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Out-of-Pocket Prescription Drug Spending and Healthcare Accessibility in the United States

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Abstract

Rising healthcare costs in the United States have made affordability a growing concern, especially for prescription drugs. Out-of-pocket spending puts a financial burden on individuals and may affect whether they seek medical care when needed. While existing research has looked at healthcare costs more broadly, it has not looked much at how much people pay for prescription drugs and how that affects their ability to get the care they need. This study investigates the relationship between out-of-pocket prescription drug spending and healthcare accessibility using a cost-sharing framework. Using Medical Expenditure Panel Survey (MEPS) data, a logistic regression model is applied to estimate how changes in drug spending influence the likelihood of delaying medical care. The findings show a consistent, though specification-sensitive, association between out-of-pocket drug spending and healthcare access: higher spending is significantly associated with delayed care in unadjusted models and with inability to afford medications and broader medical care after full controls are added, though the association with delayed care does not retain statistical significance in the fully adjusted model. Additional evidence of spillover effects suggests that higher medication spending may reduce the use of other healthcare services. Overall, the results highlighted the broad impact of prescription drug costs on healthcare utilization, implying that policies aimed at reducing out-of-pocket spending could play a significant role in improving access to care and addressing social disparities in healthcare outcomes.

Keywords

Healthcare Accessibility, Healthcare Utilization, Out-of-Pocket Spending, Prescription Drug Costs

1. Introduction

Access to healthcare is essential for maintaining good health, yet financial barriers

continue to limit who is able to receive care. Access is not only about the availability of healthcare services but also whether people can use them without financial barriers [1] [2]. One of the most important of these barriers is out-of-pocket spending. When individuals have to pay more for medications or services themselves, they may delay or avoid seeking care, even when it is necessary. Over time, this can lead to worse health outcomes and greater inequality in access to healthcare.

A key explanation for how financial barriers affect healthcare can be understood through cost-sharing, where patients pay part of their healthcare expenses out of pocket. Economic theory suggests that as these costs increase, individuals tend to reduce healthcare use [3] [4]. This applies not only to operational care but also to necessary treatment. Thus, it becomes harder for individuals to access both medication and other types of care as out-of-pocket spending rises. At the same time, healthcare decisions are not just economic. People also make judgments about how urgent or necessary care is. Individuals in relatively good health may be more willing to delay treatment when costs increase, while those in poorer health may feel more urgency to care, which can lead to higher long-term costs and worsen conditions [5]. This suggests the effects of financial barriers on different groups.

Prescription drug costs are crucial because they are indispensable for managing chronic conditions. These expenses can create ongoing financial pressure and may affect broader healthcare decisions, not just medication use [6]. Previous studies have primarily examined how prescription drug cost-sharing influences medication adherence and healthcare utilization. However, fewer studies have investigated whether out-of-pocket prescription drug spending functions as a broader barrier to healthcare accessibility, such as delaying care or being unable to obtain necessary medical services [7].

This distinction matters because healthcare accessibility is more directly related to unmet medical needs and inequality than simple utilization measures. Understanding access barriers may therefore provide a broader perspective on how financial burden shapes healthcare outcomes.

Therefore, this study examines whether higher out-of-pocket prescription drug spending is associated with lower healthcare accessibility in the United States and whether this relationship differs according to health status and insurance coverage.

Based on this framework, the study asks three questions. First, is higher out-of-pocket prescription drug spending associated with lower healthcare accessibility? Second, does this relationship differ by self-rated health status? Third, does insurance coverage reduce or eliminate the relationship between drug spending and access barriers?

Hypothesis 1: Higher out-of-pocket prescription drug spending is associated with lower healthcare accessibility.

Higher out-of-pocket prescription drug spending increases an individual's total financial burden, which may reduce their willingness to seek care. This financial

constraint can lead individuals to delay or even forgo necessary medical services, ultimately decreasing overall healthcare accessibility.

Hypothesis 2: The negative effect of drug spending on healthcare accessibility is stronger among individuals who report good health.

Financial barriers may not affect all individuals equally. Individuals in better health often have more flexibility in deciding whether to seek care, making them more likely to delay care when costs increase. In contrast, those in poorer health are less able to postpone necessary treatment. Prior research shows that responses to healthcare costs vary depending on perceived need and urgency [8].

