

19 Catholic Health Initiatives

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Healthcare organizations sometimes struggle with managing the volumes of data they produce—from financial, clinical, operational systems, and processes. Yet the ability to manage data and transform it into meaningful information yields significant returns to an organization's business performance. A recent report by Yonek et al. on the characteristics of high-performing healthcare organizations cited several best practices including:

- Establish a systemwide strategic plan with measurable goals and track progress toward achieving them with system performance dashboards.
- Create alignment across the health system with goals and incentives.
- Leverage data and measurement across the organization by, among other things, frequently sharing dashboards and national benchmarks with hospital leaders and staff to identify areas in need of improvement and taking immediate actions to get back on track.¹ (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19end01>)

To be effective, information must reach the people charged with improving performance, and must reach them in a timely and appropriate fashion. At the enterprise level, a global, measurable strategy will set direction for the organization. At an operational level, measures that support financial and capacity related activities should be readily available. And for measures related to patient care activities, reporting must reach caregivers in real-time. The challenge: How does a healthcare organization translate data into actionable information for every stakeholder across the enterprise?

About the Organization

Catholic Health Initiatives (CHI) is a national nonprofit health organization with headquarters in Denver. It is a faith-based system that includes 73 hospitals; more than 400 physician practices; 40 long-term care, assisted- and residential-living facilities; a home health agency; and two community health-services organizations in 19 states. Together, its facilities serve more than 60 rural and urban communities and provided nearly \$500 million in community benefit in the 2010 fiscal year, including services for the poor, free clinics, education, and research. With approximately 70,000 employees and annual revenues of more than \$8 billion, CHI ranks as the nation's third-largest Catholic healthcare system. It is ever moving toward its vision of Catholic healthcare as a vibrant ministry, ready to provide compassionate care of the body, mind, and spirit through the twenty-first century and beyond.

Business intelligence (BI) is a relatively new function for CHI. It is responsible for providing a historical, current, and predictive view of business operations through an enterprise data warehouse. CHI's patient data warehouse provides information for strategic reporting and core measures of regulatory compliance. The department is partnering with leadership across CHI to develop metric standards and define key performance indicators and best practices benchmarks. The goal is to reduce latency in decision making by having information readily available.

Current Situation

Because of the breadth and depth of services provided and geography covered, CHI represents a microcosm of the U.S. healthcare delivery system. The distributed nature of the organization, disparity of systems, and the sheer magnitude of data produced across the enterprise all contribute to the complexity of data standardization. For instance, CHI uses multiple vendors across the enterprise for hospital information and acute care billing systems, clinical decision support, compensation, revenue management, enterprise resource planning (ERP), productivity, and so on. In physician practices alone there are 14 different vendor solutions. To achieve an enterprise reporting model, CHI is leveraging commercially available tools for BI, data marts, extract/transform and load (ETL), and enterprise data warehousing.

Like Yonek et al., CHI recognizes a need for a strategic alignment of technology, information, and stewardship if the organization is to move up the analytics maturity curve. In the book *Analytics at Work: Smarter Decisions, Better Results*, Davenport et al., explains how organizations can use data and analysis to make better decisions.² (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19end02>) Aimed at a broad, multidisciplinary audience, it speaks to employees across their organizations who want to know where they stand now and what they need to do to become more analytical over time. The DELTA³ (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19end03>) model outlines five key components for deploying and succeeding with analytical initiatives:

- D for accessible, high-quality **data**
- E for an **enterprise** orientation
- L for analytical **leadership**
- T for strategic goals or **targets**
- A for **analytical** talent

It is through this model that we describe CHI's journey toward enterprise intelligence.

Data

Data are the foundation for analytics, and CHI recognizes that managing data across the enterprise requires discipline. The organization has identified three critical steps to establishing an enterprise data model.

Selection of the Standard

At CHI, the lack of consistent definitions has, at times, led to false assumptions about an individual organization's performance, creating barriers to an enterprise approach. To first agree on relatively simple definitions, such as whether to include day surgery or lab visits in volume measures, makes it easier to tackle more complex definitions such as adjusted patient days. CHI is designing this model operationally through its governance structure (discussed later in this chapter) and has started the standardization process with acute care, to be followed with physician practices and home care.

Of particular importance are the partnerships CHI has developed with its software vendors to standardize naming conventions within their products. This helps to ensure definitions are consistent even outside the enterprise data warehouse.

Implementation

Once standards are determined, the organization needs to ensure that they are implemented. CHI plans to use data governance to understand business requirements, design data definitions, develop and test metrics, and ensure effective implementation.

A change control process that was started in BI will be adopted across all CHI reporting systems. This process begins with a gap analysis to evaluate new data definitions or changes to calculations and determines when those changes will be activated. To ensure accountability, CHI uses a RACI⁴ (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19end04>) matrix to assign people who are responsible, accountable, consulted, and informed for activities and decisions that impact implementation.

