dotData

Improving Inpatient Utilization & Reducing Healthcare Costs With AI

AI provides potential $1.4M per month savings by avoiding costly ER visits

22% OF ER VISITS CAN BE AVOIDED USING AI | **$1.4M** PROJECTED MONTHLY SAVINGS

Introduction

One of the ways to reduce healthcare costs is by encouraging hospitals and healthcare providers to coordinate patient care, deliver the right care at the right time. Accountable Care Organization (ACO) initiatives are composed of doctors, hospitals, and other health care providers who voluntarily provide coordinated care to Medicare patients. An ACO strives to deliver high-quality care while spending health care dollars more effectively.

Problem: Poor inpatient utilization

Inpatient utilization is one of the main cost centers, with Emergency Department (ED) visits taking up a significant portion of that cost. According to research, two-thirds of ED visits could be avoided and are treatable by a primary care provider. Intervention using a care professional is a proven method of reducing non-emergency ED visits to improve utilization. Identifying "at risk" individuals who should be proactively treated is a challenging exercise despite availability of Claim Line Feed (CCLF) data.

Solution: How dotData Responded

By using dotData Enterprise, our AI automation platform, a leading ACO was able to build a highly accurate model to predict beneficiaries that are more likely to visit EDs within a 30-day cycle. CCLF data from the Medicare Sharing and Savings Program supported by CMS was used to build the models. Healthcare data is complex and comes in many dimensions. CCLF data was used in dotData without modification to extract insights using past diagnosis information, primary care visits and provider behavior automatically. These insights (or features) were used to train machine learning models.

The Results

When the model was scored on 28,000 beneficiaries in the month of November 2020, the top 2.5% of predicted beneficiaries captured 22% of actual ED visitors in that month. This group accounted for $2.75M in total ED costs to Medicare. Assuming intervention redirected 50% of these ED visits to a primary care provider, the cost savings could be $1.4M for November 2020 alone. The model indicated significant potential shared savings for Medicare and the ACO in the first month with an opportunity to improve the patient outcomes and experience.