



CASE STUDY

CENTRAL VERMONT MEDICAL CENTER: SHEDDING LIGHT ON PHYSICIAN UTILIZATION WITH DIVER® PLATFORM

Central Vermont Medical Center (CVMC) uses the MEDITECH™ Healthcare Information System (HIS), employed by over 50% of U.S. hospitals. The various MEDITECH applications share a common database and provide a broad spectrum of clinical, financial, and operational functionality to CVMC. In order to transform this valuable raw data into actionable information, a versatile third-party business intelligence (BI) tool is required. CVMC implemented Dimensional Insight®'s Diver Platform (Diver) in order to satisfy this requirement. Diver provides an end-to-end, fully integrated BI platform that includes self-service reporting, analytics, dashboards, and extensive data visualization capabilities.



I'M VERY HAPPY WITH DIVER. I THINK IT'S ONE OF THE BEST BUYS I'VE EVER MADE FROM A SYSTEM STANDPOINT."

| MICHELLE HEEZEN, VICE PRESIDENT OF PHYSICIAN SERVICES, CENTRAL VERMONT MEDICAL CENTER

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QUICK FACTS

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Dimensional Insight Delivers Information to Central Vermont Medical Center

DATA ACCESS
Accesses data from virtually any source internal or external ...

DATA REPRESENTATION
... integrates all of these disparate data sources across timeframes, from monthly to realtime ...

DATA INTEGRATION
... creates denormalized and highly indexed data representations without incurring any database connectivity overhead ...

INFORMATION ACCESS
... and makes this information accessible to executives, managers, and staff in a role appropriate manner via:

SOURCE SYSTEMS



Operational systems:

- MEDITECH
- eClinical Works



External Data Sources:

- MGMA Benchmarking Data



Internal Data Sources:

- Spreadsheets
- Other databases

Dimensional Insight Diver Solution™



CAPABILITIES



Business Intelligence



Performance Management



Data Presentation



Reporting



Analytics



Broadcasts/Alerts



Mobile Access

ORGANIZATION: CENTRAL VERMONT MEDICAL CENTER (CVMC)

INDUSTRY: HEALTHCARE

LOCATION: BERLIN, VT

EMPLOYEES: 1,400

CUSTOMER SINCE: 2006

PHYSICAL PRACTICE GROUPS: 17

BEDS: 122

OUTPATIENT TREATMENTS PER YEAR: 164,000

OUTPATIENT SURGERIES PER YEAR: >3,000

PATIENTS: >25,000

WEBSITE: WWW.CVMC.ORG

SOLUTION: DIVER PLATFORM

WWW.HEALTHCARE.DIMINS.COM

SELECTING THE RIGHT BUSINESS INTELLIGENCE PLATFORM

Michelle Heezen, CVMC's Vice President of Physician Services, recalls the rigorous year-long vetting process that CVMC's cross-functional team undertook to find an analytics and reporting platform that would meet CVMC's needs. The team was comprised of Finance, Nursing, Outpatient Services, and IS staff. The team evaluated over a dozen BI and Decision Support tools, while not limiting themselves exclusively to vendors in Healthcare BI. "We looked at a variety of vendors and a variety of price ranges, including some big vendors like Hyperion. It came down to Dimensional Insight and a competitor. The competing product was much bigger. It had a lot of bells and whistles, as we characterized it, but it wasn't as end-user friendly," says Heezen.

