

Information Builders helps organizations transform data into business value. Our business intelligence, integration, and data integrity solutions enable smarter decisionmaking, strengthen customer relationships, and drive growth.

Grand River Hospital

Snapshot

Organization

Grand River Hospital is a community hospital that serves more than 500,000 residents in the Waterloo Region of Ontario, Canada

Challenge

Each time a business user wanted to see new metrics, Grand River's IM/IT team had to extract a unique data set into a temporary table, and then generate a custom report.

Strategy

The hospital uses iWay DataMigrator to combine information from dozens of source systems into a single repository, WebFOCUS to create new BI applications, and InfoAssist to enable ad hoc reporting in multiple domains

Results

Grand River now has one consolidated data warehouse. Clinicians, administrators, and financial personnel can better answer complex questions that span multiple systems, from payroll and financials to patient scheduling, laboratory, and admissions.

Information Builders Solution

iWay DataMigrator, WebFOCUS, InfoAssist, and Professional Services.



Data Drives Decisions at Grand River Hospital

Canadian Healthcare Provider Gains a Healthy Perspective With Information Builders' Technologies

Grand River Hospital is a 615-bed community hospital with 3,100 employees and 582 physicians and midwives. The hospital serves more than 500,000 residents in the Waterloo Region of Ontario, Canada, delivering a full range of acute and restorative care, including: cancer, childbirth, pediatrics, intensive care, emergency medicine, rehabilitation, renal, mental health and addictions, medicine, stroke, surgery, and complex continuing care services on two main campuses.

Until recently, outdated data management technology was hampering the hospital's efforts to provide high-quality, cost-effective patient care. Grand River's IM/IT environment included more than 60 source systems. An 11-member decision-support team depended on the IM/IT department to produce reports. Team members specialized in their own specific systems, so producing cross-segment reports was especially difficult. Hospital officials wanted to pull data from all these systems into

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one cohesive source and facilitate timely and accurate reporting for hospital decision-makers. To achieve these goals, Grand River Hospital implemented integration and business intelligence (BI) technology from Information Builders.

“We are assisting staff throughout the hospital to adopt a data-driven mindset,” says Kathleen Lavoie, director of health information management and chief privacy officer at Grand River Hospital. “The Enterprise Data Warehouse with Information Builders enables us to generate reports more quickly, more effectively, and with more sources of data. This broader perspective enables us to answer questions that we could not answer before.”

Extracting, Transforming, and Loading Clinical Data

Working with Information Builders, the hospital's IM/IT team identified seven initial source systems from which to extract information for reporting and BI:

1. A Star admissions system, which uses a MUMPS database
2. A WinRecs chart reporting system, based on Microsoft SQL Server
3. A surgical system called HMS, based on Microsoft SQL Server
4. A PHS scheduling system, based on Microsoft SQL Server
5. An HMM medicine management system, based on Oracle Database
6. A Fusion dictation system, based on Microsoft SQL Server
7. A PFM financial system, based on Microsoft SQL Server

They mapped data entities and modules within each source system. Then they used iWay DataMigrator to extract, transform, and load (ETL) five years of historical data from these systems into an enterprise data warehouse. DataMigrator includes introspection tools to examine a database schema so that system designers can select precisely what database information will be accessed, and develop rules for doing so.

Since then, the hospital has used Information Builders' advanced ETL platform to integrate several additional information systems, including McKesson applications for patient admissions, discharge, and transfer; pharmacy; surgical suite documentation; patient scheduling; financial; ED Tracking Board; and materials management. The hospital is also integrating third-party applications for payroll and health records extraction, while continuing to maintain its best-of-breed strategy for applications, with many more systems still to integrate.

“We can use any SQL-based tool to extract information from the data warehouse,” says Deb Haggman, a decision-support consultant and team lead at Grand River. “Information Builders gives us flexibility so we are not constrained to one type of reporting tool or one type of analysis method.”