Hypothesis 3: **Insurance coverage does not fully buffer the negative effect of prescription drug spending on healthcare accessibility.**

Insurance does not fully eliminate financial barriers. Many plans still require deductibles, copayments, and coinsurance for prescription drugs. Studies of insurance expansion show that while coverage improves access, out-of-pocket costs remain an important barrier [9] [10].

2. Methodology

This study uses data from the 2023 Medical Expenditure Panel Survey (MEPS) Household Component Full-Year Consolidated File (HC-251). The 2023 panel year was selected as the most recent available wave, providing the most up-to-date estimates of out-of-pocket prescription drug spending and healthcare access barriers in the United States. Only respondents aged 18 and older with non-missing values on the primary access outcomes, out-of-pocket prescription spending, and all covariates were included in the analytic sample. Observations with implausible out-of-pocket spending values (defined as values exceeding the 99.9th percentile, above $15,000) were excluded as likely date-entry errors, resulting in a final analytic sample of N = 18,575 unweighted data. Respondents with missing values for any covariate were excluded via listwise deletion; sensitivity analyses confirmed that the missing-data pattern was not systematically related to the main exposure variable. MEPS includes a survey of the U.S. civilian noninstitutionalized population and provides detailed information on healthcare utilization, expenditures, insurance coverage, and access to care.

2.1. Variables

Healthcare accessibility is evaluated as the presence of self-reported cost-related barriers to care, captured by four binary MEPS survey items: (1) whether the respondent delayed seeking medical care due to cost (DLAYCA42), (2) whether the respondent was unable to afford needed medical care (AFRDCA42), (3) whether the respondent delayed getting prescription medication due to cost (DLAYPM42), and (4) whether the respondent was unable to afford prescription medication (AFRDPM42). Each outcome is coded 1 (YES) if the individual reported experiencing the barrier and 0 (NO) otherwise. Responses of -1 (inapplicable), -7 (refused), and -8 (don't know) were treated as missing.

The main independent variable is annual out-of-pocket spending on prescription medicine (RXSLF23), which captures total self-reported out-of-pocket expenditures for prescription drugs over the calendar year. Zero values were retained and not recoded, reflecting genuine cases of no out-of-pocket cost. Given a strong right skew (SD = $994; max = $50,940), the variable is entered in $100 units in the main models and log-transformed in robustness checks.

There are two moderating variables to test the relationship between drug spending and healthcare access: self-rated health status (good/very good/excellent vs. fair/poor) and insurance coverage type (private, public, or uninsured). These variables show whether financial barriers work differently across health conditions and insurance coverage structures.

The models include controls to account for the following factors: age, gender, race, income status, education, and number of chronic conditions. With these variables, the study's analysis can differentiate the association between prescription drug spending and health care accessibility, with other factors being constant.

2.2. Empirical Strategy

To examine the relationship between prescription drug spending and healthcare accessibility, this study uses two strategies: descriptive analysis and logistic regression models. First, descriptive statistics are used to analyze patterns in mean access rates by drug spending quartile and access difference across health status and insurance groups. Second, the study employs logistic regression models. Logistic regression is appropriate because the dependent variables are binary outcomes rather than continuous measures.

All analyses account for the MEPS complex survey design using person-level full-year weights (PERWT23F), variance strata (VARSTR), and primary sampling units (VARPSU), implemented via the survey-weighted procedures in RStudio. Descriptive statistics report weighted population totals and proportions, while regression results reflect standard errors and odds ratios.

To test H1, the model is shown as follows: Access = β_0 + β_1 (OOP Drug Spending) + Controls + ε.

Access is a binary outcome (1 = barrier, 0 = no barrier). β_0 represents the baseline log-odds, and β_1 captures how OOP spending affects the likelihood of experiencing access barriers. A positive coefficient indicates that higher spending is associated with worse access. ε shows unobserved variation.

To test H2, an interactive model between out-of-pocket spending and health status is introduced: Access = β_0 + β_1 (OOP) + β_2 (Health Status) + β_3 (OOP × Health Status) + Controls + ε.

β_2 reflects differences across health groups, and β_3 shows whether the effect of spending varies by health status.

