

Report on Projecting Member Costs in the HDHP vs. IYC Health Plan.

Delivered to Wisconsin Department of Employee Trust Funds
Office of Strategic Health Policy

Prepared by Justin Sydnor, PhD and Iris SooJin Park
University of Wisconsin, Madison

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Overview and background

In 2021, the Office of Strategic Health Policy within the Wisconsin Department of Employee Trust Funds (ETF) initiated a research collaboration with Professor Justin Sydnor of the University of Wisconsin, Madison, to study the High Deductible Health Plan (HDHP) option within the State Group Health Insurance program. As part of the HDHP Programs Strategy initiative, the overall goal of this research collaboration is to help inform the Office of Strategic Health Policy about the functioning of the HDHP program and to create information that can help provide value to GHIP members considering enrolling in the HDHP option.

This report focuses on projecting total annual costs for members enrolled in the HDHP compared to the traditional IYC Health Plan. The specific proposed questions included: How do out-of-pocket costs vary with underlying health-risk profiles? How do out-of-pocket costs vary across the insurers overall, accounting for differences in prices and utilization? How do out-of-pocket costs compare to what members would experience in the non-HDHP alternative, and vice versa?

As in the prior report, the analysis relies on de-identified data from ETF's Data Analytics and Insights (DAISI) warehouse and analytics tools administered by Truven by Merative (Truven). The analysis uses claims data associated with members in the State Group Health Insurance Program and excludes members in ETF's Local Health Plan programs. Within the State Group Health Insurance Program, we restrict further to active employees and their dependents (spouses and

children) who are potentially eligible to enroll in the HDHP option, which excludes, for example, graduate students and retirees. The primary analysis for this report uses 2023 claims and enrollment data.

Executive summary

- On average, HDHP members experience lower total costs (out-of-pocket + premiums – State’s Health Savings Account (HSA) contribution) compared to those with similar health-care utilization in the IYC Health Plan.
- Individuals and families who chose the IYC Health Plan could have saved an estimated \$1,237 with single coverage or \$2,038 with family coverage by enrolling in the IYC HDHP instead. Those who did enroll in the HDHP saw slightly higher average savings.
- Even families in the top 5% of medical spending for the year would save considerably more under the HDHP than under the IYC Health Plan.
- We develop a graphical approach to providing projected spending comparisons for members with different levels of expected spending risk.
- Spending differentials between the IYC Health Plan and HDHP are similar across major insurers, suggesting little need to customize projections of costs differently by the selected insurer.

Analysis of Member Cost Projections Under the HDHP Compared to the IYC Health Plan

In Report 1, we found that members with predictably lower medical needs were more likely to choose the HDHP. Building on that insight, this report examines how a member’s baseline health status influences out-of-pocket spending under the IYC Health Plan or the HDHP. Specifically, does the HDHP’s cost-effectiveness depend on an individual’s risk level, and how different might out-of-pocket costs be between these two plan designs for individuals with the same level of expected health needs (i.e., risk level) entering the year?

Expected Savings with HDHP

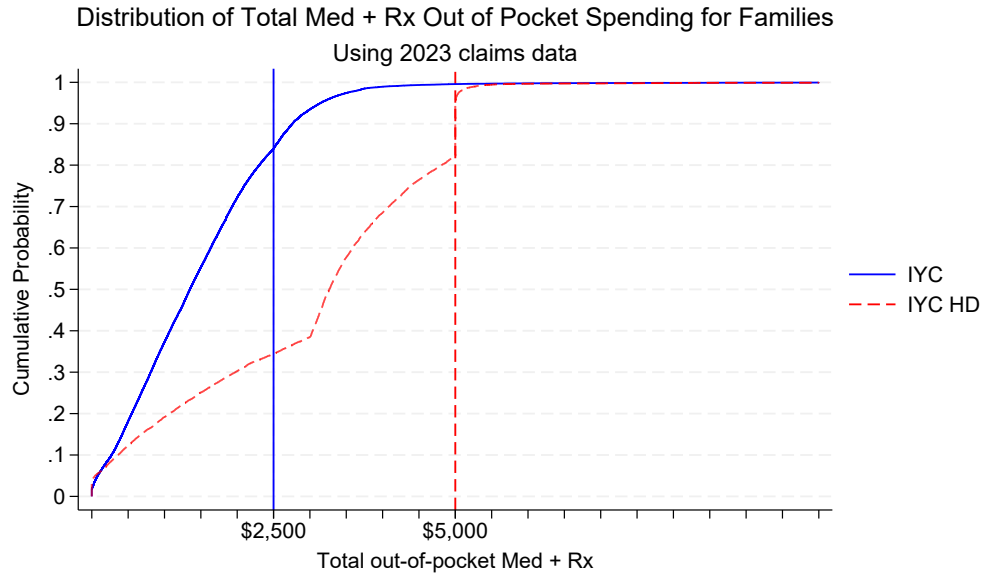
Raw Data

What do members in the HDHP and IYC Health Plan spend on average, and how is total spending distributed? To answer this, we first examine out-of-pocket costs before turning to broader measures that incorporate premiums and contributions. We define out-of-pocket costs as medical and prescription expenses paid directly by members, including deductibles, co-pays, and coinsurance, but excluding insurance premiums. All analyses in this report are conducted at the family level, with measures aggregated accordingly. Figure 1 displays the distribution of out-of-pocket costs for families enrolled in the IYC Health Plan versus those enrolled in the IYC HDHP. Around 83% of families enrolled in the IYC Health Plan have total out-of-pocket costs below the medical out-of-pocket limit in that plan design of \$2,500.¹ In contrast, among families enrolled in the IYC HDHP, only around 30% had total out-of-pocket costs below \$2,500. This highlights that even though we documented in Report 1 that the families enrolling in the IYC HDHP have lower expected medical needs, the higher deductible leads to greater out-of-pocket costs for families enrolling in the IYC HDHP.

To better understand the cost implications of enrolling in the IYC Health Plan versus the IYC HDHP, it is helpful to compare families with similar levels of health risk or utilization. While related, these two measures are distinct: health risk reflects the expected need for care at the start of the year, whereas utilization captures actual healthcare use. Truven provides a prospective

¹In the IYC Health Plan, families can exceed the medical out-of-pocket limit because prescription drug costs do not count toward that limit. In contrast, the out-of-pocket maximum for the HDHP is \$5,000 and includes both medical and prescription expenses. The distribution shown in Figure 1 reflects total out-of-pocket spending across both types of claims.

