MILLIMAN REPORT

Independent review of ParetoHealth’s methodology for quantifying the financial impact of its captive insurance model

Commissioned by ParetoHealth

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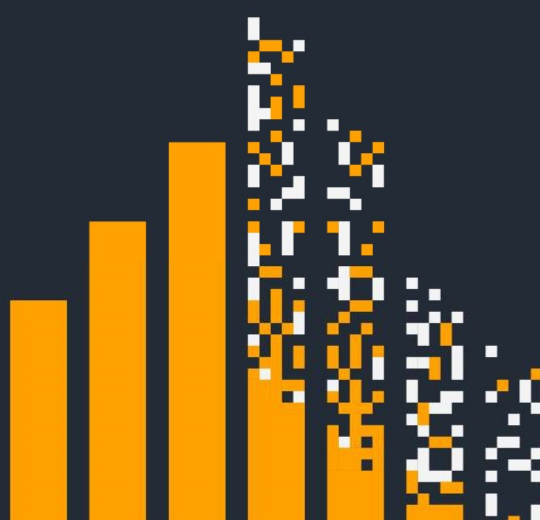

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Executive Summary

ParetoHealth (Pareto) has developed a model to estimate the cost impact from participation in its captive programs, which offer medical stop loss (MSL) coverage, access to Pareto's pharmacy benefit manager (PBM) agreements, and other cost management programs. The cost impact associated with Pareto's captives are quantified as the estimated premium and claims cost under the employer group's previous health insurance arrangement less the premium and claims cost under a Pareto captive program and any Pareto savings derived from pharmacy (Rx) rebates received or avoided stop-loss lasers.

Pareto commissioned Milliman to conduct a review of its model methodology for estimating the cost impact associated with joining one of its captives. This report:

1. provides an overview of Pareto's captive program,
2. describes the methodology employed in the model to estimate the cost impact of this risk-sharing arrangement,
3. discusses potential limitations of the methodology used by Pareto; and
4. outlines important caveats and limitations of our review of Pareto's cost impact methodology.

This report is intended to provide feedback on Pareto's model for estimating the impact of its captive programs as it was presented to Milliman and may not be appropriate and should not be used for any other purpose. Our review was based on a document provided by Pareto, titled "*ParetoHealth Results of Savings Analysis September 2024.docx",* along with numerous discussions with Pareto executives regarding the methodology as finalized in the document. Actual experience may differ from experience, results, and assumptions used in the model, and the results for any particular Pareto client will be unique to the characteristics of that client, time period considered, and other factors not considered in this assessment. This report is only commenting on the specific methodology document provided to us by Pareto for estimating the cost impact attributed to joining one of its captives. This report does not constitute an endorsement or recommendation of Pareto's captives, nor does it quantify the value of its captives in general or for any specific group or individual historically or in the future.

Our review of Pareto's model methodology for calculating the cost impact involved a thorough examination of the model's inputs, assumptions, and methodology. We evaluated the appropriateness of the data used, the validity of assumptions made, and the robustness of the methodology applied, based on the document provided to us by Pareto. We did not independently verify model outputs but we confirmed that the methods were applied as described.

We conclude that Pareto's methodology for estimating the cost impact associated with its captives is a logical approach to estimating the financial impacts of its solution, but with some potentially significant limitations, which could have a material impact on the cost impact estimates for any specific group. The main limitations are as follows:

- A key component of Pareto's value proposition includes passing 100% of Rx rebates through to employers who partner with Pareto's preferred pharmacy benefit manager (PBM). Any cost impacts associated with this component should be relative to the historical rebates received by the employer group in their prior health insurance arrangement. If the employer group was receiving significant rebates in the prior health insurance arrangement, cost impacts associated with Rx rebates would be reduced or eliminated. Based on our understanding and external studies, it is uncommon for PBMs to pass on zero rebates.
- Another key component of Pareto's value proposition includes a guarantee that new lasers will not be applied at contract renewal for the duration of membership in the Pareto captive. While this guarantee may generate savings for groups that would otherwise face lasers, it's important to note that Pareto includes a premium load to cover the cost of this provision. As a result, employer groups that do not experience an event that would have otherwise been subject to a laser may incur additional cost without realizing offsetting savings.
- Estimated savings from Pareto's 30% rate increase cap may only be applicable for employer groups with experience that would otherwise lead to receiving a market-based increase higher than 30% in a given year.
- Pareto's methodology limits the groups included to a subset of its total block of business, since only select groups meet the selection criteria related to data availability as discussed in the "Methodology" section. Consequently, the results reported in a particular study based on this methodology may vary from Pareto's

overall results due to either random volatility or any bias inherent in the cases that are able to provide this information.