To test H3, another interactive model was used to determine the trend between out-of-pocket spending and insurance coverage: Access = β_0 + β_1 (OOP) + β_2 (Insurance) + β_3 (OOP × Insurance) + Controls + ε.

β_2 shows differences across insurance types, while β_3 indicates whether insurance moderates the effect of financial burden.

Across all models, control variables are included to account for demographic, socioeconomic, and health-related characteristics. The predicted probability plots will compare high vs. low spending groups across health and insurance categories. Using linear regression in this context would not accurately yield the statistical assumption and could produce predicted values outside the 0 - 1 probability range. The logistic regression model addresses this limitation by changing the probability of the outcome into log-odds, ensuring that predicted values remain between 0 and 1. From this model, the study can estimate how changes in out-of-pocket prescription drug spending are associated with the likelihood of experiencing healthcare access barriers, while controlling for other variables. The results are interpreted using odds ratios, which indicate how the odds of an outcome change with an increase in the independent variable.

Although out-of-pocket prescription spending is highly right-skewed (mean = $142; SD = $994; max = $50,940), the linear dollar specification is retained as the primary model for two reasons. First, it provides a directly interpretable marginal effect: each $100 increase in annual spending corresponds to the estimated change in the log-odds of experiencing an access barrier. For a typical respondent spending around the sample mean, this represents approximately a two-week supply of a common branded medication. Second, the linear specification is consistent with prior cost-sharing literature [11] and facilitates direct comparison. Log-transformed spending is used in robustness models to confirm that results are not driven by the small number of extremely high-spending individuals.

3. Results

Table 1. Continuous descriptives.

Variable	Unweighted N	mean	sd	min	max
Out-of-pocket prescription spending ($)	18,919	142.2	994.49	0	50,940
Log out-of-pocket prescription spending	18,919	2.09	2.4	0	10.84
Age	18,771	39.72	23.23	0	85
Poverty level (% of FPL)	18,919	450.67	387.56	−1.57	4009.82
Education (MEPS degree code)	18,761	4.57	2.28	1	8

Table 2. Categorical descriptive.

Variable	Level	Weighted N	pct
Delayed medical care due to cost	No	309293966.2	94
Delayed medical care due to cost	Yes	19765489.19	6

Continued

Could not afford prescription medicine	No	321583192.4	97.7
Could not afford prescription medicine	Yes	7458026.61	2.3
Could not afford medical care	No	318559119.7	96.7
Could not afford medical care	Yes	10845377.94	3.3
Health status	Fair/Poor	34241487.33	10.3
Health status	Good/Very good/Excellent	296613575.4	89.7
Insurance coverage	Private	215911541.3	64.5
Insurance coverage	Public only	97419962.11	29.1
Insurance coverage	Uninsured	21198769.73	6.3
Prescription drug insurance	No	152289091.4	45.9
Prescription drug insurance	Yes	179675247.3	54.1
Sex	Female	169589573.4	50.7
Sex	Male	164940699.8	49.3
Age group	0 - 17	72283273.02	21.8
Age group	18 - 34	74300253.62	22.4
Age group	35 - 49	63359359.44	19.1
Age group	50 - 64	62096233.09	18.7
Age group	65+	59925219.53	18.1
Race/ethnicity	Hispanic	65759048.64	19.7
Race/ethnicity	Non-Hispanic Asian	21384697.72	6.4
Race/ethnicity	Non-Hispanic Black	41881236.18	12.5
Race/ethnicity	Non-Hispanic White	191904354.1	57.4
Race/ethnicity	Other	13600936.56	4.1
Poverty category	High income (>=400%)	148089329.1	44.3
Poverty category	Low income (125-<200%)	40476856.58	12.1
Poverty category	Middle income (200-<400%)	96119086.43	28.7
Poverty category	Near poor (100-<125%)	12759876.11	3.8
Poverty category	Poor (<100%)	37085124.93	11.1

Note. Values in the "Weighted N" column are survey-weighted population estimates reflecting MEPS person-level full-year weights. Variation in total weighted N across variables reflects item-level missingness in that variable; respondents with missing values on a given variable are excluded from the regression model. The results are reported in **Table 6**.

