The State of Analytics Maturity for Healthcare Providers

The DELTA Powered™ Analytics Assessment Benchmark Report

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The International Institute for Analytics
and
HIMSS Analytics
Big Ideas

1. The majority of healthcare providers in the analytics maturity benchmark cohort view analytics as important, but have only reached moderate levels of maturity.

2. Strategic analytic leadership matters. Companies with a Chief Analytics Officer (CAO) on the executive team show higher levels of maturity than organizations where the CAO is not on the executive team.

3. The use of big data is seen as one of the least important analytics competencies by hospitals. This varies greatly from the perspective held in industries such as retail, financial services and manufacturing, which are focused on harnessing big data to gain competitive advantage.

4. Executives are much more critical of their analytics program performance than are others in their organization. This is true regardless of the level of analytical maturity an organization has achieved.

5. Executive leadership at companies with the highest analytics maturity place high importance on the use of data throughout the organization. They also recognize their organizations are not as effective as they need to be in using data.

Background

The International Institute for Analytics and HIMSS Analytics collaborated to create the DELTA Powered Analytics Assessment (DPAA), a quantitative tool to measure how effectively healthcare provider organizations use analytics, intelligence applications and data to inform decision-making. This healthcare provider benchmark report shares the key takeaways from the first cohort of organizations that were measured using DPAA.

Using the DELTA Model, developed by Thomas H. Davenport, Jeanne Harris and Robert Morison in Analytics at Work, the DPAA measures the maturity of an analytics program across five foundational categories: Data, Enterprise, Leadership, Targets, and Analysts. Organizations that participated in the assessment were evaluated on 33 unique competencies aligned with each of the five DELTA model categories.
The organizations in this cohort were also evaluated across **Five Stages of Analytical Maturity** ranging from low to high analytics program maturity.

The Five Stages are defined as follows:

**Stage 1: Analytically Impaired**: Organizations at this level are “not data driven.” They rely on gut feel and plan to keep doing so. They aren’t asking analytics-driven questions and/or lack the data to answer them.

**Stage 2: Localized Analytics**: Organizations at this level are primarily “using reporting.” They are doing analytics or reporting in silos.

**Stage 3: Analytical Aspirations**: Organizations at this level “see the value of analytics.” They are still struggling to mobilize the organization and become more analytical.

**Stage 4: Analytical Companies**: Organizations at this level are “good at analytics.” They are highly data oriented, have analytical tools and make wide use of analytics. They are still working on commitment to use analytics strategically.

**Stage 5: Analytical Competitors**: Organizations at this level have reached “analytical nirvana.” They use analytics broadly and deeply across the enterprise as a competitive differentiator.

**Findings**

The majority of healthcare providers in the benchmark cohort view analytics as important, but have only reached moderate levels of maturity.

Healthcare providers are still relatively new to the use of business intelligence and analytics, with recent interest on the rise, partially due to the implementation of electronic medical records (EMR). Now that most hospitals have implemented at least the core components of an EMR, healthcare providers have access to large amounts of data on their patients, processes and costs. Providers are increasing their investment in analytics in order to leverage their data to drive their business. However, the benchmark results show these organizations have more work to do in order to get the most value out of their data.
In the analysis of the assessment responses, we found that 63 percent of participating organizations have reached the third stage of analytics maturity, that of “Analytical Aspirations,” while another 14 percent are at the fourth stage, of “Analytical Companies.” On the other end of the spectrum, 23 percent of organizations are in the second stage of maturity, operating in what is called “Localized Analytics.”

It should be noted that this analytics maturity benchmark may skew towards high maturity, as most of the healthcare providers that took part in this assessment have high EMR maturity, as measured through HIMSS Analytics’ Electronic Medical Record Adoption ModelSM (EMRAM). However, no predictive relationship between EMRAM scores and Analytical Maturity was identified in this study.

