

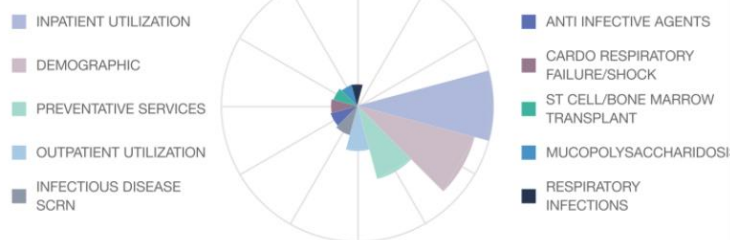
➤ **Why does Innovu’s Risk Score Model need to be “retrained” and what is changing?**

Innovu utilizes machine learning model algorithms to calculate both a Current and Future risk score for members based on the demographic variables, medical history, Rx history, and chronic condition exposure of a member’s health experience. These calculated risk scores are based on predicted current and future expenses, respectively. ***The algorithms used to calculate Innovu’s risk scores are not changing but to maintain and improve the accuracy of our risk scores, we are “retraining” the model by refreshing it with more current data in order to recognize new patterns and organizations within the data.*** This is an established best practice utilized for machine learning models across all industries. This refresh will update all historical risk scores in Lens for your respective organizations.

Along with the refresh in data, the following additional enhancements are being made:

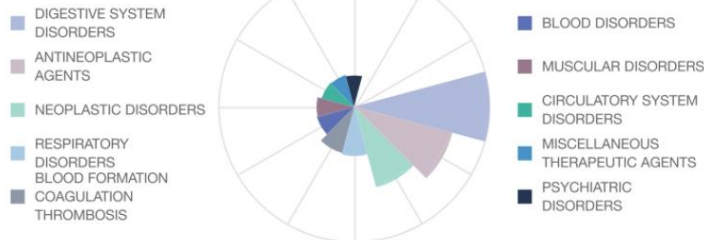
- Historical costs utilized in the model have been adjusted to 2021 dollars based on the medical price inflation index from the Bureau of Labor Statistics.
- The Current risk scores model is now more descriptive regarding the factors contributing to a member’s Current risk score (i.e., what’s represented on the Risk by Factor widget on the Risk Overview). The following is a side-by-side comparison illustrating the enhanced level of descriptiveness that will be available.

Risk By Factor



Previous factor descriptions available on Risk Overview.

Risk By Factor



New factor descriptions available on Risk Overview for the same organization and time period.

Recognizing that it can be difficult to determine the main factors influencing an organization’s and/or member’s numerical risk score values to determine the appropriate mitigations, Innovu has created a new global dashboard, **Risk Score Explanation by Factor**, that can be used to help explain which factors are contributing to the Current and Future risk scores at the organization and/or member level. The widgets on the dashboard provide a percentage overview of the high-level underlying factors that contribute to the respective organization’s or member’s risk scores as well as a more detailed breakdown. The widgets can be filtered by time period and/or Member ID.

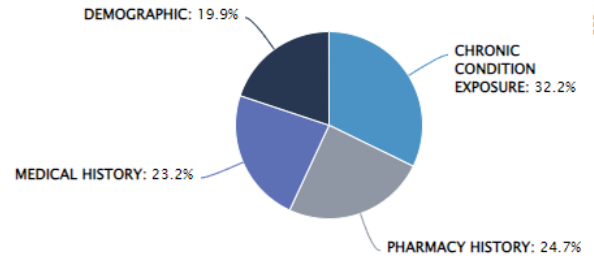
The following two pages contain an example of how the dashboard provides explanations for an organization with moderate Current Risk and Future Risk as well as for a member within the organization that has high Current Risk and Future Risk.

Organizational Risk Score Explanation by Factor

Organization - Current Risk Score

5.36

Organization Current Risk Explanation - Overview



Organization Current Risk Explanation - Detail

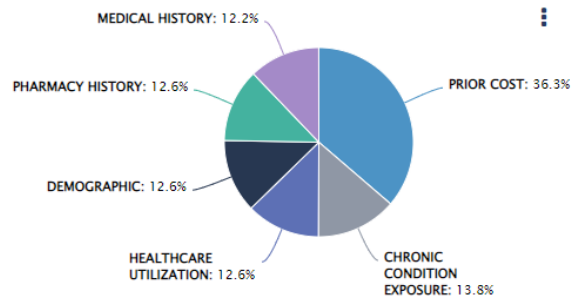
	Reason	Importance
1	DIGESTIVE SYSTEM DISORDERS	10%
2	ANTINEOPLASTIC AGENTS	10%
3	NEOPLASTIC DISORDERS	9%
4	RESPIRATORY DISORDERS	5%
5	INJURIES	5%
6	BLOOD FORMATION COAGULATION THROMBOSIS	5%
7	GENITOURINARY DISORDERS	4%
8	INFECTIONS	4%
9	MUSCULAR DISORDERS	4%
10	CIRCULATORY SYSTEM DISORDERS	3%

The organization's Current Risk score of 5.36 is primarily driven by its members' chronic condition exposure. Specifically, the main chronic conditions within the organization can be explained as digestive system disorders and neoplastic disorders.