Table 3. Access by health status.

outcome_variable	group_variable	Group	Outcome	Weighted N	pct
Delayed medical care due to cost	Health status	Fair/Poor	No	29584683.4	87.2
Delayed medical care due to cost	Health status	Fair/Poor	Yes	4354671.86	12.8
Delayed medical care due to cost	Health status	Good/Very good/Excellent	No	279246758.4	94.8
Delayed medical care due to cost	Health status	Good/Very good/Excellent	Yes	15348565.25	5.2
Could not afford prescription medicine	Health status	Fair/Poor	No	31369454.53	92.2
Could not afford prescription medicine	Health status	Fair/Poor	Yes	2644289.94	7.8
Could not afford prescription medicine	Health status	Good/Very good/Excellent	No	289744809	98.4
Could not afford prescription medicine	Health status	Good/Very good/Excellent	Yes	4757889.09	1.6
Could not afford medical care	Health status	Fair/Poor	No	30659299.2	90.2
Could not afford medical care	Health status	Fair/Poor	Yes	3349270.48	9.8
Could not afford medical care	Health status	Good/Very good/Excellent	No	287375044	97.5
Could not afford medical care	Health status	Good/Very good/Excellent	Yes	7496107.46	2.5

Note. Values in the "Weighted N" column are survey-weighted population estimates reflecting MEPS person-level full-year weights. Variation in total weighted N across variables reflects item-level missingness in that variable; respondents with missing values on a given variable are excluded from the regression model. The results are reported in Table 6.

Table 4. Access by insurance.

outcome_variable	group_variable	Group	Outcome	Weighted N	pct
Delayed medical care due to cost	Insurance coverage	Private	No	200661220.8	94.2
Delayed medical care due to cost	Insurance coverage	Private	Yes	12354285.8	5.8
Delayed medical care due to cost	Insurance coverage	Public only	No	90960118.76	95.5
Delayed medical care due to cost	Insurance coverage	Public only	Yes	4327682.06	4.5
Delayed medical care due to cost	Insurance coverage	Uninsured	No	17672626.65	85.1
Delayed medical care due to cost	Insurance coverage	Uninsured	Yes	3083521.33	14.9
Could not afford prescription medicine	Insurance coverage	Private	No	209229382.7	98.3
Could not afford prescription medicine	Insurance coverage	Private	Yes	3699869.78	1.7
Could not afford prescription medicine	Insurance coverage	Public only	No	92589548.75	97.1
Could not afford prescription medicine	Insurance coverage	Public only	Yes	2766269.81	2.9
Could not afford prescription medicine	Insurance coverage	Uninsured	No	19764260.95	95.2
Could not afford prescription medicine	Insurance coverage	Uninsured	Yes	991887.03	4.8
Could not afford medical care	Insurance coverage	Private	No	207115064.2	97.1
Could not afford medical care	Insurance coverage	Private	Yes	6138363.99	2.9

Continued

Could not afford medical care	Insurance coverage	Public only	No	92786336.8	97.3
Could not afford medical care	Insurance coverage	Public only	Yes	2608584.62	2.7
Could not afford medical care	Insurance coverage	Uninsured	No	18657718.65	89.9
Could not afford medical care	Insurance coverage	Uninsured	Yes	2098429.34	10.1

Note. Values in the "Weighted N" column are survey-weighted population estimates reflecting MEPS person-level full-year weights. Variation in total weighted N across variables reflects item-level missingness in that variable; respondents with missing values on a given variable are excluded from the regression model. The results are reported in Table 6.

Table 5. Access by Rx insurance.

outcome_variable	group_variable	Group	Outcome	Weighted N	pct
Delayed medical care due to cost	Prescription drug insurance	No	No	140967291.5	93.5
Delayed medical care due to cost	Prescription drug insurance	No	Yes	9845315.87	6.5
Delayed medical care due to cost	Prescription drug insurance	Yes	No	168107474.7	94.4
Delayed medical care due to cost	Prescription drug insurance	Yes	Yes	9920173.32	5.6
Could not afford prescription medicine	Prescription drug insurance	No	No	146025024.4	96.9
Could not afford prescription medicine	Prescription drug insurance	No	Yes	4702768.32	3.1
Could not afford prescription medicine	Prescription drug insurance	Yes	No	175338968	98.5
Could not afford prescription medicine	Prescription drug insurance	Yes	Yes	2755258.29	1.5
Could not afford medical care	Prescription drug insurance	No	No	144909472.2	96
Could not afford medical care	Prescription drug insurance	No	Yes	6077890.89	4
Could not afford medical care	Prescription drug insurance	Yes	No	173430447.5	97.3
Could not afford medical care	Prescription drug insurance	Yes	Yes	4767487.05	2.7

Note. Values in the "Weighted N" column are survey-weighted population estimates reflecting MEPS person-level full-year weights. Variation in total weighted N across variables reflects item-level missingness in that variable; respondents with missing values on a given variable are excluded from the regression model. The results are reported in Table 6.

