

From Data to Insights: Priorities for Maturing Your Health Analytics Strategy

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Health care is ready for a transformation in how we leverage data, technology, and analytics to improve care. This requires starting off with a focus on establishing trusted data and setting clear paths within organizational cultures to accommodate and empower innovation in health care delivery with better insights from data and analytics.

Many quotes attributed to W. Edwards Deming, a statistician and quality management pioneer, have motivated my work as a health analytics professional. My favorite is, “Without data, you’re just another person with an opinion” [1]. In today’s health care delivery environment, however, data is no longer sufficient. Thanks to the rapid onset of new technologies and electronic health records, we find ourselves drowning in an ocean of data, but have not yet seen the expected groundswell of innovation and change. So, what’s the problem? As my boss, Jason Burke, chief analytics officer at UNC Health Care System, puts it, “We no longer have a shortage of data, we have a shortage of insights.”

The health care industry is on the verge of a new era in how we deliver care and manage health; the sooner we can resolve our “shortage of insights,” the faster this transformation will occur. In order to gain the needed insights that will accelerate our move into this new era, we need to harness the power of analytics and data sciences. Within our health delivery organizations, two of the main reasons this hasn’t happened are an over-reliance on descriptive reporting or business intelligence (BI) and a lack of an organizational structure and culture that is welcoming to adaptive challenges. See Figure 1 for a comprehensive view of the journey from a traditional strategy to an innovative analytics strategy. Whether you are just starting out or well on your way in your journey to adopt and sustain analytics as a strategy to transform health care delivery, consider addressing these two areas as an effective starting point.

Data Governance

There is much strategic value in reporting what happened, particularly when data is managed and governed centrally, but in an industry with over 9,000 standardized measures, how do we know which ones really matter? Furthermore, we should be leveraging this data to not only understand what happened yesterday, but to predict what will happen next.

To make this shift, your organization needs an enterprise-level data governance strategy that aligns technical resources with prioritized business goals and an enterprise analytics infrastructure capable of deriving knowledge and insight from a complex data environment. An investment in good data management and data science is necessary to allow identification of the most critical measures and the most effective improvement strategies to elevate the patient’s health outcomes and reduce costs of care.

In assessing where to start in maturing your strategy to become more data driven, you should recognize that the skills and systems needed to transform transactional data into usable data assets must evolve in order to support analytical development. To better impact real-world situations, analysts should hypothesize from practice-based evidence. Rather than relying on the dataset most readily available for analysis, which can result in a misunderstood current state and misaligned strategies, datasets should be refined based on the strategic priority. The data strategy should also anticipate and support reusability of the data assets in order to promote institutional standards for a single source of truth. As we move to more predictive modeling, traditional data warehousing and data architecture—which are designed to support descriptive reporting and traditional BI—will also need to mature. Maturing an organization’s analytics competency requires transitioning from being able to count and report on past performance to being able to model and synthesize future performance.

Adapting Organizational Culture

The second priority is to assess your organization’s readiness and culture to take on the adaptive challenge of becoming more analytics driven. If an organization is truly to become data driven, analytics must be embedded strategically, programmatically, and culturally into the entire organization. Change is hard, especially in our busy industry in which we are operating with and reacting to the informa-

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FIGURE 1.
Being Effective in the Transition to Analytics Maturity

FROM Traditional Approach	TO Mature Analytics Adoption
Managing Projects	Developing Products
Analytics as a demand-driven support function	Analytics as a strategic business function
Data development driven by demand, developed for single use	Strategically building reusable data assets
Proliferation of dashboards and reports	Focus on capabilities and support using a repeatable framework of tools
Hypothesis (questions) are pre-defined	Questions are not pre-defined; start with data
Timeline is project driven	Timeline is based on solving business needs

tion and problems that are right in front of us. I have spent the last several years focusing specifically on maturing analytics capabilities in health care delivery organizations, and along the way I have encountered many well-intended strategies faced with difficulty or false starts when attempting adoption. It was not until I started learning about other industries that faced rapid and complex change and came out better than before that I began to realize that traditional approaches to change planning and execution will not be successful. The challenge is to think about how to incorporate new and innovative approaches to leading change in your organization.

John Kotter’s concept of a “dual operating system” can be used to accommodate an organization’s ability to both capitalize on rapid-fire strategic challenges and still meet fundamental needs [2]. Convergence of these two operating systems leads to a more effective reaction to organizational challenges and opportunities to innovate, while not losing momentum on the core patient care strategy. A dual operating system with an accelerator plan bypasses the typical hurdles and processes in place to support the core business and creates a separate path toward transformation. I believe a perspective such as this is required to energize a successful analytics maturity journey in a health care delivery organization. It covers all of the aspects of successful change management but takes cues from the innovation discipline.

In order to apply this idea of a dual operating system to an effective analytics maturity strategy, consider a hybrid organizational structure (as opposed to a centralized support function similar to traditional IT, or a decentralized support function similar to traditional performance improvement functions). A hybrid organizational model relies on

an approach in which creating datasets, maintaining databases, and developing analytical solutions is centralized, but the insights and drivers for change that come from those solutions are owned by the individual business units. This approach can accelerate adoption and maturity but requires significant leadership support and a clear vision and operating model. Effective governance ensures that analytics resources align with business priorities, protects data quality, and ultimately provides the desired return on investment (ROI).

Start with the End

Finally, when selecting the initiatives to take on when building analytics capabilities that will succeed, start with the end in mind. This can be accomplished by thinking about developing analytical products instead of projects. The main difference in this approach is to design and build analytics capabilities to be reusable and solve problems across the enterprise, as opposed to just responding to a single stakeholder’s request. This happens in the ideation and problem definition stage, typically with a role on the analytics team empowered to shape the engagement, similar to how a software engineering company uses product managers to refine the needs of the customer. Linear thinking or constrained ideation (typically referred to as “inside the box”) is not effective in leading revolutionary change. Establishing roles and an operation model that highlights the interconnected relationships in the processes and workflows will drive better value for patients.

Our industry is at a pivotal moment to take advantage of the troves of data available to support a meaningful analytics strategy. The benefits to be realized from becoming a

data-driven culture are immense. McKinsey estimates that the value-based pathways that could be deployed from a big data strategy for clinical improvement would yield more than \$300 billion in annual reduced health costs [3]. The challenge is that it is rarely straightforward to determine the best way to incorporate analytics into the organization's regular course of business. Long-term realization of the ROI in advanced analytics requires us to implement a strong data governance strategy that supports a move to predictive analytics. Even more importantly, successful implementation of advanced analytics strategies requires significant leadership investment in creating an organizational culture that supports a transformative strategy guided by new and innovative approaches to improving health care. **NCMJ**

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