Figure 1: Total Out-of-Pocket Spending: Percent of Families at or Below Each Level



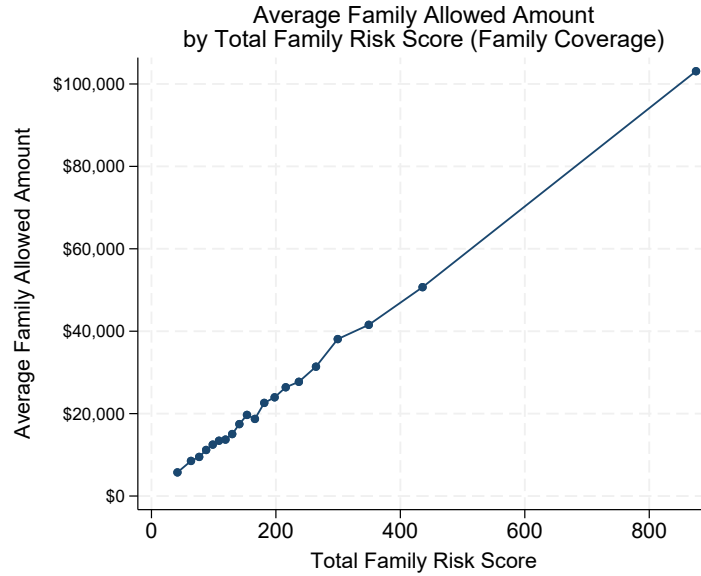
Notes: This figure shows the cumulative distribution of total out-of-pocket spending on medical and prescription drug claims in 2023, separately for the IYC Health Plan and the IYC HDHP. The blue solid line at \$2,500 represents the medical out-of-pocket maximum for the IYC Health Plan. The total out-of-pocket spending under this plan is not strictly capped, as prescription drug costs are subject to a separate limit. The red dashed line at \$5,000 represents the out-of-pocket maximum for the HDHP, which includes both medical and prescription drug expenses. To improve visual readability, total out-of-pocket spending is capped at \$10,000 in the figure; this cap is used for presentation purposes only and is not applied in the subsequent analysis. The sample includes active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were eligible for the HDHP option. The analysis is based on data from the 2023 plan year.

family risk score to approximate health risk, predicting likely utilization based on individuals' past medical history. As shown in Figure 2, the family risk score is strongly correlated with total allowed amounts. Still, there is considerable variation in actual spending among families with the same risk score, which translates into differences in potential costs.

In addition to comparing spending across levels of risk or utilization, it is also important to account for differences in premiums and the state's Health Savings Account contributions when assessing the cost implications of HDHP enrollment.² These factors significantly affect total costs and are critical for understanding plan value across the full spectrum of health needs. Figure 3 presents total costs under each plan (including premiums and any state HSA contributions) and shows how those values differ by plan enrollment for families with similar utilization or predicted risk.

²In 2024, monthly premiums were \$286 for the IYC Health Plan and \$107 for the HDHP (family coverage), and \$115 and \$42, respectively, for single coverage. The State contributed \$1,500 to the HSA for those with family coverage and \$750 for single coverage.

Figure 2: Average Allowed Amount and Total Risk Score

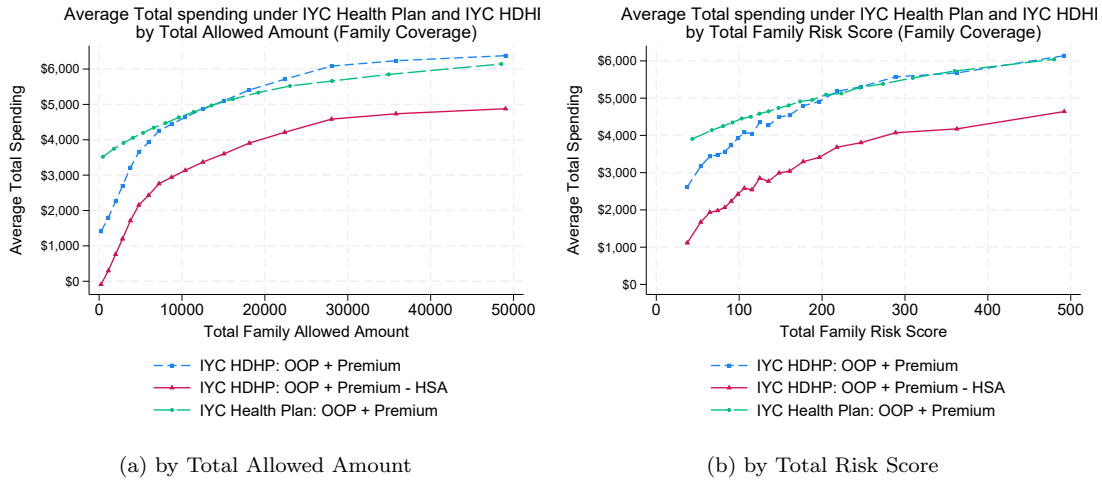


Notes: This figure shows the total family allowed amount by total family allowed amount and risk score. The sample includes active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were eligible for the HDHP option. The analysis is based on data from the 2023 plan year.

Panel (a) shows how the average family's total cost differs for families at different levels of total family allowed amount in the two plan designs. The long-dashed (green) line shows the total cost under the IYC Health Plan, while the other two lines show the costs in the IYC HDHP both before and after subtracting the state contribution to the HSA for families enrolled in the HDHP. There is a large difference in member-paid family premiums between the IYC Health Plan and the HDHP. This means that families with very low medical utilization for the year, who had very low out-of-pocket costs in either plan design, could save around an average of \$2,000 with the lower premiums in the HDHP. These families saved an additional \$1,500 via state contributions to the health savings account in 2023, for a total average savings of a little under \$4,000 total with the HDHP. Naturally, the out-of-pocket costs were higher for families with greater utilization, and we see that the spending differentials converge more for higher total allowed amounts. Ignoring for a moment the state contributions to health savings accounts, the total average member costs from premiums and out-of-pocket spending were lower for those in the HDHP up to total allowed amounts of \$20,000 and moderately higher for total allowed amounts above that level. After considering the state HSA contributions, there is at least \$1,400 of average savings to families in the HDHP relative to the IYC Health Plan at all levels of total family allowed amount.