- Pareto's methodology for estimating the cost impact resulting from the captive program is heavily assumption-driven, particularly for impacts estimated in year 2 and beyond, and results may vary significantly based on the assumptions selected. The cost impacts estimated in year 1 are based on actual Pareto and pre-Pareto premiums, claims expenditures, admin fees, and Rx rebates received.

Additionally, anyone relying on Pareto's cost impact estimates should be aware of the potential for selection bias due to voluntary participation in the captive programs. Employer groups who opt to participate in Pareto's captive programs may have behaviors and clinical risks that differ materially from employer groups who do not, which could result in higher or lower expected costs and utilization relative to an overall population average.

Many factors impact healthcare costs, trends, and premiums, and impacts may not be fully attributable to Pareto's risk-sharing arrangement. The Pareto captive cost impact estimates should be evaluated alongside other metrics to help validate the plausibility of results.

As with any methodology, it is important to understand the caveats and limitations that may impact the accuracy, validity, and generalizability of results, and we have documented these considerations in this report. It is important to read this report in its entirety.

Any reader of this report must possess a certain level of expertise in areas relevant to this analysis to evaluate the significance and reasonability of the assumptions as well as the effect of these assumptions on the results. We recommend that all parties be aided by their own actuary or other qualified professional when reviewing this report.

Background

Milliman was commissioned by Pareto to review and assess its cost impact model methodology for the purpose of estimating the financial impact of its risk-sharing arrangements and determine whether the model methodology is in line with common industry practices.

According to information provided by Pareto:

> ParetoHealth is an employee benefits captive manager offering a unique, long-term solution to reduce volatility and lower overall health benefit costs for mid-sized employers in the self-insured market. Small-to-midsize employer groups join ParetoHealth's captives as an alternative to being fully insured and paying a premium to a health plan or being self-insured and purchasing their own stop-loss policy to limit exposure to claims volatility. Joining the captive allows employers to benefit from being part of a larger pool of risk, participate in cost containment programs and opportunities, and be protected from surges in cost by the no-new-laser and 30% maximum rate increase provisions.
>
> Over time, continued participation in the ParetoHealth captive program can smooth the volatility of year-over-year renewal increases. The captive limits any single year's stop-loss increase to 30% and also promises no new lasers. These guarantees keep premium renewals predictable, even during challenging years for healthcare spend. As health plan volatility continues to rise across the industry, multi-year risk management frameworks provide a more stable alternative to the year-to-year fluctuations of traditional insurance.

Objective

Our review was limited to Pareto's cost impact model. The scope of this report is strictly limited to the review of the methodology used in the Pareto model, not the accuracy or applicability of results generated from the model. Our review does not apply to any other methodologies that Pareto may use to evaluate its market offerings. Any changes made to the methodology by Pareto after our review are outside the scope of this report.

Results

Our review of Pareto's cost impact model involved a thorough examination of the model's inputs, assumptions, and methodology. We evaluated the appropriateness of the data used, the validity of assumptions made, and the robustness of the methodology applied. Our review did not independently verify model outputs but confirmed that the methods were applied as described. Our review is based on the detailed methodology document provided by Pareto.

In addition to the description of the model methodology in the document provided by Pareto, we reviewed formulas and methodology in the Excel-based model, the selection criteria and exclusions, the literature-based annual trends used to project medical and Rx costs forward, the annual rate increases for Pareto relative to the market, the derivation and impact of Rx rebates and administrative costs, the estimated savings from the NNL guarantee, and the application of each of these assumptions to generate an estimate of the cost impact of Pareto's risk-sharing arrangements. We conclude that the methodology for estimating the cost impact of Pareto's captive program is a logical approach to estimating the financial impacts of a unique solution, but with some potentially significant limitations, which could have a material impact on the cost impact estimates for any specific group. These limitations include the following:

