Report on Health Care Utilization Differences between IYC Health Plan and HDHP Enrollees.

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

November 12, 2025

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 addresses a subset of research questions that were included in the initial proposal for this research collaboration. These questions focus on understanding utilization differences between members selecting the IYC Health Plan versus those selecting the HDHP option. The specific proposed questions included: How different are the underlying health needs of members who enroll in the HDHP? Do those differences vary with business units or insurer selected? How do health care utilization patterns change for individuals and households after enrollment in HDHP? Are changes in utilization driven by responses to the cost-sharing differentials in the HDHP plan, or can they be predicted from pre-existing differences in health conditions the member was likely aware of when deciding to select into the HDHP? Do these patterns vary systematically across the insurers participating in the ETF plans? Do the differentials in utilization between HDHP and non-HDHP

change as members are enrolled in HDHP for multiple years?

The de-identified data for the analysis in this report comes from ETF's Data Analytics and Insights (DAISI) warehouse and analytics tools administered by Truven by Merative (Truven). The analysis uses claims records from 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 time period spans enrollment years 2014 through 2023.

Executive summary

- The average annual allowed amount is around $2,000 lower for HDHP members, and this difference is mostly stable over time and across different employers and insurers.
- While HDHP members are, on average, younger and lower cost than IYC Health Plan members, the HDHP population still includes a sizable subset with high health care needs.
- About 90% of the difference in average allowed amount between HDHP and IYC Health Plan members is predictable based on underlying health needs. This suggests that any potential causal impact of HDHP enrollment on lowering health care utilization is modest.
- HDHP members access preventative care at similar and overall slightly higher rates than IYC Health Plan members with similar demographics.
- However, those who switch from the IYC Health Plan to HDHP have lower overall allowed amounts and utilization of preventative services than expected in their first year after switching. Utilization patterns rebound by the second year post-switch.

Analysis of utilization differences for IYC Health Plan and HDHP

To begin our analysis in Table 1, we show the enrollment counts and the share enrolling in the IYC Health Plan and HDHP by year. We present this information for both all members and for new members, defined as those who were not enrolled in the State Group Health Insurance Program in the prior year.

Table 1: Enrollment Share by Plan Type

	All Enrollees			New Enrollees		
Year	Total Members Enrolled	IYC Health Plan	IYC HDHP	Total Members Enrolled	IYC Health Plan	IYC HDHP
2014	174,723	99%	0%	-	-	-
2015	175,579	98%	1%	16,050	93%	5%
2016	173,721	95%	4%	17,393	87%	12%
2017	174,799	94%	6%	17,450	86%	12%
2018	172,990	91%	8%	15,850	82%	16%
2019	174,553	88%	11%	16,753	76%	21%
2020	173,707	85%	14%	14,806	70%	27%
2021	173,403	83%	16%	13,651	69%	27%
2022	172,982	81%	17%	16,314	69%	27%
2023	173,708	79%	19%	16,775	70%	25%

Note: The table presents the total number of enrolled members, the proportion enrolled in the IYC Health Plan, and the IYC HDHP, both for the full sample and for new members between 2014 and 2023. The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option. Data for new members in 2014 is unavailable due to the absence of enrollment information from 2013.

The analysis sample has just over 170,000 members per year. Enrollment share in the HDHP among all members was 1% in the first year the option was available in 2015 and rose to 19% by 2023. Enrollment in the HDHP grew more quickly for new members, rising to 27% by 2020 and staying roughly level since then.

Table 2 shows average demographic characteristics for members in the IYC Health Plan and the IYC HDHP from 2020 through 2023. There are two main takeaways from the table. Overall, there are many similarities and a significant range of overlap in the demographics of the member populations across the two options. However, the distribution of age among HDHP skews moderately younger, and HDHP members are more likely to be in single rather than family coverage. The bottom panel of statistics in the table shows percentages as categorized in a risk score model based on past health insurance claims produced by the data warehousing and analytics vendor, Truven . This risk score categorizes members as healthy, stable, at risk, struggling (with health conditions), and in crisis based on prior diagnoses and claims information. An 11 percentage points higher share of HDHP members are categorized as "healthy" (49% vs 38%) by this algorithm, and fewer are in the more at risk groups.

