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The Impact and Health Equity Implications of Copayment Drug Benefits for Patients in the Commercial Market Using Brand Oral Antidiabetic Drugs

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Executive Summary

Diabetes is a prevalent and economically burdensome chronic condition in the United States. Approximately 14.7% of adults are diagnosed with diabetes, with additional cases going undiagnosed and many individuals at high risk of developing the disease.¹ Nationally, diagnosed diabetes resulted in a staggering \$412.9 billion in economic losses in 2022, including \$306.6 billion in direct medical expenses and \$106.3 billion in reduced productivity.² Notably, diabetes disproportionately affects Black, Native American/Alaskan Native, and Hispanic populations.^{1,3} Racial minorities experience higher rates of diabetes complications, with Black patients being four times more likely to undergo lower extremity amputations⁴ and Hispanic patients facing twice the risk of death from diabetes compared to their White counterparts.⁵ Lifetime risk of diabetes onset has decreased in the past decade, though this improvement has not translated to the Black and Hispanic populations.⁶

A contributing factor to these racial disparities in diabetes outcomes is the unequal access to essential diabetes medications.⁷ Research has consistently shown that better medication adherence can lead to reduced diabetes complications and decreased overall healthcare spending.⁸⁻¹⁰ However, non-White patients report greater cost-related non-adherence and lower overall adherence levels.^{11,12} This disparity is further compounded by lower participation among minority patients in health savings accounts (HSAs) intended to offset the financial impact of high deductibles and coinsurance.¹³

This analysis investigates the potential implications of reducing out-of-pocket (OOP) costs for patients with type 2 diabetes in the commercial market who rely on brand oral antidiabetic drugs (OADs). For this case study, we focus on patients not in high-deductible health plans (HDHPs) to illustrate how a modest change in insurance policy could improve patient health, reduce total medical costs, and contribute to improved health equity. The primary objective is to evaluate the long-term consequences of managing patients' cost-sharing through flat copayments for brand OADs. While previous studies have examined the effects of such reforms on patient premiums¹⁴ and treatment adherence¹⁵, this study is unique in estimating their impact on reducing racial disparities in diabetes care.

Key Findings:

- Implementing flat copayments for brand OADs can significantly reduce patients' net drug OOP costs, leading to an average improvement in adherence of 12%. This improvement in adherence translates to improved diabetes outcomes, resulting in annual savings of \$2,850 per patient (18% of total spending), inclusive of OOP costs and modeled increases in drug spending associated with increased adherence.
- Minority populations are expected to experience the most substantial improvements, including average annual savings of \$3,000 (18%) per Black patient and \$3,830 (27%) per Hispanic patient.
- Over the next decade, offering flat copayments could potentially reduce total healthcare spending by \$23 billion among commercially insured patients not in HDHPs using brand OADs, including \$4 billion in lower patient OOP costs.

In conclusion, implementing flat copayments can increase access to OAD medications, resulting in improved health outcomes and reduced medical expenses. These cost savings and reduced OOP costs are most pronounced among minority populations, contributing to enhanced health equity. Expanding access to preventive care for patients with other chronic conditions, beyond those with type 2 diabetes, could potentially yield even greater savings and promote health equity.

Overview

The widespread prevalence of diabetes and its associated economic burden have been extensively documented in prior research.^{1,2} Furthermore, there is a well-documented disparity in the impact of diabetes, with Black, Native American/Alaskan Native, and Hispanic populations experiencing higher diabetes prevalence and higher rates of complications and mortality compared to their White counterparts.^{1,3-5} The lifetime risk of diabetes onset has decreased in the past decade, though this improvement has not translated to the Black and Hispanic populations.⁶