Table 6. Main survey-weighted logistic models (odds ratios).

Predictor	Model 1: Delayed care, baseline	Model 2: Delayed care, full controls	Model 3: Delayed care, health interaction	Model 4: Delayed care, insurance interaction	Model 5: Could not afford Rx	Model 6: Could Not Afford medical care
Out-of-pocket Rx spending ($100)	1.006*	1.004	1.006	1.005	1.010***	1.005*
	[1.000, 1.011]	[0.999, 1.010]	[0.999, 1.012]	[0.999, 1.011]	[1.006, 1.014]	[1.000, 1.010]
Age	1.003*	1.002	1.002	1.002	1.012***	1.003
	[1.000, 1.006]	[0.999, 1.005]	[0.999, 1.005]	[0.998, 1.005]	[1.007, 1.017]	[0.999, 1.006]
Female	1.329***	1.407***	1.407***	1.406***	1.501***	1.362**
	[1.168, 1.512]	[1.233, 1.605]	[1.233, 1.605]	[1.231, 1.605]	[1.198, 1.881]	[1.120, 1.657]

Continued

Poverty level (% of FPL)	0.999***	0.999***	0.999***	0.999***	0.999***	0.999***
	[0.999, 1.000]	[0.999, 1.000]	[0.999, 1.000]	[0.999, 1.000]	[0.998, 0.999]	[0.998, 0.999]
Fair/Poor health		2.644***	2.689***	2.641***	3.762***	3.881***
		[2.188, 3.195]	[2.224, 3.250]	[2.185, 3.191]	[2.887, 4.903]	[3.048, 4.942]
Public insurance only		0.504***	0.504***	0.498***	0.767	0.467***
		[0.383, 0.662]	[0.383, 0.663]	[0.378, 0.656]	[0.538, 1.093]	[0.316, 0.690]
Uninsured		2.232***	2.240***	2.253***	1.834*	2.468***
		[1.630, 3.057]	[1.634, 3.071]	[1.643, 3.088]	[1.152, 2.919]	[1.595, 3.819]
No prescription drug insurance		1.151	1.148	1.151	1.418	1.217
		[0.893, 1.483]	[0.889, 1.481]	[0.893, 1.484]	[0.978, 2.056]	[0.813, 1.821]
Rx spending × Fair/Poor health			0.995			
			[0.984, 1.007]			
Rx spending × Public insurance only				1.008		
				[0.993, 1.024]		
Rx spending × Uninsured				0.990*		
				[0.980, 1.000]		
Intercept	0.063***	0.057***	0.057***	0.058***	0.010***	0.033***
	[0.050, 0.080]	[0.043, 0.077]	[0.043, 0.077]	[0.043, 0.078]	[0.007, 0.016]	[0.022, 0.050]
N	**18575**	**18519**	**18519**	**18519**	**18537**	**18526**

Entries are odds ratios. 95% confidence intervals appear in brackets on the line below each estimate. Significance stars: *p < 0.05, **p < 0.01, ***p < 0.001. Exact p-values are reported in the p-value sheets. Note. Models 1 - 4 use "delayed medical care due to cost" as the dependent variable. Model 5 uses "unable to afford prescription medication," and Model 6 uses "unable to afford medical care" as dependent variables. All six models include the same control variables (age, sex, race/ethnicity, poverty level, education, and number of chronic conditions) unless otherwise noted. Odds ratios are reported; 95% confidence intervals in brackets. Analytic samples differ across models due to item-level missingness on covariates. *p < 0.05; **p < 0.01; ***p < 0.001.

Table 7. Robustness models (odds ratios).

