An Estimate of the Net Benefits from Prior Authorization Policies in the U.S.

Robert Popovian[1]* and Wayne Winegarden[2]

1 Senior Health Policy Fellow, Progressive Policy Institute, Chief Science Policy Officer, Global Healthy Living Foundation, Member of Board of Councilors, University of Southern California, School of Pharmacy, USA

2 Sr. Fellow and Director Center for Medical Economics and Innovation, Pacific Research Institute, USA

Abstract

While originally a clinical tool, prior authorization policies administered by pharmacy benefit managers (PBM) and insurers of biopharmaceuticals are now primarily designed to manage costs. Prior authorization requirements are associated with reduced drug spending (the financial benefit), but they also impose administrative costs on providers, insurance plans, and employer-sponsored plans. Prior authorizations also worsen patient adherence to their prescribed medicines, which is associated with increases in overall healthcare spending. This analysis develops a model utilizing published estimates to quantify the costs created by prior authorizations compared to the financial benefits as measured by the reduced drug spending. Based on our analysis, healthcare costs associated with prior authorizations exceed the benefits of reduced drug spending increasing total healthcare spending by $1.9 billion per year. While additional research evaluating the net benefit from prior authorization policies is necessary, our analysis indicates that prior authorization policies as an administrative tool cannot be justified based on their net financial impact on the healthcare sector.

Keywords: Prior authorizationpolicies; Healthcare; Financial benefits

*Corresponding author:
Robert Popovian

Tel: 08184540497

📧 rpopovian@gmail.com

Senior Health Policy Fellow, Progressive Policy Institute, Chief Science Policy Officer, Global Healthy Living Foundation, Member of Board of Councilors, University of Southern California, School of Pharmacy, USA.

Introduction

Prior authorization policies (PA) are used by insurers and pharmacy benefit managers (PBM) to manage the utilization of prescription medications. A primary purpose of PA, espoused by the PBMs, is to reduce unnecessary utilization of biopharmaceuticals and, consequently, decrease total healthcare expenditures.

As the 2020 American Medical Association (AMA) survey on PA indicated, PA imposes a large and growing administrative burden [1,2]. According to the AMA survey, 85 percent of the physician respondents reported that the burden from PA is "high or extremely high". Further, 40 percent of physicians reported that they have staff who exclusively work on PA. Beyond these financial burdens, 30 percent of the surveyed physicians reported that PA led to "a serious adverse event for a patient in their care" and 21 percent reported "that PA has led to a patient's hospitalization". In addition to the administrative costs on physicians, PA also imposes costs on payers and employer-plans [3].

Based on our review of the literature, no study has quantified the total financial costs created by PA and compared these costs to the reduced expenditures on prescription medications. This analysis fills that gap by developing a model that utilizes published cost estimates to quantify the total costs created by PA compared to the benefits enabled by PA. The model takes a conservative approach for estimating these costs, which creates a bias toward underestimation rather than overestimation. The costs are examined for the entire U.S. healthcare system.

Methodology

The model compares the estimated costs and benefits for a single year based on the most recent data available.

The quantified financial costs associated with PA include:

• **Additional healthcare costs due to PA non-adherence**: the increased healthcare spending that arises due to the impact PA has on drug non-adherence through patients abandoning the prescribed drugs;

• **Costs to providers**: the administrative burden imposed on pharmacists and physicians;

• **Costs to employer-plans**: the administrative burden employer-sponsored insurance plans must pay when processing PA; and,

• **Labor costs for PBMs and insurers** to institute PA programs.

The quantified financial benefits associated with PA are the reduced spending and unnecessary utilization due to PA.

Quantifying PA net benefit

Table 1 summarizes the estimated financial costs and benefits created by PA. In total, the model estimates that PA increases healthcare costs by $8.09 billion while generating $6.20 billion in reduced spending on prescription drugs causing a net financial cost (a positive number in Table 1) of $1.90 billion.