Panel (b) shows a similar comparison, but instead of focusing on the level of realized medical

Figure 3: Total Projected Spending Under IYC Health Plan and IYC HDHP by Family Risk and Utilization



Note: This figure shows the total cost under the IYC Health Plan and IYC HDHP by total family allowed amount and risk score. Total spending under each plan is defined as the sum of out-of-pocket medical and prescription drug costs and annual premiums, minus the State’s HSA contribution for HDHP members. In 2024, monthly premiums were \$286 for the IYC Health Plan and \$107 for the HDHP (family coverage), and \$115 and \$42, respectively, for single coverage. The State contributes \$1,500 to the HSA for those with family coverage and \$750 for single coverage. To improve readability in the chart, the total allowed amount is capped at \$50,000, and the total risk score is capped at the 95th percentile. These caps are used only for visualization purposes and are not applied in the analyses that follow. The sample includes active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were eligible for the HDHP option. The analysis is based on data from the 2023 plan year. Note that total spending values in Panel (b) begin at a higher level because they include only individuals with a Truven Risk Score, excluding newly enrolled members. Additionally, even families with low risk scores in Panel (b) may have positive spending amounts that exceed those of the lowest-spending families in Panel (a).

utilization, instead plots the average spending levels against a measure of the family’s risk entering the year. To construct this measure, we aggregate the individual-level prospective risk scores available in the Truven data warehouse to the family level. Higher total family risk scores indicate higher levels of expected family utilization and total allowed amounts based on their history of past diagnosed diseases, among other factors. The conclusion remains the same: after accounting for the value of the state’s HSA contribution for those enrolled in the HDHP, there are substantial average savings across the full range of total family risk scores.

Counterfactual Analysis

The prior subsection showed that there were substantial average savings amounts for members in the IYC HDHP plan across a range of possible utilization or risk levels. In this section, we want to provide a summary measure of the expected average savings for the groups of members who chose to enroll in the two different plans. The difference here is that we now want to account for

the fact that individuals and families who enroll in the HDHP tend to have lower realized allowed amounts and lower risk scores, which implies that their average savings levels from the HDHP will be higher than those for the individuals and families who enroll in the IYC Health Plan.

To do this analysis, we create counterfactual estimates of what each individual or family’s out-of-pocket costs would have been under each plan. We use a “coarse counterfactual” approach that captures average differences but does not provide detailed counterfactual spending at the individual level.³ In this approach, we hold fixed the observed allowed amounts for each family or individual and estimate how their out-of-pocket costs would differ if those same amounts were incurred under the alternative plan design. Our implementation involves building a prediction model that maps observed allowed amounts into estimates of average out-of-pocket amounts. We build this prediction separately for each plan design using data from individuals and families enrolled in that plan design and coverage tier, and then apply these models to project expected out-of-pocket costs under both the actual and counterfactual plan.

Table 1: Estimated Total Median Savings Under HDHP by Enrolled Plan Design and Coverage Tier

Single Coverage						
Enrolled in	Premium Savings with HDHP		Median OOP Increase with HDHP		HSA Contribution	Total Savings
IYC Health Plan	\$876	—	\$389	+	\$750	\$1,237
IYC HDHP Plan	\$876	—	\$269	+	\$750	\$1,357
Family Coverage						
Enrolled in	Premium Savings with HDHP		Median OOP Increase with HDHP		HSA Contribution	Total Savings
IYC Health Plan	\$2,148	—	\$1,610	+	\$1,500	\$2,038
IYC HDHP Plan	\$2,148	—	\$1,442	+	\$1,500	\$2,206

Note: This table presents the estimated median total savings under the HDHP compared to the IYC Health Plan across different risk levels for both single and family coverage. Total costs under each plan are calculated as the sum of out-of-pocket medical and prescription drug expenses from 2023 spending data and 2024 monthly premiums (\$286 for the IYC Health Plan and \$107 for the HDHP under family coverage; \$115 and \$42, respectively, for single coverage). For HDHP members, total costs are further adjusted by subtracting the State of Wisconsin’s HSA contribution (\$1,500 for family coverage and \$750 for single coverage) from the sum of out-of-pocket spending and premiums. “Total Savings” represents the difference between the total cost of the IYC Health Plan and the HDHP after accounting for the HSA contribution, where a positive value indicates lower overall expenses under the HDHP. The dataset includes active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program for the 2023 period.

In Table 1, we report the counterfactual savings by plan and coverage tier. Overall, we find

³Our approach could be extended to predict more precise individual-level counterfactuals by incorporating more information about spending in different categories, such as office visits to capture co-pays, rather than relying only on total allowed amounts. Precise counterfactual calculators are also available from vendors such as Truven. More precise individual-level estimates would not be expected to change the conclusions of this report, however.

that individuals enrolled in the IYC Health Plan could have saved an average of \$1,237 for single coverage and \$2,038 for family coverage if they had instead been in the IYC HDHP Plan. Similarly, individuals enrolled in the IYC HDHP Plan saved an average of \$1,357 for single coverage and \$2,206 for family coverage relative to what they would have paid under the IYC Health Plan. These results confirm that the potential average savings from enrolling in the HDHP are sizeable. They also show that even though the individuals and families enrolling in the IYC Health Plan have predictably higher health needs, their average savings would still be quite large and actually quite similar to the realized savings of the lower-risk individuals and families opting into the HDHP. The similarity in potential savings between the two enrollment groups stems from the fact that a) there is significant overlap in the distributions of medical needs between the IYC Health Plan and HDHP member groups, as documented in Report 1 and b) the out-of-pocket cost differences stabilize between the two plan designs at moderately high levels of utilization, as illustrated in Figure 3.

Individualized Employee Cost Projections

A goal of this project was to use the analysis of member costs under the different plan designs to design decision support for members during open enrollment. In this section, we describe our approach to creating visualizations of individual/family-level projections of the distribution of potential member cost under the different plan designs.

Defining Risk Levels

The first step in our approach is to recognize that projections of costs should be sensitive to the individual/family's medical needs. At the same time, we aimed to produce an approach that would not require members to gather substantial information about their medical needs or to provide detailed histories to access a tool. We ultimately decided on an approach based on providing projections by segmenting the member populations in each coverage tier (individual and family) into five Risk Levels. These levels span a wide range of expected health needs—from the healthiest 20% to the highest-risk 20%—while keeping the framework straightforward and practical for communication. Although we use five levels here, this structure is flexible and could be adapted to use fewer or more groups as needed. Consistent with our findings from Report 1, a greater proportion of lower-risk families enroll in the HDHP, though HDHP enrollment spans the full distribution of risk levels.

The goal of this segmentation is not only to show average spending but also to illustrate the variation in potential out-of-pocket costs that individuals might experience during the year.

Because healthcare needs are inherently uncertain, even within a given risk level, we present the distribution of possible spending outcomes under each plan. This approach could help members better understand how each plan performs for members like them, both in typical and higher-cost scenarios.