Table 2: Demographics of IYC Health Plan and HDHP Enrollees

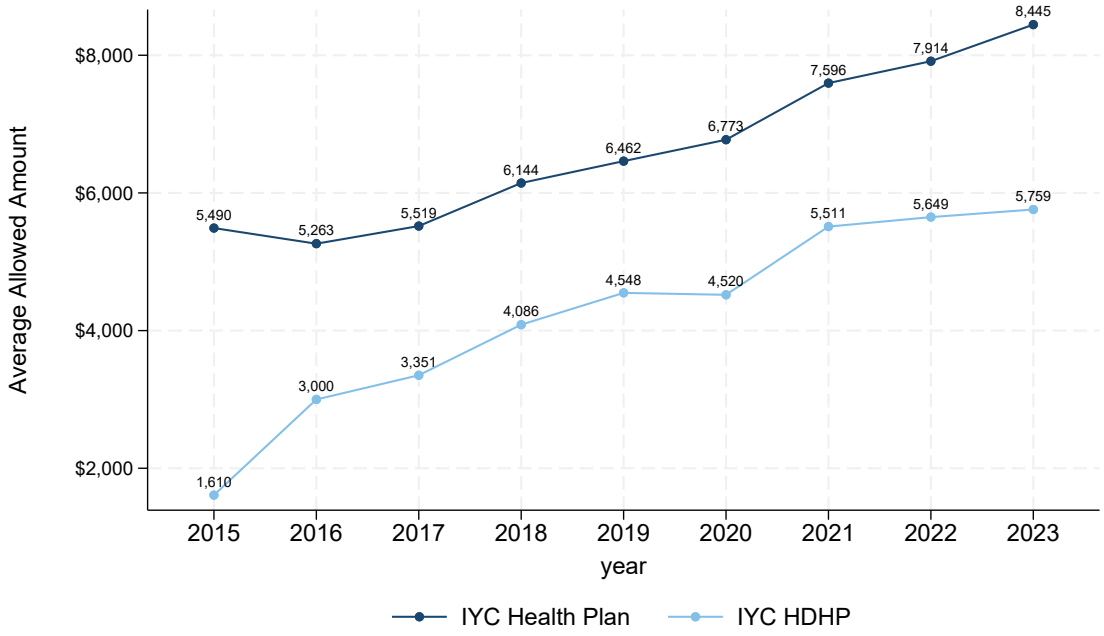
Category	IYC Health Plan	IYC HDHP
Coverage Tier		
Family Coverage	84%	80%
Single Coverage	16%	20%
Gender		
Female	52%	52%
Male	48%	48%
Age		
0 to 17	25%	27%
18 to 24	12%	9%
25 to 34	11%	20%
35 to 44	16%	19%
45 to 54	17%	14%
55 to 64	17%	10%
65+	1%	1%
Family Size (Family ID level)		
Single	39%	44%
Family size 2	19%	19%
Family size 3	15%	12%
Family size 4+	27%	25%
Risk Category		
Healthy	38%	49%
Stable	25%	24%
At Risk	21%	16%
Struggling	14%	9%
In Crisis	3%	2%
N (Person-Years)	569,455	113,768

Note: The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option. This table reports averages and shares based on all enrolled individuals in plan year 2020 through 2023. The age is based on the member's age in January of the plan year. The risk score categorization presented in the bottom panel of the table comes from an algorithm provided by the data warehouse and analytics vendor Truven .

Next, we examine overall health care utilization differences between the IYC Health Plan and the HDHP using average allowed amounts for all non-dental claims.[1] The allowed amount reflects the total dollar amount for health care services after imposing insured prices and discounts. Since this amount includes both the payments covered by insurance and the out-of-pocket responsibility for the member, it can be compared on equal footing despite the different cost-sharing designs between the IYC Health Plan and HDHP.

Figure 1 shows the average allowed amounts from 2015 through 2023 for members in the IYC Health Plan and HDHP. HDHP members have significantly lower average allowed amounts, with the difference averaging a little more than $2,000 in most years. The gap in allowed amounts was especially large in 2015 when there was very low enrollment in the HDHP. From 2016 through 2021, the differential in average allowed amounts was very stable. In 2022 and 2023, the allowed amount difference began to widen modestly.

Figure 1: Average Allowed Amount for IYC Health Plan and HDHP Enrollees by Year



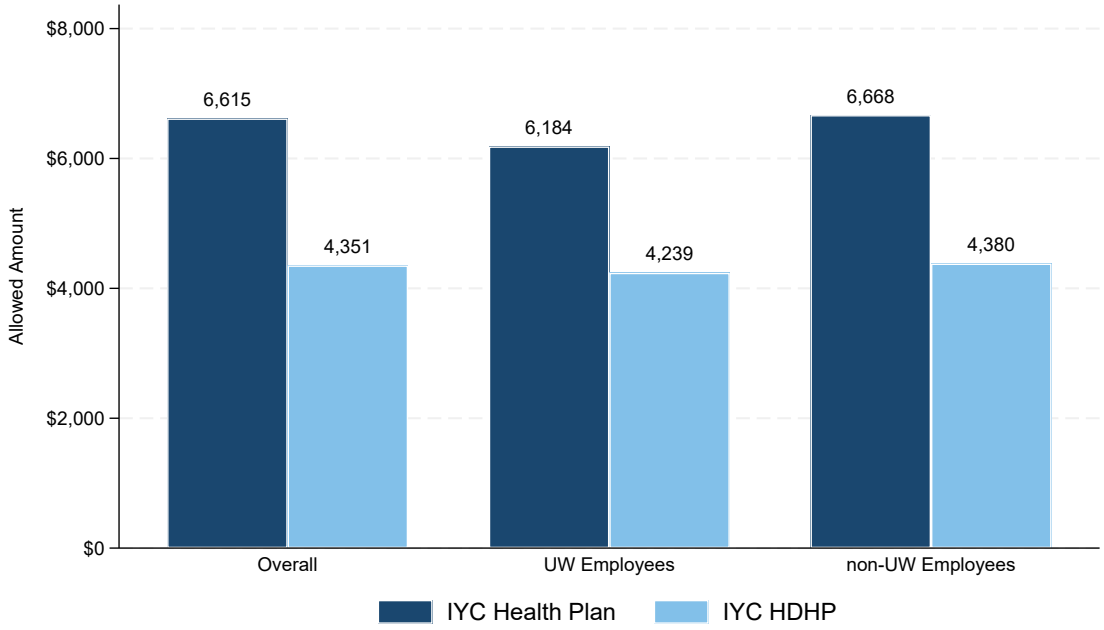
Notes: The figure plots the average non-dental allowed amount for each year. The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option. The sample period is 2015 through 2023.