**Strategic Analytics Leadership Matters.**

Across every industry we are seeing the rise of the Chief Analytics Officer. This new C-Suite position is becoming more prevalent as organizations realize that analytics is a new competitive differentiator and an asset which must be aligned with organizational strategies. Analytics is also becoming a way for firms to develop new products and services. The impact of this strategic position is clearly seen in the healthcare provider industry.
Hospital systems are much more effective in their use of analytics when the CAO or an equivalent position sits on the senior leadership team. Without direct evidence of causation, the results clearly indicate that those hospitals which recognize the strategic value of analytics are more effectively leveraging data and analytics to better to drive outcomes and performance.

Staff at all levels agree on the importance of the analytics function to their organization, but effectiveness lags.

Organizations that contributed to the benchmark rated each of the DELTA categories as either “Very Important” or “Most Important” to their businesses. Overall, Data was rated the most important category. However, very few healthcare organizations rated their analytics programs as mature enough to meet their needs. On average, program effectiveness trailed importance by a whole maturity level. The largest gap is in the area of Data, which (as noted below) was widely considered the most important of the five foundational DELTA categories among the healthcare provider organizations surveyed.
Healthcare providers are strong in reporting, weak in data competencies

This benchmark measured participating organizations across 33 unique competencies related to the five DELTA categories and analytics maturity. Those competencies rated as the most important fall exclusively in the Data category (shown below). With the implementation of Electronic Medical Records and other related systems hospitals now have a vast amount of data at their disposal, including text based data. In order to analyze their data they need to now standardize, understand, and integrate data. This is a massive undertaking and one that hospitals are tackling with increasing frequency and size of effort.

Unfortunately hospital effectiveness in these competencies trails their importance substantially. This is especially true for organizations performing at the “Localized Analytics” level, which are performing in these competencies at 48 to 55 percent of the level desired by their organization. “Analytical Companies” are doing much better, performing at 85 to 88 percent of the desired level.

Interestingly, the use of big data is seen as one of the least important competencies by hospitals. This may reflect the relative lack of analytics maturity in healthcare providers or the current focus on simply harnessing their operational and clinical data. This varies greatly from the perspective held in industries such as retail, financial services and manufacturing, which are focused on harnessing big data to gain competitive advantage.

On the other end of the spectrum, healthcare providers are most effective with Mandated External Reporting (such as to insurers and the government). This is an area these organizations have had to prioritize due to mandates and market forces. The differences in effectiveness had the smallest spread between organizations with “Localized Analytics” and “Analytical Companies.”

Likewise, Government Mandated Reporting also rated high on the competency scale, again because external pressures have led hospitals to focus on this competency. However, there is a wider spread...
in the capabilities of high- and lower-maturity organizations within this competency, with “Localized Analytics” organization only 62 percent effective. By contrast, “Analytical Companies” were rated at 97 percent effective in this competency.

Because these competencies are “low impact, must do” requirements for all healthcare providers, strength in these areas likely does not provide any competitive advantage in terms of financial performance, quality or health outcomes.

Other highly effective competencies among healthcare providers include: Executive Utilization; Analysts having a Consultative Approach; and Data Quality. It should be noted that data quality is also considered one of the most important competencies by the participating organizations.

**Executive Utilization; Analysts having a Consultative Approach; and Data Quality**

Executives are the most critical of their organization’s ability to leverage analytics.

On average, senior executives rate their analytics program effectiveness nearly a half point lower than non-management respondents. This pattern occurs in the effectiveness ratings across each of the 33 competencies measured.

Senior executives also gave low marks when asked to rate how effectively their non-management and non-executive management staff

**Senior Leaders Most Critical of Effectiveness**
use data and analytics. These competencies received the lowest effectiveness scores given by senior executives – “somewhat ineffective.” In contrast, senior executives rated their own use as “somewhat effective.”

Non-executive management and non-managerial positions were much more positive about their own use of data and analytics, with the ratings being closer to “somewhat effective.” They also rated executive utilization higher, with scores closer to “effective.” While there is likely some bias with the results, the low marks overall suggest a realization that significant improvement is needed.