As a first step in this process, we construct a simplified version of the Truven risk score using a transparent model based on a limited set of variables.⁴ This step improves interpretability and allows us to classify individuals into risk levels using only readily observable characteristics.⁵ Using these predicted risk scores, we divide all members into five equal-sized groups. For single coverage, this is done at the individual level. For family coverage, we first aggregate member-level risk scores to calculate a family-level score, then assign families into five equal-sized groups based on that distribution. In both cases, Risk Level 1 represents the lowest expected healthcare needs, while Risk Level 5 includes those with the highest.

Table 2: Median Allowed Amount by Risk Level, Coverage Type, and Plan Design

Single Coverage - Median Allowed Amount							
Risk Level	HDHP Fraction	IYC Health Plan			High Deductible Health Plan		
		Total Allowed Amount	Office Visits	Prescription Drugs Spending	Total Allowed Amount	Office Visits	Prescription Drugs Spending
1	36%	\$710	\$323	\$14	\$415	\$204	\$0
2	29%	\$1,555	\$658	\$104	\$1,174	\$562	\$75
3	20%	\$2,915	\$1,102	\$185	\$2,551	\$1,155	\$152
4	12%	\$4,836	\$1,455	\$307	\$4,363	\$1,522	\$201
5	10%	\$12,322	\$2,061	\$1,035	\$11,862	\$2,204	\$564

Family Coverage - Median Allowed Amount							
Risk Level	HDHP Fraction	IYC Health Plan			High Deductible Health Plan		
		Total Allowed Amount	Office Visits	Prescription Drugs Spending	Total Allowed Amount	Office Visits	Prescription Drugs Spending
1	23%	\$4,556	\$1,827	\$190	\$4,044	\$1,773	\$131
2	20%	\$8,409	\$3,009	\$403	\$7,509	\$3,003	\$248
3	17%	\$11,497	\$3,651	\$601	\$10,355	\$3,829	\$414
4	14%	\$16,234	\$4,358	\$1,018	\$15,175	\$4,624	\$759
5	12%	\$35,164	\$5,856	\$3,856	\$31,510	\$6,346	\$1,933

Note: The table presents the median total allowed amount (excluding dental), median allowed spending on office visits, and median allowed spending on prescription drugs for coverage tier (single and family) and plan design (IYC Health Plan and HDHP) across different risk levels. Risk levels are determined based on predicted relative prospective risk scores. The sample includes active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were eligible to enroll in the HDHP option. The analysis covers the 2023 sample period.

In order to understand what each risk level represents in terms of actual healthcare needs, we

⁴Specifically, the model includes allowed amounts and their polynomial terms; gender; an indicator for childbearing age (interacted with allowed amounts and polynomial terms); an indicator for having had a baby (with similar interactions); age (modeled with polynomials up to degree five); and indicators for asthma, diabetes, and hypertension (each interacted with allowed amounts).

⁵This step is not strictly necessary—we could use the original Truven risk scores—but the simplified model enables potential future applications where members could receive an approximate risk classification without needing access to their official risk score.

examine how median healthcare utilization—measured by allowed amounts for total spending, office visits, and prescription drugs—varies across the five groups by plan design and coverage type. Table 2 presents the median values of these measures segmented by coverage type (single vs. family) and plan design (IYC Health Plan vs HDHP). As expected, higher risk levels correspond to increased spending across all spending measures for both coverage type and plan design. Since family coverage is reported at the aggregated household level, median expenses for members with single coverage are consistently lower than those with family coverage.

Among the lowest-risk individuals (risk level 1), the median total allowed amount for IYC Health Plan members is \$710 for single coverage and \$4,556 for family coverage. At the highest risk level (risk level 5), these figures rise sharply to \$12,322 and \$35,164, respectively. Similarly, spending on office visits and prescription drugs increases with risk level, likely reflecting the presence of individuals with exceptionally high healthcare needs, who contribute to the steep rise in expenditures at the highest risk level.

Additionally, as shown in column 1, members or families in lower risk levels are more likely to be enrolled in the HDHP compared to those in higher risk levels for both single and family coverage. Within each risk level and coverage tier, the median allowed amounts are somewhat lower for those enrolled in the HDHP plan versus the IYC Health Plan. This suggests some combination of slightly lower-risk profiles enrolling in the HDHP within each Risk Level and any causal impact of being enrolled in the HDHP on utilization.

Visual Cost Projections Comparisons

To help members make informed choices between the IYC Health Plan and HDHP, we project total annual costs under each plan design for different levels of expected healthcare needs. These projections incorporate key cost components: out-of-pocket spending, plan premiums, and the State of Wisconsin’s HSA contribution for HDHP members.

While earlier figures showed how total spending varies by actual utilization, the next set of visuals shifts the focus to projections based on simplified risk levels. This framing is more directly applicable for decision-making, as it allows individuals to compare expected costs under each plan for families with similar levels of risk. Table 3 summarizes the average projected costs and estimated savings under the HDHP for each risk group, showing that, on average, the HDHP leads to savings of about \$1,000 for single coverage and \$2,000 for family coverage.

Figures 4 and 5 plot the full distribution of total spending by risk level, allowing individuals to see both best- and worst-case scenarios within their risk group. These percentile graphs help users understand not only what’s typical, but also what’s possible, providing a more nuanced, personalized

Table 3: Estimated Total Median Savings Under HDHP by Risk Level and Coverage Tier

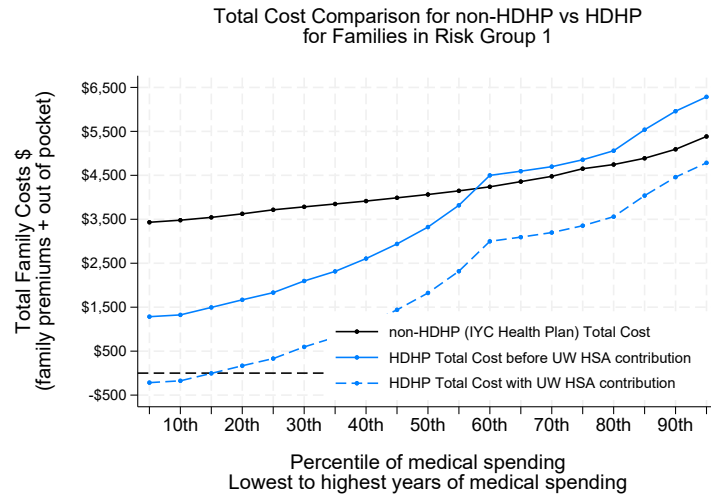
Single Coverage						
Risk Level	Premium Savings with HDHP		Median OOP Increase with HDHP		HSA Contribution	Total Savings
1			\$214			\$1,412
2			\$275			\$1,351
3	\$876	—	\$369	+	\$750	\$1,257
4			\$492			\$1,134
5			\$831			\$795
Family Coverage						
Risk Level	Premium Savings with HDHP		Median OOP Increase with HDHP		HSA Contribution	Total Savings
1			\$1,109			\$2,539
2			\$1,371			\$2,277
3	\$2,148	—	\$1,566	+	\$1,500	\$2,082
4			\$1,849			\$1,799
5			\$2,542			\$1,106