In Figure 2 we examine the average allowed amounts for members in the IYC Health Plan

[1] We exclude dental claims throughout the analysis since dental coverage is separate from the medical benefits and not directly affected by the HDHP design.

and HDHP overall and split by major employer groups. For this analysis, we pool data from 2015 through 2023 and use an adjustment procedure to account for time trends in the average allowed amounts.[2] Overall, we estimate an average allowed amount of $6,615 for IYC Health Plan members and $4,351 for HDHP members, a difference of $2,264. The second two sets of columns in the figures show this same breakdown separately for members employed by the Universities of Wisconsin (UWs) versus non-UW employees. We observe that both the levels of allowed amounts and the differences between the IYC Health Plan and HDHP are quite similar for UW and non-UW employees.

Figure 2: Average Allowed Amount for IYC Health Plan and HDHP by Major Employer Groups



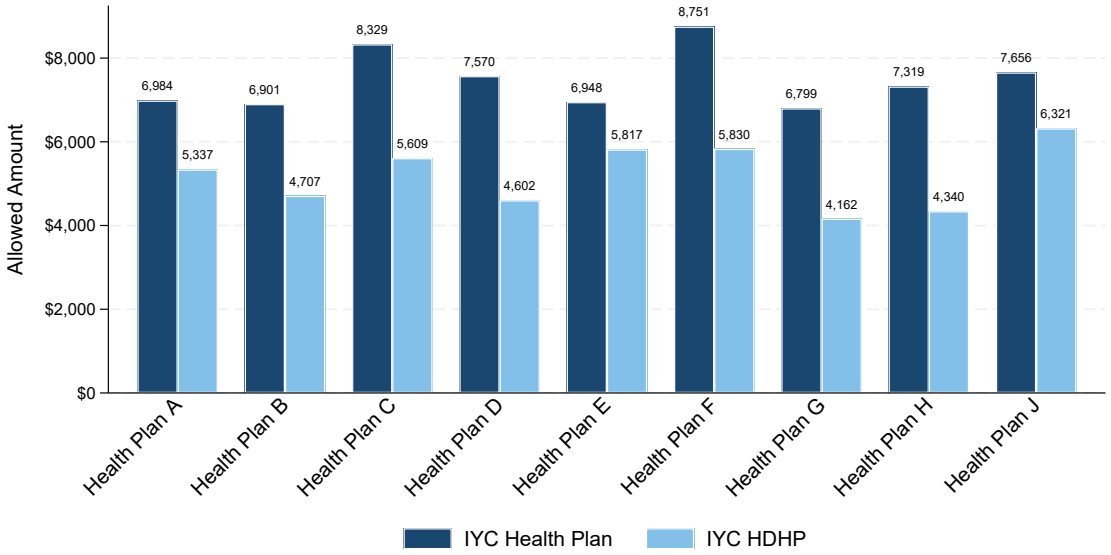
Notes: The figure plots the average non-dental allowed amount from 2015 through 2023. We use a regression model with year fixed effects to adjust the allowed amounts for time trends before presenting these overall averages. The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option. The first set of columns includes all employees in the sample, while the second two sets of bars split the sample into those employed by the UWs versus non-UW employees.

We also analyze the differences in average allowed amounts between the IYC Health Plan and

[2]This adjustment is necessary because HDHP members are more concentrated in later years in the sample period due to rising enrollment shares in the HDHP.

HDHP across major health plans offered by different insurers in the system.[3] Figure 3 shows these comparisons. The overall take away is that while there are some differences in the average allowed amounts across health plans, the basic patterns of sizable differentials in average allowed amounts between the IYC Health Plan and HDHP are stable across the major health plans offered in the State Group Health Insurance system. [4]

Figure 3: Average Allowed Amount for IYC Health Plan and HDHP Enrollees by Health Plan



Notes: The figure presents the overall average non-dental allowed amount for IYC Health Plan and HDHP members for the top 10 health plans by enrollment between 2019 and 2023. The reported averages are adjusted for yearly fixed effects using regression estimation. The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option.

[3] We limit the analysis from 2019 to 2023 to focus on health plans active in the system in recent years.

[4] The differences in average allowed amounts between the IYC Health Plan and the HDHP are somewhat smaller for Health Plans A, E, and J, which are operated by the same insurer. This likely reflects, in part, differences in how the particular insurer reports allowed amounts, and we caution readers that the HDHP averages for Plans A, E, and J may be somewhat biased upward by these reporting issues.

Analysis of role of predictable health needs on utilization differences

To what extent are the large differences in average allowed amounts between the IYC Health Plan and HDHP simply a reflection of the better average health status of HDHP members? Is part of the differential explained instead by the high deductible deterring some HDHP members from accessing health care?