Organization - Future Risk Score

4.95

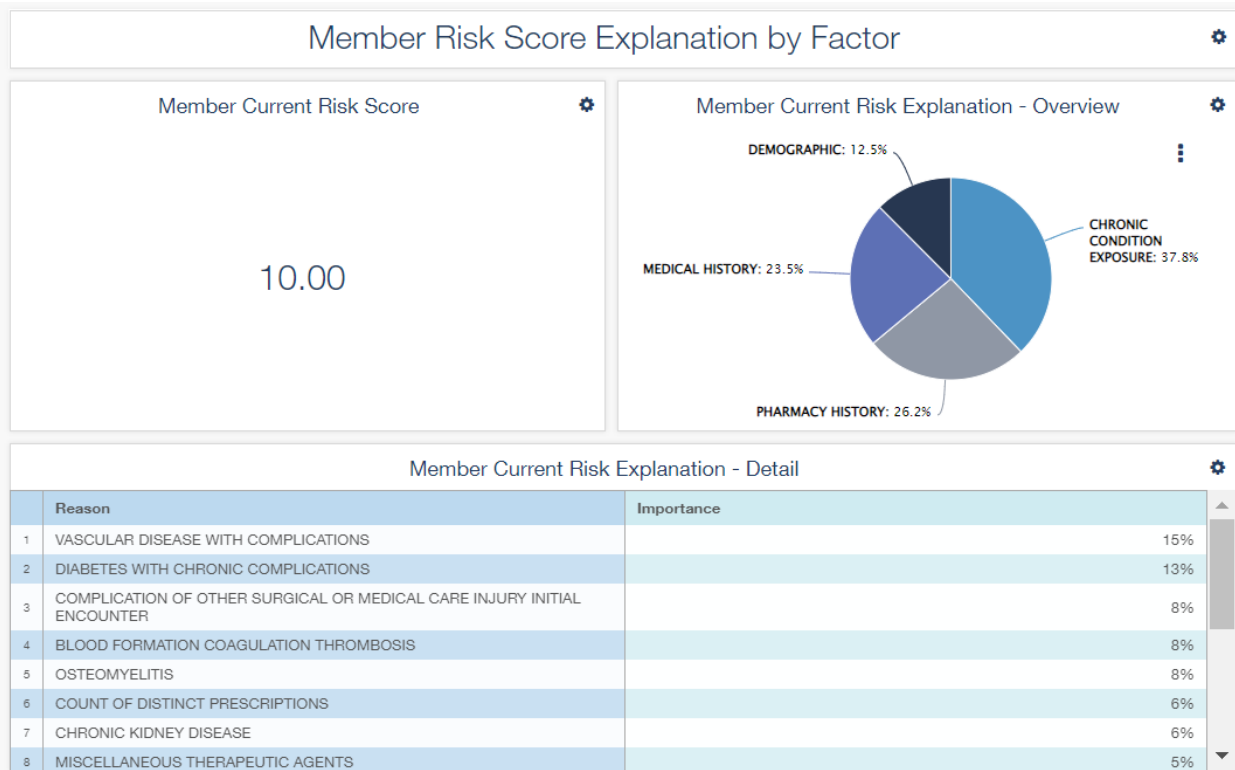
Organization Future Risk Explanation - Overview