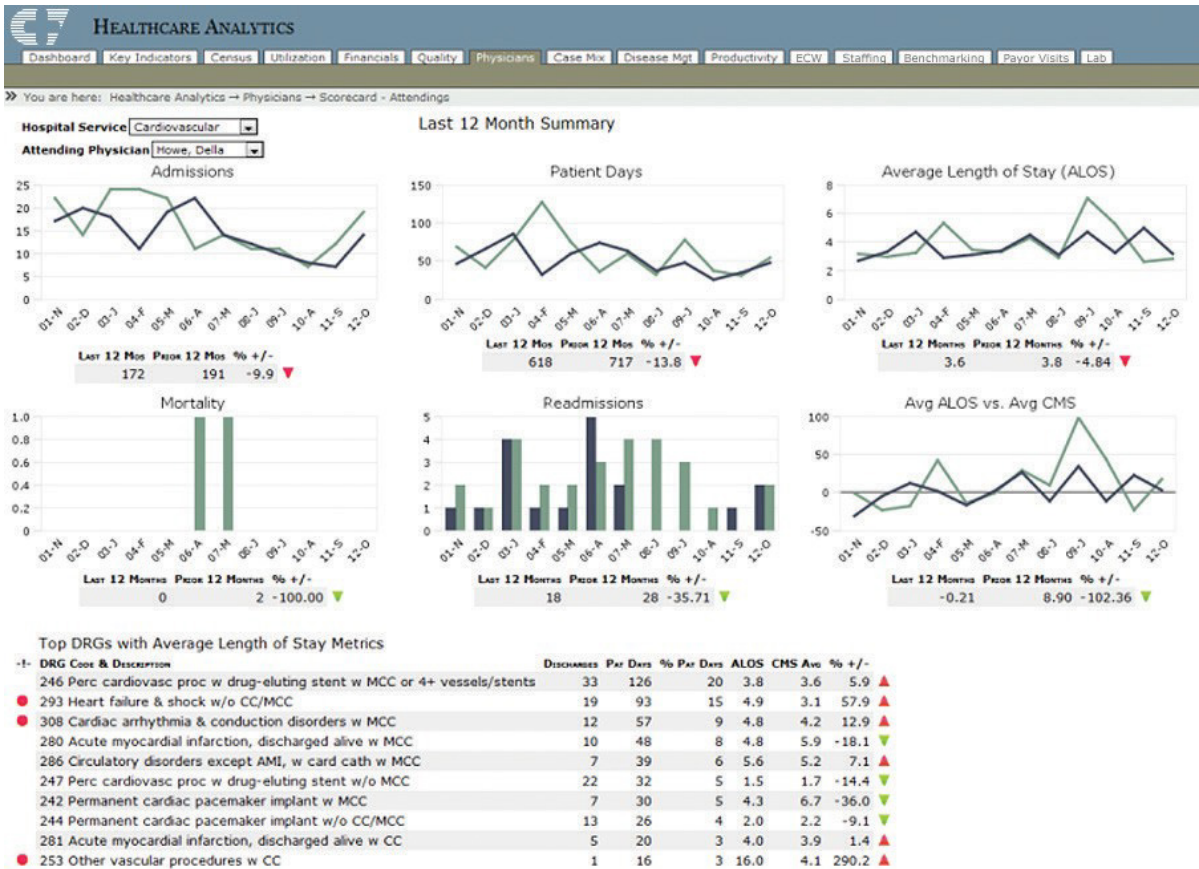
Some of the criteria that Heezen's team used to evaluate the candidates were ease of future scalability, determining whether functionality was adequate without being overwhelming, and that the selected application would actually be accepted by



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end-users. “We had gone through several different systems in the accounting and finance area that we bought and never used at all, or bought and only used a piece of. We also had two separate benchmarking tools running,” said Heezen. “I kind of felt we were system-happy. I wanted to make sure that we bought something that we actually utilized, and got all of our money back on.”

As for the final vendor selection, Heezen notes, “There was one thing that put Dimensional Insight over the top and that was the proof-of-concept demo. The fact that Dimensional Insight actually took an extract of our data and showed us what it looked like in Diver a few days later was really the selling point for us. In addition, Dimensional Insight’s familiarity with MEDITECH and NonProcedural Representation (NPR) reports was also important to us. Dimensional Insight was able to get us going immediately. Some of the vendors we evaluated were huge, and we knew we weren’t going to get that personal attention.”





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BUSINESS INTELLIGENCE WITHOUT CONSULTING EXPENSES

Kevin Knapp, CVMC's Data Warehouse Analyst, recalls the relative ease with which he was able to implement his initial applications based on Diver.

A Dimensional Insight consultant provided Knapp with basic hospital utilization models that served as a blueprint for accessing MEDITECH data. Using that report as a template, Knapp was soon pulling charges, bed censuses, and general ledger data from MEDITECH. This early application was the beginning of CVMC's foray into healthcare information dashboards.

