



KALISPELL REGIONAL MEDICAL CENTER: GETTING THE MOST FROM MEDITECH DATA WITH THE DIVER SOLUTION



Founded in 1895 by Ella Webber as a small frontier hospital in northwest Montana, Kalispell Regional Medical Center (KRMC) has grown into a healthcare powerhouse. As a member of the Northwest Healthcare organization, Kalispell's technical innovation and operational excellence enables its physicians and staff to deliver the highest possible standard of care to the permanent residents and seasonal visitors it serves. Kalispell currently has over 150 beds with an additional 50 in the psychiatric ward. In addition, an extended care facility operated by Kalispell contains over 100 beds.

Kalispell uses the popular MEDITECH Healthcare Information System (HIS). Employed by over 50% of U.S. hospitals, MEDITECH markets a suite of applications that share a central database and support a wide spectrum of operational, clinical, and financial activities that take place within a healthcare delivery organization. In order to extract data from MEDITECH, a Non-Procedural Representation (NPR) report needs to be written that accesses data from individual MEDITECH modules.

Healthcare providers have found that in order to utilize the rich collection of information captured within the MEDITECH HIS requires a versatile third-party business intelligence (BI) tool. This is because MEDITECH applications are transactional in nature, capturing data on processes as they happen. As with many transactional systems, this organization of data does not easily lend itself to analysis and visualization. Another obstacle is the need to write cumbersome and time



DATA → INFORMATION → ACTION



consuming NPR reports in order to gain access to MEDITECH data. The dozens of modules that comprise the MEDITECH family all require separate NPR reports in order to extract data. MEDITECH also markets the MEDITECH Data Repository where data generated by the individual modules can be stored. However, not all MEDITECH data, such as the Enterprise Medical Record (EMR), can be stored in the Data Repository.

The Diver Solution is an end-to-end reporting and analysis platform featuring robust data integration, visually impactful dashboards, and automated reporting functions utilized by many MEDITECH providers. Pat Mulberger, Nursing Systems Analyst at Kalispell, learned about Dimensional Insight through industry trade shows and immediately realized the potential of The Diver Solution early on, given how backlogged she was writing NPR reports at Kalispell.

Mulberger recalls that “I came to realize that end-users never really knew how to ask for the report they needed because as soon as they got a report, they would find something in the report that would lead them to ask for additional information. I was really intrigued by the Diver product because it gave you the ability to get the additional information you needed without additional NPR report writing.” This self-service reporting capability forms the backbone of Diver’s powerful analytical engine.

Two years ago, Mulberger convinced her CIO to take a serious look at Diver. He in turn asked a broad spectrum of Kalispell

staffers, ranging from accounting and medical records to patient accounts, to evaluate Diver. According to Mulberger, “They were immediately sold on it and became the product champions that convinced the CSO that we really needed to get this product.”

A PHASED APPROACH TO BI DEPLOYMENT

Rather than relying exclusively on their IT department to implement Diver, Kalispell took a different approach by creating a cross functional team of power users responsible for deploying Diver in their respective functional areas. This phased deployment builds many small success stories, delivers rapid ROI, and removes the burden on the IT department for application support and report generation requests by generating home-grown expertise at the end-user level.

In addition to Mulberger, other team members include staffers from medical records, pharmacy, laboratory, financial and technical IT staff, quality assurance, OR and nursing. The team meets every week, with a designated team member responsible for presenting a new Diver learning point to the group. This supplements the onsite training delivered by Dimensional Insight and also helps the organization better manage total cost of ownership of their BI investment.

MONITORING INTERVENTIONS WITH SELF-SERVICE REPORTING

Using Diver, Pharmacy Informatics Specialist Suzanne Catalfomo built several data views that allow her to see drug usage requests over any time period requested by a user. Catalfomo notes that “trying

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MARGO DYER,
LABORATORY AUTOMATION
SYSTEM SPECIALIST

to get this information out of MEDITECH, depending on the period of time, would take hours to run using NPR.” This information is used by Kalispell’s management team to determine whether a particular drug should be on their formulary or not, and whether a more cost-effective medication is available that could replace that drug.

Catalfomo also uses The Diver Solution to run reports that enabled her team to retrospectively review therapy and antibiotics. The goal is to verify that patients were billed appropriately. Catalfomo plans to use Diver to model all of the interventions that her team documents on each patient so they can understand how interventions are being used, whether they are appropriate, and to apply this information to optimize staffing levels.

