td>$386,889,963</td>
</tr>
</tbody>
</table>

Source: Author calculations

These savings are only indicative of the potential, and a more precise methodology would need to account for the specific adherence-to-cost impact across all of the medicines driving the high out-of-pocket cost for Medicare Part D patients. These estimates are important for demonstrating that by not considering the financial benefits from improving drug adherence, the CMS grossly overestimates the costs of this program on the federal budget. In fact, instead of being a cost, it is possible that the rebate reform will actually decrease overall Medicare spending.

Conclusion

Ironically, the current drug concession system is raising patient costs. This perverse outcome is why reforms are needed. Mandating that all drug concessions must benefit the patients purchasing the medicines is a positive reform that meaningfully addresses this problem. If implemented for the Medicare program as the Administration is suggesting, the excessive costs that Medicare Part D patients are inappropriately bearing will be reduced.

The reform will not meaningfully increase costs for the government as some critics of the policy assert, either. Even without accounting for the beneficial impacts on improved medicine adherence, the impact on policyholder premiums is a fraction of the cost reduction that patients who require expensive medications will receive. From an insurance perspective, this trade-off seems warranted. But, this trade-off is also overstated.

When patients fail to properly adhere to their prescribed medicines, they suffer worse health outcomes and the healthcare system endures higher overall costs. Studies have found that high out-of-pocket costs discourage patients from adhering to their medicines. Reducing these out-of-pocket costs improves overall patient adherence. Beyond the important benefits for patient health, improved adherence generates broader healthcare savings that offsets the higher premium costs. These positive dynamics further the arguments in favor of rebate reform.

Ultimately, addressing the drug affordability problem requires targeted reforms that identify which patients are bearing the high costs, and the policy inefficiencies driving these unwanted outcomes. In this case, patients who are prescribed expensive medicines are facing excessive costs because the current concession system is unacceptably forcing an improper share of the costs on to them. Reforming the system is, consequently, an important policy that will meaningfully improve the broader pharmaceutical system in the U.S.
Endnotes


4 The executive orders also included harmful policies such as drug importation and price indexing, which would harm patient accessibility and not meaningfully address the drug affordability problem.


6 Ibid.

7 Ibid.


13 Ibid.


“Medication Adherence: Rx for Success” Optum 2012.


About the Authors

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Wayne H. Winegarden, Ph.D. is a Senior Fellow in Business and Economics at the Pacific Research Institute and director of PRI’s Center for Medical Economics and Innovation. He is also the Principal of Capitol Economic Advisors.

Dr. Winegarden has 25 years of business, economic, and policy experience with an expertise in applying quantitative and macroeconomic analyses to create greater insights on corporate strategy, public policy, and strategic planning. He advises clients on the economic, business, and investment implications from changes in broader macroeconomic trends and government policies. Clients have included Fortune 500 companies, financial organizations, small businesses, state legislative leaders, political candidates and trade associations.

Dr. Winegarden’s columns have been published in the Wall Street Journal, Chicago Tribune, Investor's Business Daily, Forbes.com, and Townhall.com. He was previously economics faculty at Marymount University, has testified before the U.S. Congress, has been interviewed and quoted in such media as CNN and Bloomberg Radio, and is asked to present his research findings at policy conferences and meetings. Previously, Dr. Winegarden worked as a business economist in Hong Kong and New York City; and a policy economist for policy and trade associations in Washington D.C. Dr. Winegarden received his Ph.D. in Economics from George Mason University.

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Robert Popovian is currently Vice President, U.S. Government Relations at Pfizer Inc. where he leads the advocacy function in the U.S. Robert brings over two decades of experience in numerous facets of biopharmaceutical and health care industry with a strong track record of expertise in Health Care Policy and Economics, Government Relations, Medical Affairs, and Strategic Planning.

Robert has published and presented extensively on the impact of biopharmaceuticals and health policies on health care costs and clinical outcomes, including authorship in clinical and healthcare delivery journals and published expert source in First Word, The Hill, Los Angeles Times, USA Today, Pink Sheet, Managed Healthcare Executive and Bloomberg News amongst many others. He also writes a regularly published column in Morning Consult. He is a sought out speaker at healthcare policy and medical conferences on topics such as payment and delivery reform, pricing, reimbursement, biosimilars, biopharmaceutical innovation and health economics. He currently serves on the Board of Councilors of University of Southern California, School of Pharmacy and Board of Advisors for Capital RX.

He is one of the few researchers who has studied and published both clinical and policy related economic analysis as well as one of a handful who have studied and published empirical data regarding emerging payment models in the US healthcare system and for biopharmaceutical reimbursement. He was also one of the first to secure inclusion of health outcomes data regarding labeled indication of a biopharmaceutical.
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