Executive Summary
The changes that have moved internal audit to the forefront of organizations also call for increased and timely productivity in an increasingly complex environment. Technology exists today that supports the changing demands on healthcare internal audit functions.

More departments are developing the skill sets and audit applications to embrace new opportunities. Purpose-built technology can significantly improve analysis of data files in billing, coding, accounting and compliance. Audit departments can provide value and added assurance for their organizations by being proactive in using technology in approaching their responsibilities.

Today’s healthcare industry presents a variety of unique challenges for internal audit functions. Federal, state and corporate regulations have become increasingly complex, while technical demands have continued to grow. Some of the most challenging requirements relate to revenue, coding and compliance. These complexities present opportunities for auditors to identify data exceptions to help management improve policy, regulatory compliance and revenue.

Sharp HealthCare, a San Diego-based nonprofit integrated regional healthcare organization, has four acute-care hospitals, three specialty hospitals, two affiliated medical groups, a health plan, and a full spectrum of other facilities and services. The internal audit department is staffed with seven full-time employees who use audit analytics to extract and investigate large volumes of data for our organization.

One of our biggest challenges is to ensure employees completely and accurately capture and process clinical charges from the point of care to the end of the billing cycle. It is a challenge that is nearly impossible without automated data analysis. Eight years ago, we implemented audit software from ACL Services, and we continue to expand how and where data analytics are applied.

New regulations, new demands on audit
Looming on the horizon is the requirement that healthcare providers convert from International Classification of Diseases ICD-9 CM to ICD-10 CM diagnosis and procedure codes to document and bill patient care procedures. The change, mandated by the U.S. Department of Health and Human Services, increases the number of active diagnostic and procedure codes from approximately 18,000 to more than 140,000.

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In preparing for the change, technical platforms will need to be upgraded. Our organization will have to upgrade more than 60 internal systems. It is critical to the success of this mandated change that each system is properly programmed.

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 updates and interface issues, and providing validation that the newly implemented diagnostic and procedure coding will produce complete, accurate and reliable data.

As part of the upcoming testing phase of the ICD-10 CM implementation, we will provide real-time assurance that internal controls, procedures, data conversions and interface issues are identified and addressed before going live. We plan to achieve this by using ACL to match and validate 100 percent of the new codes and charges within the various clinical and billing systems.

Strategic and innovative audit applications
While audit analytics are excellent for ad-hoc projects (such as the ICD-10 CM implementation), our audit team has achieved some of its best results using ongoing audits that run on a monthly and quarterly basis.

Quarterly tests
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 identified nearly $16,000 in duplicate payments in a year and highlighted errors in the vendor master file. The ongoing tests have been so effective that an AP recovery firm tasked with testing...
our organization’s AP files for duplicate payments has found just one error since the analytics were launched.

We also work with the compliance department to perform a quarterly test to compare our vendors and physicians to the Office of Inspector General’s List of Excluded Individuals and Entities and the General Services Administration’s Excluded Parties List System.

While this project has not yielded significant exceptions to date, the tests highlight our strong environment of control. They also enable upper management to spread the word that compliance data is regularly monitored and any fraudulent or inappropriate activity will quickly be detected. This work used to be outsourced, and that now represents an annual savings of at least $12,000 for our organization.

Patient refund testing is performed quarterly. The analytics identify duplicate or potentially inappropriate refunds, such as payments made to an employee’s address. No inappropriate refund payments have been identified to date, but financial services employees are aware that the patient refund process is regularly monitored and inappropriate activity would quickly be detected.

Monthly tests

Another set of analytics targets the surgical and catheterization lab departments’ implantable devices. Each month, the automated analytics system downloads implantable device charges based on procedure codes. The analytics then match and compare the data to find inaccurate or missed service charges. For example, our 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.

Analytics technology has made our team less reliant on assistance from Information Systems.

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 may be inaccurate. Sharing common errors with coders and the health information management team can improve coding procedures and identify problem areas quickly.

Running the implantable device analysis on a monthly basis also ensures our organization receives full patient reimbursements. Implants and devices are usually considered “carve-out” charges, meaning a percentage-based fee for the implant service is carved out of a patient’s daily care rate.

Most payers (insurance companies and HMOs) require timely submission of claims, so late charges found long after the procedure was performed might be impossible to collect. Regular analyses of patient charge data quickly pinpoint errors and provide a significant boost to the bottom line.

Audits of Pyxis and pharmacy charges

We recently launched a pilot project to identify missed or diverted charges on two specific drugs dispensed at two of our hospitals.

When a nurse dispenses these drugs, the Pyxis MedStations (an automated medication dispensing system) electronically records the withdrawal, the intended patient’s name and the date/time the drug was dispensed. Using audit analytics, we easily pull Pyxis records for comparison with Cerner Millennium system data. Cerner manages and integrates our Electronic Medical Records (EMRs) and computerized physician order entry. Any data anomalies identified can be flagged for further investigation.

The recent Cerner implementation has also changed our organization’s pharmacy billing from charge-on-dispensing 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 that generates the patient charge.

We realized that units using the EMR 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 the nursing and pharmacy teams.

Lessons learned and best practices

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

Analytic technology has made our team less reliant on assistance from Information Systems (IS), but we could not have succeeded without strong ties to that department. Collaborating with IS has
Questions answered

- How do you ensure the integrity of the data you are using?
  We have direct access to our Lawson financial data (virtual tables on an Oracle platform that are updated real time) via an ODBC connection to ACL. Our billing/patient financial information comes from a data warehouse. We typically verify revenue from a sample of days back to the source system (GE-HPA).

- Once you get potential exceptions, how do you follow up to ensure they are actual exceptions?
  We work very closely with the departments that receive the exceptions. We verify a sample of the exceptions prior to sending them to the departments. If the departments note false positives, we work to improve our scripts so we can reduce the number of false positives sent out with our results.

- How do you follow through to ensure the actual exceptions are addressed?
  We require responses from the departments addressing all of the exceptions. For charge corrections, we verify the corrections were entered into the billing system.

- Is the access to data tables view access only?
  Yes.

- How did you get IS to give you access to the tables (sometimes this is a struggle)?
  We have access to a data warehouse with all patient financial/billing information. We have a good relationship with our IS department. We worked with them to get direct access to our Lawson financial data (via virtual tables on an Oracle platform that are updated real time). We collaborate with them to ensure they understand the objectives of our access requests so they will be more willing to give us access (view/read only).

- How will you address regulatory changes (e.g., with charging) that impact the data you analyze?
  We plan to use ACL to help test the conversion from ICD-9 CM to ICD-10 CM. We will have to update some of our current scripts and tables after the conversion.

- How do you ensure the integrity of the data you are using?
  We have direct, independent access to data tables and a precise way to query the organization’s data warehouse.

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A look 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 fraudulent activities. A flexible solution makes it easy to access and analyze data from disparate platforms without compromising data integrity.

Healthcare is an industry marked by rapid change and increasing complexity. Auditing 100 percent of transactions is now imperative for busy audit departments—and success demands an organized, repeatable approach to detecting exceptions and understanding the significance of those exceptions.

We have taken a proactive approach to our audit responsibilities. Data analytics save time, reduce internal costs and shorten audit cycles. Most importantly, using purpose-built audit technology gives us more independence from the underlying operational and financial systems. We will continue to identify new financial, clinical and compliance areas that will benefit from ongoing data analysis. NP

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