Interventions are stored in the MEDITECH Data Repository, but accessed using Diver. By analyzing the MEDITECH data in Diver, Catalfomo and her team can look at the information across virtually any dimension, such as staff member, date, or type of intervention and retrieve it in a usable format. In addition to getting a handle on interventions, the data helps her differentiate between staffers that are exceeding expectations and those that need to increase efforts to meet expectations.

Catalfomo explains, “If the average intervention count is 20 for the majority of staff, and some people are outliers doing less or doing more, we can dive into the details using Diver and examine the root causes. For staffers who are completing an

above average number of interventions, we want to learn from those people to see if we can increase everyone’s statistics.” Empowered with accurate and objective information, constructive feedback can be given and remedial action can be taken.

BOOSTING BLOOD BANK PRODUCTIVITY

Margo Dyer, Kalispell’s Laboratory Automation System Specialist, is using Diver to help analyze blood draw statistics, grouped by time of day, day of week, or week in month. The hope is to remediate staffing shortfalls and decrease complaints related to delayed blood draws. Dyer uses a mix of prepackaged Diver reports and reports created in-house. The existing reports helped Kalispell see the potential of Diver early on, and made the platform add value from day one - enhancing productivity, reducing reliance on NPR, and reducing monotonous tasks. Dyer describes the productivity transformation that has taken place since Diver was brought to Kalispell. “In the old days, using NPR reports, I’d create a report that would contain certain criteria and pull data from a particular module. I’d run the report, and finally obtain the result. If I wanted something different, I’d have to edit the report and rerun it, which can take a long time. With Diver, I can do in five minutes what might have taken me hours or even days before. Now I always try to think of how I can do this in Diver because it’ll be quicker and easier. I don’t want to use NPR unless I have to.”

If Dyer wants to answer a seemingly basic question using NPR, such as how much work the night shift performs between

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VICKI WILCUTT
REVENUE CYCLE MANAGER



midnight and 7:00 AM, it quickly escalates into a time consuming and labor intensive process. Dyer has to access and merge data from three separate modules: MEDITECH Blood Bank, then MEDITECH Laboratory and Microbiology, and finally MEDITECH Anatomical Pathology. By comparison, with Diver’s powerful data integration capabilities, merging these disparate data sources is seamless and easy. Additionally, Dyer can easily see month over month, week to week, and daily comparisons in Diver, without having to run separate reports.

Diver handles data refreshes automatically, whether they be hourly, daily or weekly, freeing the user from having to initiate this process manually. Dyer notes that Diver has also lessened her dependence on Excel. “Even in Excel, which is a wonderful program, you don’t have nearly as much functionality as Diver, so I use it less now.”

ENSURING TIMELY REIMBURSEMENTS WITH DIVER

With a background in medical records administration, Kalispell’s Revenue Cycle Manager Vicki Wilcutt has firsthand experience with the myriad frustrations confronting billing staff responsible for getting claims submitted on a timely basis. In addition to managing a staff of four medical billers, Wilcutt is also responsible for maintaining Kalispell’s chargemaster.

Wilcutt explains the value added by Diver. “In the MEDITECH environment, you typically end up having to download your report into Excel and then perform additional formatting steps to transform the raw data into usable information. In

Diver, the information is already presented in a usable format, so it’s much friendlier for the end user.”

Wilcutt has over 75 automated Diver reports at her disposal. She selects a report from her library, runs it, and receives an updated report containing the latest data. Wilcutt receives numerous requests for information from other Kalispell staffers and managers. “Someone will call and ask how many patients did we see with this diagnosis over a particular time period, how many patients with this DRG, how many patients with this revenue code, how many patients admitted in a particular location?” With Diver, she can now answer those questions immediately, without having to write an NPR report and wait for an answer.

Wilcutt uses Diver’s ad-hoc reporting capabilities extensively to explore charge detail. A query on how many patients were charged with a particular charge number would take overnight to run in MEDITECH. According to Wilcutt, “It’s much easier to conduct ad-hoc reporting on charge detail using Diver. You enter the charge number, patient number, account number, their insurance information, or their discharge disposition - all of these options are available to identify your patients. MEDITECH just does not provide you with versatile ad-hoc analytical capabilities.”

