Hospital Denial Management: Improving Speed of Revenue Collection

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Abstract—This research aims to increase the speed of revenue collection in a hospital to increase revenue. Denial management (when third party payers refuse to cover expenses for the service for any reason) is an excellent tool to improve the speed and amount of revenue collection. There are two types of general services provided by the hospital: ambulatory and admission. In case there is a third party denial, documentation is reviewed, corrected, and resent. When a second denial occurs the hospital representative may appeal at the medical plan’s office. Through an effective documentation and communications system, along with suggestions to implement denial management correctly, the percent of revenue could be increased by 3% to 5%.

Keywords— revenue cycle and collection, denial management.

I. INTRODUCTION

A local private hospital in Puerto Rico is having problems with their revenue cycle management which has a direct impact on the speed of their revenue collection which in turns is affecting this health service enterprise to realize their earnings. The situation presented by the hospital gave an excellent opportunity to the researchers to solve the problem applying industrial engineering techniques, such as cost analysis and control and cost optimization to generate feasible recommendations. The main objective is to make recommendations to help the hospital increase the speed of revenue collection to accurately invest when needed; which in turn would increase revenue (and its long run).

The methodology used for this research included four steps: problem identification, review of literature, data gathering and analysis, and recommendations. Problem identification included visiting the hospital to discuss and understand their issues related to denial management. Review of literature included finding relevant literature to help the researchers learned and understand the details of a hospital revenue cycle. Data gathering and analysis included obtaining real data to identify opportunities to improve denial management and revenue collection. Recommendations were generated after analyzing the available data for various months and using the academic literature to validate the recommended steps to the hospital management.

II. REVIEW OF RELEVANT LITERATURE

The review of relevant literature was divided into the following: understanding the revenue cycle of a hospital, learning about denial management, and identifying the deterrents to revenue collection.

The hospital revenue cycle is the series of steps that occur or are taken in order to generate revenue. It begins with the registration of the patient for a designated service: ambulatory or admission services. The revenue depends greatly on how well the process of documentation works for patient registration, charge capture, and billing [1]. It is estimated that most organizations can recoup 3% to 5% of annual revenues through effective denial management [2].

A denial is when a bill sent for an offered service is rejected by a third party payer [2]. The criteria used by the auditors to accept or “deny” a certain bill are given by the InterQual Guidelines [3]. Denial management is a mechanism used to prevent errors in codification and communication with third party payers [4]. With this method it is possible to increase the speed of revenue collection and to make better investments. Important details about denials are: denials are looked as an opportunity rather than a problem; denial statistics and metrics can become the backbone of the entire revenue cycle program; many denials are reworked and never end up as write-offs, etcetera [2].

Some of the most common denial reasons found within hospitals are: criteria for clearing a patient to leave; medical insurance plans determine that a patient should have been cleared before the actual date, etcetera. Some of the most common deterrents found in the literature are: fear associated with the admission that there is a denial problem; sheer complexity of third-party denials, etcetera. It is crucial for the hospital management to identify effective ways to work with the deterrents to ensure revenue is collected as expected [2].

III. DATA GATHERING

Data was collected to understand the revenue cycle of the hospital. It begins with the registration of the patient for a service: ambulatory or admission. There are four types of documentation: inpatient includes regular admission and skilled nursing facility; outpatient includes previously scheduled services and the Emergency Room (ER). It is decided in the ER if a patient will be admitted or treated as an ambulatory case.

When the patient is admitted to the hospital, a record of received treatments is needed. A patient must spend more than 24 hours in the hospital to be considered an admission. After a patient is cleared to leave, the inpatient record is completed and audited, the services are codified, and sent to the billing department where they will send the information to third party payers. Before that deductible is charged. A specified amount of funds from medical plans is assigned to cover ambulatory services. Inpatient coverage is variable. For third party denials due to missing information or misplaced charges
the documentation has to be corrected and resent. If a second denial occurs the hospital will appeal to the medical insurance office through its Denial Management Department (DMD). After the processes of servicing and documentation, the DMD revise and correct the bills before presenting them to the external auditors. They use an outdated software system to handle the denials. A new one has been designed to accomplish the task of permitting better denial management.

IV. ANALYSIS OF DATA

The hospital management provided real data to analyze their situation dealing with denials regarding the amount of bills processed and the amount and percentages of approved and denied bills. Data is presented in Table 1 and Figure 1.

Table 1. Approved hospital bills vs. Denials for four months

<table>
<thead>
<tr>
<th>Month</th>
<th>Total</th>
<th>Approved</th>
<th>Denied</th>
<th>% of approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>427</td>
<td>261</td>
<td>166</td>
<td>61.12%</td>
</tr>
<tr>
<td>Second</td>
<td>573</td>
<td>347</td>
<td>226</td>
<td>60.56%</td>
</tr>
<tr>
<td>Third</td>
<td>245</td>
<td>165</td>
<td>80</td>
<td>67.35%</td>
</tr>
<tr>
<td>Fourth</td>
<td>354</td>
<td>207</td>
<td>147</td>
<td>58.47%</td>
</tr>
<tr>
<td>Accumulated</td>
<td>1,599</td>
<td>980</td>
<td>619</td>
<td>61.28%</td>
</tr>
</tbody>
</table>

Results for three different scenarios based on 3% to 5% of increased revenues were calculated (refer to Table 3). ROI calculations were done assuming three years of benefits. Results shown on Table 3 demonstrate that acquiring the new software will be beneficial for the hospital if they are able to increase revenue by more than 4% for at least three years.

V. PRELIMINARY RECOMMENDATIONS AND FUTURE STEPS

A review of literature of hospitals’ revenue cycle is presented. It was applied to a Puerto Rico hospital using real data. Based on data analyzed some recommendations were generated. The new software the hospital is evaluating should bring benefits if revenues continue to increase every year. It could be used to alert hospital personnel to attend issues involving the denial reasons identified on the Pareto analysis. Management may assess situations to make decisions before services are billed to reduce denials. Documentation must include sections for doctors to provide detailed information about their criteria for release, admittance, and decisions for treatment. Main focus is to provide reliable information to DMD. Future steps include more analysis of the denial reasons to pinpoint the main ones affecting revenue collection. Additional recommendations may be generated accordingly.

REFERENCES