- **Rebates**
  1. A key component of Pareto's value proposition includes passing 100% of Rx rebates back to employers who partner with its preferred PBM.
  2. Potential savings derived from the preferred PBM are quantified under the assumption that the employer groups (fully or self-insured) did not already receive Rx rebates from the PBMs they partnered with prior to joining a Pareto captive.
  3. It's our understanding, based on our experience and external studies, such as an article[1] from Drug Channels Institute, that it is uncommon for PBMs to pass zero rebates realized back to self-insured employers, and that usually a PBM would pass on savings in the form of a percentage share of rebates or a flat guaranteed amount per script.
  4. Rx rebates are also included in the determination of minimum loss ratios for fully-insured employers, so this reduction in net liability is already reflected in the premium rates charged by insurers for employer groups who were previously fully-insured.
  5. Employer groups who receive any passthrough of Rx rebates from their PBMs prior to joining Pareto should consider the marginal impact of Pareto's Rx rebate passthrough benefit, rather than take credit for the full 100% of rebates.
- **NNL**
  1. Another key component of Pareto's value proposition includes a guarantee that new lasers[2] will not be applied at contract renewal for the duration of membership in the Pareto captive.
  2. Cost savings resulting from this provision are estimated by identifying individuals with high-risk medical conditions onset after contract renewal and aggregating all claims above the group's specific deductible and below an assumed laser deductible of $250k annually.
  3. In practice, laser deductibles may vary based on specific circumstances and underwriter discretion.
  4. Savings from the NNL provision are estimated from Pareto's aggregate book of business rather than the group-specific results for years where data is not yet available, but in practice will vary by employer group with many groups having no savings. Given the volatility of new lasers, however, we believe it is reasonable to estimate these savings from Pareto's entire book of business if there is no group-specific information available.
  5. Any impact the NNL provision has on the premium charged by Pareto may outweigh savings from avoided lasers depending on an employer group's experience.
     1. For example, if an employer group were charged a premium rate that includes a 10% load to fund the NNL provision, then the employer group would have to see a reduction in expenses of at least

[1] https://www.drugchannels.net/2023/12/surprising-data-on-employer-pbm-rebate.html

[2] Lasering refers to the underwriting practice of applying a higher specific deductible or excluding claims for specific high-risk claimants.

10% in order to generate savings resulting from this provision. If the employer group does not have any high-risk claimants that would have otherwise been lasered, this provision may result in a cost to the employer group. Please note that the 10% load in this example is for illustrative purposes only and may not reflect Pareto's actual pricing levels.

- **Rate increases**
  i. Estimated savings from Pareto's 30% rate cap will only be relevant for employer groups with experience that would have led to receiving a market-based increase higher than 30% in a given year.
  ii. Shifting of risk within captive pools may subsidize lower rate increases for groups with worse recent claims experience at the expense of better performing employer groups. As discussed in the "Background" section, this pooling of risk through the captive structure may provide more stable rate increases compared to alternative stop-loss insurance models.
  iii. Pareto's ability to achieve annual rate increase percentages below market average is influenced by the captives' ability to retain groups with a certain risk profile. Pareto reports a 96% retention rate, which compares favorably to a market average of approximately 78% per Milliman's 2024 Stop Loss Industry Survey[3].
- **Selection of employee groups included in study**
  i. The administration and general structure of each of the individual captive programs is assumed to be similar, but an employer group's experience may differ based on the captive program they belong to.
  ii. Pareto's methodology limits the groups included to a subset of its total block of business, since only select groups share sufficient data covering their arrangements prior to joining Pareto for inclusion in the analysis, as discussed in the "Methodology" section. Consequently, the results reported in a particular study based on this methodology may vary from Pareto's book of business results due to either random volatility or bias inherent in the cases that are able to provide this information. Any user of Pareto's cost impact estimates should ensure that the employer groups underlying the financial impact estimate are representative of the use case being considered, and if not, understand how these differences may result in alternative outcomes.
- **Sensitivity testing**
  i. Pareto's methodology for estimating the cost impact resulting from the captive programs is heavily assumption-driven and results may vary significantly based on the assumptions selected.
  ii. We recommend that any user of Pareto's cost impact estimates consider the impact of various scenarios and how sensitivity-testing key assumptions may impact results materially, to the extent of invalidating any cost impact estimates, rather than relying on point estimates only.

Methods

The purpose of Pareto's cost impact model is to estimate the cost impact attributed to the captive arrangements for employer groups who were previously self- or fully-insured. Our review of the model involved a thorough examination of inputs, assumptions, and methodology. The key assumptions, methodology, and data underlying the cost impact model are summarized below.