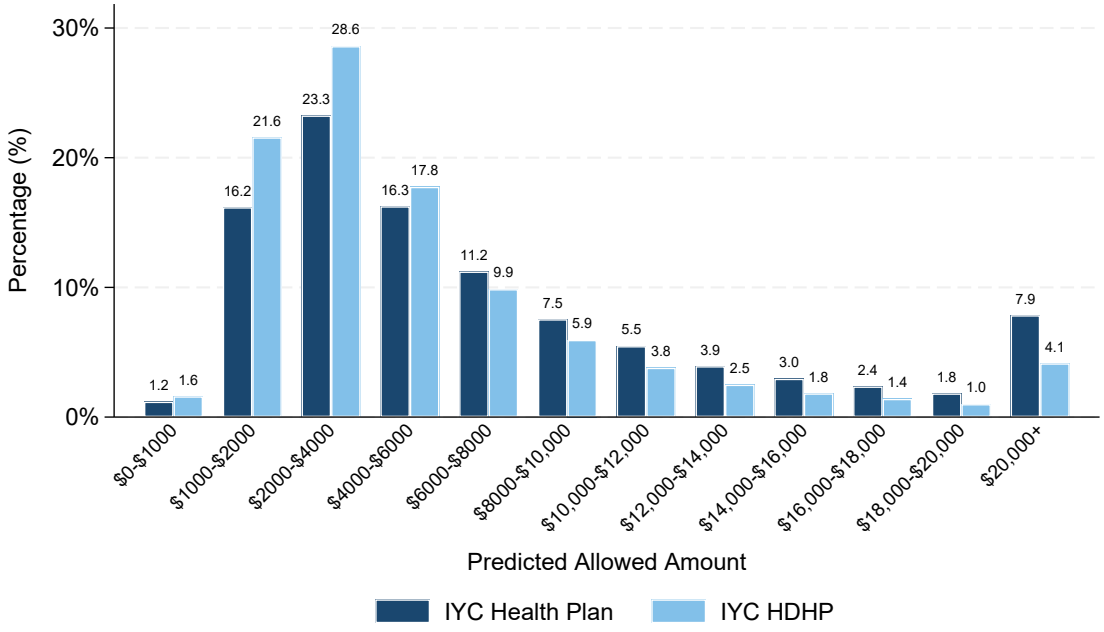
To examine, we assess the extent to which underlying health needs predict that members in HDHP would have lower health care utilization even if they had instead been enrolled in the IYC Health Plan. To do this, we use an algorithm to create a predicted allowed amount. This predicted allowed amount is an estimate based on past claims and diagnoses of the allowed amount the member would have had under the IYC Health Plan.[5] If the lower allowed amounts for HDHP members are a result of their better average health status, that should also be reflected in their predicted allowed amounts. However, if the difference is driven substantially by a reaction to being enrolled in the HDHP plan, then the predicted allowed amounts will be higher than the observed allowed amounts for HDHP members.

It is important to note a limitation of this analysis. The predicted allowed amounts are generated by an algorithm that projects health care needs based on past claims and the diagnoses recorded in those claims. If enrolling in the HDHP reduces health care utilization, then members may have fewer diagnoses recorded in their claims history. As a result, the predicted allowed amounts for HDHP members could be biased downward. However, if HDHP members with significant health conditions are diagnosed at rates similar to those in the IYC Health Plan, then the predicted amounts remain a valid measure, even if the HDHP reduces some utilization.

Figure 4 shows the distribution of the predicted allowed amount measure for the IYC Health Plan and HDHP members. Consistent with the information previously presented in Table 2, we see that the HDHP members are healthier and their distribution of predicted allowed amounts is shifted down relative to IYC Health Plan members. For example, 16% of IYC Health Plan members have predicted allowed amounts from $1,000 to $2,000, while 22% of HDHP members do. In contrast, the share with predicted allowed amounts of $20,000 or more is 8% among IYC Health Plan Enrollees

[5]For this procedure, we use Truven 's measure of projected annual costs, which is the overall future projected annual resource expenditure for the individual based on diagnoses and drugs and eligibility information during the time period. The value indicates the projected allowed amount to be incurred by the individual during a 12-month period. We use an ordinary least squares regression model to predict annual allowed amounts for IYC Health Plan members as a function of a polynomial of Truven 's projected annual cost for that individual based on claims from the prior year. This generates a predicted allowed amount that is a mapping from Truven 's projected annual costs to allowed amounts in the State Group Health Insurance system. We then use the model estimated on IYC Health Plan members to also make predictions of allowed amounts for HDHP members. In this way, the predicted allowed amount gives us a prediction of what that HDHP member would be expected to spend based on their prior claims and diagnosis patterns if they were enrolled in the IYC Health Plan.