Having unified data sources in the data warehouse also improves the IM/IT team's methods and procedures. “We used to have to run reports at night because they would impact the performance of the source systems,” adds Haggman. “Now we can run reports against the data warehouse anytime. The data warehouse makes us more productive and removes a big reporting bottleneck.”

“We are making our data work for us in a real-time fashion, not just specific elements, but all our data – clinical, administrative, and financial. This is an historical first for the hospital.”

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Consolidating Data to Improve Patient Care

Before moving any data into the data warehouse, the IM/IT team used DataMigrator to profile information from the source systems to make sure the data warehouse would have clean, consistent information. Now the hospital uses DataMigrator’s change data capture (CDC) technology to extract new data from the source systems on a daily basis. The team has created several transformation groupings to guide how data should be loaded into a consolidated domain model – and to ensure consistency. Executives, administrators, doctors, and nurses have all gained confidence in the accuracy of the data.

“Creating the data warehouse forced us to examine the source systems more closely, so now we have a better idea of what we have,” says Lavoie. “Our stakeholders know that the information in the data warehouse accurately reflects the information in the source systems.”

Thanks to this intensive team effort, the new data warehouse has become the foundation for advanced analytics such as case costing – a detailed tracking of costs related to each patient. Case-costing reports help managers, physicians, and other staff members understand which patient services were provided, when they were provided, who provided them, and at what cost. This enables users to determine the average cost of a particular procedure, and how Grand River’s costs compare with similar procedures performed elsewhere. Hospital administrators will be able to track all expenses incurred by patients throughout their hospital stays.

In the past it could take three weeks to get the reports that would provide these insights; now clinical information is available in a more timely fashion. For example, the hospital can more easily track emergency room wait-times, levels of care in each department, and patient diagnoses to ensure that individuals receive the right medications. They can determine which doctors are performing well based on quality outcomes and can monitor a wide variety of hospital procedures. The insights Grand River gleans from its data warehouse could directly impact patient care.

“We can maximize efficiencies and lower costs,” sums up Lavoie. “It was difficult to do this previously because it required extracting information separately from more than a dozen source systems. Now we have automated a good part of that process by properly combining and loading data elements into the data warehouse. This is a big success for us,” and are intent on knowledge transfer to help us become self-sufficient.”

Find Out More

To find out how we can help your company succeed, talk to your local Information Builders representative today. Visit us at informationbuilders.com, or in the U.S. and Canada, call **(800) 969-4636**. To improve your skills with our solutions, visit education.ibi.com.

Leveraging the Warehouse for End-User Reporting

Lavoie and her team use WebFOCUS and InfoAssist to supplement an existing system of dashboards, scorecards, and reports. They are in the process of using Information Builders' BI tools to extend end-user reporting capabilities to business unit managers, doctors, and nurse managers – with the goal of empowering the entire enterprise with self-service BI capabilities.

"The new data warehouse enables us to answer the questions that stakeholders are asking, and drill into the numbers on the scorecards to obtain a more complete picture," says Haggman. "We use WebFOCUS and InfoAssist to align the warehouse information with each user's needs. Information Builders has given us excellent support," she adds. "They are always there to assist us

According to Haggman, success comes with correctly combining the data to reveal what is going on in the hospital, such as which tests and procedures patients receive and how the individual components of care impact final patient outcomes. "WebFOCUS is very user friendly and GUI-oriented so we can offer better data visualization capabilities to our users," she adds. "The reports are very attractive, flexible, and easy to interact with."

As Grand River Hospital builds BI proficiency in the user community, the IM/IT team hopes to spend much less time creating custom reports. Lavoie says the data warehouse has become the foundation for Grand River becoming a data-driven enterprise. "We are able to link systems that were always silos in the past and can turn around reports more quickly," she concludes. "We are making our data work for us in a real-time fashion, not just specific elements, but all our data – clinical, administrative, and financial. This is an historical first for the hospital."