Note: This table presents the estimated median total savings under the HDHP compared to the IYC Health Plan across different risk levels for both single and family coverage. Total costs under each plan are calculated as the sum of out-of-pocket medical and prescription drug expenses from 2023 spending data and 2024 monthly premiums (\$286 for the IYC Health Plan and \$107 for the HDHP under family coverage; \$115 and \$42, respectively, for single coverage). For HDHP members, total costs are further adjusted by subtracting the State of Wisconsin’s HSA contribution (\$1,500 for family coverage and \$750 for single coverage) from the sum of out-of-pocket spending and premiums. “Total Savings” represents the difference between the total cost of the IYC Health Plan and the HDHP after accounting for the HSA contribution, where a positive value indicates lower overall expenses under the HDHP. The dataset includes active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program for the 2023 period.

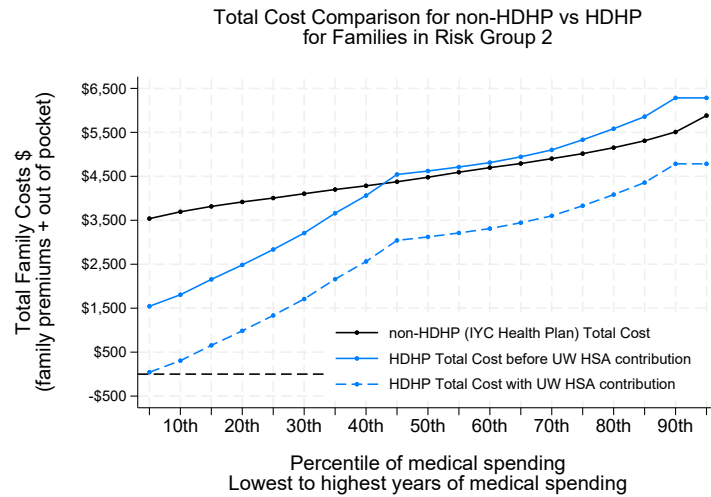
way to evaluate plan options. Each percentile represents a specific point in the distribution of spending. For example, the 5th percentile shows the spending level that only the lowest-spending 5% of individuals stay below, meaning most members will spend more than this amount. The 50th percentile (or median) represents the midpoint—half of individuals will spend less, while the other half will spend more. People in each risk level are equally likely to end up anywhere along these lines, with about 5% of individuals landing at each dot. For each of these percentiles, Figures 4 and 5 illustrate potential costs based on plan choice, incorporating the total costs calculated earlier—out-of-pocket spending, premiums, and the HSA contribution for HDHP members. The black line represents total spending under the IYC Health Plan, while the blue lines show spending under the HDHP. The blue dotted line further accounts for the HSA contribution, reflecting the

total costs after factoring in the employer's contribution. A higher line indicates greater expenses in that year.

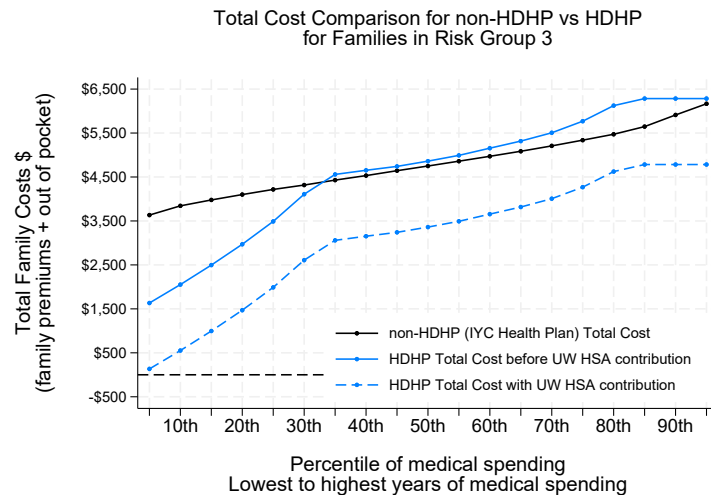
Figure 4: Spending Projection for Risk Levels 1–3 (Family Coverage)



(a) Risk Level 1

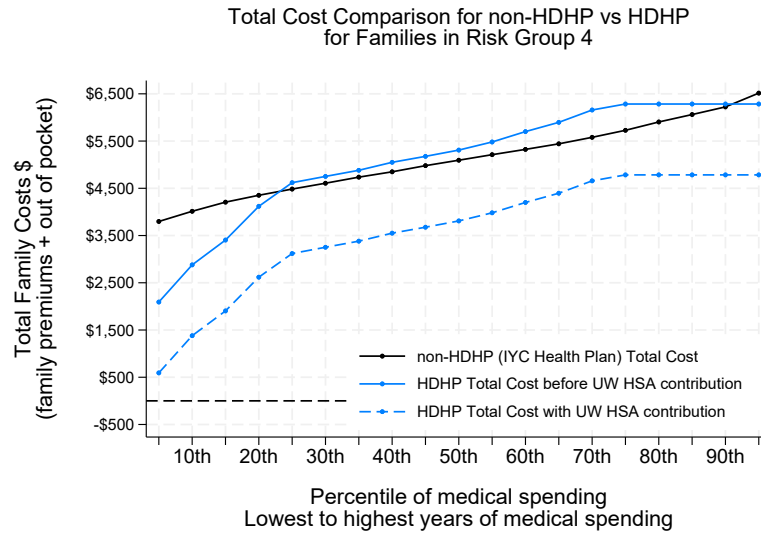


(b) Risk Level 2

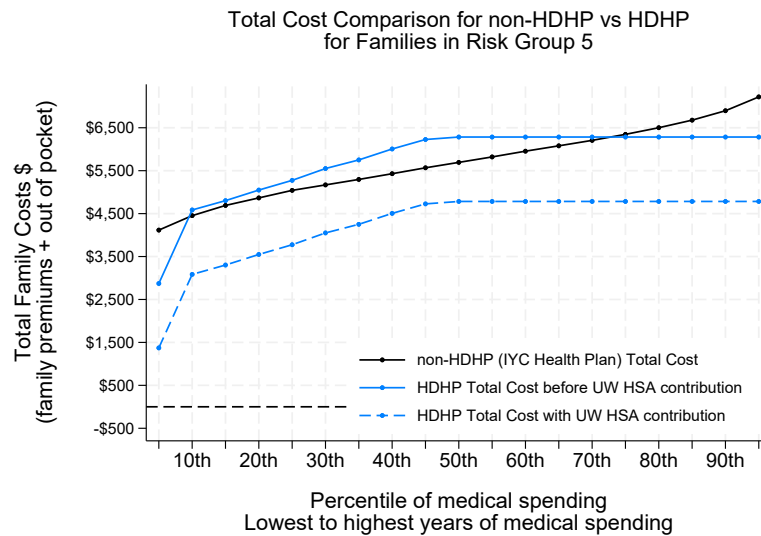


(c) Risk Level 3

Figure 4 (Cont.): Spending Projection for Risk Levels 4–5 (Family Coverage, continued)



