

Case Study

Predicting Risk of Accidental Falls in Seniors for Payers

Client Requirements

Client is a payer interested in leveraging advanced analytics to save costs by preventing or limiting costly but avoidable events, particularly accidental falls among seniors. The solution needed identification of members who need to be assessed using the standard risk of fall assessment survey. Further, client wanted to leverage the survey response and medical history to stratify members by predicting their risk of accidental falls.

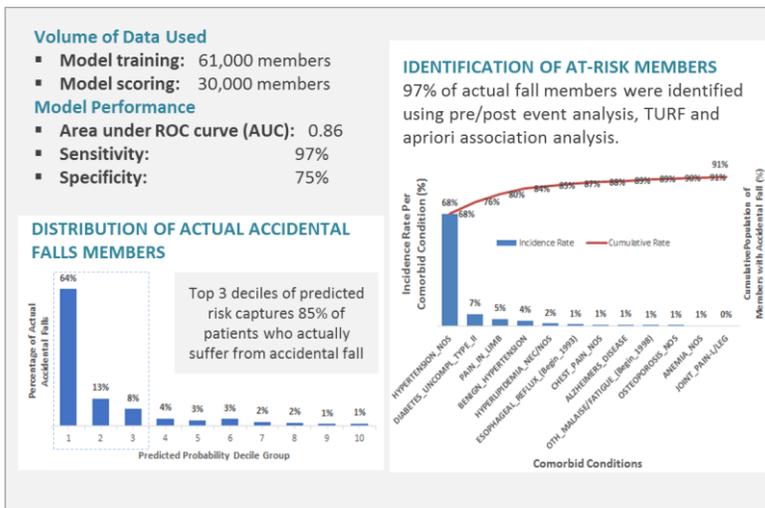
Medictiv for Accidental Falls Predictions

CitiusTech's Medictiv suite of data mining services helped the client identify correlated factors among seniors who suffered from an accidental fall. Based on these insights, client surveyed a sample member population. Combining survey data and medical history, Medictiv created a unique model to predict members risk of suffering an accidental fall in the future.

Algorithms Used: Analysis was performed on pre-fall and post-fall data using data mining and machine learning algorithms such as logistic regression, apriori association, and TURF analysis.

Input Parameters: Claims remits, patient demographics and survey data to provide member medical history

Output: TURF analysis identified combination of 40 drugs and comorbid conditions prevalent in 97% of members suffering an accidental fall. Logistic regression model classified 85% of members with accidental falls in top 3 deciles of predicted risk.



Identification of at risk members focused Client's ability to survey members for risk of fall. Risk stratification allowed client to focus preventative measures to members at highest risk of suffering an accidental fall reducing the average spend on treatment.

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