Figure 4: Distribution of Predicted Allowed Amount for 2023

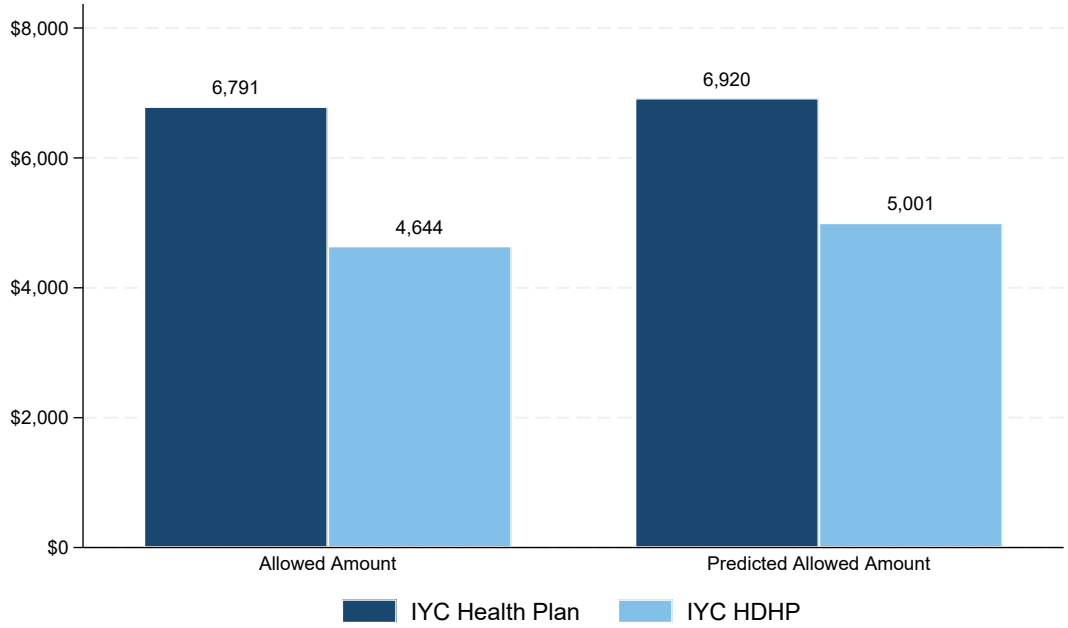


Notes: The figure shows the distribution of predicted non-dental allowed amounts in 2023 for IYC Health Plan and HDHP members. The predicted allowed amount was estimated by regressing the non-dental allowed amount on Truven 's projected annual cost measure and its polynomial, using the IYC Health Plan sample, and then applying the model to the entire sample. Since projected annual spending is only available for members who were enrolled in the prior year, newly enrolled members without a projected cost value are excluded. The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option.

and half as large at 4% for HDHP members. However, it is worth noting that the distribution of predicted allowed amounts also has substantial overlap, highlighting that members with a wide range of expected health needs enroll in both plan designs.

Figure 5 allows us to compare the observed allowed amounts for IYC Health Plan and HDHP members to the predicted allowed amounts for those members. Overall, for the sample of individuals for whom we can create predicted allowed amounts, we observe that average observed allowed amounts were $2,147 lower for HDHP members ($4,644 vs. $6,791). When we examine the predicted allowed amounts, we see that, on average, HDHP members had predicted allowed amounts that were $1,919 lower than IYC Health Plan Enrollees. This suggests that 89% of the differential in allowed amounts between IYC Health Plan and HDHP members would have been expected based

Figure 5: Average Allowed Amount and Average Predicted Allowed Amount



Notes: The figure presents the overall average non-dental allowed amount and the predicted allowed amount, both adjusted for yearly fixed effects. The predicted allowed amount was estimated by regressing the non-dental allowed amount on Truven 's projected annual cost measure and its polynomial, using the IYC Health Plan sample, and then applying the model to the entire sample. Since projected annual spending is only available for members who were enrolled in the prior year, newly enrolled members without a projected cost value are excluded. The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option. The sample period covers 2016 to 2023, excluding 2015 due to the unavailability of predicted annual spending data for that year.

on past health care utilization, even if the HDHP members had instead enrolled in the IYC Health Plan.

The fact that the gap in observed allowed amounts is about $200 bigger than the gap in predicted allowed amounts leaves open the possibility that enrolling in the HDHP could be causing some individuals to use modestly less health care than they otherwise would. It is also possible, however, that individuals who choose to enroll in the HDHP know that their own health care needs going forward will be lower in a way that is not predictable based on past claims and diagnosis patterns.

This analysis suggests that most of the differences in overall utilization of health care for HDHP members can be predicted based on their health status. Another way of examining whether HDHP members are using less care than would be expected given their health status is to examine rates of

preventive service use. Many preventive services are recommended for all individuals in certain age ranges, and preventive care is generally perceived by the medical community to be valuable. These services are also typically covered without cost-sharing, which implies that HDHP members who understand their coverage should not be deterred by out-of-pocket costs from accessing this care.

Table 3 presents estimates of the difference in rates of preventive service use for HDHP members and IYC Health Plan members. We present both unadjusted and adjusted results. The unadjusted results simply compare averages for the groups after accounting for overall differences in rates by plan year. The adjusted results account for differences in underlying demographics and projected health needs between HDHP and IYC Health Plan members.

Table 3: Estimated Difference in Preventive Service Use between IYC Health Plan and HDHP Enrollees

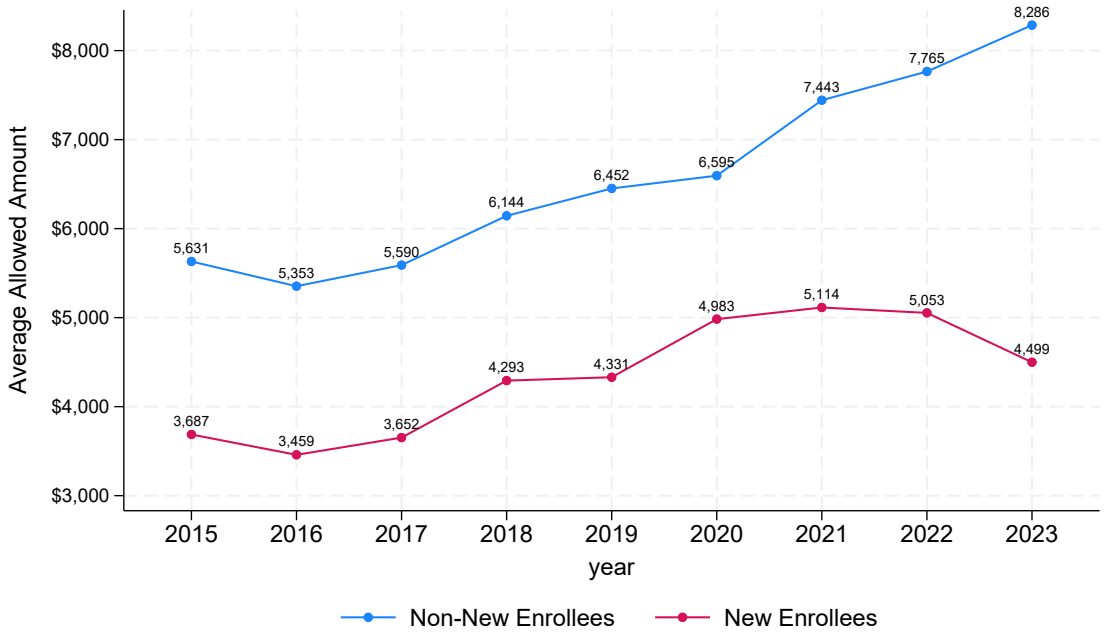
			Estimated Difference IYC HDHP - IYC HP	
Preventive Service	**N (Person Years)**	**Overall Avg**	**Unadjusted**	**Adjusted**
Adult Preventive	1,140,442	0.39	-0.01	0.03
			[-0.013, -0.004]	[0.024, 0.032]
Flu Vaccine	1,140,442	0.25	-0.01	0.02
			[-0.015, -0.007]	[0.011, 0.019]
Cholesterol Screen	641,423	0.41	-0.06	-0.01
			[-0.061, -0.049]	[-0.017, -0.006]
Well Child	118,849	0.48	0.00	0.01
			[-0.011, 0.007]	[0.006, 0.023]
Well Baby	51,151	2.28	-0.01	-0.05
			[-0.056, 0.036]	[-0.085, -0.017]