From the outset of the BI vendor selection process, Heezen felt very strongly that the selected tool should not make users dependent on its vendor for support or consulting. She adds, "I hoped that the product wasn't so cumbersome that we couldn't tweak it or change it or do what we wanted to do. People are rightfully concerned about ongoing maintenance costs and whether they need to have a consultant on site all of the time to keep things going. For me, it was really important that we were able to not just maintain it but build what we wanted."

PROVIDING VISIBILITY INTO PHYSICIAN UTILIZATION

At the time Diver was being implemented, CVMC was using the LSS Physician EHR and practice management software, collocated on their MEDITECH server. With minimal training or consulting support, Knapp was able to bring his first Diver applications online within two months, extracting data from MEDITECH and LSS. When CVMC switched from LSS to eClinicalWorks for physician practice management, Knapp was able to retool his Diver dashboard application to pull data from the MySQL database underpinning eClinicalWorks with relatively little effort.

Asked to comment on his learning curve with Diver and its data integration capabilities, Knapp replies, "Very intuitive. I printed out the data integration scripts that Dimensional Insight's consultant had written and figured out what they were doing. So it was a very quick learning curve for me. I really like Diver's Visual Integrator™ component. I use it for things even when I'm not creating Data Models just because it's a very fast tool for chopping up data."

Knapp updates the data for each of the 17 physician practices in the CVMC network once a month. The office managers then generate reports for each physician in their practice. The reports display each physician's Relative Value Units (RVUs), as well as budgetary figures and trending information. In addition, Knapp can extract data on a weekly, daily, or even hourly basis, if indicated. For example, the Comadin clinic data is pulled weekly, while certain office visit data is extracted every hour.



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MICHELLE HEEZEN,
PRESIDENT OF PHYSICIAN SERVICES
AT CENTRAL VERMONT MEDICAL CENTER

CVMC also uses Diver reports to deliver follow-up alerts for chronic care patients with specific conditions, such as asthma, diabetes, hypertension, and elevated lipid levels. Diver tracks which patients manifest these conditions, their primary care providers, and their last appointment date. A report is then automatically generated and sent to the providers to alert them of the need for a follow-up appointment. According to Knapp, the physician practice utilization application has been very well received by the CVMC user community.

These alerts serve to significantly improve the quality of care delivered by CVMC's physician practices, while also helping to contain costs. Rather than relying on staff to manually schedule follow-up visits, Diver automates the process, eliminating the potential for errors or human scheduling failures. The proactive nature of the alerts potentially decreases expensive visits to the Emergency Department as well, by helping physicians and patients stay abreast of their disease management regimens.

DEPLOYING DIVER

During the extensive vendor evaluation process that CVMC's team undertook, end-users had extensively communicated their report requirements and the shortcomings of their old reports. CVMC's team built a comprehensive collection of reports in Diver that met user expectations and requirements. CVMC's team creates applications for DivePort, Dimensional Insight's web portal environment, and uses the ProDiver® solution to build markers and reports for end-users that are then used to populate the portal. The remainder of CVMC's user base consists of more casual users—or information consumers—that have access to DivePort®'s “One-Click Command Center.” This versatile and customizable functionality provides users with advanced drill-down capabilities, file exporting functions, and the ability to access Dimensional Insight's web-based ad hoc analysis client, NetDiver™, directly from a DivePort dashboard.

While CVMC's team has focused largely on using Diver to create director-level reports and dashboards, their next steps include creating executive dashboards. With the data feeds in place to support high level summaries, Heezen feels that early Diver champions such as CVMC's CEO, already a daily user of Diver, and their VP of Nursing would realize the benefits of a single-page view of consolidated data. Heezen observes that, “The nice thing is we've now got the data, we've got everything built up to create some high level dashboards.”



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ABOUT DIMENSIONAL INSIGHT

Dimensional Insight® is a leading provider of analytics, data management, and performance management solutions, offering a complete portfolio of capabilities ranging from data integration and modeling to sophisticated reporting, analytics, and dashboards. The company is an eight-time Best in KLAS winner in healthcare business intelligence and analytics between 2010 and 2021.

Founded in 1989, Dimensional Insight has thousands of customer organizations worldwide. Dimensional Insight consistently ranks as a top-performing analytics organization by customers and industry analysts in its core market segments including healthcare, manufacturing, and beverage alcohol. For more information, please visit <https://www.dimins.com>.

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