Ongoing Monitoring

It is critical to monitor data continuously to ensure its integrity, identify new measures, and assess the information behaviors of people who gather and use it. Administrative data are highly standardized, but as new metrics demand a higher level of data accuracy, it is necessary to train people to collect data correctly. One example at CHI is the capture of patient race and ethnicity data. These are key data elements used for monitoring underserved populations and mitigating disparities in care, a critical component of health reform. There are national standards for this—no need to recreate the process—but the data are not always captured accurately upon admission. A high percentage of patient records at CHI were listed as “unable to determine.” Rather than take a punitive approach, the organization chose to address the issue as a function of behavior and ongoing process. Once admission personnel understood how these data were used and the importance to patient care, capture rates improved.

Data Management in Action

An example of a decision that impacts implementation is determining whether data must go to the warehouse for further normalization, aggregation, or modeling, or if they can be viewed directly through BI tools in transaction systems or other reporting systems like cost accounting. The decision is based on the frequency of data needs (e.g., real-time patient census supported by a single variable) and the complexity of analysis, such as projected payments requiring statistical models inherent in the data warehouse.

Enterprise

CHI aggregates financial and operational data supplied by each entity. However, it has not historically provided an enterprise reporting methodology with a standard taxonomy for comparing key business practices. As the healthcare delivery model becomes more disparate—acute, ambulatory, home care, long-term care—it creates some interesting challenges for comparisons at an enterprise level. For example, the acceptable operating margin may be very different for long-term care than acute care, so it is important to understand the reason for the difference and recognize the unique contributions of each care setting. CHI's objective is to view the two holistically, align around a model of shared accountability, and recognize that long-term care is an equal partner in the delivery model. As long-term care centers are added to the organization—40 centers at this writing—they are treated as part of the enterprise rather than independent entities. CHI's mission is to achieve the best possible care for the community by ensuring appropriate handoffs and measuring effectiveness across the continuum.

Leadership

Becoming accountable for the care of a broad and diverse patient population means that strategic decisions must be made based on reliable data. CHI has structured its information management model to support an enterprise strategy for decision making (see **Figure 19.1** (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19fig01>)).

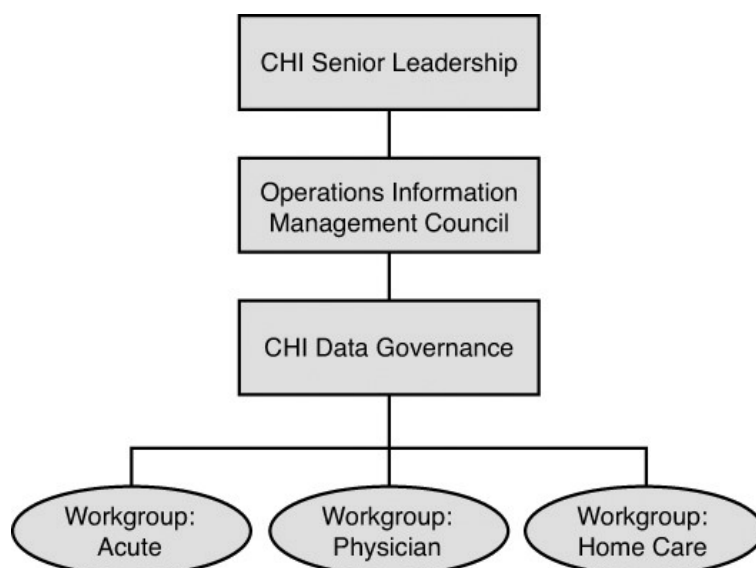


Figure 19.1 Simplified graphic of Catholic Health Initiatives data governance data structure

In this model, senior leaders drive a top down directive for corporate alignment of strategic metrics with measurable action plans.

At an operational level, the information management council is a multidisciplinary group of individuals selected by their senior operational leaders, representing all regions of CHI. The objective of this group is to define priority solutions that will provide stakeholders with timely data so they can make better decisions based on information rather than anecdote.

CHI's data governance structure is composed of functional vice presidents from across the enterprise. Their goal is to create accountability for standardized information that aligns with functional and operational priorities and external best practices. In addition, smaller workgroups aimed at specific business issues are designed to create an environment where participants can build relationships, have difficult conversations, and solve problems.

Target or Goal

Standardized data definitions allow for meaningful comparisons. CHI is large enough to benchmark results both internally and externally. This allows the organization to define current achievement and set aspirational goals. CHI's enterprise measurement dashboard is completely transparent, allowing each facility to view every other facility's results. These open comparisons enable organizations to see who is doing better on various metrics and to share the possibilities. It is acceptable for entities to be different as long as they explore those differences and are driven to improve. BI's goal is to create energy and power by providing information that facilitates learning.

To drive that energy, CHI is shifting the analytics paradigm to include more exploratory analytics that empower local organizations to ask and answer difficult questions about their results. CHI recognizes two important aspects of this applied learning model:

- **Access to truly comparative information**—Organizations can “drill” to comparisons on the dashboard at the market level and across all facilities with confidence in the results.
- **Collaboration**—At a functional level, organizations know each other and ask questions to understand the results and create shared practices. This approach creates an internal consultancy of shared practices based on long-term relationships that can be leveraged as needed.

By comparing outside its own organization, each entity can leverage the value of the collective enterprise knowledge.