PARETOHEALTH MODEL METHODOLOGY

Pareto's model quantifies cost impact associated with Pareto's captives as the estimated cost under the employer group's previous arrangement reduced by the cost under the Pareto captive and any Pareto savings derived from Rx rebates received or avoided lasers (only applicable to formerly self-insured employer groups). The cost impacts for formerly fully-insured and formerly self-insured employer groups are based on self-reported premiums and employee counts under the previous arrangement, monthly member and employee eligibility, and average monthly medical and Rx costs, premiums, Rx rebates, and administrative fees per member. The employer groups included in a study are evaluated for data quality by Pareto to

[3] https://www.milliman.com/en/insight/observations-employer-stop-loss-market-2024-survey

ensure a sufficient number of months with claims and claims volume and availability of information related to the previous arrangements. Cost impacts resulting from the NNL provision are estimated by identifying individuals with high-risk medical conditions onset after contract renewal and aggregating all claims above the group's specific deductible and below a laser deductible of $250k. The total cost impacts are estimated as:

$$Previous\ arrangement\ estimate - (Pareto\ cost - Pareto\ savings)$$, where

$$\begin{aligned} Previous\ arrangement\ estimate \\ &= estimated\ non\ Pareto\ premium^{*} + aggregate\ medical\ \&\ Rx\ claims^{**} \\ &+ non\ Pareto\ administrative\ fees \end{aligned}$$

$$Pareto\ cost = Pareto\ premium + aggregate\ medical\ \&\ Rx\ claims + Pareto\ administrative\ fees$$

$$Pareto\ savings = estimated\ Rx\ rebates + estimated\ avoided\ lasers^{**}$$

**Includes health plan premium for previously fully-insured employer groups and stop loss premium for previously self-insured employer groups*

***Only applicable to formerly self-insured employer groups*

The medical and Rx costs and premiums underlying the cost impact estimates are trended to future contract years using both literature-based cost and premium trend estimates as outlined in Table 1 below for the previous arrangement estimate, as well as Pareto's internal assumptions around future rate increases for the Pareto premium estimates.

PARETOHEALTH MODEL ASSUMPTIONS

There are four main categories of assumptions applied in the model. These include trends, rate increases, Rx rebates, and the NNL provision.

- Rate increase assumptions are based on Pareto's historical averages, which are assumed to continue trending lower than comparable market rates for small to mid-sized employers in aggregate and to not exceed the 30% rate cap guarantee for any individual group.
- It is assumed that employer groups who were formerly self-insured were not receiving rebates from their previous PBM. If a group was receiving rebates, the cost impact estimate would be reduced.
- The value of the NNL provision is quantified by determining individuals with high-risk medical conditions onset after contract renewal and aggregating all claims above the group's specific deductible and below a laser deductible of $250k. Actual claims are used to estimate the impact, when available. The impact for years without complete claims is estimated as the average per member per month (PMPM) historical savings across Pareto's book of business for avoided lasers.
- The trend assumptions for fully-insured premium increases, national stop-loss premium increases, and medical and Rx costs are developed using industry surveys, while the target medical loss ratio is based around Affordable Care Act (ACA) minimum loss ratio (MLR) requirements for groups over 50 employees, minus a buffer to account for spending on quality improvement initiatives. The table below summarizes the sources Pareto relied on to support the development of trend assumptions.

TABLE 1

MODEL ASSUMPTION	SUPPORTING LITERATURE	YEARS ESTIMATED
Average fully-insured premium increase[4]	https://www.kff.org/health-costs/report/2024-employer-health-benefits-survey/	2023-2026
Average national stop-loss premium increase[5]	https://www.benefitspro.com/2024/07/19/medical-stop-loss-premiums-rise-11-5-for-self-funded-plans/ https://www.benefitspro.com/2024/08/05/high-claims-push-voya-2025-medical-stop-loss-rates-higher/ https://www.benefitspro.com/2024/08/14/sun-life-sees-u-s-medical-stop-loss-market-stabilizing/	2023-2026
Average medical and Rx costs[6]	https://www.pwc.com/us/en/industries/health-industries/library/assets/pwc-behind-the-numbers-2025.pdf	2023-2026

DATA

The data underlying the model is derived from three primary sources:

- Pareto financial reports and historical data for stop loss premiums, enrollment, and administrative fees, used to determine Pareto premium and administrative trend rates
- Third party-provided medical and Rx claim expenditures, used in combination with literature-based assumptions to develop estimated counterfactual costs
- PBM-provided Rx rebates, used in combination with Pareto's Rx trends to determine estimated future Rx rebates

We relied on data provided to us by Pareto. We have not audited or verified this data. If the underlying data is inaccurate or incomplete, the results of our analysis may likewise be inaccurate and incomplete.