Predictor	Robustness 1: log spending	Robustness 2: insured binary interaction	Robustness 3: log spending, afford Rx outcome
Log out-of-pocket Rx spending	1.121***		1.352***
	[1.075, 1.170]		[1.273, 1.435]
Out-of-pocket Rx spending ($100)		0.994	
		[0.985, 1.003]	
Insured (1 = yes)		0.283***	
		[0.217, 0.368]	

Continued

Rx spending × Insured		1.011*	
		[1.001, 1.022]	
Age	0.996	1.002	0.997
	[0.993, 1.000]	[0.998, 1.005]	[0.991, 1.002]
Female	1.361***	1.393***	1.407**
	[1.192, 1.554]	[1.222, 1.588]	[1.123, 1.763]
Poverty level (% of FPL)	0.999***	0.999**	0.999***
	[0.999, 1.000]	[0.999, 1.000]	[0.998, 0.999]
Fair/Poor health	2.422***	2.563***	3.075***
	[1.995, 2.939]	[2.131, 3.084]	[2.334, 4.053]
Public insurance only	0.525***		0.862
	[0.399, 0.691]		[0.611, 1.217]
Uninsured	2.470***		2.443***
	[1.803, 3.384]		[1.563, 3.817]
No prescription drug insurance	1.231	0.747**	1.711**
	[0.954, 1.587]	[0.600, 0.931]	[1.191, 2.457]
Intercept	0.055***	0.194***	0.009***
	[0.041, 0.074]	[0.132, 0.285]	[0.006, 0.013]
N	**18,519**	**18,519**	**18,537**

Entries are odds ratios. 95% confidence intervals appear in brackets on the line below each estimate. Significance stars: *p < 0.05, **p < 0.01, ***p < 0.001. Exact p-values are reported in the p-value sheets.

3.1. Descriptive Statistics

Table 1 displays descriptive statistics for continuous variables. The average out-of-pocket prescription drug spending is $142.2, with a very large standard deviation of 994.49 and a maximum value of $50,940, indicating its variation across individuals. The large variation suggests that many experience relatively low prescription costs, while a smaller number of people face high financial burdens. The mean age of the sample is 39.72 years, which shows a broad age distribution across the population. Average income, measured as a percentage of the federal poverty line, is 450.67%, though the wide range suggests economic inequality within the sample.

Table 2 presents the distribution of major categorical variables. Overall, 6% of individuals report delaying medical care due to cost, while 2.3% report being unable to afford prescription medication, and 3.3% report being unable to afford medical care. Although these percentages may appear relatively small, they represent a significant number of individuals, indicating that financial barriers to healthcare access are not marginal. For health status, approximately 10.3% of individuals report fair or poor health, while the majority, 89.7%, report good, very

good, or excellent health. Insurance coverage is widespread but not properly divided: 64.5% are privately insured, 29.1% have public insurance, and 6.3% are uninsured. Additionally, 45.9% of individuals lack prescription drug insurance, suggesting that a large portion of the population is still experiencing out-of-pocket medication costs.

Table 3 explores differences in healthcare access across major groups. As shown in Table 3, individuals in fair or poor health experience substantially higher rates of access barriers. For example, 12.8% of individuals in poorer health report delaying care, compared to 5.2% among those in better health. Similarly, affordability limitations for prescription medication and medical care are consistently higher among those in bad health.

Table 4 shows clear disparities by insurance status. Uninsured individuals display the highest rates of delayed care of 14.9%, compared to 5.8% among privately insured individuals and 4.5% among those with public insurance. Similar patterns in affordability outcomes indicate that the lack of insurance is strongly associated with reduced healthcare access.

Table 5 highlights the importance of prescription drug coverage. Individuals without prescription drug insurance are more likely to report both delayed care of 6.5% and inability to afford medications of 3.1% compared to those with coverage. These findings suggest that drug insurance plays a crucial role in mitigating financial barriers to accessing medications.

3.2. Main Regression Results

The main regression results are shown in Table 6. Model 1 examines the baseline relationship between out-of-pocket prescription drug spending and delayed medical care. The results suggest that the higher prescription drug spending, the more likely they are to delay care, with an odds ratio (OR) of 1.006 and a p-value under 0.05. This indicates that each additional $100 in out-of-pocket prescription spending is associated with a 0.6% increase in the odds of delayed care, which supports Hypothesis 1.

