



Case Study: Risk Profile Analysis for Health Plan

Engagement Type: Per Report - Actuarial Advisory

Practice Area: Employee Benefits – Risk Profile Analysis

Jurisdiction: USA

Objective

A national health-focused non-profit operating a cost-sharing health model engaged Graeme Group to assess the adequacy of member contributions, quantify key actuarial risks, and identify cost drivers in medical and pharmacy utilization.

Scope of Services

The scope of services included:

- Validation of pharmacy and medical data for accuracy and completeness
- Analyze risk profile using historical claims and actuarial techniques
- Contribution analysis to allocate member costs to underlying components
- Document findings and provide actionable recommendations

Services Provided

Graeme Group delivered an actuarial service and data analysis package to assess the client's health risk profile, which comprised:

- **Data Validation**

Graeme Group validated the pharmacy and medical data for quality and completeness. This revealed numerous areas of concern, including missing data, data duplication, and erroneous values. Claims adjudication lags and a high prevalence of \$0-paid claims raised further concerns. These issues were incorporated into the Graeme Group risk framework to develop a structured risk map – used to categorize and assess the data. The data was subsequently cleaned and de-duplicated for analysis.

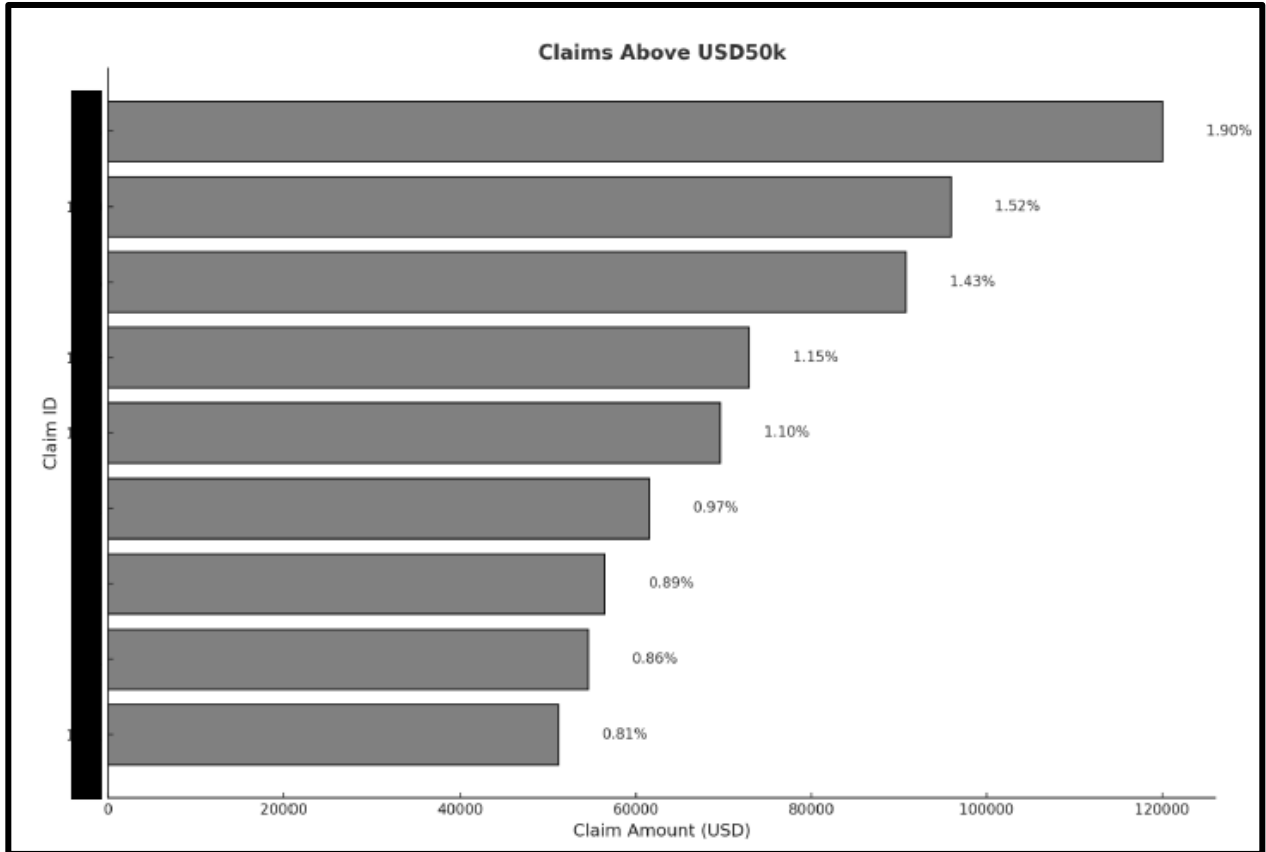
- **Pharmacy Risk Assessment**

Pharmacy claims were analyzed by member activity to assess engagement and cost concentration. High-cost members and medications—such as Ozempic—were isolated, and outliers and payment lags identified. Risk concentration was quantified by unique member to isolate potential high-cost members.