Note: The table presents the estimated differences in preventive service use between IYC Health Plan and HDHP members. The unadjusted difference is obtained by regressing the number of visits for each preventive service on an indicator for high-deductible enrollment and year fixed effects, restricting the sample to members eligible for the service. The adjusted difference is estimated by regressing the number of visits on an indicator for high-deductible enrollment, year fixed effects, and additional controls, including age, gender, coverage tier (family or single), new member status, and lagged projected annual cost. For new members, the projected annual cost is set to zero since they did not have prior cost estimates. Values in brackets represent 95% confidence intervals. The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option. The sample period spans 2016 to 2023 and excludes 2015 due to the unavailability of predicted annual spending data for 2015.

We observe that overall, the rates of preventive service use are similar between HDHP and IYC Health Plan members. When looking at the adjusted results, we see that HDHP members are slightly more likely to get preventive services than IYC Health Plan members with similar demographics and projected health needs. For example, the top row shows the rate of adult preventive visits. Among those eligible for these types of visits, the average rate is 39% per member per year. On average, HDHP members have a 1 percentage point lower rate of adult preventive visits in unadjusted analysis but a 3 percentage point higher rate after adjusting for demographics and underlying health needs.

A final analysis examines whether lower utilization among HDHP members reflects the effect of the plan itself or simply differences in underlying health needs. To do this, we distinguish between new enrollees, those who were not in the program in the prior year, and continuing members. Over time, HDHP enrollment grew much more quickly among new enrollees, while continuing members were slower to switch from the IYC Health Plan. As a result, the HDHP share increased rapidly among new enrollees compared to existing members. If being in the HDHP directly reduced health care use, we would expect average allowed amounts to rise more slowly for new enrollees (who increasingly joined the HDHP) than for continuing members.

Figure 6: Average Allowed Amount for New Enrollees and Existing Enrollees Over Time



Notes: The figure plots the average non-dental allowed amount for new members and non-new members over time. The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option. The sample period is between 2015 and 2023.

Figure 6 shows the trends in average allowed amounts for new members and non-new members (i.e., existing members). We observe that these two series trend almost exactly in parallel from 2015 through 2020, a time period during which the share of new members in the HDHP grew quickly. This suggests that it is unlikely to have been a strong causal impact of HDHP enrollment in depressing health care utilization. However, we do note in this figure that there was a significant divergence

in the trends of average allowed amounts between new members and non-new members from 2021 through 2023. Since the rates of HDHP enrollment were stable and even slightly falling in 2023 relative to 2020, this divergence is unlikely to be the result of HDHP enrollment. The reasons for this divergence are beyond the scope of this report, but could warrant further analysis.[6]

Overall, the results in this section suggest that the lower average allowed amounts for HDHP members can predominantly be explained by the fact that younger and healthier individuals are more likely to enroll in the HDHP. Further, we identify no concerns that HDHP members are not accessing preventive care and estimate that if anything, they may be slightly more likely to access preventive services than IYC Health Plan members with similar observable demographic and health characteristics.

