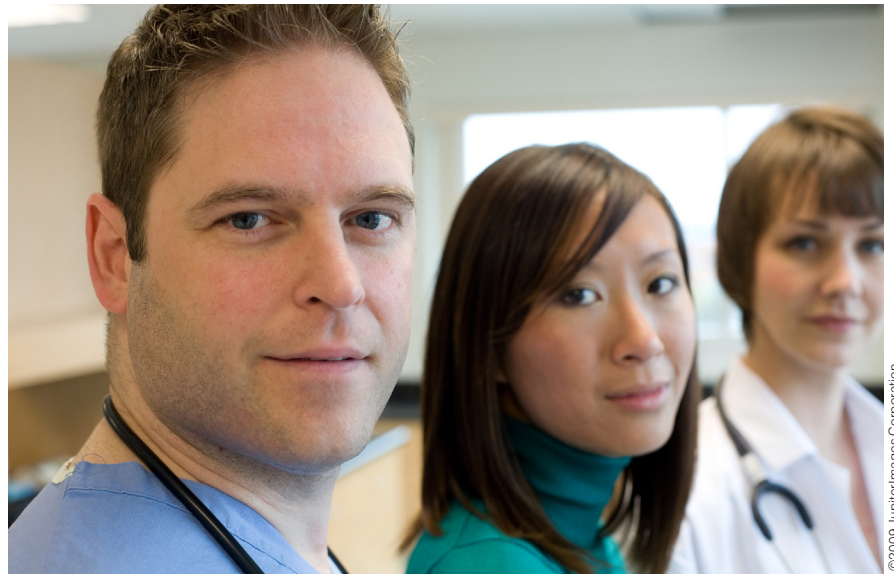


## High-performance healthcare at a major physician services organization

### Executive summary

A smarter healthcare system starts with better connections, better data and faster and more detailed analysis. It means integrating data and applying analytics to vast amounts of data to improve outcomes and enhance operational efficiency. In this case study you will learn how a major physician services organization is improving operations with IBM® Cognos® software. Read on to understand how the organization:

- *Continuously improves business results by monitoring performance across its physician practices and providing operational managers and practice chiefs with credible and accurate information.*
- *Streamlines the billing process, accelerating accounts receivable collections and improving cash flow.*
- *Delivers monthly reports to practice chiefs in three days—instead of the 17+ days it previously took.*
- *Creates a high-performance environment for improved practice operations with patient scheduling reporting that aligns to both physician workloads and break-even financial performance measures.*



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- *Analyzes gaps in physician compensation to help attract and retain the most qualified doctors.*
- *Provides management with accurate reports and balanced scorecards that enable timely insights into business operations.*

### Introduction

This is a case study of a large, multi-specialty group practice organization that provides physician services to more than 20 hospitals. Providing specialty and subspecialty physician services ranging from anesthesia

to pediatrics, cardiac, surgery and neurosurgery, the organization is focused not only on improving the quality of care but in helping to develop mechanisms to reduce the overall cost of care.

This IBM Cognos customer operates a physician billing office and provides physician administration services, an operation that is one of the largest of its kind in the United States. The administrative office leverages IBM Cognos 8 BI to continuously improve business results by carefully

monitoring performance across its physician practices, and it provides management with accurate and timely reports that drive timely insights into business operations.

The organization leverages business intelligence (BI) and performance management disciplines to provide administrative services that are on par with the quality of its physicians. The organization has been able to close an existing compensation gap to help recruit and retain the best physicians, and has leveraged innovative leadership, evolutionary processes and powerful technology to enable high-performance operations across the organization.

#### **Raising the performance of billing and administrative services**

The administrative services department provides the framework for financial control for the organization, and measures financial and operational performance across all the organization's physician practices. The billing office had been manually generating billing performance reports, but this process was labor intensive, cumbersome and slow. "One of the biggest transactional areas that we have responsibility for is dealing with the billing for all the physician

practices, and the reporting of the results was a major issue, both in terms of the sheer number of reports and the length of time it took us to get the reports out," explained the CFO.

Most of the reporting was being done in Microsoft Excel spreadsheets, and before the deployment of IBM Cognos 8 BI, the finance department was producing about 600 spreadsheets each month and another 1,600 spreadsheet reports at the end of each quarter. "There were frequent errors and inconsistencies in the reports, and since many of the reports included data that was re-typed, the credibility of the information we provided was a problem," he stated. The organization turned to Microsoft Access for reporting, but this was not sufficiently scalable and did not provide web publishing capabilities.

The CFO said, "We looked at Crystal Reporting and evaluated other alternative reporting solutions, but IBM Cognos software offered the data analysis and report distribution capabilities we needed to scale our performance management and enable managers to analyze and act on BI information to improve operations. By deploying IBM Cognos 8 BI, we knew we could increase our confidence in

our own data, be more responsive to our internal users, mature as an analytic organization and motivate the deliberate and disciplined use of data to support business decisions."