A contributing factor to these racial and ethnic disparities in diabetes outcomes is the unequal access to essential diabetes medications.⁷ Research consistently highlights the positive correlation between medication adherence and reduced diabetes complications, leading to lower overall healthcare spending.⁸⁻¹⁰ However, non-White and Hispanic patients consistently report higher levels of non-adherence due to cost-related factors and exhibit lower overall adherence levels.^{11,12} This issue has been exacerbated by the increasing enrollment in high-deductible health plans (HDHPs), which offer lower premiums but substantially raise overall cost-sharing.¹³ HDHPs have been linked to reduced utilization of preventive care and lower adherence to prescribed medications, placing a disproportionate burden on low-income patients with chronic conditions.^{16,17}

This analysis investigates the potential implications of reducing out-of-pocket (OOP) costs for patients with type 2 diabetes (T2DM) in the commercial market who rely on brand oral antidiabetic drugs (OADs).¹⁸ While previous studies have examined the effects of these reforms on patient premiums¹⁴ and treatment adherence¹⁵, this study is unique in estimating their impact on reducing racial disparities in diabetes care. The primary objective is to evaluate the long-term consequences of managing patients' cost-sharing through flat copayments for brand OADs and to assess resulting changes in healthcare spending by race and ethnicity. For this case study, we focus on patients not in HDHPs to illustrate how a modest change in insurance policy could improve patient health, reduce total medical costs, and contribute to improved health equity.

Recognizing that the burden of T2DM is not evenly distributed among different population groups and that price sensitivity can vary within these groups, we investigated potential differences in responses to reduced OOP costs and improved medication adherence.¹⁹⁻²¹ We categorized patients into distinct race and ethnicity groups, including Hispanic ethnicity and non-Hispanic Asian, Black, White, and All Other/Unknown race. Data limitations prevent further delineation by race. Our study combined primary data analysis with insights from published studies.

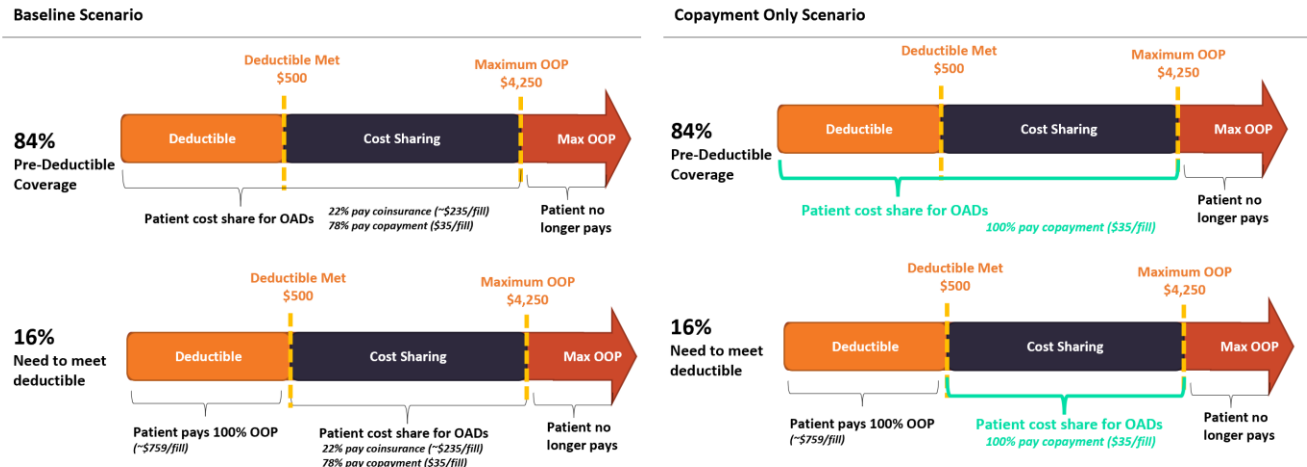
Scenarios

To quantify the ramifications of changes in drug coverage policy to improve medication adherence, we conducted a comparative analysis involving two distinct scenarios.