Analysts

Analytical talent is necessary to “connect the dots” from data source to end results to provide critical insights. Technology enables analysis, but it is human capital that most benefits organizations that compete based on analytics. Three levels of analysts are described by Davenport et al.⁵ (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19end05>)

- Senior management sets the tone for analytical culture and makes decisions.
- Professional analysts gather and analyze data and report results to decision makers.
- Analytics “amateurs” use the outputs to perform their jobs.

This is an area where CHI, like many healthcare organizations, continues to learn. At this point in the journey, CHI is on the cusp of Stage 3—still dependent on localized analytics but aspiring to become an analytical organization (see **Figure 19.2** (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19fig02>)) with leaders who are setting the analytics tone of the organization. The next steps are to start aligning analysts—both professional and “amateur”—around a common understanding of data and measurement and to “get everyone out of their silos.” As these capabilities mature, analysts will help build a framework of trust in both the data and shared practices that drive improvement.

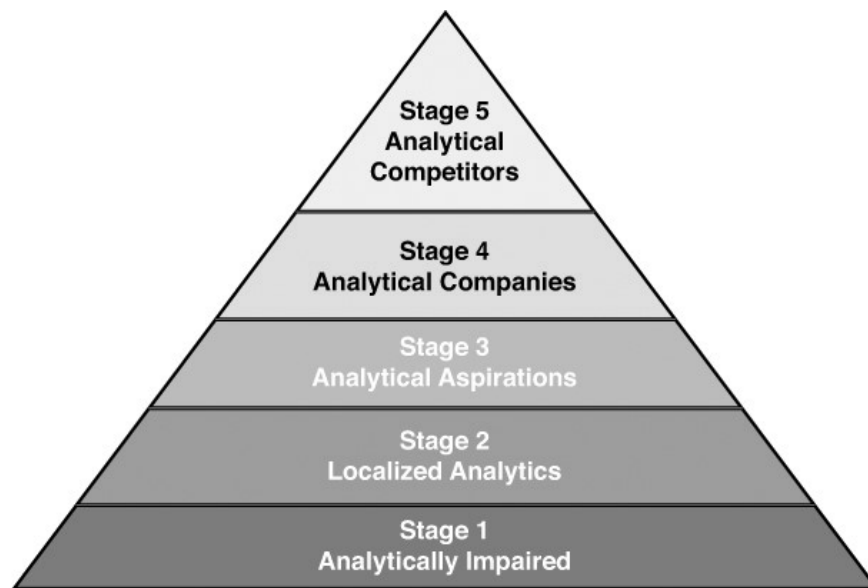


Figure 19.2 Five levels of analytics capability

Conclusion

The focus on coordination of care as an industry driver, the expansion of the care delivery model outside acute care, and pivotal leadership changes have created the “perfect storm” for CHI. As it moves into the next phase of analytics maturity, CHI will plan for additional milestones:

- Evaluate the concept of incentives tied to improving performance by measuring the “return on information” investment.
- Develop enterprise intelligence solutions that provide data in a more real-time manner. Ideally every stakeholder should have a common set of standardized information at her fingertips.
- Define an analytics roadmap. CHI has engaged consultants to help the organization accelerate deployment of high-value analytics.
- Find those true areas that need to improve by deploying more advanced analytics.
- Leverage meaningful use requirements as a baseline to create the next level of learning.

CHI views this process as a journey that promises to weave information into its business practices and deliver against predictable milestones in the future. The organization has made significant progress in the last 14 months as its culture has shifted to support an enterprise model, but there is still much work to do.

Notes

- 1 (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19end01a>) . J. Yonek, S. Hines, and M. Joshi, *A Guide to Achieving High Performance in Multi-Hospital Health Systems*, Health Research & Educational Trust, March 2010, http://www.commonwealthfund.org/Content/Publications/Fund-Reports/2010/Mar/A-Guide-to-Achieving-High-Performance-in-MultiHospital-Health-Systems.aspx?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+TheCommonwealthFund+%28The+Commonwealth+Fund%29 (http://www.commonwealthfund.org/Content/Publications/Fund-Reports/2010/Mar/A-Guide-to-Achieving-High-Performance-in-MultiHospital-Health-Systems.aspx?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+TheCommonwealthFund+%28The+Commonwealth+Fund%29) .
- 2 (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19end02a>) . Thomas H. Davenport, Jeanne G. Harris, and Robert F. Morison, *Analytics at Work: Smarter Decisions, Better Results* (Harvard Business School Press, 2010).
- 3 (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19end03a>) . Davenport et al. DELTA is also the Greek letter that signifies “change” in an equation.
- 4 (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19end04a>) . RACI is an acronym that stands for responsible, accountable, consulted, and informed and deploys a matrix to assign. There are many references to RACI. This is one of them: <http://www.projectsmart.co.uk/how-to-do-raci-charting-and-analysis.html> (<http://www.projectsmart.co.uk/how-to-do-raci-charting-and-analysis.html>) .
- 5 (<http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19end05a>) . Thomas Davenport and Jeanne G. Harris, *Competing on Analytics: The New Science of Winning* (Harvard Business School Press, 2007).