



Diving for Data

A southwest Florida hospital deploys clinical and financial analysis tools to eliminate losses and empower decision makers.

By Mike McBride, Associate Editor

Anyone in big business who is past the age of 40 should recall the days of accountant/librarians, who scribed columns of financial data in giant green ledgers before carting the massive toms away down dark corridors of shelves and ladders. Then, as now, corporate decision makers required snapshots of immediate financial situations to help map out strategies. But without the power of computers or a really good crystal ball, weeks could pass before any images appeared.

Today's corporate leaders depend on servers and intranets, IT departments and portals to gather the information they seek. But only after wading through bottomless basins of aggregate data can they gain insight. Though these gargantuan databases can contain up-to-the-minute information, the data may be spread across disparate systems and archived in dissimilar, non-transferable formats. Staff must cull it into new spreadsheets—the modern equivalent of giant green ledgers. For those whose job it is to strain the data into smaller pools, automating an otherwise tedious, painstaking manual process could increase their ability to provide the requested information in a timely manner.

Hurry Up and Wait

Founded in 1925, Sarasota Memorial Hospital (SMH) is an 826-bed regional healthcare center in Sarasota, Fla., with more than 3,000 staff members and more than 1,000 volunteers. It is the only publicly owned and operated hospital in four counties, the only level III neonatal intensive care provider and the third largest employer in the county. In 1997, Microsoft Chairman Bill Gates nominated SMH for a Computerworld Smithsonian Award, which recognizes the innovative use of information technology, and in 2004 SMH received the Microsoft Healthcare Users Group (MS-HUG) Hospital of the Year Award for its CPOE initiative.

The task of providing the clinical and financial analyses SMH leaders need for strategic planning, decision making

and physician practice tracking falls to SMH's decision support services team, led by department director Nora Lissy, R.N., B.S.N. When the leadership needed to compare SMH against other similar facilities, she and her staff often spent weeks manually gathering data from various databases. The departments also sent their paper-based benchmark information to Lissy's team, who combined it with the digital information into an Excel spreadsheet. They then uploaded it to the VHA Action O-I database and waited for up to six weeks to receive by mail a disc containing the final Action O-I reports. During the 18 weeks this process normally took to complete, Lissy's team also compiled the departments' monthly budgetary data, which itself took two weeks to complete once the month closed.

In 2004, SMH's senior operating counsel asked Lissy to develop a global, biweekly productivity report, to help the organization get a handle on its financial situation. To compile the needed information, she developed a new two- to three-day manual process for gathering the data that was based on the monthly budget reports process. "As a global picture, they loved it," says Lissy. "Once they received the report, they could do what they needed to do as a management team. But we were always chasing our tail. We'd be two weeks into a new month and still not know how we did last month. It really wasn't all that beneficial."

Though the new report helped SMH better manage their staff and resources, creating it was still a manual, labor-intensive process, and therefore, a stopgap measure. A faster method of culling data from the disparate databases was needed.

Diving for Gold

SMH's 2004 to 2005 budgetary process illuminated a wide shift in operating costs that threatened leadership's

For more information on Dimensional Insight's HospitalAnalysis system, powered by Diver, go to www.dimins.com

ability to plan for the future. They responded by investigating several hospitalwide productivity solutions but found them too expensive, leading to the creation of the biweekly productivity report. SMH also demoed several third party hospital analytical and report generating solutions. They chose Dimensional Insight's HospitalAnalysis system, powered by the company's Diver solution, for its clear interface, ease of use, and for its ability to cull information from disparate systems and compile them into up-to-the-minute viewable reports and displays.

"Before Diver, it was difficult to determine payroll or overtime hours, or whether there was a call back until after payroll was done," says Lissy. "Now we can look at all that on a daily basis, and it gets refreshed every eight hours."

Diver is a data analysis, reporting and information delivery tool that culls from an organization's databases all the information it uses in its daily operations, regardless of the format or the system on which the data resides. Staff then applies specific rules and relationships to the data, and Diver assembles it into indexed dynamic data files, or models, without the need to write scripts or queries.

These models are used to create charts, graphs, dashboard displays and analytical applications that are accessible from the organization's intranet, or through Diver's Web-based portal interface. Casual to advanced functionality can be assigned on a user basis, as can the system's security protocols. It runs on any platform (e.g., Unix or Windows), and can pull data from any source, such as text or Oracle, SQL and DB2 tables, and merge it with any other.

"The [Diver] census refreshes every hour," says Lissy, "so we can see who's inhouse and what their situation is. SMH is a big hospital that experiences definite fluctuation in volumes and can get full very quickly. If a cardiac floor knows they only have a few beds left, they can go into the system and look at the ER, see what may be coming their way and predict what their staffing needs will be. They can take a proactive approach to patient flow through, rather than a reactive one."

Paradigm Shift at Work

SMH has placed all of its departments into business units, with each run as a separate entity. The COO has directors and managers send him a weekly report of their volumes, cost and hours worked, as well as quality indicators, so he can see if they are on track. "It's been a paradigm shift for the organization as a whole, just to have to do these kinds of reports," says Lissy, "because they've never had to do them before. Some people call it micromanaging, but if you owned a store, you'd want to see what your cash register receipts were at the end of the night. That's basically what every department and business unit has had to do." But SMH's previous system was not well understood by the staff. In addition, when a report was altered and saved, it would automatically overwrite all other reports.

With Diver, however, managers can gain a much better sense of where their business is going and where they stand in their monthly budget and quality goals. The product's name is appropriate, as it allows users to "dive" for data in any direction, as opposed to "drilling" for it, which is a more common procedure that requires preset "drill paths" based on hierarchical constraints. The latter requires that programmers anticipate the need for specific data and create drill-down paths in advance for it to be retrievable. Diver has no such requirement. Managers can dive for clinical or financial data from any starting point and with any end point in mind.

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—Nora Lissy, R.N., B.S.N., M.B.A.



Dimensional Insight put their director of training Matt Gorman on site at SMH for two weeks while they got up and running on the new system. "He worked night and day," says Lissy. "He was fabulous." The company maintains a connection to SMH's Diver system and is on call 24/7, during which time they can remotely enter the hospital's database server and investigate and repair problems as they crop up. "I can call or e-mail them and say '[Diver] isn't working correctly' and I'll get an immediate e-mail response or phone call," says Lissy. "They'll ask me what I'm trying to do and say 'okay try this, or do that,' and then they'll say 'okay, we've got it.'" According to Lissy, the Hospital Analysis system is rarely down. Dimensional Insight also is remotely building SMH new models for denials management and accounts receivable reports.

Lissy's biweekly productivity report is now online in Diver. It updates automatically and allows managers to get current analyses instantly through its Web portal interface. Instead of calling her department, requesting a report and waiting on it to be generated, managers now can access Diver, browse to their department's interface, view the information they need, and with a simple click of their mouse, pull a report that shows their volumes, hours and quality measures. They also can review the current pay period, or any number of past pay periods, to identify trends.

Lissy estimates SMH's ROI at 10 times their original investment, and says Diver helped them recover more than 600 staff hours since its installation. She now mentors other organizations on Diver, including those they originally visited during their initial research.

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