- **Baseline scenario:** This scenario models current practices where 16% of patients within the deductible phase are responsible for covering the entire list price of OADs until their deductible threshold is met (\$500). Once they meet their deductible, these patients transition to the cost-sharing phase, where 22% of enrollees are estimated to pay coinsurance for their drug benefit, while 78% incur copayments. For the 84% of patients whose plans include pre-deductible coverage, we estimate that 22% pay coinsurance and 78% incur copayments throughout the deductible and cost-sharing phases. After reaching the maximum OOP limit (\$4,250), all patients cease incurring OOP expenses for their OADs.
- **Copay Only scenario:** This scenario models the implications if patients with pre-deductible coverage were subject to copayments for medications during both the deductible and cost-sharing phases, while patients without pre-deductible coverage were subject to copayments for medications during the cost-sharing phase.

To quantify the impact of these changes in drug coverage policy, we compared the Baseline scenario against the Copay Only scenario as illustrated in Exhibit 1.

Exhibit 1. Benefit Phase Modeling Assumptions



Population

The modeled population starts with an estimate that over 10.5 million adults with diagnosed diabetes were covered by commercial insurance in 2022. This estimate is based prevalence rates for diagnosed diabetes from the 2021 Behavioral Risk Factor Surveillance System (BRFSS) multiplied by detailed population projections by demographic. Approximately 5.8 million of these adults were non-Hispanic White, 1.6 million were non-Hispanic Black, 634,000 were non-Hispanic Asian, 2.1 million were Hispanic, and 337,000 were of other or unknown race.

We used the 2018 National Health and Nutrition Examination Survey (NHANES)²² to estimate the portion of patients in each demographic with type 2 diabetes and who use OADs without insulin. Lacking data specific to a commercially insured population, we used administrative 2018 Medicare Research Identifiable Files²³ to estimate the proportion of patients in each demographic whose OAD is a brand medication. The modeled cohort comprises approximately 1,336,000 individuals covered by commercial insurance, all of whom are diagnosed with T2DM and are treated with brand OADs without insulin.

Analysis of the 2018 National Health Interview Survey (NHIS) provides estimates of the portion of the commercially insured population with T2DM participating in a non-high-deductible health plan (Exhibit 2). Of the 1,336,000 individuals covered by commercial insurance, approximately 541,000 (40%) are in HDHPs and 795,000 (60%) are in non-HDHP type plans.

The size and characteristics of the modeled population were extrapolated annually through 2031 based on population projections in GlobalData's disease projection model. This modeled population includes many patients whose OOP spending is sufficiently high that they would meet their deductible and/or move on to the cost-sharing phase of their healthcare plan.

Approach

Model parameters summarized in **Error! Reference source not found.** come from primary data analysis and published studies. All monetary values are reported in 2022 dollars, with dollar estimates from earlier years scaled to 2022 using the medical component of the Consumer Price Index. Using information from published sources, we calculate estimates of average total annual medial costs excluding OADs by patient race and ethnicity²⁴, estimates of the price elasticity of demand which allowed us to estimate the change in medication adherence associated with each 1% change in OOP cost^{19–21,25}, and the medical savings (or offset effect) associated with each percent improvement in adherence.^{26–28} The data indicate that non-White populations have greater sensitivity to OOP cost, and thus will experience greater improvements in medication adherence and have larger medical savings from a decline in OOP costs. Published data along with analysis of Medicare Part D data (as data on commercially insured patients was unavailable) were used to estimate average annual OAD fills per patient²³, total negotiated list price per fill²³, and estimated copayment per fill.^{23,29} Due to data limitations, we assume that the above parameters apply to patients in non-HDHP plans. Plan-related inputs related to coinsurance, annual deductible, and maximum OOP cost come from published sources.³⁰

We assume that the Copay Only scenario effect only applies to patients enrolled in plans that offer coinsurance as part of drug benefits and will only affect patients filling their OADs at the cost-sharing phase. We made simplifying assumptions that (a) medications filled outside of the affected phases will be unaffected by these copay only scenario, and (b) patients' medication utilization pattern is unaffected by where they fall within each benefit phase. For the population in non-HDHP plans, we estimate that 9% of OAD fills happen under the deductible phase and 80% happen under the cost-sharing phase. The percentage of fills occurring under each benefits phase differs slightly by race and ethnicity.

