Building a Business Case for Modern Healthcare Analytics

Healthcare-aware business intelligence platforms can help you quickly implement actionable, role-based BI across the organization.

Healthcare providers are under pressure to lower operating costs and healthcare expenses while improving patient care and outcomes. Hospitals must respond to mandates and consumer demand to move from "volume-" to "value-"based business models. Meeting these expectations requires the organization to examine and rethink the way it does everything, across every department. It's a tall order.

The question is, how can healthcare IT departments get their arms around the onslaught of data being generated by an ever-increasing number of apps and devices? How can clinicians improve patient care while they're being asked to do more with less? How can business operations find efficiencies without sacrificing employee quality of life and patient quality of care? The answer lies in analytics and business intelligence (BI) tools. But beware—they're not all created equal.

Pitfalls of Traditional Analytics

Compliance and the need for cost containment strategies make analytics necessary for the success of any provider organization, but conducting analytics is historically difficult, expensive and time consuming. Traditional approaches to analytics involve proactively finding the data you need, sorting through data silos and transforming what you've pulled into a cohesive view—or, worse, managing and maintaining a data warehouse. These methods are labor-intensive and do not have the agility required by today's business users and clinicians, who need real-time access to insight and answers.

Still, the entire health system requires analytics capabilities in order to work efficiently and effectively: Clinicians must be able to use data to make appropriate care decisions and stay compliant; business operations users must be able to make decisions aimed at lowering costs without sacrificing quality; and IT must enable streamlined operations and workflow, all while providing a secure, scalable and stable infrastructure. With all these competing agendas and priorities, what's a modern healthcare provider to do?

Benefits of Healthcare Aware BI

A modern, comprehensive BI platform designed for the healthcare setting is the answer to the BI analytics puzzle. A BI solution provides all of the components needed to implement and deploy actionable, role-based BI across any healthcare organization, no matter how large—without the need for a complex data warehousing strategy.

Benefits for Clinicians: A BI tool designed with healthcare organizations in mind maximizes clinical effectiveness by giving practitioners the ability to:

- Track and monitor effective and ineffective therapies.
- Practice evidenced-based medicine.
- See all patient records and treatment on one dashboard.
- Identify patients at risk for readmissions.
- Conform to regulations mandated by the Affordable Care Act.
- Identify patients who have symptoms that may suggest undiagnosed illness.
- Improve the health of segmented populations.
- View aggregated data, even if medical terms vary in individual documents.

Case in Point: Developing a Consistent Standard of Care

A six-hospital health system noticed that it had a large population of patients with congestive heart failure (CHF), and each facility was caring for these patients in a different way. As a result, there was significant variability in terms of quality care and cost across the various sites.

The health system designated an executive to champion an initiative to create a consistent standard of care across each of the six facilities. An interactive CHF dashboard was created that included length of stay, direct cost and readmission metrics by each hospital. Results in the dashboard allowed clinicians and business users to partner together to change and standardize care patterns and practices based on the data. The approach was then replicated to provide the health system with improved disease management capabilities for other conditions affecting its patient population.

Benefits for Business Operations: Administrators are mandated to streamline processes, but every measure they take must benefit patients and must not hinder a clinician's ability to provide quality care. A modern healthcare BI tool gives hospital business leaders the ability to:

- Reduce administrative and staff overtime costs.
- See actual volume levels and adjust staffing needs accordingly.
- Equalize standards and cost of care across care groups.
- Access profitability reports.
- Compare reimbursements by time frame or individual.
- Track utilization metrics, including admissions, discharges and bed occupancy rates.
- See dashboard views of operational key performance indicators, including operating statistics, revenue analysis, staffing and workload, and other features.
- Generate productivity and performance reports for individuals or groups.

Case in Point: Avoiding Overtime Costs through Better Operational Reporting
A large community hospital system was unable to detect issues with payroll or overtime hours for individual employees until a week after the end of a pay period. The issue was compounded by the lack of operational visibility into daily volumes across the various admitting units.

By integrating data from their time and attendance, staffing and electronic health records systems, managers were able to see true payroll and overtime hours for each department and measure them against predefined budgeting goals. Staffing data could then also be compared with patient census data, allowing staff schedulers to see actual volume levels and adjust staffing needs before overtime was accrued. Employees are now flexed on and off in order to meet existing demand. The information needed to make these decisions is refreshed and available to supervisors on a shift-by-shift basis.

Benefits for IT: Healthcare IT departments are also under tremendous strain to operate efficiently while keeping patient data private and secure. IT is a service organization, but when we ask our IT focused resources to constantly field report requests from business users, clinicians and medical staff, we limit their ability to serve the organization in a strategic way. A healthcare-aware BI tool enables IT to:

- Eliminate the cost of building and managing a data warehouse.
- Integrate data from systems across the organization into one interface.
- Support governed data discovery through guided analytics for business users.
- Automatically generate reports without manually pulling or cleansing data, or writing scripts.
- Streamline administration and security.

