

How Doctors Health Fund automated claims lag prediction and gave executives dynamic, filterable insight



Executive Summary

Doctors Health Fund needed dynamic, filterable claims lag predictions — but the only source of this data was a static, manual actuarial calculation covering the whole fund. Peraison built a Qlik dashboard that implemented the chain ladder methodology dynamically, making claims predictions available at month end for any subset of data the executive team wanted to interrogate.

Doctors Health Fund, like all private health insurers, faces a structural challenge with claims data: there is always a lag between when a service is provided and when the claim is received and processed. Understanding how claims will develop over the months following a service date — and how much will ultimately be paid — is critical for accurate reserving, IBNR calculations and financial planning. The actuarial team used the chain ladder methodology to produce these predictions, but the calculation was static, covering the whole fund, and required significant manual effort to produce each month.

The Challenge

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Key issues included:

- Claims lag predictions were only available at a whole-of-fund level, with no ability to filter by product, claim type, clinical category, hospital type, state or service type.
- The actuarial team had to produce the analysis manually each month, creating delays and consuming time that could be spent on higher-value work.
- The executive team could not interrogate predicted claims by segment, limiting the ability to understand the key drivers of changes or to act on emerging trends quickly.
- Financial planning and reserving decisions were based on aggregate figures, reducing confidence in estimates and limiting the granularity of insight available to decision-makers.

What was needed was a way to make the actuarial chain ladder calculation dynamic — automatically recalculating predictions for any subset of data, at month end, without manual actuarial intervention.

The Solution

Doctors Health Fund partnered with Peraison to implement the chain ladder methodology as a fully dynamic Qlik dashboard, working closely with the data and analytics team and key executive stakeholders.

The solution was built around three core elements:

Chain ladder methodology in Qlik

Peraison translated the actuarial chain ladder prediction methodology into Qlik using complex nested aggregation expressions. This dynamically calculates the development triangle — the incremental claims paid in each development period after a service date — and derives development factors that project forward predicted claims for months +1 through +11. Critically, this recalculates automatically for any combination of filters the user applies.

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Dynamic segmentation

The dashboard was engineered to dynamically recalculate development triangles and predicted claims for any subset of data selected — including Claim Types, Clinical Categories, Hospital Types and Groups, State, Products and Service Type. This required the Qlik expressions to handle the mathematical complexity of chain ladder calculations across varying data volumes and filter combinations, a technically demanding implementation.

Executive claims prediction dashboard

The resulting Qlik dashboard gives the executive team:

- Monthly breakdowns of benefits amount and service numbers alongside predicted claims to be paid incrementally across development periods.
- Filterable views across Claim Types, Clinical Categories, Hospital Types and Groups, State, Products and Service Type — with dynamic recalculation of predictions for any selection.
- Insight into the key drivers of claims changes, enabling more confident reserving, IBNR estimation and financial planning decisions.

The dashboard is automatically refreshed at month end, replacing the manual actuarial process with a trusted, self-serve solution available to the whole executive team.

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The Impact

The solution delivered immediate and lasting value for Doctors Health Fund.

Actuarial time saved

The manual monthly process of producing claims lag predictions was eliminated. The actuarial team no longer needs to generate this data, freeing them to focus on higher-value analysis and advice.

Faster, more actionable insight

Claims predictions are now available automatically at month end, filterable by any dimension. The executive team can interrogate the data immediately rather than waiting for actuarial output, enabling faster responses to emerging trends.

Improved financial planning and reserving confidence

With dynamic, granular claims predictions available by product, claim type and clinical category, financial planning and IBNR calculations are now grounded in more detailed and timely data — improving confidence in reserving decisions across the fund.

Understanding of claims drivers

The ability to filter predictions by segment has given the executive team a much clearer view of what is driving changes in claims experience — by product, clinical category, state and more — supporting better strategic decisions about product design, pricing and risk management.

By implementing the chain ladder methodology dynamically in Qlik, Peraison gave Doctors Health Fund something that had not previously existed: the ability to interrogate predicted claims for any segment of the fund, automatically, at month end — turning a slow manual process into a trusted, self-serve executive tool.