Taking the differences in the average OOP cost per fill between the Baseline scenario and the Copay Only scenario, we then applied the price elasticities of demand to estimate the cost impact of switching entirely to copayment on improving brand OAD adherence. We used GlobalData's disease projection data to estimate the projected impact of the Copay Only scenario from 2022 to 2031.

Exhibit 2. Summary of Economic and Plan-related Inputs

	Race/Ethnicity	Estimate	Source
Population Inputs			
Proportion of patients with T2DM who use brand OAD medications	NH White	12%	22,23
	NH Black	12%	22,23
	NH Asian	18%	22,23
	Other / Unknown	20%	22,23
	Hispanic	12%	22,23
Proportion of commercial patients with T2DM in a non-HDHP plan	NH White	56%	31
	NH Black	58%	31
	NH Asian	64%	31
	Other / Unknown	61%	31
	Hispanic	69%	31
Economic Inputs			
Total average diabetes-attributed medical costs (excluding OADs)	All	\$14,712	24
	NH White	\$15,190	24
	NH Black	\$15,593	24
	NH Asian	\$13,130	24
	Other / Unknown	\$13,130	24

	Race/Ethnicity	Estimate	Source
	Hispanic	\$13,260	24
Price elasticity of demand (drug adherence change from a 1% change in OOP cost)	All	-0.230%	19–21,25
	NH White	-0.197%	19–21,25
	NH Black	-0.286%	19–21,25
	NH Asian	-0.230%	19–21,25
	Other / Unknown	-0.230%	19–21,25
	Hispanic	-0.395%	19–21,25
Offset effect (medical saving)		0.94%	26–28
Average OAD fills per patient	All	5.08	23
	NH White	5.27	23
	NH Black	5.17	23
	NH Asian	4.47	23
	Other / Unknown	5.19	23
	Hispanic	4.54	23
Total negotiated list price per fill	All	\$695	23
	NH White	\$719	23
	NH Black	\$606	23
	NH Asian	\$782	23
	Other / Unknown	\$775	23
	Hispanic	\$642	23
Estimated copayment per fill	All	\$43	23,29
	NH White	\$45	23,29
	NH Black	\$38	23,29
	NH Asian	\$49	23,29
	Other / Unknown	\$48	23,29
	Hispanic	\$40	23,29
Plan-Related Inputs			
Proportion of plans with coinsurance		22%	30
Coinsurance rate for pharmacy benefit		31%	30
Coinsurance rate for medical benefit		21%	30
Annual deductible		\$500	32
Maximum Out-of-Pocket		\$4,250	30
Source: GlobalData		© 2024 GlobalData	
Note: All dollar-denominated values are in 2022 USD.			

Findings

Findings are reported both in terms of total per capita annual healthcare costs, and national projected 10-year healthcare cost savings. At baseline, the average annual OAD spending per non-HDHP beneficiary with T2DM treated with brand OADs is \$1,041—of which patients pay \$400 OOP. The average annual medical spending per T2DM patient is estimated at \$14,465.

Our analysis indicates that the transition from the current co-insurance and copayment drug benefit model (Baseline) to the Copay Only model would result in a substantial reduction in the average OOP cost for brand OADs. On average, patients would experience a reduction of approximately \$39 per OAD fill, constituting an 48% decrease in OOP costs compared to the Baseline. This enhanced affordability would subsequently drive an estimated 12% increase in the average number of