Case in Point: Focusing on Strategic Initiatives, not Report Requests
A California-based not-for-profit community hospital with limited IT resources decided to implement a four-step approach to reach ROI for its BI deployment in 12 months. The organization started small and used a phased approach to rolling out projects so it could rapidly develop and publish BI content to its users and iterate as needed.

In addition, the organization used the hospital's strategic plan to prioritize its "to-do" list—this kept executive management consistently engaged. In addition, IT standardized on a single tool to accelerate development productivity and minimize resource and skill-set bottlenecks. And finally, the team used consulting services offered by the BI vendor as a way to provide "immersion training" for its team, expand skill sets and become more proficient in the offering.

What to Look for in a Healthcare-Aware BI Solution

When evaluating BI software options, ask about the ability to handle industry-specific business rules. Some BI tools may look great but require deep technical knowledge to replicate what is seamlessly demonstrated during a pre-sales process. Be inquisitive, and don't shy away from asking the tough questions—find out if there are any prepackaged or preconfigured solutions that can be used to jump-start your own BI efforts. And, if not, determine if your team will be expected to define and manage your own departmental business rules and establish a plan to resource and manage this as part of your overall implementation efforts. Look under the hood of any solution you evaluate, and be sure it offers the following key elements:
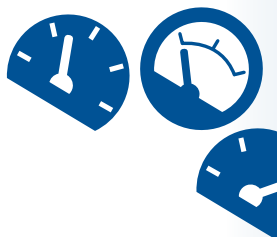
Built-in data integration capabilities: You need a solution that can integrate data feeds from all of your systems and ancillary data stores (even flat files), and transform them into a usable data model. The data-model approach allows organizations to process, summarize and optimize data for fast reporting and self-service for business users. The solution should not require the additional expense of creating a data warehouse or the licensing overhead of a database.

Guided analytics as a way to support self-service: A guided analytics framework is the best way to support self-service by business users and clinicians. Business users are not inherently technologists, but they still need access to data to make informed decisions. Look for BI solutions that provide a combination of top-level views and dashboards, combined with the ability to dive into deeper levels of data to identify root cause without IT intervention. Remember, self-service BI only works when you support business users with the appropriate framework. Guided analytics ensures that data integrity stays intact and that your decision-making rationale can be trusted.

Automated extraction and data governance: Automating data extraction and transformation is crucial, especially when data resides in multiple systems and is being accessed by multiple stakeholders. As a result, data governance is essential in a healthcare setting. For example, key indicators, like readmissions could be calculated differently in finance versus a specific service line. The ability to apply business rules in a way that automatically supports data integrity goals provides an organization with the ability to rally around a "single version of truth": IT gets peace of mind, and clinical and business users can rest assured that they are making decisions based on accurate data.

Interactive dashboards: Interactive dashboards simplify information delivery and ensure that users are given timely access to business-critical metrics in a format that is meaningful to their specific role. Dashboards should include ad hoc analysis and self-service reporting that allow users to find and access additional layers of detail. Dashboards should also include alerts and information broadcasting with predefined intelligence thresholds based on business rules. Notifications should be automatically pushed out to the appropriate stakeholders when thresholds are violated.

The Diver Solution

A comprehensive BI tool benefits the entire organization by providing faster access to data, process improvements, decreased manual processes, the ability to self-serve, improved quality of care, increased staff and customer satisfaction, and reduced costs.

The Diver Solution™ from Dimensional Insight is an end-to-end business intelligence platform that provides all of the components needed to implement and deploy actionable, role-based BI across your organization. It provides integrated views of business-critical data, giving

About Dimensional Insight

Dimensional Insight is a leading provider of business intelligence (BI) solutions. The company offers a comprehensive set of BI capabilities, ranging from data integration and modeling to sophisticated reporting, analytics, information portals and dashboards. Founded in 1989, Dimensional Insight has thousands of customer health systems worldwide.

Dimensional Insight's Diver Solution consistently ranks as a top-performing business intelligence platform by customers and industry analysts in its core market segments, including healthcare, manufacturing and distribution industries.

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you the information you need to make the choices that will grow your business, along with clinician and end user-ready displays, prepackaged business rules and prebuilt connectors to healthcare data sources. These cornerstones give you timely access to accurate information; connect your financial, operational and clinical data for a comprehensive view of performance; and help the organization contain costs and identify opportunities.

If you're ready to learn more, contact us 920-436-8299 or send an email to info@dimins.com.