



White Paper Series

Healthcare Business Intelligence: The time is (still) now

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The time is (still) now

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In "Building Business Intelligence: Business Intelligence in Healthcare Today" featured in the May 2005 issue of *DMReview*, William McKnight stated, "Perhaps in no other industry, at any other time, was there such a need for business intelligence as there is in healthcare today."

Well, it's two years later; and while we have moved the needle forward a little, by and large that statement remains true, only more pronounced. Some forward-thinking organizations in healthcare have seized upon the opportunity and have improved their access to clean and correct patient, provider and outcome metrics. Some have become the evidence-based culture mentioned then. But far too often, entrenched information is found in silos and conservative cultures are working against progress.

It seems every time we turn around, there is a topic in view or earshot related to a healthcare issue. It is certainly a political issue now; and as an information-oriented person, it is also not difficult to trace information usage through to solving the issue. Small issue solving accumulates and soon a healthcare organization, and indeed the industry, can be over the hump. However, rather than acknowledging the bits or bunches of business intelligence that's in place and taking that next "first step in the journey of a thousand miles" towards a better future, healthcare, generally speaking, is becoming more reactive.

Information exploitation could save healthcare from imploding. Consider what applications business intelligence can support (along with commensurate processes) for a healthcare organization. This list would obviously be nuanced by the sector of the industry the company is in:

- provider performance
- care provisioning
- clinical research
- staffing level optimization
- billing accuracy
- optimize claims routing
- provider ranking and profiling
- referral program effectiveness
- occupancy rates
- patient safety

Indeed, these are the applications we strive for in healthcare, but the underlying foundation of quality, integrated, well-performing and corporately adjudicated information — is usually found by deploying best practices in the disciplines of data warehousing (DW), business intelligence (BI) and master data management (MDM); that's right — three disciplines now, not one. We can collectively refer to the set as business intelligence because BI is where the business benefit comes. However, the danger in doing that is ignoring the infrastructure requirements of MDM and DW. In addition, operational BI can and should be considered a fourth pillar of information value-add.

The preponderance of such a wide variety of information uses, perhaps the most diverse of any industry, and the speed with which they must be addressed, also perpetuates the problem of data



proliferation. However, the speed of change in the industry, often demanded from governmental regulatory bodies, is an additional factor. Consider this decade's initiatives in care quality, privacy, evidence-based delivery, automated adjudications, health savings accounts as well as the current transitions to individual responsibility and pay-for-performance. Change is almost guaranteed to continue, which is perhaps the most important reason to get the healthcare information foundation together as soon as possible.

Light integration in most healthcare companies has enabled basic analysis such as:

- number of procedures per doctor
- hospital resource utilization
- length of stay metrics
- cost of care by category

However, current struggles include the next level of analysis, which consists of:

- patient relationship management
- quality outcome support
- patient flow metrics
- diagnostic and treatment relationships
- optimizing duration of patient stay
- optimizing skill mix and resource allocation to care delivery
- ability to predict and forecast referral patterns

There is no wrong answer as to where a healthcare company currently stands. There is only the reality. Every situation can be improved if conscious effort is applied. Sensible efforts should be guided by visionary strategy and targeted deliverables. An outside assessment can provide that function.

In healthcare, it's not really as difficult to do the justification as some other industries. Non-integrated silos present numerous opportunities for TCO reduction — by far an easier justification than corralling the people throughout the information value chain and gaining quantification for the business monetization of business intelligence. Patient record systems, coding standard systems, outpatient systems, and national registry all typically have redundant feeds and data and therefore present an opportunity for reduction in TCO.

Some of the most important subject areas to master with healthcare business intelligence include:

- Provider care capabilities, locations, track record, cost and availability
- Encounter results, follow-ups, effectiveness, cost, timelines
- Conditions and treatment plans
- Patients, conditions, billing
- Labs and care-giving locations

The larger benefits accrue from the integration of this information. Without the integration, systems usually report only on the data that they generate, rather than all of the pertinent data available. It is only when key data elements are juxtaposed, such as “salary cost per DRG by admitting physician” that true insight into operations is generated.

Business intelligence is rapidly becoming acknowledged as supporting healthcare's boardroom goals. Knowledge worker preparedness is also high. Making progress however can be another story. Moving



forward in the progressive next steps will likely include some system modeling, education of executive support, user profiling, tool need classification and code set determination — all within the aforementioned domains of data warehousing and master data management.

About the Authors:

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William McKnight has architected and directed the development of several of the largest and most successful business intelligence programs in the world and has experience with over 50 business intelligence programs.

He founded and served as president of McKnight Associates, Inc., a highly regarded business intelligence and data warehouse consultancy which was acquired by CSI in July 2005. William is a columnist for major data management trade publications and is quoted extensively on Business Intelligence and Data Warehousing topics. Additionally, he has spoken at over 100 international events, including numerous keynotes and is a frequent best practices judge for such organizations as DM Review, TDWI, and the Software & Information Industry Association. He is the business intelligence expert at SearchCRM.com. William is a former Information Technology Vice President of a Best Practices Business Intelligence Program and holds an MBA from Santa Clara University.

R. Chris Christy, FACHE, Global Healthcare Marketing Director, Business Objects

With more than 16 years healthcare experience in both profit and non-profit hospitals, Chris Christy is the global healthcare industry marketing director for Business Objects. He served five years as associate administrator and chief operating officer at several hospitals that were part of Tenet Healthcare Corporation and nine years as vice president for Professional Services at St. Paul Medical Center, a 600 bed tertiary care hospital in Dallas, Texas, operated by the Daughters of Charity National Health System; two years as Regional Vice President for Emcare, Inc., a US publicly traded emergency room physician group practice. Christy's tenure in the software industry includes three years at a large European ERP company and more than four years at Business Objects.

A Fellow in the American College of Healthcare Executives, Christy has served as an Adjunct Professor for Healthcare Strategic Planning at Texas Woman's University in Dallas. He received his master's degree in public health from the University of Missouri-Columbia.

About Conversion Services International, Inc.

Conversion Services International, Inc. (CSI), is a leading provider of professional services exclusively focused on strategic consulting, data warehousing, business intelligence, and data management solutions. As a trusted advisor to the Global 2000 for more than 15 years, CSI helps companies define, develop and implement the warehousing and strategic use of both enterprisewide and specific categories of data. CSI's current customers include Verizon Wireless, Morgan Stanley, Pfizer, Goldman Sachs, Merck and Standard & Poor's. For more information visit www.csiwhq.com or contact CSI at 888.274.5036.

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Business Objects is the world's leading business intelligence (BI) software company. Business intelligence enables organizations to track, understand, and manage enterprise performance. The company's solutions leverage the information that is stored in an array of corporate databases, enterprise resource planning (ERP), and customer relationship management (CRM) systems. Business Objects has more than 29,000 customers in over 80 countries. Business Objects can be reached at 408.953.6000 and www.businessobjects.com.