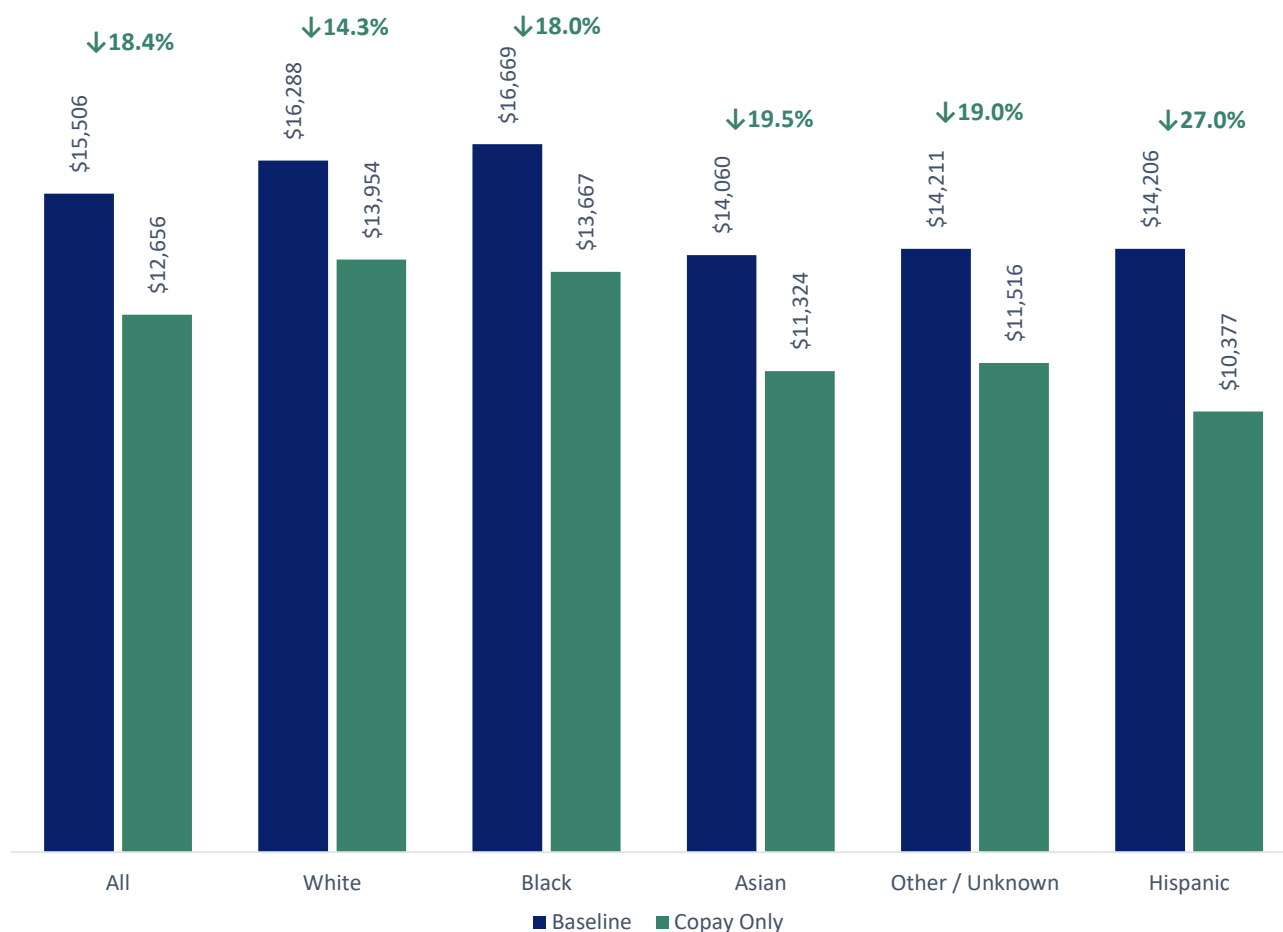
OAD prescriptions filled per patient. Importantly, our findings reveal that the improvements in OAD adherence resulting from reduced cost-sharing are not uniform; they exhibit variations based on plan type and patient race/ethnicity (Exhibit 3).

