Healthcare Predictive Analytics Practicum

Business Case: Paradise, Predicting Denials Before They Happen

### Executive Summary

Paradise Health System, a 12 hospital system located in the mid-west, identified denials management as a key objective for 2016. While denied claims have long been a function of doing business with insurance payers, the waste involved in retrospectively reviewing, analyzing, and appealing denials has inflated the cost to collect, reduced overall reimbursement rates, and decreased customer satisfaction scores to the point where inaction may affect its ability to provide services to the region. With at best break-even margins, every possible way must be uncovered to receive proper and timely payment for their services.

During recent executive strategic planning exercises, leaders pointed out that a 10% reduction in first pass denials – meaning that payers would reimburse the contracted amount for services on the initial claim – would equate to a $33M windfall in net patient revenue. A reduction in denials would accelerate cash collections which has a time value of money and propensity to collect value.

While a 10% reduction in first pass denials appears to be a feasible goal, experience tells leadership that new ideas and scientific processes are needed to overcome this seemingly endless cycle of short or no payments on legitimate patient services. History has proven that denials management is a labor intensive exercise that relies heavily on scatter shot, retrospective reviews of claims and manual interventions that take resources away from their primary responsibilities.

Without a new approach and added cash to the bottom line, Paradise Health System will find itself having to make tough decisions on whether to discontinue certain clinical services, reduce capital investments, or other drastic measures in order to remain viable.

### Company Profile

Paradise Health System is a 12 hospital system located in the mid-west with annual patient revenues of $5.7B. They recently experienced an annual denial rate of 5.81% or $330M, primarily among government payers (e.g., Medicare, Medicaid). As is typical among large health systems, the success rate for overturning these denials is relatively low, hovering at roughly 8-10% overall.

Paradise has a robust Revenue Cycle and Denials Management team and ready access to data and tools to analyze data. Unfortunately, there are few tools that bubble to the surface actionable information derived from the data. Therefore, the teams tend to fall back to the scatter shot approach of looking at each claim and handling them individually. This time intensive approach is expensive and rarely produces scalable efficiencies.

Furthermore, cost-containment initiatives from leadership reduce the likelihood that additional resources will be available to work on denials. As is likely the case, resources may be reduced in the near future unless there is a positive change in performance.

### Problem Definition

Denied claims from Paradise Healthcare occur when the third-party payer (i.e., Blue Cross, Aetna, etc.) does not pay or only partially pays a submitted billed claim. Denials serve as a leading indicator foretelling what might be written off to bad debt. More importantly, denials are a lagging indicator showing where there are breakdowns in the pre-bill, claim generation process.

Managing the denials process is typically a manual process that involves skilled resources that identify defects in the denied claim using experience and generalized information from the payers as their guide. They collaborate with resources from other departments to determine if an appeal is warranted. If warranted, the denials team will correct the defects, prepare the appeal, and resubmit the corrected claim to the payer.

In all, denials have a negative impact on Paradise Healthcare’s ability to collect on services rendered to patients. This is avoidable waste in the reimbursement process.

Essentially, denials:

* Increase the cost to collect what is due Paradise Healthcare
* Delay the reimbursement time by 30 days or more
* Devalue the Accounts Receivable asset

Paradise Healthcare leadership wants to significantly reduce or eliminate denials; however, denials has always been viewed as something to be managed rather than being avoided. Typical denials management is reactive to the event that will happen to 5-10% of all claims that go out the door, depending on the payer source. For this $5.7B hospital system with breakeven margins, denials equate to a $330M cash flow issue.

Thinkers within the leadership team want to take a fresh look at what is driving denials in the first place. They want to determine if they can leverage the System’s data to proactively intervene in the pre-bill process and eliminate the probability of a denial from occurring.

### Questions

1. Can data modeling be used to build profiles that predict the likelihood that a claim will be denied before it is submitted to a payer?
2. To what degree of certainty can we assure the CFO that holding the claim until it is cleansed of any denial-ready defect will lead to a positive outcome (e.g., quicker reimbursement than if it went through the denials process, higher reimbursement, etc.)?
3. What would be the best mechanism for presenting the propensity to deny findings of each claim?
4. Is there a noticeable in reimbursement rates between claims with no denial activity and ones with a first pass denial?