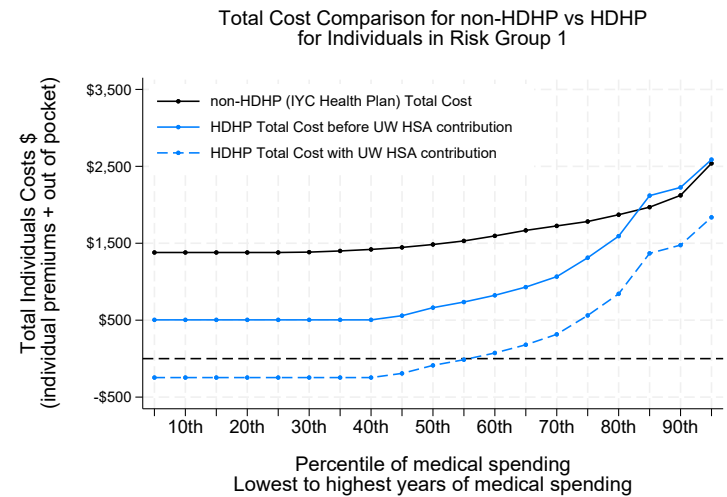
(d) Risk Level 4



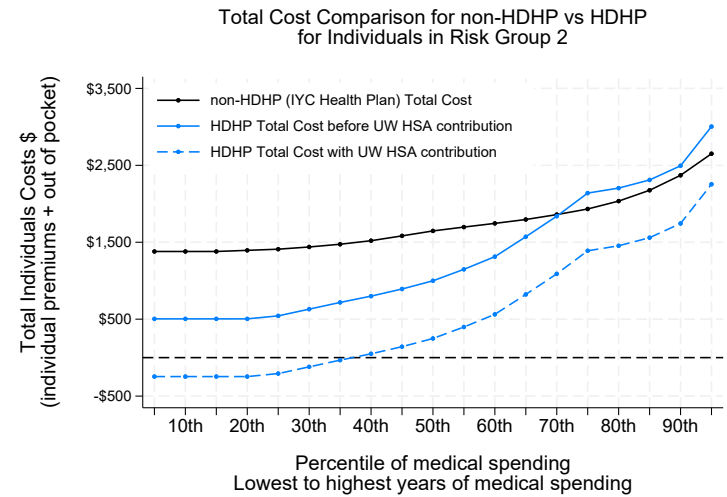
(e) Risk Level 5

Note: The figure illustrates total costs under the IYC Health Plan and HDHP for each risk level in family coverage. A higher line indicates higher costs for the family in that year. Families in each risk level have an equal probability of falling anywhere along these lines, with approximately 5% of families represented at each dot. Risk levels are determined based on predicted relative prospective risk scores, estimated using non-dental allowed amounts (and their polynomials up to degree 5) and demographic characteristics which include gender, an indicator for childbearing age (plus its interactions with allowed amounts, including polynomial terms), an indicator for having had a baby (plus its interactions with allowed amounts, including polynomial terms), age (modeled with polynomials up to degree 5), and indicators for asthma, diabetes, and hypertension (also interacted with allowed amounts). Using the risk level prediction, members are categorized into five risk levels based on their predicted risk scores, ranging from the lowest to the highest expected costs. For family coverage, risk scores are aggregated at the family ID level before being divided into quintiles. The sample includes active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were eligible to enroll in the HDHP option. The analysis covers the 2023 sample period.

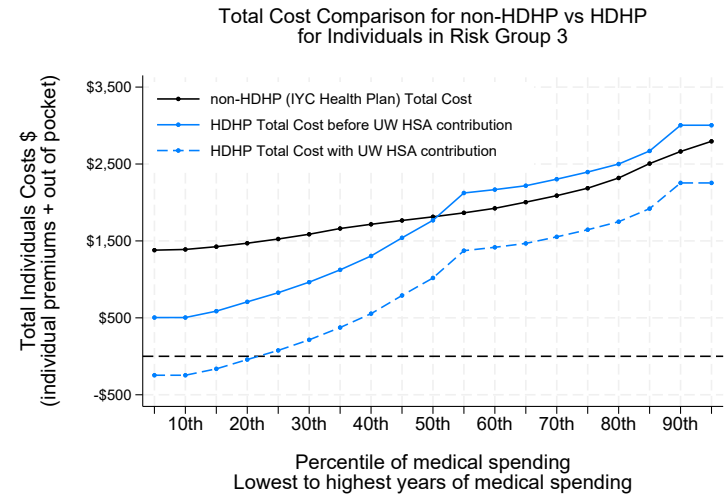
Figure 5: Spending Projection for Risk Levels 1–3 (Single Coverage)