While the uptick in OAD adherence would naturally lead to an increase in annual OAD spending, we observed that the reduction in patient cost-sharing associated with the Copay Only model would effectively offset these spending increases. Patients would save an average of \$170 annually on their OAD fills. These improvements in OAD adherence hold substantial promise for enhancing patient health outcomes and, consequently, reducing expenditures on avoidable care for diabetes-related complications.^{33,34} Utilizing estimates derived from existing literature, we project that the adherence enhancements facilitated by the Copay Only model could lead to an annual reduction of \$2,850 (equivalent to 18.4% of total drug and medical spending under the Baseline) per patient-year, encompassing the expected rise in OAD spending linked to improved adherence.

Assessing the potential long-term impact, our projections indicate that the Copay Only scenario holds the potential to yield significant aggregate savings in drug and medical spending for commercially insured patients utilizing brand OADs, amounting to \$23 billion over a decade. Notably, the 10-year impacts are proportionally more substantial for specific racial minority groups compared to the overall average.

Exhibit 3. Changes in Total Annual OAD Spending per Beneficiary under the Copay Only Scenario

	Race		Increase in Spending (Copay Only)	Change in OAD Filled (Copay Only)
Total OAD Spending	All		\$126	11.9%
OOP Spending			-\$169	
Total OAD Spending	Non-Hispanic	White	\$98	8.9%
OOP Spending			-\$181	
Total OAD Spending		Black	\$141	13.1%
OOP Spending			-\$170	
Total OAD Spending		Asian	\$98	10.6%
OOP Spending			-\$153	
Total OAD Spending		Other / Unknown	\$114	10.6%
OOP Spending			-\$177	
Total OAD Spending	Hispanic		\$185	19.6%
OOP Spending			-\$151	
Source: GlobalData				© 2024 GlobalData
Note: Increase in OAD spending represents the net increase in annual OAD spending (US\$2022) per beneficiary under Copay Only scenario when compared to Baseline. Negative OOP spending means that OOP spending under the Copay Only scenario is lower than in Baseline.				

Exhibit 4. Total Annual Drug and Medical Spending per Capita (Baseline vs. Copay Only)

Exhibit 5. Estimated 10-year Drug and Medical Cost Savings Due to Copay Only (\$Millions)

	All	NH White	NH Black	NH Asian	NH Other	Hispanic
Total Savings in Drug and Medical Spending	\$23,017 (18.4%)	\$8,759 (14.3%)	\$3,406 (18.0%)	\$2,143 (19.5%)	\$1,187 (19.0%)	\$7,522 (27.0%)
OOP Savings	\$4,085 (14.7%)	\$1,632 (12.3%)	\$642 (15.7%)	\$326 (13.3%)	\$193 (13.8%)	\$1,291 (19.7%)
Plan cost	\$18,932 (19.4%)	\$7,127 (14.9%)	\$2,764 (18.6%)	\$1,817 (21.2%)	\$994 (20.5%)	\$6,231 (29.2%)

Source: GlobalData © 2024 GlobalData
Note: All savings are in US\$ 2022 Million. Percent savings are calculated with Baseline 10-year healthcare spending as the denominators. OOP cost changes are zero as patients reach maximum OOP limits under both the Baseline and Copay Only scenarios.

Limitations

There are notable limitations to our study. First, these savings estimates are likely conservative as we exclude 20-30% of patients treated with OAD and insulin combinations. Second, we only captured the direct reductions in OOP costs when medications are filled, without accounting for indirect benefits from patients progressing more slowly through the benefit phases. Third, the accuracy of our model in distributing patients across different benefit phases is dependent on the data used and the simplifying assumption that a patient's position within the benefit phases does not affect their likelihood of filling their OADs. Fourth, our model is static rather than dynamic. Over time, improved access to medication impacts patients' health, which has medical cost implications not captured in our analysis. To address uncertainty in many of our assumptions, we used sensitivity analysis and found that the results did not differ significantly from the main findings.

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