It was also of note that the utilization of data and analytics by non-management and non-executive management was regarded as low in importance. This can be viewed as a sign of the relative analytic immaturity of the healthcare provider industry. The results were markedly different among senior executives at “Analytical Companies,” who rated the importance of non-management and non-executive management utilization of data and analytics significantly higher. In this instance, the data suggests that more mature companies have realized the value of spreading analytics throughout the organization, with data becoming a component of how everyone does their job.
plans to use, as did simpler tools from Microsoft (Excel). Finally, the new(er) category of data visualization tools from Tableau, Information Builders, QlikTech and Tibco Spotfire showed adoption by 10%-20% of the cohort.

**High priority areas for improvement**

The most meaningful way to gauge performance in a competency is to consider both its importance and effectiveness in tandem. The highest priority competencies for improvements are those that are both highly important to healthcare providers, and where there is a large effectiveness gap - the difference between importance and effectiveness.

In general, regardless of maturity, the highest priority competencies for improvement efforts are Data.

1. Data trustworthiness
2. Analytical tools
3. Data integration
4. Data consistency
5. Data capture

Interestingly, staff members at organizations who serve as Analytic Enablers and Analytic Providers systematically overvalue their effectiveness in each of the 33 competencies, when compared to the organization’s Business Users of analytics.

This is especially apparent in the five data-related competencies, the ones considered of the highest importance to healthcare providers. The gap is greatest for data trustworthiness, the competency rated most important by all respondents. For analytical results to be fully trusted and integrated into business processes, the data must be of high quality. Clearly there is work to be done to align perceptions in healthcare providers in order to mature their use of analytics.

**About the DELTA Powered Analytics Assessment Benchmark Report**

**Methodology**

More than 1,800 individuals at 22 healthcare provider organizations participated in the DELTA Powered Analytics Assessment during the second half of 2013 and early 2014. Respondents participated through a web based survey tool.

The survey asked respondents to rate the importance of 33 unique analytic competencies in regards to their organization’s ability to meet their mission. They also evaluated how effectively they were
performing in those competencies. Five questions addressed business outcomes impacted by analytics.

Respondents were then categorized according to the role they perform in the analytics program: analytics enabler, analytics provider and analytics user. Demographic information about the role, seniority, and tenure of respondents was collected as well. This allows us to evaluate perceptual alignment in a variety of manners such as analytic program role and seniority in the organization.

Statistical analysis was conducted using SAS software.

Organizations were assigned a maturity stage based on the aggregate responses from their employees.

**Participating organizations:**

Akron Childrens Hospital  
Blackstone Valley Community Health Care  
Butler Health System, Inc.  
Carolinus HealthCare System  
Centura Health Corporation  
Cleveland Clinic  
Dartmouth-Hitchcock  
Duke University Health System, Inc.  
Intermountain Healthcare  
KishHealth System  
Lakeland Regional Health System  
Marshfield Clinic  
Northeast Georgia Health System, Inc.  
Northshore University Healthsystem  
Orlando Health, Inc.  
Seoul National University Bundang Hospital  
Southwest Kidney Institute, PLC  
The Stamford Hospital  
UAB Health System  
UC Davis Health System  
University of Missouri System  
University of Virginia Medical Center

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How your hospital or healthcare system can take part in the DELTA Powered Analytics Assessment:

The DELTA Powered Analytics Assessment is available now. To participate or find out more, visit www.himssanalytics.org/delta or email consulting@himssanalytics.org.

About the International Institute for Analytics:

IIA is an independent research firm for organizations committed to accelerating their business through the power of analytics. In the new data economy only those who compete on analytics win. IIA knows analytics inside and out working across a breadth of industries to uncover actionable insights gleaned directly from its network of analytics practitioners, industry experts, and faculty. In the era of analytics, IIA is teacher, guide and advisor. The result? IIA's clients learn how best to leverage the power of analytics for greater success in the new data economy.

Find out more at www.iianalytics.com.

About HIMSS Analytics:

HIMSS Analytics collects, analyzes and distributes essential health IT data related to products, costs, metrics, trends and purchase decisions, and presents relevant maturity models to the healthcare industry to aid in strategic direction and value driven IT adoption and utilization. HIMSS Analytics delivers quality data, strategic direction and analytical expertise to healthcare delivery organizations, IT companies, governmental entities, financial, pharmaceutical and consulting companies. Visit us at www.himssanalytics.org.

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