Model 2 further shows demographic and socioeconomic controls, including age, gender, income, health care status, and insurance coverage. In light of this, the effect of prescription drug spending is no longer statistically significant with OR = 1.004 and p-value greater than 0.05. However, several control variables show a significant relation with delayed care. Individuals in fair or poor health have higher odds of delaying care (2.644) with a p-value less than 0.001, while individuals with no insurance face rather higher odds (2.232) compared to those with private insurance. In contrast, individuals with public insurance exhibit lower odds of delayed care of 0.504 with a p-value < 0.001. These findings highlight the significance of both health needs and insurance coverage in shaping accessibility.

Model 3 introduces a health interaction associated with prescription drug spending to determine whether the effect of financial burden varies across health groups. The findings suggest the relationship was not statistically significant, as its odds

ratio was 0.995 and the p-value was over 0.05, indicating there is no significant difference in individuals between good and poor health. Thus, Hypothesis 2 was not supported.

Model 4 examines whether insurance coverage moderates the relationship between prescription drug spending and delayed care. The interaction between prescription spending and public insurance is not statistically significant, suggesting that public insurance does not substantially alter the effect of prescription costs on delayed care. However, the interaction term for uninsured individuals is marginally significant, implying that the relationship between drug spending and delayed care may differ for those without insurance. Therefore, Hypothesis 3 receives only partial support rather than full support.

Model 5 evaluates the relationship between prescription drug spending and the inability to afford medications. The results show a strong association of OR = 1.010 and $p < 0.001$, emphasizing that each additional $100 in spending is associated with a 1.0% increase in the odds of being unable to afford prescription drugs. This finding suggests that affordability constraints represent one of the major pieces of evidence that support the hypothesis that prescription drugs affect healthcare access.

Model 6 extends the analysis to broader healthcare affordability. Prescription drug spending is positively associated with the likelihood of being unable to afford medical care, with an odds ratio of 1.005 and $p < 0.05$. This suggests that each additional $100 in out-of-pocket prescription spending is associated with a 0.5% increase in the odds of being unable to afford medical care. These findings demonstrate the spillover effect, where high prescription drug costs not only affect access to medications but also constrain individuals' ability to afford other forms of healthcare. The prescription spending replaces other healthcare expenditures within a fixed household budget, forcing individuals to delay medical care.

3.3. Robustness Checks

To assess the robustness of the main findings, several alternative model specifications are estimated in Table 7. First, using log-transformed prescription drug spending shows consistent results where higher spending is linked to delayed care. This suggests that the relationship is not driven by extreme values in the spending distribution. Secondly, results remain consistent when insurance is measured as a binary variable. As the interaction between spending and insurance is statistically significant, it can be concluded that insurance coverage moderates but does not fully eliminate the financial burden of prescription drug costs. The relationship between drug costs and healthcare access remains significant when alternative dependent variables are used.

Overall, the findings consistently indicate that higher out-of-pocket prescription drug costs reduced healthcare accessibility, particularly when it comes to affordability. This effect operates through affordability constraints and varies depending on the individual's health status and insurance coverage.

Based on the results, the findings provide support for Hypothesis 1, as higher drug spending is associated with multiple access barriers. Hypothesis 2 is not supported since the effect of drug spending does not differ significantly by health status. Hypothesis 3 is also partially supported as insurance moderates the relationship, but not fully from monetary-related barriers.

4. Discussion

This study's main objective is to determine if out-of-pocket prescription drug spending reduces healthcare accessibility in the United States, varied by health status and insurance coverage. The findings suggest that prescription drug spending may function as a broader financial barrier rather than affecting medication use alone. Higher out-of-pocket costs appear to constrain individuals' overall healthcare budgets, potentially leading to trade-offs between purchasing medications and obtaining other forms of care. This implies that financial burden plays an important role in shaping healthcare accessibility beyond simple healthcare utilization.

The positive relationship between prescription drug costs and delayed care is consistent with cost-sharing theory, which suggests that higher out-of-pocket costs reduce healthcare utilization. These findings are consistent with cost-sharing theory, which predicts that individuals reduce healthcare consumption when out-of-pocket costs increase [12]. Rising prescription expenses may increase the perceived cost of seeking care, encouraging individuals to postpone treatment, particularly when healthcare needs are viewed as non-urgent.

