



How Ruby's Continuous Measurement Helped a Health Plan Drive Enhancements and Deliver Greater Value from its Chronic Condition Management Program



What is Ruby?

Ruby Analytics is an analytics platform designed to transform how organizations measure performance, uncover insights, and drive better outcomes. Originally developed within Blue Cross of Idaho, Ruby was built to address a core industry challenge: static, retrospective reporting that limits an organization's ability to continuously track and improve performance. Ruby replaces this with continuous measurement, key insights and benchmarking, and predictive analytics – enabling health plans and partners to monitor affordability and manage their portfolio of programs in near real time, identify cost drivers, and make data-informed decisions that improve performance and reduce total cost of care.

Ruby's product suite centers on a differentiated set of scalable, patent pending, market-facing analytics solutions. Its core offerings include Continuous Measurement (*automated, ongoing evaluation of program performance and ROI*), Predictive Analytics (*forecasting future cost and utilization outcomes to enable proactive interventions*), Key Insights and Benchmarking (*standardized metrics, scorecards and comparative performance analysis*), and Analytic Consulting (*deep-dive analyses to identify root causes and develop actionable recommendations*). Together, these products create a comprehensive analytics ecosystem that moves beyond reporting to actively optimize programs, support strategic decision-making and continuously improve healthcare affordability and outcomes.

Condition Support program background

A western health plan has operated its own Condition Support program for many years. As part of this program, members who are identified as having an eligible chronic condition are contacted by a plan's clinician. Those who choose to engage in the program receive condition-specific coaching. Conditions addressed include asthma, diabetes, coronary artery disease (CAD), chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), high blood pressure, high cholesterol and arterial fibrillation (a-fib).

The issue

Client reporting: The plan's Condition Support program was offered as a buy-up program to self-funded clients for a flat per-enrollee, per-month (PEPM) fee. Solution reporting showed the number of members who engaged in the program and highlighted a couple of member success stories. This proved insufficient for many clients, and several groups opted to drop the program to avoid the PEPM fee.

A clear value story was needed to encourage clients to continue participating in the solution.

Program leadership: The plan's clinical leaders had no data on claims outcomes. The program's operations and identification methodology had little consideration for which conditions or members were most impactable.

The Ruby solution

- Ruby measured Condition Support using its Cohort Study Methodology, comparing condition-specific total allowed spend between two groups, focusing on identifying program-level savings for groups and the enterprise.

- Because this solution is a buy-up program for self-funded clients, Ruby's study design compares groups who have purchased the program to those who have not:
 - Members receiving support through the plan's Condition Support program (*treatment group*)
 - Members not receiving any support through the plan's Condition Support program (*control group*)

This approach:

- Simulates a randomized control trial in a near real-time environment
- Calculates the claims cost difference between both groups during a specific time period to build a cohort
- Allows comparison between different cohorts
- Enables entry and exit into and out of the program, since groups and members come in and out of the program over time

The cohort methodology uses three phases to aggregate data, calculate results and put them into a usable format for stakeholders.

Phase 1: Data integration

Ruby's analytics platform compiles data from several sources:

- Claims data, enrollment data, risk scores and other attributes were aggregated to calculate member-level attributes over time.
- Program-specific data was pulled from the clinical team's population health management platform and from the plan's Sales team to identify which groups offered the program, which members participated in the program, and what level of intervention each member received.

Phase 2: Continuous Measurement Engine

The team created a study design. After selecting the target variable to be measured, the team outlined the criteria for which members would be included in the treatment and control groups. In this instance, a control group was designed for each condition included in the plan's Condition Support program, matching on condition type, risk scores, line of business, and other attributes.

When a new study is configured, the Continuous Measurement Engine:

- Identifies all eligible members of the treatment group
- Uses machine learning to identify the most important predictors of the target outcome
- Leverages proprietary, patent-pending, best-in-class statistical matching methods, identifies a set of similar control members matched on those key predictors (*like creating a doppelganger, or twin, of the control group*)
- Estimates the initial similarity score and savings value between treatment and control groups

Each following month as new data is ingested, the Continuous Measurement Engine does the following with the most recent information:

- Identifies which members remain in the treatment group and control group
- Calculates the similarity score and savings value between treatment and control groups

Studies continue to update as long as the treatment group and control group are sufficiently similar to each other. Studies end when there are not enough treatment or control members, or if the similarity score between treatment and control is no longer within its tolerance limit.

This monthly continuous measurement cycle allows clients to observe trends and how the program matures over time. The monthly cadence also allows the client to see program changes in near real-time and its impact on trend.

Phase 3: Operationalization

Ruby measured these savings results in a dashboard where business-area stakeholders could see how their portfolio of programs was performing. Each month's results are stored at the member level and then aggregated to provide different views, depending on the audience (market segment level, self-funded client level, etc.).

Ruby also provided stakeholders updates when program savings shifted from a positive gross savings value to a negative gross savings value, and vice versa. Additional consulting with Ruby analysts and business areas allowed for more in-depth discussions on details.

Core findings

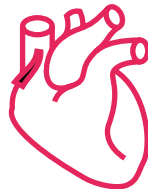
Ruby's Continuous Measurement Engine helped identify:

- Which diagnoses drive the most costs
- Within each condition, what are the primary drivers adding savings or increasing costs
- How long it takes it takes to realize savings after an intervention by a clinician

Through a statistically robust methodology, Ruby's reporting shows that the plan's Condition Support program delivers the following:



Asthma: Participants had \$2.36 PMPM lower allowed spend on anti-asthmatic and bronchodilator agents when compared to non-participant asthma patients.



CAD: Participants had \$14.35 PMPM lower allowed spend on coronary bypasses.



Diabetes: Participants had \$7.29 PMPM lower allowed spend in GLP-1s than similar non-participants, but had \$3.28 PMPM increase in allowed spend from higher utilization of glucose monitoring sensors.

Actionable outcomes

With Ruby measurement data and additional insights, the solution leaders were able to better prioritize conditions and identify program enhancements, as well as provide follow-up training with staff.

For the first time, they could pair disease management with clinical outcomes – delivering a clearer value story to sell the solution to clients.

Leaders became empowered to integrate their results with product development and sales teams to better guide pricing decisions and provide insights at group-specific levels.