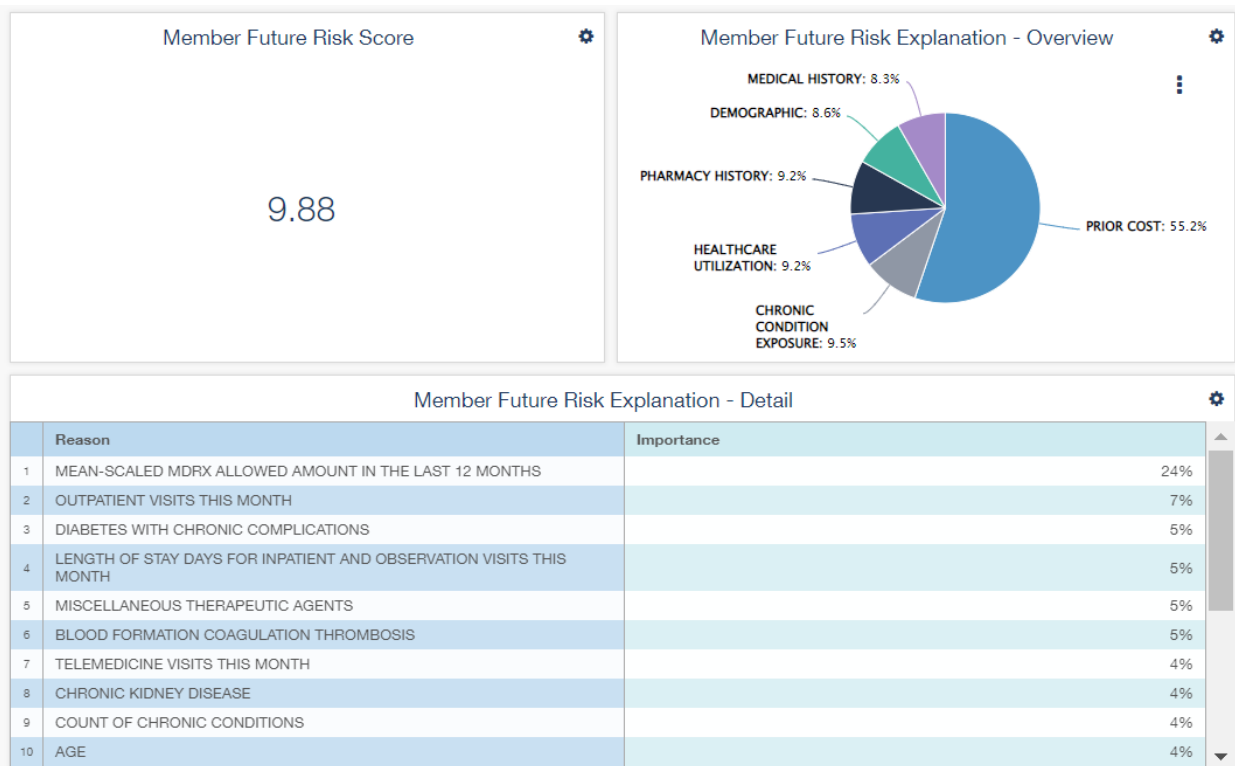
Organization Future Risk Explanation - Detail

	Reason	Importance
1	NEOPLASTIC DISORDERS	8%
2	INFECTIONS	8%
3	PRIOR COST	7%
4	ANTINEOPLASTIC AGENTS	6%
5	DIGESTIVE SYSTEM DISORDERS	6%
6	GENITOURINARY DISORDERS	4%
7	RESPIRATORY DISORDERS	4%
8	MUSCULAR DISORDERS	4%
9	MISCELLANEOUS THERAPEUTIC AGENTS	3%
10	BLOOD DISORDERS	3%

The organization's Future Risk score of 4.95 can be explained as being primarily impacted by the prior/current cost resulting from the conditions within the population.



The member's Current Risk score of 10.00 is primarily impacted by chronic condition exposure; specifically, vascular disease and diabetes diagnoses.



The member's Future Risk score of 9.88 is mostly impacted by the prior/current expenditures being experienced, likely due to their chronic conditions.

➤ **How will the change appear within Lens?**

We are updating the model by retraining/refreshing it with more current data, which will result in all historical risk scores being re-calculated and displayed using the current data. This is similar to how historical organizational and member risk scores are already re-calculated twice a week utilizing the current model but based on newly available data. Historical risk scores will continue to be re-calculated twice a week with the refreshed model.

Because of this, if you recently exported a dashboard or report that contains risk scores, you should rerun the dashboard or report so that it is refreshed with the updated risk scores.

Current and Future risk scores will still be accessed in Lens via Overviews, existing global or static dashboards, and the Member model.

In summary, where the risk scores are located within Lens and how they can be used is not changing.

➤ **How are customers' risk scores impacted?**

Current and Future risk score values, both historical and current, will change as a result of the model being retrained. On average across Innovu's dataset, there will be a decrease in Current and Future risk scores between the risk scores previously seen in Lens and the updated risk scores. Comparing risk scores as of November 2021 (pulled on 1/12/2022), the average decreases in the numerical risk score values are:

- Average change in Current Risk Score = -0.43
- Average change in Future Risk Score = -0.64
- Average change in Global Current Risk Score = -1.81
- Average change in Global Future Risk Score = -0.94