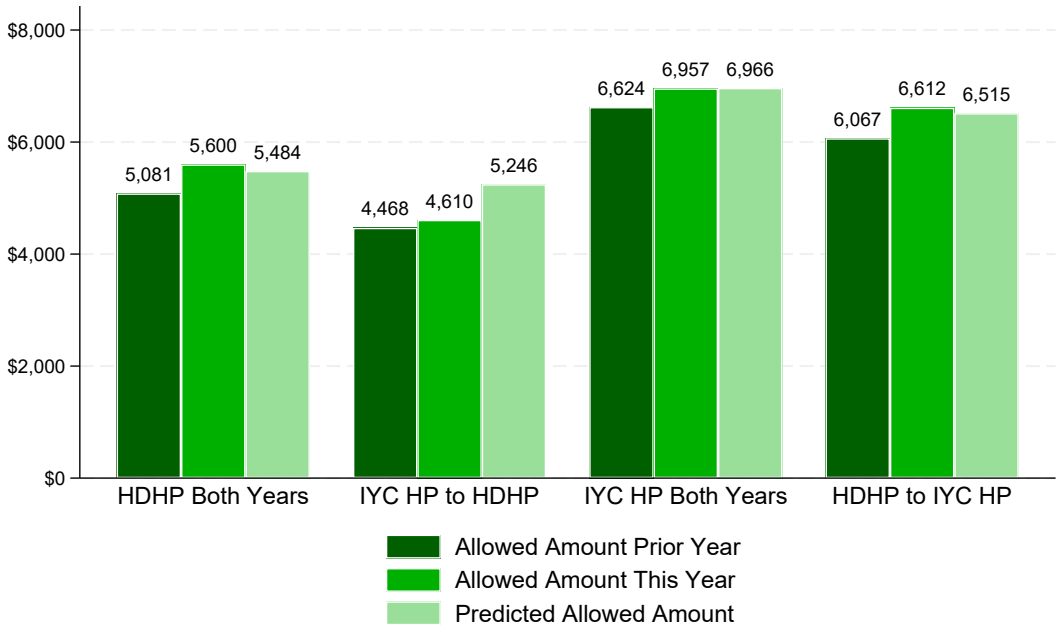
Analysis for those switching to HDHP from IYC Health Plan

Another way of exploring the functioning of the HDHP option is to focus on the health care utilization of members who switch from the IYC Health Plan to the HDHP option. As Table 1 showed, new members join the HDHP at higher rates, so many of those enrolled in the HDHP option have only experienced that option within the State Group Health Insurance Program. In this subsection, we focus attention on those who at some point switch from the IYC Health Plan to the HDHP option to understand whether health care utilization changes after the switch.

Figure 7 shows the average allowed amounts for different combinations of year-over-year enrollment in the IYC Health Plan and HDHP. The darkest green bars show the prior year's average allowed amounts, and the middle-shade green bars show the current year's average allowed amounts. The light green bars show the average predicted allowed amount based on projected health costs from the prior year's claims. There are two key takeaways from this figure when we focus on those who switch from the IYC Health Plan to the HDHP. First, those who switched into the HDHP from the IYC Health Plan had lower average utilization when enrolled in the IYC Health Plan than those who remained enrolled in the IYC Health Plan. For those who made the switch, their average allowed amount in the prior year when enrolled in the IYC Health Plan was $4,468, compared with $6,624 for those who were in the IYC Health Plan consistently. This finding is consistent with our discussion in the prior section that those enrolling in the HDHP have predictably lower health care needs on average. The second insight, however, is that for those switching into the HDHP from the IYC Health Plan, the growth in allowed amounts year-over-year is more modest, and the average

[6] One potential source of this type of divergence could be capacity constraints for in-network physicians. If new members need to establish care with new physicians and face delays in getting access to care relative to existing members with established physician connections, it could explain a divergence in allowed amounts. Other possibilities would include changes in the composition of health needs among new members over time.

Figure 7: Average Allowed Amounts by Year-over-Year Enrollment Patterns



Notes: The figure presents the average non-dental allowed amount prior year, average allowed amount in the current year, and predicted allowed amount for the current year by year-over-year enrollment patterns. The averages are presented after adjusting for yearly fixed effects. The predicted allowed amount was estimated by regressing the non-dental allowed amount on Truven 's projected annual cost measure and its polynomial, using the IYC Health Plan sample, and then applying the model to the entire sample. Since projected annual spending is only available for members who were enrolled in the prior year, newly enrolled members without a projected cost value are excluded. The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option. The sample period spans 2016 to 2023.

allowed amount once in the HDHP is significantly below the average predicted allowed amount. This is in contrast to the other enrollment groups and suggests that members who switch into the HDHP have lower-than-expected utilization once in the HDHP.

To investigate this possibility further, Table 4 presents regression estimates of differences in allowed amounts for members who switch into the HDHP, by years since the switch. The sample includes individuals who were either consistently enrolled in the IYC Health Plan, serving as a comparison group, or who switched from the IYC Health Plan to the HDHP at some point during the sample period. We use all available claims data for these members from 2016 through 2023. The regression controls for projected annual costs based on prior claims and diagnoses, age, and

gender. The coefficients on the year-since-switch indicators can therefore be interpreted as the average difference in allowed amounts for HDHP switchers relative to comparable members who remained in the IYC Health Plan.

Table 4: Regression Results: Allowed Amount

	Allowed Amount Non-Dental
First year w/ HDHP	-701.1
	[-912.4, -489.7]
Second year w/ HDHP	-129.6
	[-424.2, 164.9]
Three or more years w/ HDHP	-287.4
	[-550.9, -23.84]
Projected Annual Cost	1.063
	[1.017, 1.109]
Age	9.523
	[2.216, 16.83]
Male	-340.9
	[-462.4, -219.5]
Person-year observations	1,140,139
Year Fixed Effects	Yes
Sample average allowed amount	6,767.59

Notes: The sample includes individuals who were either continuously enrolled in the IYC Health Plan or switched from the IYC Health Plan to the HDHP once between 2016 and 2023. For example, the first year with HDHP is coded as 1 in the year a member switches from the IYC Health Plan to the HDHP and 0 otherwise. Similarly, the second year with HDHP is coded as 1 in the second year following the switch, provided the member remained enrolled in the HDHP for at least two years, and 0 otherwise. The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option. The sample period spans 2016 to 2023, as it relies on prior-year enrollment information. The 95% confidence intervals are reported, and the standard errors used are clustered at the member id level to account for repeat observations for individuals across years.