- **Medical Risk Assessment**

Medical claims were reviewed for trends, large claims, and service type distribution. Severity profiling was employed to identify exposure to catastrophic claims, including a

\$120,000 outlier, and significant cost concentration in surgery and maternity needs. Graeme Group also evaluated pricing adequacy through Medical Loss Ratio (MLR) computation, yielding a 2024 MLR well below market benchmarks. Anomalies in payment status were flagged.



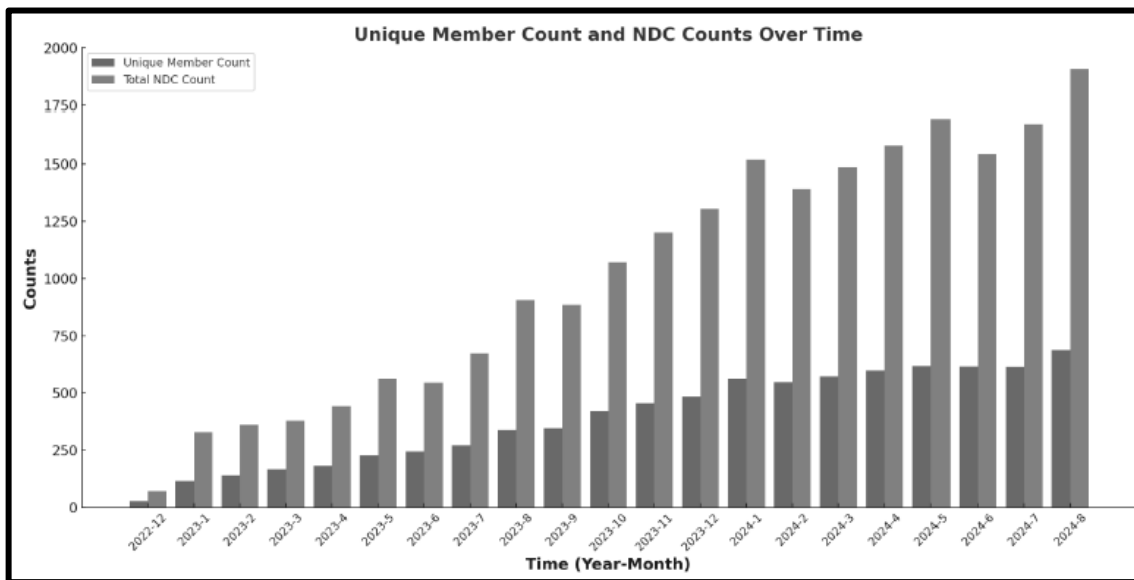
Excerpt 1 from redacted risk profile report: Top 10 contributors to medical claim costs

- **Documentation**

A formal actuarial report was prepared detailing methodology, data analysis, and observations. The report was constructed for internal governance and audit-readiness.

- **Recommendations**

Graeme Group provided a focused set of recommendations across cost containment, data governance, and pricing strategy. These were underpinned by statistical modeling of claims data to project a range of potential outcomes (scenario analysis).



Excerpt 2 from redacted risk profile report: pharmacy claims growth partially explained by unique membership growth count over time

Outcome

Graeme Group delivered a targeted health plan risk assessment for a non-profit operating a cost-sharing model. Key outcomes included:

- Resolution of critical data quality issues across medical and pharmacy population data
- Quantified risk exposure, cost concentration, and member engagement in an accessible way for non-actuaries
- Evaluated financial sustainability of the health plans (both pharmacy and medical)
- Delivered audit-ready actuarial documentation