From a behavioral perspective, the results suggest that individuals do not always respond purely medically, but rather, they respond economically and psychologically. For example, when faced with higher prescription drug costs, individuals evaluate whether care is immediately necessary and tend to show a trend where they delay treatment if symptoms are perceived as not urgent. The decision-making process involves assessing perceived needs, financial constraints, and trade-offs. Thus, cost-related barriers can disproportionately affect early-stage care, which can potentially predispose individuals to worse health outcomes over time.

The spillover effect observed in this study suggests that healthcare decisions may occur under constrained household budgets. When a larger share of resources is allocated to prescription medications, fewer resources remain available for other medical services. This may create indirect barriers to broader healthcare utilization. This suggests that individuals operate under a constrained healthcare budget, as spending in one area results in a reduction in others, reinforcing the idea of the interconnected nature of healthcare decisions.

Contrary to expectations, the results indicate that interaction between prescription drug spending and health status was not typically significant, implying that individuals in better health were not significantly more responsive to cost increases. The concept of elasticity of demand for healthcare plays an essential role in measuring how sensitive one is to price changes. In this case, the demand can be clas-

sified as elastic for non-emergency care and inelastic for urgent care.

Moreover, insurance coverage moderates the relationship between prescription drug costs and healthcare access, reducing the sensitivity of individuals to cost increases. While insured individuals generally face a lower risk of delayed care compared to the uninsured, the persistence of cost effects suggests that modern insurance designs, such as deductibles or copayments, do not completely aid in an individual's financial burden. This highlights the limitation of insurance as a protective mechanism and the insufficiency of coverage to support full accessibility.

These findings have several broader implications. First, the financial barriers are central to healthcare accessibility, meaning that access is shaped not only by medical need but also by the ability to pay. Second, healthcare demand is conditional and influenced by insurance coverage. Third, healthcare decision-making is both economic and behavioral, involving trade-offs, perceptions, and constraints rather than purely clinical considerations.

In policy implications, the results suggest that reducing out-of-pocket prescription drug costs could significantly improve healthcare access. Policies aimed at lowering drug prices or limiting cost sharing may increase both medication adherence and utilization of broader healthcare services. Additionally, expanding drug insurance coverage can reduce financial barriers to care [13]. Finally, the findings create concerns about inequality, as financial barriers disproportionately affect individuals with fewer resources, which can ultimately exacerbate disparities in healthcare access [14].

Despite these contributions, the study has some considerable limitations. The use of observational data prevents causal interpretation of the relationships. Second, key variables are self-reported, which may introduce reporting bias. Third, omitted factors like preferences or local healthcare availability may influence spending and accessibility. Furthermore, healthcare accessibility is a complex and multidimensional concept that may not be fully captured by the measures used in this study. In future research, the study should address these limitations by using causal research designs and longitudinal data to better capture changes over time. In addition, cross-country comparisons may provide further insight into how different institutional structures influence the relationship between drug costs and healthcare access, exploring more diverse situations beyond the United States.

Altogether, this study reveals a critical role of prescription drug costs in healthcare accessibility. The findings demonstrate the importance of financial and institutional factors in healthcare decision-making.

5. Conclusions

This study examined whether out-of-pocket prescription drug spending is associated with reduced healthcare accessibility in the United States and whether health status and insurance coverage modify this relationship. Using MEPS data and logistic regression models, the findings provide evidence that higher prescription drug spending is associated with access barriers to care.

Hypothesis 1 received partial support. Higher drug spending was significantly associated with delayed care in the baseline model and consistently predicted inability to afford medications and general medical care, even after controls were added. Hypothesis 2 was not supported. The effect of drug costs did not differ significantly by self-rated health status, contrary to behavioral economic predictions. Hypothesis 3 was supported as the insurance moderates the relationship between drug spending and access barriers but does not eliminate it, confirming that modern insurance designs continue to shift meaningful costs onto patients.

Throughout the results, there was an obvious finding of a spillover effect: high prescription spending constrains not only medication access but also broader healthcare affordability. Limitations include observational design, reliance on self-reported measures, and potential unmeasured factors. Overall, the results indicate that having insurance is not the same as having access. As long as cost-sharing structures leave patients exposed to high out-of-pocket burdens, coverage expansion alone will fall short.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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