(a) Risk Level 1

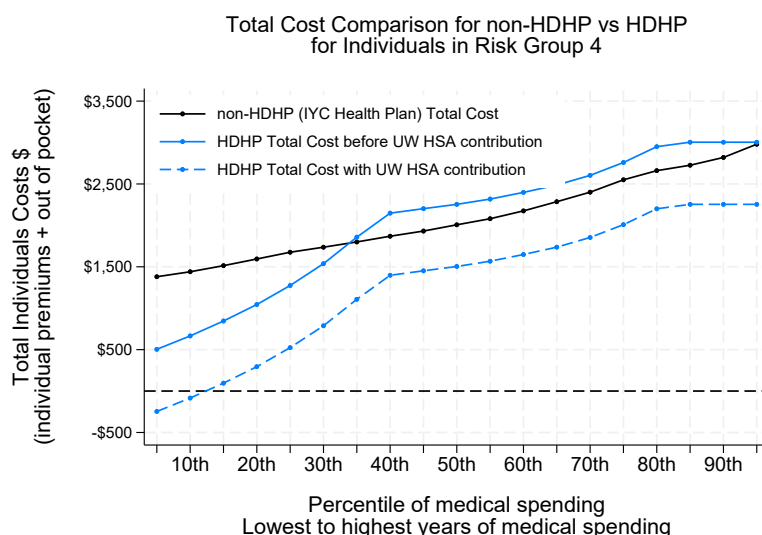


(b) Risk Level 2

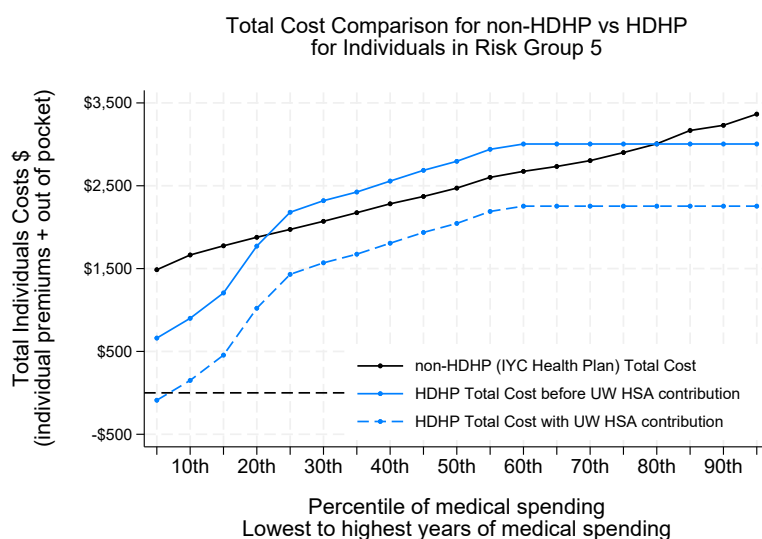


(c) Risk Level 3

Figure 5 (Cont.): Spending Projection for Risk Levels 4–5 (Single Coverage, continued)



(d) Risk Level 4



(e) Risk Level 5

Note: The figure illustrates total costs under the IYC Health Plan and HDHP for each risk level in single coverage. A higher line indicates higher costs for the member in that year. Members in each risk level have an equal probability of falling anywhere along these lines, with approximately 5% of members represented at each dot. Risk levels are determined based on predicted relative prospective risk scores, estimated using non-dental allowed amounts (and their polynomials up to degree 5) and demographic characteristics which include gender, an indicator for childbearing age (plus its interactions with allowed amounts, including polynomial terms), an indicator for having had a baby (plus its interactions with allowed amounts, including polynomial terms), age (modeled with polynomials up to degree 5), and indicators for asthma, diabetes, and hypertension (also interacted with allowed amounts). Using the risk level prediction, members are categorized into five risk levels based on their predicted risk scores, ranging from the lowest to the highest expected costs. For single coverage, risk scores are based on individual members. The sample includes active employees enrolled in the State Group Health Insurance Program who were eligible to enroll in the HDHP option. The analysis covers the 2023 sample period.

We begin by comparing cost projections under the IYC Health Plan and HDHP before factoring in the HSA contribution. From Figure 4, we can see that for Risk Level 1, the HDHP cost curve crosses the IYC Health Plan cost curve at the 60th percentile. This means that for the lowest-spending 60% of individuals in this risk level, the HDHP results in lower total costs, whereas for the highest-spending 40%, the IYC Health Plan becomes the more cost-effective option. As risk levels increase, this crossover point shifts earlier, though the difference in spending between the two plans remains relatively small after the HDHP surpasses the IYC Health Plan. For single coverage in Figure 5, we see that before considering the HSA contribution, the HDHP still remains cost-efficient in most cases for individuals in Risk Level 3 or lower. Similarly, as with family coverage, the crossover point occurs earlier for higher-risk levels, with the cost curves staying close to each other after they intersect.

However, consistent with Table 3, after accounting for the State’s HSA contribution, the HDHP becomes the more cost-effective option across all coverage tiers and risk levels. In Figures 4 and 5, the blue dotted line consistently remains below the IYC Health Plan cost line, indicating lower total costs for HDHP members. Moreover, even at the 95th percentile, the total cost under the HDHP with the employer HSA contribution remains significantly lower than the projected costs under the IYC Health Plan across all risk groups and coverage tiers.

Using Demographics to Identify Risk Level

To help individuals estimate their risk level without needing access to detailed claims data, Table 4 provides a simple reference based on family size, age of the oldest family member, and whether anyone in the family has a chronic condition (defined as asthma, diabetes, or high blood pressure). For example, a two-person family where the oldest member is younger than 48 and has no chronic conditions would fall into Risk Level 1. A five-person family with someone aged 48 or older and at least one chronic condition would fall into Risk Level 5.

This structure can be used in practice to guide members toward the most relevant projections. By answering a few straightforward questions—such as how many members are covered, how old the oldest member is, and whether anyone has a chronic condition—members can locate their estimated risk group and review plan comparisons tailored to members like them. The approach is also easily extendable. While it relies on a small set of traits, additional characteristics (like recent childbirth, gender, or specific health conditions) can be incorporated to further improve accuracy without requiring full access to the prior year’s spending. This makes it feasible to use in personalized plan choice tools or informational materials while keeping the process accessible and transparent.

Table 4: Average Risk Level by Family Size, Age, and Chronic Condition Status — Family Coverage

Number of Family Members	Oldest Family Member's Age	Any Chronic Condition	Average Risk Level
2	47 or younger	No	1
		Yes	2
	48 or older	No	3
		Yes	4
3	47 or younger	No	2
		Yes	3
	48 or older	No	3
		Yes	4
4	47 or younger	No	3
		Yes	3
	48 or older	No	4
		Yes	4
5 or more	47 or younger	No	3
		Yes	4
	48 or older	No	4
		Yes	5

Note: Risk levels in this table are determined based on predicted relative prospective risk scores, estimated using non-dental allowed amounts (including polynomial terms up to degree 5) and demographic characteristics. These characteristics include gender, an indicator for childbearing age (plus its interactions with allowed amounts, including polynomial terms), an indicator for having had a baby (plus its interactions with allowed amounts, including polynomial terms), age (modeled with polynomials up to degree 5), and indicators for asthma, diabetes, and hypertension (also interacted with allowed amounts). Employees are then categorized into five risk levels based on their predicted risk scores, ranging from the lowest to the highest expected costs. The table reports the average risk level for each age group and the presence of a chronic condition among members with family coverage. Chronic conditions considered include asthma, diabetes, and high blood pressure. An individual is classified as having a chronic condition if they have at least one of these three. For example, among families of 5 or more with at least one member aged 48 or older with a chronic condition, 0.9% fall into Risk Level 2, 8.08% into Risk Level 3, 28.4% into Risk Level 4, and 62.63% into Risk Level 5. Based on this distribution, we calculate the average risk level, which in this case is 4.52, and round it up to the nearest integer. The sample includes active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were eligible to enroll in the HDHP option. The analysis covers the 2023 sample period.