#### **Optimizing the revenue cycle**

The initial focus was on streamlining and expanding the billing process. "Professional billing is an inherently inefficient process," explained the CFO. "Physician practices face increasing costs, growing receivables and greater denials from insurers, so we focused on accelerating the turnaround from service delivery to service collection." The organization developed best practices based on people, processes and technology, and relied on IBM Cognos 8 BI to automate reporting and support improved analytics.

They started with the monthly billing statements that are provided to each practice, and worked steadily to increase organizational confidence in the integrity of the data. "The first positive outcome of our deployment was the credibility among the physicians that the billing office data was accurate," he said. "The idea that the data was consistent from month to month and that the data got updated on a consistent basis made a great deal of difference in building credibility in

our reports. Business managers at the physician practices can crosscheck the reports with their own records to validate the integrity of the data.”

When the CFO first joined the medical services organization, it was doing the billing for about 60 percent of its physician practices; today it does the billing for virtually all of its participating practices. “As our operations grew into doing billing for all practices, we developed a tremendous analytical capability,” he explained. “With IBM Cognos software we can now compare results across practices to identify and act on trends. Central access to our billing and financial data allows us to demonstrate to insurance companies that our costs are actually quite in line with any of the regional or national benchmarks available.”

Critical to turning the tide of skepticism about the data presented to physicians, the organization developed a *matched payment* report that correlates how quickly practices collect claims after providing services. “We designed the report to leverage the reporting capabilities of IBM Cognos software”, said the CFO. “We provide a visual depiction of how quickly a claim gets either paid or adjudicated,

which improved the credibility of our administrative services.” The report provides each practice the ability to analyze net collection rates, accounts receivable aging and the costs of doing billing per net collected dollar, and by cost per invoice. This data then feeds into balanced scorecards for each practice that provide management with summarized information that helps drive operational decision-making.

#### **Delivering results to the bottom line**

Analytics also allows this IBM Cognos customer to monitor transactions costs to ensure it is benefiting from best practices for billing operations. The organization is able to carefully monitor and manage its billing processes, and it benchmarks its billing transaction costs against industry standards to monitor progress. For example, one study found that:

- *The cost of billing operations was only about 3.9% of total collections, versus a survey median rate of 5.2%.*
- *The organization has only less than half of a full-time equivalent (FTE) of billing personnel per \$1 million in collections, versus a survey median rate of .8 of an FTE.*
- *Accounts receivable is collected in less than 35 days, versus a survey median average of over 51 days.*

- *Within 60 days, it collects over 82% of its accounts receivable, compared to a survey median of 61% collection rates within that time period.*

#### **Expediting monthly reporting**

While the finance department leverages IBM Cognos 8 BI to produce customized reports for practice chiefs and business managers, most practices also use IBM Cognos 8 BI directly to generate their own regular reports. “Before we deployed IBM Cognos 8 BI, it was not uncommon for us to get all the way to the end of a month before all the reports were completed after the month-end close,” said the CFO.

He continued, “But today the billing office reports are available within *three days* of the close of the month. And one of those days is actually used for internal staff to analyze trends. We have opened up the general availability of BI and performance management capabilities to authorized users in each of our physician practices. We basically cut a month out of the reporting cycle while providing dramatically faster access to more valuable and relevant information that helps our practices improve operations.”

Metric	FY02	FY03	Today
Reporting Days	17	5	3
Printed Pages/Month	9,000	1,500	Minimal
Reporting Labor Costs	2-FTEs 40 hr/mth	1-FTEs 20 hr/mth	0
Collating Reports	3-FTEs 24 hr/mth	1-FTEs 8 hr/mth	0

*This IBM Cognos customer has been able to redeploy the labor involved in generating monthly reports while minimizing paper-based reports, generating reports much faster and eliminating the costs of collating and distributing them.*

### **Gaining trust and credibility**

Under the CFO's leadership, the organization developed a framework for aligning information domains to make information available to decision-makers across its physician practices, including billing, physician payment, physician compensation, practice operations and finance domains.

These groups share data as necessary via IBM Cognos 8 BI. Data stewards for each domain manage their respective data sources and data quality, with a responsibility to maintain the integrity of their information so that authorized users can access reliable information from multiple domains. Data is available to all authorized users, and security is carefully managed to ensure that only authorized users can access information.

Billing, scheduling, human resources and other source applications are now consolidated into a central data warehouse, and IBM Cognos 8 BI accesses information from the data warehouse as well as from existing data repositories, such as the organization's compensation and benefits database.

By carefully managing the data and utilizing the BI and performance management capabilities of IBM Cognos 8 BI, the organization has built trust and credibility with its practice chiefs on the information provided, and the finance department can now analyze potential business opportunities to help practices increase revenues.

