



The Power of Business Intelligence in the Revenue Cycle

Increasing Cash Flow with Actionable Information

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Revenue Cycle Challenges

The healthcare industry contains one of the most complex revenue cycles of any industry. It is made up of several intricate administrative and clinical processes needed to capture data that is necessary for accurate claims submission and payment. These processes include but are not necessarily limited to: preregistration, insurance verification, authorization, scheduling, admitting, point-of-service collections, clinical documentation, charge capture, case management/utilization review, coding, billing, collections, payment verification, payment posting, and denials management.

Any error in the above mentioned processes of the revenue cycle can result in billing problems as well as incorrect reimbursement or denied charges and payments. In addition, mistakes can lead to payment recoveries by payers, compliance issues, and even fraud.

One of the most challenging aspects of managing the revenue cycle is being able to effectively comprehend the vast amount of data produced by various information systems within a healthcare facility. Revenue cycle and other financial managers are sometimes overwhelmed by the tremendous volume of data and reports they receive, and often find it difficult to turn this data into actionable information. Furthermore, many managers spend a majority of their time managing staff and day-to-day transactional operations and do not have adequate time needed to analyze data.

The Goal of Business Intelligence

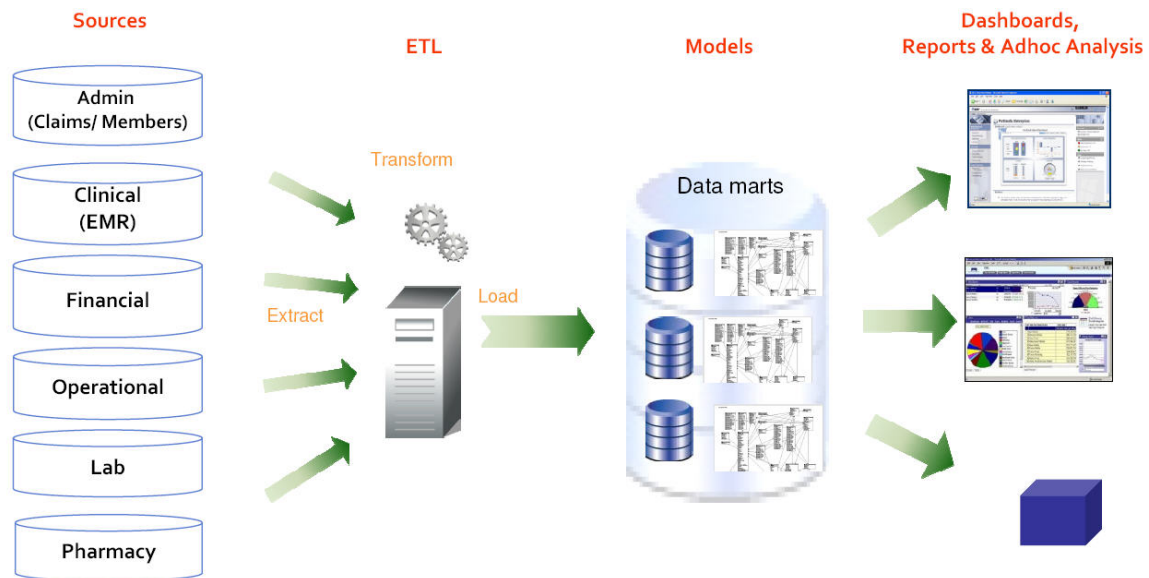
Simply put, one of the main goals of a Business Intelligence (BI) system is to quickly and easily convert this enormous amount of data into information that can be more easily understood by users for effective decision-making. The BI system is most beneficial when it transforms raw operational data into sensible information that can be used for good business decisions which result in necessary actions to improve processes. These improved processes in turn help to increase the bottom line of a business, and this is one reason why many best-in-class organizations use BI to gain valuable insight into their data.

One of the top requirements of a BI solution is the need to extract value from relevant business data, which is also essential to managing the revenue cycle more effectively. The ability to access the data quickly and with ease is the key to discernible and informed decision-making that is information based as opposed to instinct driven.

