Health Check on Patient Billing with Data Analysis

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The U.S. health care industry presents a variety of unique challenges for internal audit groups. Federal, regional and corporate regulations have become increasingly complex, while systematic and technical demands continue to grow. Some of the most intricate health care rules now relate to billing practices, which also represent a significant opportunity for auditors to find data exceptions and deliver deeper control assurance.

As a San Diego-based not-for-profit integrated regional health care leader, Sharp HealthCare has four acute-care hospitals, three specialty hospitals, two affiliated medical groups and a health plan, plus a full spectrum of other facilities and services. Our internal audit group consists of seven full-time employees who use audit analytics to extract and investigate large data volumes.

At Sharp, one of our biggest challenges is to ensure that employees completely and accurately capture medical charges – from the moment a patient is treated through to the end of the billing cycle. It’s a task that would be nearly impossible without automated data analysis. Over eight years ago, Sharp implemented audit technology from ACL Services and we continue to expand how and where data analytics are applied.

New regulations, new audit demands

In the near future, all U.S. health care providers must switch from International Classification of Diseases ("ICD")-9 to ICD-10 diagnosis and procedure codes, which are used to document and bill patient care procedures. The change – as mandated by the U.S. Department of Health and Human Services (HHS) – increases the number of active diagnostic and procedural codes from approximately 18,000 to more than 140,000.

As technical platforms are upgraded, it’s critical to ensure that more than 60 of Sharp’s internal systems have been properly programmed and updated. With audit analytics, we can match and compare key data files to find anomalies, incorrect formats and system breakdowns. The analytics act as an automated sleuth, hunting down system update and interface issues and providing validation that the newly implemented diagnostic and procedural coding will produce complete, accurate and reliable data. During the upcoming testing phase of the ICD-10 implementation, we will provide real-time assurance that control, procedural, data conversion and interface issues are identified and addressed before go-live. This, in part, will be achieved by using ACL to match and validate 100% of the new codes and charges within the multiple internal clinical and billing systems.

Strategic, innovative audit applications

While audit analytics are excellent for ad-hoc projects (such as the ICD-10 implementation), the audit group has achieved some of its best results with ongoing audits that run on a monthly or quarterly basis. We began by implementing 12 standardized analytics that monitor Accounts Payable (AP) data for duplicate paid invoices, vendors missing tax ID numbers, improper vendor files, and other anomalies. The quarterly tests have revealed nearly $16,000 in duplicate payments over a single year and highlighted errors in the vendor master file. The tests have been so effective that an AP Recovery firm tasked with testing Sharp’s AP files for duplicate payments has found just one error since the analytics were launched.

Additionally, we work with the compliance department to perform a quarterly test to compare our vendors and physicians to excluded Office of Inspector General and General Services Administration provider listings. While this project has not yielded significant exceptions to date, the tests highlight Sharp’s strong control
environment and enable upper management to spread the word that compliance data is regularly monitored; fraudulent or inappropriate activity will quickly be detected. This used to be an outsourced process to a third-party vendor. We no longer require this vendor’s services, which represents an annual savings of at least $12,000.

Another set of analytics targets implantable devices used in surgical and catheterization (“cath”) lab departments. Every month, the automated analytics download implantable device charges based on procedure codes. The analytics then match and compare the data to find inaccurate or missed service charges. For example, the tests recently revealed two accounts that were charged for total hip replacements, but the patients actually received knee implants. In one year, the analytics have highlighted approximately $1 million in billing errors, including both under- and over-charges.

While the financial implications of coding errors are significant, the analyses can also be used to enhance employee knowledge. A patient charge may be accurate, for example, but the coding is inaccurate. Sharing common errors with coders and the health information management team can improve coding procedures and identify problem areas in a timely manner.

Running the implantable device analysis on a monthly basis also ensures that Sharp receives full patient reimbursements. Implants and devices are usually considered “carve-out” charges, which means that a percentage-based fee for the implant service is carved out of a patient’s daily care rate. Most payers (insurance companies and HMOs) have maximum billing submission time frames in order to receive reimbursement, so missed charges found 12-18 months after the procedure might be impossible for us to collect. Regular analyses on patient charge data will quickly pinpoint errors – and provide a significant boost to the bottom line.

Other analytics performed quarterly are patient refund testing. The analytics identify duplicate or potentially inappropriate refunds, such as payments made to an employee’s address. While this project has not identified any inappropriate refund payments to-date, employees are aware that this process is being regularly monitored and any fraudulent or inappropriate activity would be quickly be detected.

Finally, we recently launched a pilot project to identify missed or diverted charges on two specific drugs dispensed at two Sharp hospitals. When a nurse dispenses these drugs, the Pyxis MedStations (Pyxis), an automated medication dispensing system, electronically records the activity, the intended patient’s name, and the time the drug was dispensed. Using audit analytics, we can easily pull Pyxis records for comparison with Cerner Millennium® system (“Cerner”) data. Cerner is the system used at Sharp to manage and integrate electronic medical records and computerized physician order entry (CPOE). Any data anomalies can then be flagged for deeper investigation.

The recent Cerner implementation has also changed the company’s pharmacy billing process from charge on dispensation to charge on administration. In the past, drugs dispensed from the Pyxis MedStation would automatically be charged to the intended patient. Now, staff must dispense the drug, administer the medication, and document the treatment in the Cerner system, which then generates the patient charge. We realized that units using the new system often missed charges due to improper documentation and staff confusion. By automatically comparing the Pyxis and Cerner data, we can highlight key process and charge-capture issues for nursing and pharmaceutical teams.

**Lessons and best practices**

Targeted analytics have equipped our audit group to achieve a high-level perspective on patient trends, combine data from different sources, and drill down into individual records for further analysis. The solution has reduced project completion times and enhanced productivity, while promoting greater confidence in the accuracy and completeness of our audit coverage.

Analytic technology has made our team less reliant on Information Systems (“IS”) assistance, but we could not have succeeded without strong ties to the department. Collaborating with IS has given us direct, independent access to data tables and a precise way to query the organization’s data warehouse.
Having an analytic expert in the internal audit group has also been extremely beneficial. All staff members are proficient in the technology, but it’s valuable to have a technician who can write scripts and perform more complex analyses. When we hit a snag, ACL also has a top-notch help desk that can immediately assess the problem and answer questions at lightning speed. It’s an invaluable and important resource.

Finally, our audit group has worked hard to build trust across the business units. Many divisions are eager to collaborate and implement new analytics. We meet regularly with these departments to ensure data analysis projects are beneficial and the reports are meaningful. Sharp management and the Board Audit and Compliance Committee have also been highly supportive of our work with audit analytics. Regular reporting ensures open communication and enables us to hold management accountable for remediating exceptions.

**Looking to the future**

Automated data analysis has been a powerful way for our audit team to provide control assurance, while quickly identifying errors that point to procedural breakdowns, technical issues, and potentially even fraud. A flexible solution makes it easy to access and analyze data from disparate platforms without compromising data integrity. Health care is an industry marked by rapid change and increasing complexity. Covering 100% of transactions is now imperative for busy audit groups – and success demands an organized, repeatable approach to detecting exceptions and understanding their significance.

At Sharp, we have taken a proactive, rather than a reactive approach to our audit responsibilities. Data analytics save time, reduce a range of internal costs, and shorten audit cycles. Perhaps most importantly, using purpose-built audit technology gives us greater independence from the underlying operational and financial systems. We will continue to identify new financial, clinical and compliance areas that would benefit from ongoing data analysis.

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