Estimating the additional healthcare costs due to PA non-adherence

Non-adherence costs occur because PA causes patients to abandon a prescribed medication. Suboptimal medication adherence leads to negative health consequences that increases annual healthcare costs between $100 billion and $289 billion [4]. The nonadherence problem is widespread with an estimated 20 percent to 30 percent of prescriptions never filled [4].

Leveraging these estimated costs from nonadherence, along with the 5.8 billion prescriptions filled in 2018 (including infusion drugs administered in a clinical setting) [5], the contribution of PA to the problem of non-adherence can be estimated. These calculations are summarized in **Table 2**, which provides the

Table 1 Estimated PA Created Financial Costs and Financial Savings (in billions).

	Estimated Value
Additional healthcare costs due to PA non-adherence	$3.29
PA administrative costs	$4.80
Costs imposed on providers	$1.32
Costs imposed on insurers	$0.02
Costs imposed on employer-sponsored health plans	$3.47
Total PA Induced Cost Increase	*$8.09*
PA-induced savings	*-$6.20*
Net Change in Costs	**$1.90**

Note: Negative value reflects systemic savings, positive value reflects increased costs. Numbers may not add due to rounding.

sources or calculations used to estimate the PA-induced non-adherence costs.

The calculation begins with the estimated total dispensed prescriptions in 2018, which was 5.8 billion. Using the lower value of the estimated percentage of all medication prescriptions that are never filled (20 percent), this implies a total of 7.2 billion prescriptions were written in 2018. Of these, 4.57 percent, or 329.9 million, required a PA. Based on a 37 percent PA abandonment rate, a total of 122.1 million prescriptions were abandoned due to PA, or 1.7 percent of all prescriptions written are abandoned due to PA. Based on the average value ($194.5 billion) of the range of healthcare costs associated with non-adherence (between $100 billion and $289 billion), the PA-induced non-adherence imposes $3.29 billion in extra healthcare costs.

Estimating the administrative costs created by PA

The administrative costs associated with PA were estimated by multiplying the estimated number of prescriptions that require PA (329.9 million that is estimated in Table 2) by estimates for PA's administrative costs imposed on providers and insurance companies. The cost estimate for employer-sponsored plans adjusts the estimated number of prescriptions that require PA by the employer-sponsored plans' share of total drug spend.

PA cost per provider ($3.99 per PA) and insurers ($0.05 per PA) are based on CAQH's estimates for the average cost per transaction for PA using the reported middle estimates [6]. The per transaction cost for employer-sponsored plans ($25.00) is based on the lower-end estimates from Navitus [7]. **Table 3** summarizes these results. In total, PA imposes $4.80 billion in administrative costs on providers ($1.32 billion), insurers ($16.5 million), and employer-sponsored plans ($3.47 billion). Relative to the approximately 157 million covered lives on employer-sponsored health plans [8], the $3.47 billion in PA administrative costs for employer-sponsored plans equates to a burden of around $22 per covered life.

Estimating the drug savings enabled by PA

The savings enabled by PA include the reduced expenditures on drugs that are abandoned and disapprovals, as well as the cost

Table 2 Estimated PA-Induced Non-adherence Costs (in billions).

		Estimated Value	Source
1	Total Prescriptions Dispensed	5.770	IQVIA
2	Percentage of medicines never filled	20.0%	Viswanathan et al
3	Estimated Total Prescriptions Written	7.213	1 / (1 - 2)
4	Number of drugs requiring prior authorization	4.57%	Jones et al
5	Number of prescriptions requiring a prior authorization	0.330	3 * 4
6	Percentage of PA drugs abandoned	37.0%	Cover My Meds
7	Number of drugs abandoned	0.122	6 * 5
8	Drugs abandoned due to PA as a share of total prescriptions	1.69%	7 / 3
9	Estimated costs due to drug non-adherence	$194.50	Viswanathan et al (average of range)
10	PA-induced non-adherence costs	$3.29	8 * 9

Table 3 Estimated PA-Induced Administration Costs.