Another necessity of BI is connecting decision makers directly to the data they need to make good decisions. This may require providing BI tools to more end users and expanding BI to more areas of a business. An important measurement of success is the pervasiveness of BI use within a business as well as the ability of employees to work independently without relying on their IT department for information system reports.

A common challenge in many healthcare organizations is having multiple information systems containing clinical and financial data instead of one data repository encompassing all data. The former can provide barriers to quickly accessing data while the latter will provide users with one database from which to extract data without having to retrieve data from different systems. BI uses a process called Extract-Transform-Load (ETL) that extracts data from an organization's various information systems, standardizes it, and places it into a database that will provide many different reporting options for a user.

Below is a diagram showing the ETL process within a typical healthcare BI solution:



The ETL process is a critical component of the BI framework and is one of the driving factors allowing users immediate access to data including personalized dashboards, ad hoc reports and analysis, report scheduling, and automated alerts. Data can also be refreshed at regularly specified intervals.

Traditional BI Software vs Software as a Service BI

Traditional BI solutions require high up-front costs which usually exceed \$1 million dollars. Factors contributing to this initial price tag include the BI solution being delivered as enterprise software, comprehensive use of IT resources, and a significant hardware investment. It is also costly and resource intensive to maintain a traditional BI solution. These factors usually limit traditional BI software to large companies that also have additional capital to invest in technology.

Another drawback to traditional BI software is implementation time. On average, the typical deployment time for an entire BI project is more than one year. This makes the project even more costly because it takes longer for the Return On Investment (ROI) to be realized.

Software as a Service (SaaS) BI solutions have gained popularity in recent years with larger enterprises as well as small- and medium-sized businesses because SaaS BI software addresses the cost and time issues of traditional BI. It removes some of the obstacles that make traditional BI unfeasible and unproductive for many organizations.

Benefits of SaaS BI Compared to Traditional BI

- Significantly lower implementation costs
- Faster time to deployment and ROI
- No additional hardware needed
- Internet-based data storage and access
- Ease of use, which allows a greater number of users
- Independence from IT departments for reporting

Monitoring Key Performance Indicators with BI Dashboards and Reporting

As mentioned earlier, one measure of success is the pervasiveness of BI use within a business. This allows a BI system to improve decision-making if the system has been fully incorporated into operational activities. Ultimately, the BI system should allow users to monitor Key Performance Indicators (KPIs), understand data more easily, and make better decisions.

The healthcare revenue cycle includes common KPIs that can be monitored on a regular basis. A good BI system will allow users to quickly identify trouble spots in the revenue cycle based on actual results versus targeted results. Below are some examples of standard KPIs having an effect on cash flow that can also be easily monitored with a high-quality BI system.

Patient Access

Patient access involves the overall process of registering and admitting patients. Included within this process are insurance verification, authorization, and Point-Of-Service (POS) collections. Some of the standard patient access KPIs are listed below:

- Percentage of patients registered in advance of their service dates
- Number of accounts authorized as a percentage of the number of accounts requiring authorization
- Number of patients that have insurance verified as a percentage of the number of registered patients
- Cash collected from patients at the POS (including co-payments and deductibles)
- POS collections as a percentage of all patient collections

Charge Capture

The accurate and timely capture of all charges related to a patient encounter is another imperative process in the revenue cycle, especially for accounts that are reimbursed on a percent-of-charge basis. Even if charges do not factor into the reimbursement for an account, it is still important for compliance reasons that all charges be captured correctly based on the supporting documentation contained in the patient's medical record.

Late charges occur when charges are posted to a patient account after the patient's bill has been submitted. If the reimbursement for the medical services provided for an account with late charges is based on a percent-of-charge structure, the provider may not be reimbursed in a timely manner for the amount of dollars that are posted late. At best, this will delay cash flow and at worst it may end up being lost revenue. The main KPIs for late charges are as follows:

- Percentage of late charges to total charges
- Ratio of late charge rebills to total rebills
- Lost revenue due to late charges

Billing

Today's healthcare environment, with its numerous regulatory, coding, and Health Information Management (HIM) requirements, creates a billing process that can be very complex. However, an efficient billing process is a vital component for sustained cash flow.