Wilcutt was recently tasked with quantifying Kalispell’s discharge dispositions. “We had to send the data to a 3rd party that was conducting an audit on our transferred DRG’s. Instead of writing an NPR report, we pulled that data using

DIVER'S DATA INTEGRATOR COMPONENT IS A ROBUST EXTRACT, TRANSFORM AND LOAD (ETL) TOOL THAT INTEGRATES DISPARATE DATA SOURCES, REGARDLESS OF THEIR NATIVE FORMAT OR ORIGIN. THIS ROBUST INTEGRATION FUNCTIONALITY IS AN IMPORTANT FOUNDATION UNDERPINNING DIVER'S ANALYTICAL CAPABILITIES.

Diver and used its tabular function to append relevant data elements such as the medical record number, their insurance, the discharge disposition, the DRG, their LOS - all of that with hardly any effort, where before we would have had to expend a lot of time writing an NPR report to get the same information. It doesn't matter which MEDITECH module the raw data resides in."

Wilcutt ends by describing yet another Diver benefit. "It used to be difficult to get daily revenue information by financial class in the middle of the month, because you didn't have the period end reports. With Diver you have access to that information midmonth if you need it, by location, by financial class - is it the E.R. or the inpatient class - is it the E.R. or the inpatient class that is down, is our self-pay increasing?" All of these queries are now easily answered thanks to Diver.

ROBUST DATA INTEGRATION CAPABILITIES SPEED PRODUCTIVITY Diver's Data Integrator component is a robust Extract, Transform and Load (ETL) tool that integrates disparate data sources, regardless of their native format or origin. This robust integration functionality is an important foundation underpinning Diver's analytical capabilities. For example, Kalispell has several hospital owned physician clinics that use a different database than MEDITECH. Those clinics download their schedules into Excel and Wilcutt then uploads the spreadsheets into Diver. The Diver application automatically returns patients that have had a visit in MEDITECH,

by matching on criteria such lab names, date of birth and gender. This allows Kalispell to combine charges appropriately, rather than having to go through the entire list of 300 accounts each day and identify services received by patients that were seen in the clinic. This innovation alone saves Wilcutt eight hours of work each week, not counting the time spent in the pre-Diver days redoing erroneous claims or re-billing missing charges.

Diver also facilitates data integration between the various MEDITECH modules. Wilcutt points out that with the MEDITECH BAR (Billing and Accounts Receivable) module, it's hard to pull in clinical information. With Diver she can pull in DRG codes and diagnosis information, plus the employer, charge detail, and revenue codes instead of having to write an NPR report. Bottom line, Diver provides her with a simple way to get the clinical and financial information in one report.

FUTURE INITIATIVES In addition to MEDITECH, Kalispell uses best of breed systems in the ER, ANSOS for scheduling and Kronos for time and attendance and for HR. eClinicalWorks is being deployed for electronic medical record management and MIDAS is used for quality management. The overarching plan is to eventually integrate all of these disparate systems using The Diver Solution. Additionally, Kalispell leases their MEDITECH system to several smaller hospitals in northeastern Montana that maintain their own database but use Kalispell's software. An initiative is underway, utilizing federal



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Nursing Systems Analyst

stimulus money, to join these hospitals together in order to efficiently manage electronic medical records.

Pat Mulberger neatly sums up the potential for business intelligence at Kalispell.

“Up until now, we’ve had the age-old problem of having various applications and nothing to pull it all together into one cohesive view, so with Diver what we can do across the Kalispell organization is almost limitless.” Mulberger is planning to build a report based on lab and pharmacy information that also integrates demographic data to facilitate infection control monitoring. Another initiative involves combining scheduling with time keeping data to analyze bed census data and optimize staffing levels. Kalispell has over 200 NPR reports that can be ported over to Diver, eliminating the NPR maintenance overhead. One big initiative is generating high level summary information for management, called

flash reports. This information is currently assembled by the corporate accounting team from 14 different sources and disseminated to management via Excel spreadsheets. Using Diver, Mulberger can create interactive dashboard driven views of the Flash Reports for Kalispell’s management team.

Using Diver, Mulberger plans to use quality data from Kalispell’s MIDAS system and create daily and weekly comparisons against internally tracked quality measures. Currently the comparison data is only available quarterly. Like most hospitals, Kalispell is finding that quality reporting measures are increasingly tied to reimbursements from public and private insurers. Asked about Diver’s impact on reducing Kalispell’s dependence on NPR reports Mulberger echoes Dyer’s sentiments, “Now our first question is, ‘Can we get this done in Diver?’”