		Estimated Value	Source
1	Estimated total prescriptions require PA (millions)	329.9	Table 2
2	Provider cost per PA	$3.99	CAQH
3	Total administrative costs imposed on providers (billions)	$1.32	1 * 2
4	Estimated total prescriptions require PA (millions)	329.9	Table 2
5	Insurer cost per PA	$0.05	CAQH
6	Total administrative costs imposed on plans (billions)	$0.0165	4 * 5
7	Estimated total prescriptions require PA (millions)	329.9	Table 2
8	Employer-plan share of prescription drug spend	42.0%	KFF
9	Number of employer-plan drugs that require PA (millions)	138.7	7 * 8
10	Employer-sponsored plan cost per PA	$25.00	Navitus
11	Total employer-plan administrative costs (billions)	$3.47	9 * 10
12	Total Administrative Costs (billions)	$4.80	3 + 6 + 11

Table 4 Estimated PA-Induced Reduction in Drug Spending Due to Abandonment and Disapprovals (in billions).

		Estimated Value	Source
1	Value of prescription drugs at net prices	$356.0	IQVIA [5]
2	Branded drugs share of drug spending	80.0%	AAM
3	Total brand spending in US	*$284.8*	1 * 2
4	Percentage requiring PA	4.57%	Jones et al [6]
5	Spending Requiring PA	*$13.0*	3 * 4
6	Percentage of PA drugs abandoned	37%	Cover My Meds [7]
7	Reduced drug spending due to PA abandonment	*$4.8*	5 * 6
8	Percentage PA not approved	10%	AHIP8
9	Reduced drug spending due to PA disapprovals	*$1.3*	5 * 8
10	Total reduced drug spending	$6.1	7 + 9

savings PA provides PBMs and/or insurers. The savings due to abandonment and disapprovals, summarized in **Table 4**, were estimated based on the total value of drugs at net prices (e.g., prices inclusive of all concessions) as estimated by IQVIA [5].

Since PA primarily applies to branded medicines, branded medicine's share of total net spending of $284.8 billion is estimated based on branded drugs accounting for 80 percent of total drug spend [9]. Relying on the same estimated values for the percentage of medicines requiring PA and the percentage of drugs abandoned due to PA, the total reduction in drug spending due to PA abandonment is $4.8 billion. Accounting for the 10 percent of PA that are not approved, an additional $1.3 billion in reduced drug spending is realized due to PA. In total, PA reduces total drug spend by $6.1 billion.

Beyond the savings due to abandonment and denial, PA is associated with directly reducing spending. According to Pharmaceutical Care Management Association (PCMA), as applied to NSAIDs, PA is associated with a 0.6 percent reduction in drug spending. Applying this savings across the entire $13.0 billion branded market that require a PA, PA generates an additional $78.1 million in savings, see **Table 5**. Combining the results of Tables 4 & 5, PA generates $6.2 billion in savings.

Limitations

There are several limitations of our analysis. First, the analysis is a financial cost-benefit analysis. A valuation of the PA impact on

Table 5 Estimated PA-Induced Reduction in Drug Spending Due to PA Process (in billions).

		Estimated Value	Source
1	Value of prescription drugs at net prices	$356.0	IQVIA [5]
2	Branded drugs share of drug spending	80.00%	AAM
3	Total brand spending in US	$284.8	1 * 2
4	Percentage requiring PA	4.57%	Jones et al [6]
5	Spending Requiring PA	$13.0	3 * 4
6	Percentage savings with PA Process	0.60%	PCMA [1]
7	Reduced drug spending due to PA process	$0.078	5 * 6

patient health beyond the dollars spent is not considered (e.g., the value of better health). These health considerations could alter the final conclusion from the above financial cost-benefit analysis. Second, the analysis does not account for how PA impacts the healthcare decisions of providers and pharmacists. To the extent that these impacts exist, additional financial impacts could be present that are not considered in this analysis. Third, the estimates are dependent upon the data from the cited literature. Should updated or more accurate data become available, the estimated net benefit from PA will change. Fourth, technological changes can have unknown impacts on these costs and benefits. Should groundbreaking technological changes be widely implemented across the healthcare system, then the estimated costs and savings associated with PA will change. Fifth,

the labor costs incurred by biopharmaceutical companies are not considered. These costs add to the financial cost of PA.