Accounts that are Discharged but Not Final Billed (DNFB), held in the billing edit system for long periods of time, or rejected by payers due to errors are major cash flow bottlenecks. The billing KPIs below must be monitored closely:

- Days in total DNFB
- Percentage of DNFB accounts and gross dollars greater than five days
- DNFB gross dollars as a percentage of total gross A/R
- Average number of days from discharge date to claim submission date
- Clean claims as a percentage of total claims submitted
- Electronic claim rejections as a percentage of total electronic claims submitted
- Print claim rejections as a percentage of total print claims submitted
- Claims re-billed as a percentage of total claims

Collections

Similar to billing, the collections process is an obvious contributor to continuous cash flow. Without an efficient collections team, a provider will very quickly run into cash flow problems. Collectors have their quotas such as number of calls, time of calls, dollars collected, as well as other standard metrics they need to meet. However, these metrics are sometimes counterproductive to the overall cash flow to a healthcare provider. For

example, what tends to happen at some facilities is the easier-to-collect accounts are worked more frequently and the more difficult accounts tend to be put on the back burner. Some of those more challenging accounts may have high open account balances.

Since collectors are very concerned, and understandably so, about meeting their standards, many will naturally gravitate toward collection accounts that will help them obtain their goals. Unfortunately, sometimes the result is that many accounts sitting in Accounts Receivable (A/R) are not being worked, or are being worked with a quick call every so often without getting anything resolved. Older accounts can quickly build up and run the risk of being written off, and if a provider does not reserve for these write-offs, increased losses can occur. In addition, the longer it takes to collect payments for accounts, the bigger the effect is on cash flow. The following are some of the important KPIs for collections:

- A/R days
- A/R dollars over 90 Days
- A/R dollars over 180 Days
- Aged A/R dollars as a % of total A/R dollars (0-30 days %, 31-60 days %, etc.)
- Cash collected as a percentage of net revenue billed
- Average number of days to collect from service date
- Percentage of credit balance accounts over 30 days from service date
- Bad debt write-off dollars as a percentage of gross patient revenue
- Charity care write-off dollars as a percentage of gross patient revenue
- Cost to collect

Denials Management

An article in Healthcare Financial Management from a few years back entitled, “From Bottom to Top – How One Provider Retooled Its Collections,” stated that there are 600 valid reasons to deny a healthcare claim. Today, denials continue to be a fast developing challenge for most healthcare providers. Complex and constantly changing rules along with time constraints for timely filing are factors contributing to increased denials rates nationwide. As a result, many healthcare providers have implemented denials management teams to focus on the prevention of denied claims and to appeal and recover denied dollars.

Denied claims that are never paid clearly result in lost revenue, and denied claims that are eventually paid still result in delayed cash flow. This interruption in cash flow is costly not only due to the time value of money, but also due to the increased cost to collect since staff has to rework the claims until payment is collected. Below are some of the key metrics for denials:

- Percentage of denied claims to billed claims
- Percentage of denied dollars to billed dollars
- Denial write-off dollars as a percentage of gross revenue
- Percentage of administrative and clinical denials

- Denied claims and dollars by payer
- Denied claims and dollars by type

Increasing Cash Flow with BI

A good BI solution gives users access to actionable reporting, analytics, and alerts. Automated reports and dashboards with highlighted exceptions can be scheduled to update on a regular basis for revenue cycle KPIs, and can be automatically emailed to recipients. **With a quick glance, revenue managers can see where cash flow is being held up, and then take action to fix the problem areas.** If a report or dashboard does not contain necessary data to answer a specific question, ad hoc analysis can be performed very quickly to provide an answer. Alerts can also be automatically sent to managers when a critical indicator shows a variance from its target beyond a certain threshold.

BI systems also allow users to run reports very quickly without requesting anything from their IT department. This independence greatly increases productivity because what may have taken days, weeks, or months now can literally be performed in a matter of hours and usually just minutes. It also allows analysts to spend more of their time truly analyzing data rather than spending the majority of their time compiling data in static Excel spreadsheets leaving little time left for analysis.