"We analyzed opening a new location, and I met with a chief of one of our practices to discuss it," said the CFO. "He was skeptical about the business opportunity, and when I presented the analysis he wanted to know how we could be sure that the numbers were right. I told him the BI reports were based on numbers from his billing reports, and he told me—much to my enthusiasm—that he had those billing reports on his credenza. He pulled them out and we were able to match the data from the BI report to his billing reports, and then he put the reports aside and we were able to focus on the merits of the proposal. The ability to cross-check the numbers provided by BI and performance management reports with billing reports provides users across the organization with a high level of confidence in the integrity of the information, leading to more informed and disciplined decision making across all of our practices."

### **Closing the compensation gap**

The second major challenge addressed with the help of IBM Cognos 8 BI was closing the compensation gap to help practices recruit and retain the best physicians. Physician compensation is the single largest expense for this physician services organization, and it had lagged many

industry benchmarks in compensating doctors. It was also having difficulties recruiting mid-career physicians, despite its large residency program at multiple hospitals. Upon completion of residencies, many physicians were taking jobs in other states where living expenses are less costly, and primary care practices were not able to recruit enough candidates. The organization was able to close the compensation gap by leveraging analytics to identify and document internal compensation challenges.

The organization has analyzed its physician payment practices, compared them to a market analysis of compensation, established a cost and market rationale to address payment rate inequities and developed comprehensive compensation plans with long-term, market-based targets. The CFO explained, “The compensation analysts have access to the data from payroll, scheduling and billing applications, and they also have access to data on each physician’s Medicare relative value units (RVUs) earned. They are therefore able to build a comprehensive framework to analyze compensation requirements and forecast compensation increases over time. They also have access to the financial performance of each practice, so they can avoid developing compensation plans that could potentially put a practice under water.”

The organization now tracks average annual compensation growth rates, and has made adjustments to more equitably distribute income and attract and retain physicians. By aligning its compensation practices, it is now able to forecast the long-term financial ability of each of its physician practices to help them meet their business objectives.

“Our compensation team has been working with physician practices to develop productivity-based compensation plans, and they developed a basic compensation template that is customized to meet the needs of each service,” said the CFO. “Baseline compensation is developed based on a set of metrics such as a physician’s seniority in the practice, their academic rank in medical school and their contributions in terms of a category we call ‘citizenship’. For example, if a physician is taking responsibility for quality assurance for the practice, this contribution could be factored into that physician’s compensation plan.” Not all of the measurements are based on hard data; practice chiefs have some discretion in determining compensation, and physicians can earn extra compensation for extraordinary clinical and/or non-clinical achievements.

#### **Addressing the needs of specialty areas**

The compensation team examines benchmarks for specialty areas, and the needs of each practice are

carefully evaluated. For example, in the emergency room physician productivity is often driven by how many patients come through the door, so bonus levels can be set based on how a physician performs relative to the median for a particular shift that they often work. “Physician compensation is not a calculation that can be done fairly and effectively without the ability to mine solid data to track and measure valuable factors,” said the CFO. The factors weighed in determining compensation are varied. For example, one of its practices developed incentives for the physicians to contribute to reducing expenses, and another practice measures research productivity by the types of grants received, the quality of the grants and the types of papers that are published.

#### **Providing practice chiefs with productivity metrics**

Practice chiefs receive periodic compensation reports generated by IBM Cognos 8 BI that display the productivity metrics for each of the physicians they manage, allowing them to easily analyze the relative productivity of each physician. Physicians now have online access to their performance data, allowing them to monitor and analyze their productivity on an ongoing basis. The CFO stated, “In the past, performance analysis was an annual event—the physicians would work hard all year with

vague expectations of how they were doing, and management would sort out the performance reviews on an annual basis. In some practices, doctors can actually go online and see how they're doing on a quarterly basis, which has improved their satisfaction with our compensation system and the fairness of our compensation plans."

### **Creating a high-performance environment**

Performance management has not only helped this multi-specialty practice close the compensation gap to help recruit and retain the best physicians, it has also helped the organization improve operations for its physician practices. For example, the practices run a weekly report that aligns physician performance reporting information with data from the scheduling system to provide management with insights on workloads.

"A practice can identify the number of patients that its physicians should see each week," said the CFO. "We can produce a report on the number of scheduled patients compared to a target figure that could be based on their budget plans, their break-even requirement or on some other measure that the practices establish. If the staff is seeing fewer patients than forecast, the practice can proactively contact

patients to schedule them in available time slots, or contact scheduled patients to confirm visits, reducing the number of no-shows. Since we started this approach in practices that were not operating at break-even, we now have much stronger performance in those practices. It allows a unit chief to automatically receive an indicator of performance issues and take steps to improve operations."

