Leveraging a Business Intelligence Solution

How five small BI projects made big differences for one regional health system.

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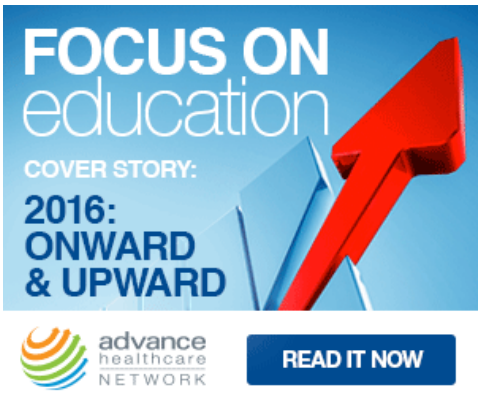
In 2016, it should come as no surprise that effectively using a business intelligence solution can provide healthcare institutions with immense benefits.



We will continue to see this trend in business intelligence capabilities evolve as healthcare facilities remain on their value-based care journey and are incentivized to deliver high care quality rather than high care volumes.

For our care teams at Athens Regional Health System, a 350-bed regional referral hospital in northeast Georgia, we have also seen the value that this type of solution can bring a health organization.

By using a business intelligence tool, we have been able to continuously look for new ways to leverage data analytics to enable better decision making across our organization. These data-driven decisions don't need to necessarily entail major processes or operational overhauls however. In fact, we at Athens have seen first-hand how small business intelligence projects can end up making a big difference for business facilities.

Below are five small data-driven projects that had a huge impact across our organization thanks to Dimensional Insight's Diver Platform:

Patient Readmissions vs. Returns

A recent study from the Journal of General Internal Medicine found that 20 percent of hospitalized patients are sent home before their vital signs are stable, increasing their likelihood of readmission and even their risk of death. In order to understand the entire readmission population at Athens, we needed to gain a better understanding of our Emergency Department readmission numbers.

Previously, our readmissions numbers only consisted of patients who were an inpatient during both visits, rather than including all patients who came back to the hospital within a specified time . After implementing a business intelligence tool, we were able to manually alter patient definitions to more effectively track patients who fit the necessary criteria. This enabled us to receive a more correct read on readmissions.

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Having more detailed data allowed us to address important questions: "Which patient types are returning, and how are we treating them and which patients are being readmitted?" Clinicians and staff members were then able to answer these questions by analyzing the data provided, which allowed them to put a plan in place to lower avoidable readmissions.

Labor Expenses & Staff Utilization

Effectively staffing different departmental facilities while keeping labor costs down is also a common challenge in the healthcare industry.

To address this, we at Athens leveraged a business intelligence tool to analyze when lab samples were being received and determine the amount of work being done at specific times of the day. We were then able to produce graphics showcasing peak work times and structure our lab schedule to accommodate those needs.

Department Clinical Accreditations

Business intelligence can also be extremely helpful with attaining industry accreditations. At Athens, we were accredited as a chest pain center in 2013, where the department wanted to reach the next level of accreditation with the Society of Cardiovascular Patient Care (SCPC). In order to do this, our chest pain unit needed to start taking the steps to consistently define what we meant by a low-risk acute coronary syndrome patient.

We then needed to provide a monthly file to SCPC and create a dashboard showing our analysis of certain care trends and that we were abiding by specific guidelines.

The challenge that our chest pain center faced however, was that the data that we needed to leverage in these reports was being kept in three different systems, one of which had no consistent way of presenting the information. By using a business intelligence capability, our team was able to collectively join all of the disparate data and produce the upload file as well as the needed metrics.

As a result, we were able to attain the top tier of accreditation with minimal time spent on manual data entry. Additionally, we could effectively analyze trends in our low-risk acute coronary syndrome patients, ultimately cutting the length of stay in half for the observation patients.

Report & File Creation

With the shift to value-based care model and healthcare quality over quantity continuing to become a big industry focus, compiling accurate and actionable reports and shared files is more critical than ever before. Business intelligence was a huge help with compiling and analyzing these files at Athens. For example, we were able to use a file creation capability to help our materials department develop a freight report.

The goal of this report was to capture all of the freight that was associated with our purchase orders and to create a file to send to an outsourcing vendor. We were able use business intelligence to find the records to include in the file, and then used a trace object to send the files off to the outside vendor. This particular aspect of business intelligence allowed for greater ease and efficiency - and can save your staff a lot of headaches!

Lab Turnaround Times

When it comes to patient diagnostics, many times the process is unnecessarily extended due to slow lab turnover times. In order to help clinicians diagnosis patients faster, and for patients to be treated more quickly, the lab process needs to be expedited.

At Athens, we were able to decrease the amount of time required for turnaround reports by switching from an Excel operating system to a data analytics system. Using a business intelligence tool not only helped deliver the data more efficiently, but also reported which units had the longest lab turnover times. This allowed us to investigate the reasons for the delay and offer solutions to expedite the process.

As we look ahead, it is clear that business intelligence benefits will continue to permeate throughout the healthcare industry. Whether it be though cost analyses, staff utilization or clinical care efficiency, the small wins across an organization can ultimately make a huge difference in the long run.

Robin France is senior data analyst at Athens Regional Health System in Georgia.

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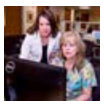

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