Employee Cost Projection under Each Plan Design – by Insurers

So far, we have examined expected costs under each plan design overall. In this section, we explore whether cost projections differ meaningfully across insurers. This matters because if certain insurers or their networks tend to charge higher prices for services, members may hit their deductibles at different rates, potentially affecting their total out-of-pocket costs and overall savings.

Table 5 reports median allowed amounts for total medical spending, office visits, and prescription drugs across the three largest insurers in 2023—Insurer A, Insurer B, and Insurer C—broken out by risk level.⁶ For lower-risk members (Risk Levels 1–3), median spending looks fairly consistent across insurers. However, at Risk Level 5, some variation emerges—particularly in prescription

⁶In this table, we combine single and family coverage, as coverage tier distribution is similar across insurers.

drug costs⁷—which may reflect different member distributions or provider contracts within each insurer’s network.

Table 5: Median Spending Measures by Risk Level for IYC Health Plan Members Across Large Insurers

Risk Level	Total Allowed Amount			Office Visits			Prescription Drugs		
	Insurer A	Insurer B	Insurer C	Insurer A	Insurer B	Insurer C	Insurer A	Insurer B	Insurer C
1	\$3,038	\$2,851	\$2,837	\$1,011	\$1,465	\$1,080	\$145	\$97	\$116
2	\$5,703	\$5,694	\$5,609	\$1,678	\$2,814	\$1,734	\$288	\$233	\$284
3	\$7,663	\$7,640	\$6,933	\$2,066	\$3,395	\$2,198	\$453	\$368	\$412
4	\$12,004	\$10,490	\$10,402	\$2,515	\$4,050	\$2,605	\$796	\$570	\$742
5	\$27,484	\$23,064	\$25,150	\$3,117	\$5,846	\$3,481	\$3,193	\$1,788	\$3,613

Note: The table presents median total allowed amount (excluding dental), median allowed spending on office visits, and median allowed spending on prescription drugs for the three largest insurers: Insurer A, Insurer B, and Insurer C among IYC Health Plan members. We use the IYC Health Plan due to differences in the claim reporting system observed by Insurer A, which appear to be more prominent among HDHP claims. Risk levels are determined based on predicted relative prospective risk scores, estimated using non-dental allowed amounts (and their polynomials up to degree 5) and demographic characteristics which include gender, an indicator for childbearing age (plus its interactions with allowed amounts, including polynomial terms), an indicator for having had a baby (plus its interactions with allowed amounts, including polynomial terms), age (modeled with polynomials up to degree 5), and indicators for asthma, diabetes, and hypertension (also interacted with allowed amounts). Using the risk level prediction, members are categorized into five risk levels based on their predicted risk scores, ranging from the lowest to the highest expected costs. For family coverage, risk scores are aggregated at the family ID level before being divided into quintiles. The sample includes active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were eligible to enroll in the HDHP option. The analysis covers the 2023 sample period.

Despite these differences in allowed amounts across insurers, when we translate these differences into projected savings under the HDHP, there are no major differences across insurers. Table 6 shows that average savings remain quite consistent across insurers and broadly align with the overall savings estimates presented in Table 3. This suggests that, at least at the level of granularity used here, insurer-specific differences are not large enough to warrant separate plan projections by insurer.

⁷Specialty drug costs were not included

Table 6: Total Average Savings by Risk Level and Coverage Tier

Single Coverage										
Risk Level	IYC HP			HDHP			HSA	Total Savings		
	Insurer A	Insurer B	Insurer C	Insurer A	Insurer B	Insurer C	Contribution	Insurer A	Insurer B	Insurer C
1	\$1,660	\$1,620	\$1,618	\$1,034	\$1,074	\$979	+ \$750	\$1,375	\$1,296	\$1,390
2	\$1,773	\$1,752	\$1,717	\$1,339	\$1,318	\$1,300		\$1,184	\$1,183	\$1,167
3	\$1,951	\$1,907	\$1,911	\$1,744	\$1,634	\$1,700		\$957	\$1,023	\$961
4	\$2,130	\$2,066	\$2,152	\$2,052	\$2,036	\$2,003		\$828	\$781	\$899
5	\$2,522	\$2,442	\$2,481	\$2,475	\$2,303	\$2,352		\$797	\$889	\$879
Family Coverage										
Risk Level	IYC HP			HDHP			HSA	Total Savings		
	Insurer A	Insurer B	Insurer C	Insurer A	Insurer B	Insurer C	Contribution	Insurer A	Insurer B	Insurer C
1	\$4,226	\$4,220	\$4,167	\$3,560	\$3,569	\$3,636	+ \$1,500	\$2,166	\$2,151	\$2,031
2	\$4,591	\$4,585	\$4,512	\$4,243	\$4,315	\$3,991		\$1,848	\$1,771	\$2,021
3	\$4,827	\$4,813	\$4,787	\$4,568	\$4,641	\$4,583		\$1,759	\$1,672	\$1,704
4	\$5,176	\$5,143	\$5,098	\$5,115	\$5,023	\$4,869		\$1,561	\$1,621	\$1,729
5	\$5,804	\$5,626	\$5,874	\$5,733	\$5,603	\$5,810		\$1,571	\$1,524	\$1,564

Note: This table presents the estimated average total savings under the HDHP compared to the IYC Health Plan across different risk levels for coverage tiers and the three biggest insurers in 2023 — Insurer A, Insurer B, and Insurer C. Total costs under each plan are calculated as the sum of out-of-pocket medical and prescription drug expenses from 2023 spending data and 2024 monthly premiums (\$286 for the IYC Health Plan and \$107 for the HDHP under family coverage; \$115 and \$42, respectively, for single coverage). For HDHP members, total costs are further adjusted by subtracting the State of Wisconsin's HSA contribution (\$1,500 for family coverage and \$750 for single coverage) from the sum of out-of-pocket spending and premiums. "Total Savings" represents the difference between the total cost of the IYC Health Plan and the HDHP after accounting for the HSA contribution, where a positive value indicates lower overall expenses under the HDHP. The dataset includes active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program for the 2023 period.