The visibility these reports provide into practice operations allows the practice physicians to better serve their patients, and practice chiefs can maximize physician availability to best meet the care needs of the patients.

### **Balanced scorecards provide visible results**

The organization has developed balanced scorecards that allow finance directors to access graphical reports that summarize operations. The scorecards communicate complex information quickly, and translate information from business applications into visually rich presentations using gauges, maps, charts and other graphical elements to show multiple results on a single screen.

"We use balanced scorecards to analyze the financial management of the practices," said the CFO. "We have some metrics built around the variance in the bottom-line performance of each

of the practices compared to their budget—and we actually look at both under-performance as well as superior performance. Under-performance is obvious; we want to know which practices are not meeting budget from a net income standpoint. But tracking superior performance is also useful because we can watch whether one of our practices habitually under-sets its targets, and if so, we can use that as follow-up in our budgeting processes for the following year."

Balanced scorecards are also useful as a means of influencing behavior across the various practices. For example, the organization tracks whether managers conduct their performance reviews within 30 days of the anniversary date of their employees.

"This has been a valuable feature of the balanced scorecard," said the CFO. "Making sure employees have had their performance reviews done on a timely basis has been a major issue, and when we put this metric onto the balanced scorecard it eliminated the issues we've had with cajoling managers to conduct their employee performance reviews in a timely manner. The idea that each director has a measure on the balanced scorecard on how quickly they are doing their performance reviews

translated throughout the organization pretty quickly. And within just a few months we were very much on target in terms of getting the performance reviews done on time, so I think this is a terrific example of how a balanced scorecard can influence organizational behavior.”

### **Next steps in a continuous innovation cycle**

Management continues to develop innovative ways to leverage performance management and BI, and the organization is now leveraging data analysis to identify new business opportunities. After beginning with a BI initiative focused on improving its billing processes, it continues to leverage BI and performance management to improve operations. For example, analysts identify new revenue opportunities by expanding service specialties or expanding to new geographic locations, and historical information is analyzed to quantify new revenue opportunities.

The CFO explained, “When the business analysis folks are opening a surgical practice in a new location they could potentially spend a lot of time trying to guess what the volumes might be, but instead they can now leverage IBM Cognos 8 BI to access historical information to project a model based on the results of a similar practice. We can more accurately forecast business

operations and more accurately analyze business opportunities. IBM Cognos 8 BI allows our analysts to focus on building a model that tells the story, as opposed to focusing on gathering data and having to worry about whether that data is in good enough shape to forecast a business opportunity.”

Management can then focus in on the validity of the assumptions the analysts have made, and not on the need to challenge the data. “If they’re using data sources that we know have been verified through the appropriate domain experts, we can avoid skepticism about the data and focus management reviews on the business issues,” said the CFO. “Performance management and BI are changing our business environment and the types of questions people ask about business operations.”

The organization is also now using IBM Cognos 8 BI to support its capital budget framework. “We manage a five-year capital forecast, and over time we’ll expand the use of BI and performance management into more general budgeting and for forecasting at the practice level,” stated the CFO. The organization is also planning to develop a clinical dashboard, and is tracking leading indicators that practice chiefs can manage more effectively to improve operations.



### **A journey to smarter healthcare**

This IBM Cognos customer is an industry leader and role model in leveraging performance management and BI to deliver smarter healthcare that results in lower costs, better quality care and healthier people and communities. Visionary leadership, new processes and easy access to timely reports is allowing this physician services organization to enable operational managers and practice chiefs to leverage better connections, better data and faster and more detailed analysis. Smarter healthcare is interconnected, so practice chiefs can share information seamlessly and efficiently to address new revenue opportunities. At the center of smarter healthcare is efficient access to relevant information, and this organization allows its physician practices to access information that helps them measure, analyze and continuously improve operations.

The next step in the organization's high-performance performance management and BI journey will focus on combining clinical data with administrative data. "One of the things that we're trying to do is to see if there are leading indicators in our business that we could try to manage more effectively," said the CFO. "And that will get us much more into passing information back and forth between administrative and clinical systems." From there, connecting performance with quality outcomes is a natural course for this high-performing organization.

### Summary

"Before we deployed IBM Cognos, a great deal of our energy spent on analytics would be more accurately characterized as 'trying to find the data', rather than performing any sort of real analysis," said the CFO. "Pulling the databases and applications together and understanding exactly the definitions of the data has probably been the most significant investment we've had to make. IBM Cognos 8 BI allows us to implement best practices for performance management and BI so we can continuously improve business operations and leverage accurate information throughout the organization. We have reduced the time spent gathering information relative to our analysis time, and

provided managers with consistent, high-confidence data to support informed decision making throughout our practices."

For more information about healthcare BI and performance management solutions, visit [www.ibm.com/cognos/healthcare](http://www.ibm.com/cognos/healthcare).

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