



Cognizant's Medical Provider Benchmarking Model Identifies \$8 Million in Insurance Fraud

Identifying fraudulent behavior patterns enables proactive intervention at leading U.S. worker's compensation carrier

Insurance fraud costs carriers an estimated \$80 billion each year, with fraud in healthcare claims by far the largest culprit. While carriers are required by law to have special investigations units (SIUs) to investigate potential abuses, SIU resources are finite and typically focused only on the most egregious cases. As a result, many carriers are looking for new, innovative ways to reduce fraud.

A leading U.S. workers' compensation insurance carrier suspected high levels of fraudulent workers' comp claims. Like many carriers, the company used a rules-based claims review process focused on individual medical invoices. Claims were not viewed in the context of past bills for a specific claim or for the provider filing the claims. While historical data existed, it did not provide insight into fraudulent behavior patterns. The company wanted to explore innovative approaches, so it engaged Cognizant to develop a unique provider benchmarking methodology that could identify fraudulent behavior by providers, without a costly systems implementation.

AT A GLANCE

In an effort to curb rising provider insurance fraud for workers' compensation claims, a leading U.S. workers' comp insurance carrier engaged Cognizant to create an innovative medical provider benchmarking solution. Cognizant incorporated clinical expertise and external guidelines with sophisticated machine learning capabilities to develop an analytics-based benchmarking model that identifies medical fraud and comprehensively examines transactions, flagging potentially fraudulent claims and providers.

Outcomes:

- Identified \$8 million in fraudulent claims.
- Produced >60 times return on investment.
- Improved the direction and efficiency of special investigation units (SIUs), claims research, clinicians and claims adjusters.

Benchmarking model uses machine learning to find patterns in medical claims data

After developing and testing multiple hypotheses, Cognizant developed an analytical methodology that uses unsupervised machine learning techniques to ingest and analyze the medical bill data against three dimensions:

- Plausibility of providers' treatment decisions.
- Providers' treatment outcomes in terms of treatment duration, return to work timeframe and cost of treatment.
- Markers for adverse provider behavior.

Because fraud can occur across many areas of the claims process, machine learning is essential to mine the vast volume of data, detect patterns and account for nuances.

Cognizant's analysis evaluates the plausibility of providers' treatment decisions utilizing the entire gamut of data present in medical bills. To ensure accuracy, clinicians were closely involved in building the analytical model, and their clinical knowledge was utilized to evaluate providers' diagnosis and treatment decisions. Cognizant also consulted SIU stakeholders to develop model outputs to ensure that results are relevant and actionable.

In the model, which can be run periodically as needed, treatment decisions are analyzed based on the coherence of the nature of injury, compensable body part, diagnosis, procedure, and provider specialty. The model determines the appropriateness of the diagnosis relative to the injury and compensable body part, the procedures to the diagnosis, the provider specialty to the diagnosis,

etc. Mapping injury and procedure codes back to diagnosis codes aids in medical bill review, decision or treatment plan amendments and SIU review.

To gain insight into outcomes, Cognizant indexed data by categories such as diagnosis, state and specialty. Mapping the indexed data to treatment decisions provides a comprehensive analysis of outcomes that are used as benchmarks to monitor and control the cost and duration of treatment.

In analyzing provider history, the model flags anomalies, such as moves across state lines or frequent address changes, history of denied claims, atypical narcotic or opioid prescriptions, or suspicious relationships with other providers that indicate collusion. Consistent patterns may indicate fraudulent behavior. However, because nuances can create variances in patterns identified solely from data-driven facts, the model flags unique circumstances for review by clinicians. Providers engaging in fraudulent billing practices can be excluded from the network and bills can be flagged prior to payment, reducing the company's risk.

Cognizant's provider benchmarking methodology has identified approximately \$8 million in medical provider fraud - a return more than 60 times the carrier's investment. In addition, the model supports diverse carriers by applying unique business rules to the methodology to address issues other than fraud, potentially providing benefits across multiple areas of the business.

Learn More

To learn more about Cognizant, please visit www.cognizant.com/insurance or send an e-mail to InsuranceAnalytics@cognizant.com.

ABOUT COGNIZANT

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