Projected costs align closely with realized allowed amounts: each additional dollar in projected costs corresponds to about $1.06 in actual allowed amounts, indicating that the Truven projections are largely unbiased. We also find modest heterogeneity where men have slightly lower allowed amounts than predicted, while older individuals have somewhat higher amounts. To highlight the role of the deductible, we next look at differences by years since switching into the HDHP, compared to otherwise similar members who remained in the IYC Health Plan. Table 4 shows that in the first year after switching, HDHP members have average allowed amounts roughly $700 (about 10%) below expectation. The gap narrows to about $130 in the second year and $290 in the third year. In other words, utilization is substantially below expectation in the first year after the switch, but by the second year it is only modestly lower, consistent with the overall analysis presented in the

prior section.

This suggests that switching into the HDHP might cause a temporary disruption in health care utilization. It is possible that this might be the result of members needing time to adjust to the higher cost-sharing in the HDHP. However, we must interpret these findings cautiously because it is also possible that members who switch into the HDHP have some private knowledge that they will need lower-than-usual health care during the following year.[7]

In order to further investigate whether switching into the HDHP might be temporarily deterring members from accessing health care, we again analyze the use of preventive services. Table 5 uses the same set of preventive services and structure as in Table 3 in the prior section. In this case, however, we estimate the difference in the rate of each preventive service by the years since switching into the HDHP using the same regression structure discussed for Table 4.

Table 5: Estimated Difference in Preventive Service Use by Years Since Switch to HDHP

			Estimated Difference IYC HDHP - IYC HP		
Preventive Service	**N (Person Years)**	**Overall Avg**	**First year w/HDHP**	**Second year w/HDHP**	**Three or more years w/HDHP**
Adult Preventive	847,678	0.40	0.02	0.04	0.05
			[0.01, 0.02]	[0.03, 0.05]	[0.04, 0.06]
Flu Vaccine	847,678	0.26	0.02	0.04	0.04
			[0.02, 0.03]	[0.03, 0.04]	[0.03, 0.04]
Cholesterol Screen	500,428	0.42	-0.03	-0.01	0.01
			[-0.04, -0.02]	[-0.02, 0.01]	[0.00, 0.02]
Well Child	86,342	0.50	0.02	0.02	0.07
			[0.00, 0.05]	[0.00, 0.05]	[0.05, 0.09]
Well Baby	24,107	1.64	-0.02	-0.04	0.00
			[-0.10, 0.06]	[-0.09, 0.02]	[0.00, 0.00]

Notes: The sample includes individuals who were either continuously enrolled in the IYC Health Plan or switched from the IYC Health Plan to the HDHP once between 2016 and 2023. For example, the First year with HDHP is coded as 1 in the year a member switches from the IYC Health Plan to the HDHP and 0 otherwise. Similarly, the Second year with HDHP is coded as 1 in the second year following the switch, provided the member remained enrolled in the HDHP for at least two years, and 0 otherwise. The model also controls for age, gender, and projected annual cost as well. The sample is restricted to active employees and their dependents (spouses and children) enrolled in the State Group Health Insurance Program who were potentially eligible to enroll in the HDHP option. The sample period spans 2016 to 2023, as it relies on prior-year enrollment information. 95% confidence intervals are included in brackets and are based on standard errors clustered at the member ID level to account for repeated observations for individuals across years.

The results of this analysis show that overall, consistent with the results in the prior section, those who switch into the HDHP have slightly higher rates of preventive service use for most categories than those who stay in the IYC Health Plan. However, focusing on the first year with the HDHP, we observe that for all of the adult preventive services, the differentials in rates for HDHP members are shifted down relative to what they are in the subsequent years after the switch. This

[7]For instance, a member who has just completed a pregnancy may anticipate that the following year will involve fewer pregnancy-related doctor visits. Likewise, some switchers may know they will be traveling extensively for work and therefore expect to use less health care during that year.

suggests that it is possible that the first year of shifting into the HDHP is depressing utilization of preventive services for switchers. However, the changes are modest in most cases and overall are unlikely to present a large concern.

Discussion

Overall, the analysis in this report shows that members in the HDHP are, on average, younger and healthier than those enrolling in the IYC Health Plan. These observable and predictable health differences can largely explain the fact that, on average, HDHP members have allowed amounts that are a little more than $2,000 lower than those of IYC Health Plan members. HDHP members utilize preventive services at similar and sometimes slightly higher rates than IYC Health Plan members. We estimate that members who switch from the IYC Health Plan to the HDHP have total medical consumption about 10% below expectations in the first year after switching, but this differential seems to rebound by the second-year post switch.

The academic literature has raised concerns that enrollment in HDHP can substantially reduce healthcare utilization, including the use of high-value preventive care. Much of this evidence comes from settings where employers required all employees to switch to a high-deductible plan, eliminating choice. In contrast, enrollment in the HDHP within Wisconsin's State Group Health Insurance Program is voluntary. The analysis in this report suggests that any causal impact of HDHP enrollment on healthcare utilization in this context is likely modest. This may be partly because the deductible in this program is not as high as those in prior studies, which could dampen behavioral responses. Still, other studies have found sizable reductions in utilization even with smaller increases in deductibles, in settings without plan choice. Taken together, the relatively muted effects observed here are consistent with academic findings that when individuals can choose their plan, those most likely to reduce their healthcare use in response to cost-sharing tend to avoid plans with higher out-of-pocket costs.