Previously, managers would have been forced to wait too long for a comprehensive analysis and by the time they received it new variables could have surfaced, and decisions may have been made without the most contemporary data. However, the newfound speed of accessing data with BI combined with more efficient analysis permits managers to make much faster decisions affecting cash flow.

Another feature of an efficient BI system is the ability to drill down into data from a chart. When reviewing KPI charts, a user can simply click data points of a chart to get to the patient account level. For example, if an analyst sees a high number of denied claims due to timely filing, she can simply click the data point and get a list of all the denied accounts due to timely filing. This drill down report can then be emailed to a manager and the manager can assign an employee to research why these accounts were not billed on time. Once the root cause is discovered, action can be taken to prevent late claim submissions in the future.

The drill down feature also allows the reports to be exported into Excel, if desired, but a more efficient use would be to perform the analysis in the drill down report. With BI tools, users can use drag and drop features to sort and summarize data within a drill down report. They can also add calculated fields and perform a multitude of analyses. For instance, in a matter of minutes an analyst could click on a portion of a DNFB chart that showed accounts over five days from discharge but not billed, and in the drill down report he could sort and summarize accounts by payer and age. He could then send this report to a billing manager who could look into why the accounts have not been billed. This report could also be scheduled to be emailed to the billing manager on a regular

basis so the manager could use it as a work queue to get the claims billed as quickly as possible.

In the above scenario, the billing manager might discover new problems no one was aware of that were holding up claims. **The manager would then try to improve certain billing processes that would ultimately increase cash flow. If BI is only used to get information but is not used to take action to improve performance then it is only fulfilling a small potential of its overall capacity.** The ultimate goal is always to improve processes by taking action.

High-quality BI systems can lead to increased cash flow by improving performance in patient access, charge capture, billing, collections, and denials management. Each of these areas of the revenue cycle has their standard KPIs and are easily tracked with BI dashboards and reports. **The key is to find the root cause of the problems that are causing variances to goals, and then to take corrective action. When done effectively, the increased cash flow results will be almost immediate.**

Conclusion

In addition to the various aspects of the revenue cycle mentioned above, other factors contribute to complicating revenue cycle efficiency. The complexities of code-based reimbursement along with understanding case rates or bundled payments create an even greater need to fully comprehend all elements of the revenue cycle from acquisition through claims adjudication.

Furthermore, good decision-making becomes even more important when faced with the multitude of industry rules and regulations that are constantly changing such as ICD-10 and the likelihood of Accountable Care Organizations. This constant change in healthcare requires accurate and complete data mining that leads to better decision-making, which in turn leads to improved financial management resulting in better navigation through industry requirements.

This complex healthcare revenue cycle, from patient access through final payment resolution, has a major impact on an organization's financial performance. However, with the help of an efficient SaaS BI system it can be more effectively managed. Access to timely and accurate data for all levels of employees, from clerical staff to executive management, will help turn vast amounts of revenue cycle data into actionable information.

The key is to research the variances between actual and target KPI figures, and find the root cause of processes that may be causing the variances. Management can then initiate process improvement projects that will positively impact the revenue cycle. Each area of this cycle contains critical KPIs, and when managers are able to take action on information from their SaaS BI solution, they have the power to significantly increase and sustain cash flow.

About Integrated Revenue Management

Integrated Revenue Management (IRM) is a national healthcare education company focused on improving all aspects of revenue cycle management while increasing efficiency, compliance, and sustainable financial stability.

IRM currently works with hospitals to help them build focused Revenue Management Departments. This unique "in source" model has created teams that have added millions of dollars to each hospital's financial performance.

IRM's philosophy is to help partner hospitals create their own internal group of "consultants" who possess the talent and skill set needed to meet all revenue cycle goals – with an average documented annual return of \$300,000 to \$500,000 per FTE. IRM works directly with hospital staff to review and improve processes and procedures, and the total cumulative net revenue increase for all clients recently surpassed **\$1 billion** dollars.

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