AI PAYOR SOLUTION - CLAIMS ACUMEN

Health Insurance Payors provide patients with the health insurance coverage needed to receive necessary health care services. The healthcare provider submits a medical claim to a payor to receive reimbursement for the services rendered to the patients. This claim has information about that incident otherwise known as an encounter which can be at a physician office, outpatient facility or an inpatient setting.

The medical claims data set can be used to generate helpful insights about usage of services, frequency of such services, what is paid, denied or rejected.

THE PROBLEM

Every claim that is accepted into the claims system of a payer constitutes a potential liability for them. This potential liability to be accounted for is around 30% of billed charges. This puts a burden on the Payor reserves and cash flow.

That is why it is critically important for claims to be as clean as possible to enable straight through processing which will avoid costly, manual interventions and adjustments.

ILLUSTRATIVE EXAMPLE

A health plan that has 500,000 members, with 9,000,000 first time claims a year and around 360,000-450,000 adjustment requests. Assuming that the allowable on an average claim is $250, the total payout per year is $2.36B. And, assuming 1% of the claims which are admitted into the system should not have been accepted, it potentially saves the payer $24M in reserves. This is in addition to the operational savings in manually processing claims and adjustments.

THE SOLUTION

BigRio has developed an AI based solution, Claims Acumen to enable the following:

- Predicative model based on claims history of professional, inpatient and outpatient claims
- Identify non-deterministic relationships between data elements of CMS-1500, UB 04 forms and claims denial history (full or partial)
- Identify the claims that are most likely to be denied or rejected by the plan.

The Data needed for building the predictive model is:

- 5 years of claims history
- 5 years of adjustment history

On an ongoing basis, the model will need 837 files from mailroom as well as EDI trading partners. Adjustment data from claims operations will improve the efficacy of the model further.

THE VALIDATION

BigRio's ClaimsAcumen® solution has been tested using CMS's claims synthetic data.

We used professional claims over a three-year time window to build the model and we were able to accurately predict approximately 95% of denials and rejections.

In essence, the Deep Learning based model is highly accurate in predicting claims that will be denied or rejected even before those have been adjudicated.

Healthplans then have an option to utilize this information to reach out to the providers and prevent member abrasion.

VALUE PROPOSITION

We believe that the model efficacy will significantly improve by using large volume of real-life de-identified claims data from a payer. With that in mind we are looking for collaboration partners to run Proof of Concept (PoC) projects. These POCs will take 15 weeks to run with a total investment of $ 150,000

Weeks 1-4	Weeks 5-6	Weeks 7-9	Weeks 10-13	Weeks 14-15
Data Collection Claims data would be collected and stored in HIPAA compliant cloud	**Data Cleaning** Deduplication, extrapolation, reengineering, labeling of records from the data set	**Feature Engineering** Data exploration & data mining techniques would be utilized to extract relevant features	**Machine Learning** Multiple Machine learning models would be developed and tested	**Deployment and Testing** The service would be deployed and tested as part of a pilot program

Collaboration partners will receive favorable transaction pricing for participating in this POCs (discounts ranging from 25%-50% depending on length of contract) and the amount paid for the POC will be adjusted against the implementation fees.

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