Discussion

Our estimates find that once costs and benefits are considered, PA imposes $1.9 billion in net costs on the healthcare system. It is important to note that the $1.9 billion in net costs are based on conservative assumptions. Using the higher cost-estimates from the literature, the total PA induced costs would be as high as $19.4 billion, indicating that PA could impose net costs as high as $13.2 billion. Since these costs are primarily borne by patients, providers, and employer-sponsored plans, their existence indicates that there is a need for greater scrutiny of how PA policies are implemented, particularly from employer-sponsored plans.

Greater PA oversight should start with increased scrutiny of the policy's applicability and terms. The inability of PA to control overall healthcare costs indicates that it is an ineffective cost-saving tool. Consequently, employer-sponsored plans should insist that PA is only used as a clinical tool informed by the peer reviewed medical evidence, which would return PA to its traditional role of driving better clinical decision making. Stricter oversight should also ensure that PA is never used as a means to increase the dollar value of rebates and concessions or drive market share to products that are more profitable for an insurer or PBM. PA should also be applied judiciously such that the number of drugs subjected to PA is only as broad as necessary to serve its clinical purpose [10].

From an execution perspective, the data indicate that how PA is processed matters. PA's per transaction cost can be reduced by creating the infrastructure to process them via cutting-edge technologies, particularly electronic medical records. Electronic processing has the added benefit of making it easier to ensure that patients' health data are appropriately considered.

Conclusion

When evaluating the savings potential of PA, it is important to account for the policy's costs in addition to its benefits. The methodology presented in this paper explicitly accounts for the costs and benefits of PA from a financial perspective.

Ideally, future research will further refine the financial cost and benefit estimates estimated above. Additionally, research that expands upon the healthcare impacts from PA as separate from the financial impacts could help improve our understanding of the full consequences of PA and whether these policies help achieve the goal of a lower-cost, higher-quality healthcare system. Based on the results from this paper, we believe that the assertion that PA generates net financial healthcare savings should be viewed with skepticism.

References

1 (2021) 2020 AMA prior authorization (PA) physician survey. American Medical Association.

2 Loria K (2019) The impact of prior authorizations. Medical Economics 96.

3 Psotka MA, Singletary EA, Bleser WK, Roiland RA, Lopez MH, et al. (2020) Streamlining and Reimagining Prior Authorization Under Value-Based Contracts: A Call to Action From the Value in Healthcare Initiative's Prior Authorization Learning Collaborative .Circ Cardiovasc Qual Outcomes 13:e006564.

4 Viswanathan M, Golin CE, Jones CD, Shok M, Blalock SJ, et al. (2012) Interventions to Improve Adherence to Self-administered Medications for Chronic Diseases in the United States. Ann Intern Med 157:785-795.

5 (2019) Medicine Use and Spending in the US A Review of 2018 and Outlook to 2023. IQIVIA Institute.

6 (2020) 2019 CAQH Index, Conducting Electronic Business Transactions: Why Greater Harmonization Across the Industry is Needed. CAQH.

7 (2017) Using UM Strategies to Better Manage Rx Costs and Improve Health. Navitus Health Solutions.

8 (2020) 2020 Employer Health Benefits Survey. Kaiser Family Foundation.

9 (2020) Generic Drug & Biosimilars Access & Savings in the U.S. Report. Association for Accessible Medicines.2020 Report.

10 (2016) Pharmacy Benefit Managers (PBMs): Generating Savings for Plan Sponsors and Consumers. Visante Prepared for Pharmaceutical Care Management Association (PCMA).