Discussion

We conclude that Pareto's methodology for estimating cost impacts associated with its captive arrangements is a logical approach to estimating the financial impacts of its solution, but with some potentially significant limitations, which could have a material impact on the cost impact estimates for any specific group. Each party relying on estimates based on Pareto's cost impact model should review the inputs, assumptions, and methodology used in the model as it applies to each population of interest. The model methodology is heavily assumption-driven, and any user of the Pareto savings estimates should evaluate the sensitivity of results to changes in model assumptions, specifically trends, rate increases, Rx rebates, and NNL assumptions. Our review is based on the methodology document provided by Pareto at the time of the review. Any changes made by Pareto to the methodology after our review are outside the scope of this report. Our review did not include a verification of model results but confirmed the methods were applied as described. We do not opine on the reasonability of the cost impact estimates.

An additional limitation that anyone relying on Pareto's cost impact estimates should be aware of is selection bias due to voluntary participation in the captive programs. It is potentially the case that employer groups who opt to participate in Pareto's captive programs have behaviors and clinical risks that differ materially from employer groups who do not. This selection bias could result in higher or lower expected costs and utilization compared to average overall population costs and utilization.

[4] The rate for 2024+ is derived as the five-year exponentially weighted trend for fully-insured, small companies.

[5] The rate for 2025 relied on both internal and external information, and the rate for 2026 is the minimum of the rates for 2023-2025.

[6] The rate for 2026 is calculated as the minimum of the rates for 2023-2025.

- For example, if groups who opt into a Pareto captive program are more willing to engage in activities that will improve the healthcare outcomes of their employees and have been taking steps to manage such outcomes in the absence of the program, this could drive a reduction in the likelihood of unplanned medical expenses (thus overstating the impact of the Pareto captive programs).
- As another example, if groups who opt into the Pareto captive program are drawn to participate due to their higher level of clinical risk or difficulty managing the healthcare outcomes of their employees, this could drive an increase in the likelihood of unplanned medical expenses (thus understating the impact of the Pareto captive programs).
- There is no adjustment for or consideration of other care management programs that may influence cost and utilization in the measurement period.

Caveats, limitations, and qualifications

Erin Birkeland, Jakob Finney and Austin Barrington are members of the American Academy of Actuaries and meet the qualification standards to render the actuarial opinion contained herein. To the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices.

This report is intended to summarize our evaluation of the standard Pareto cost impact model methodology for estimating the cost impact associated with their risk-sharing arrangement programs. It may not be appropriate, and should not be used, for other purposes. We did not assess the effectiveness or impact of Pareto’s captives and make no opinions about their effectiveness or impact.

If distributed to third parties, this report must be shared in its entirety. We do not intend this information to benefit, or create a legal liability to, any third party, even if we permit the distribution of our work product to such a third party. Those reviewing Pareto’s cost impact estimates should take full responsibility for interpreting the results, which should be reviewed by someone knowledgeable in the areas of healthcare data and impact estimations.

In completing this review, we relied on information provided by Pareto between December 2024 and June 2025 which we reviewed for reasonableness but accepted without audit. Specifically, the core information we received includes:

ParetoHealth Results of Savings Analysis September 2024.docx

Supporting slides on Cost Savings Analysis.ppt

ParetoHealth Savings Analysis Supporting Calculations and Data September 2024.xlsx

If any of this information is inaccurate or incomplete, the contents of this report along with many of our conclusions may likewise be inaccurate or incomplete. This review incorporates our experience in working with similar programs that rely on administrative claims data, clinical literature-based assumptions, and theoretical economic impact models. Pareto clients’ actual results may differ from modeled projections due to factors such as differing member demographics and risk profiles, claim frequency and severity, captive programs, and random variation. It is important that Pareto and its clients monitor actual experience and make adjustments to inputs, assumptions, and methodology, as appropriate.

While we find Pareto’s standard methodology for estimating cost impacts to be logical, we are not commenting on the assumptions chosen for any particular estimation of the captives’ impacts performed for a client of Pareto. We did not attempt to replicate Pareto’s assumptions, recalculate its results, test for potential omissions, weaknesses, or biases. Furthermore, we did not review Pareto’s risk-sharing arrangements or whether those arrangements would produce results to demonstrate a causal relationship between captive arrangements and resulting cost impacts.

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