

○ Sg2 Life Sciences Market Report

○ Advanced Analytics

Why Today's Investment in Advanced Analytics, Will Define Tomorrow's Winning Health Systems

Prepared by:

Karl Karlsson, PhD
Vice President, Sg2 Consulting

Richmond Chua
Consultant, Sg2 Intelligence

Linnea Karlson
Associate Consultant, Sg2 Consulting



“The ballooning costs of [health care] act as a hungry tapeworm on the American economy.”

—Warren Buffett

Health system executives increasingly recognize that advanced analytics have the potential to radically transform how they conduct business moving forward. Yet, most organizations do not have the technological capabilities in place to realize these opportunities. For those that have made substantial technology investments to date, the majority of these have centered on disease management. Increasingly though, the value of implementing data analytic capabilities across the organization is being recognized and is quickly becoming necessary to remain competitive in the market. As health systems face mounting pressure to improve outcomes and reduce costs, they will increasingly rely on sophisticated analytic tools to support decision making.

Today, health care remains a bit behind on the adoption curve, mainly focused on analytics that work as a rearview mirror. Data-driven decision making, however, requires comprehensive analytics that offer far more than hindsight. Leaders prepared to take the long view will find that analytics can do more than rectify missteps in past clinical performance. When properly deployed, advanced analytics serve as building blocks to broader strategic decision making in everything from market positioning to care optimization to stepping into risk. An advanced analytics engine not only harnesses data, but also converts that information into actionable insight—core to improving and growing business system-wide.

Sustainability for Health Systems Will Require Adoption of Advanced Analytics

System leaders are increasingly realizing that by delaying adoption, their organizations will soon become less relevant to various stakeholders including consumers, payers, employers and providers. While many organizations claim to have ‘advanced analytics’ to inform their current operations, only a fraction of CFO’s feel their organization has the capabilities to be “very prepared” to handle new payment and care delivery models with current tools¹

“96% of CFOs believe their organization should be doing more to leverage financial and operational data to inform strategic decisions”

The projected decline in hospital margins (CBO projections suggest that more than half of hospitals will face negative margins by 2025)¹ places additional financial pressure on health systems and increases the need for well-informed strategic decision making. Use of advanced analytics allows health care executives to address key challenges faced by their institutions:

#1 Identifying and managing cost-reduction initiatives

+

#2 Predicting and managing changing payment models

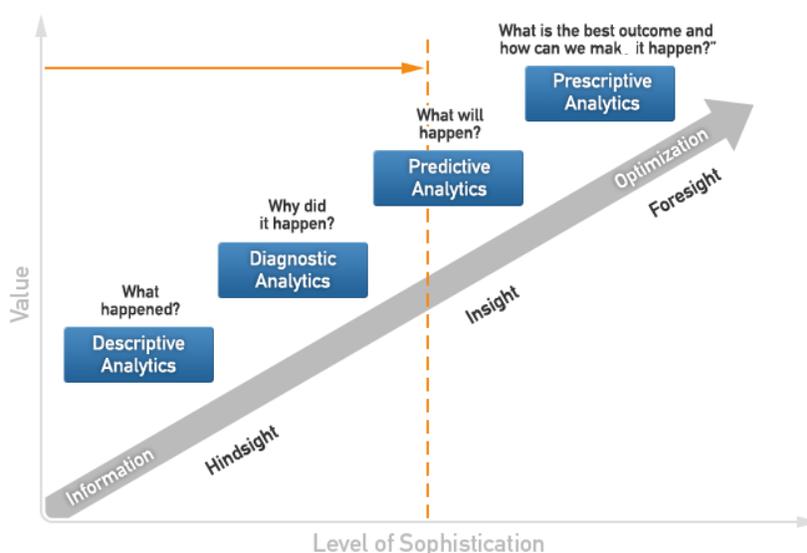
¹ 2019 CFO Outlook: Performance Management Trends and Priorities in Healthcare, KaufmanHall

Thoughtful Adoption of Advanced Analytics Will Differentiate Tomorrow's Health Systems

Today, advanced analytics impacts all aspects of health care systems' strategic, clinical, operational and financial activities. While there are some merits to the risks associated with 'early-mover disadvantage'², delaying the investment in resources to use advanced analytics more effectively could jeopardize current operations. Over time, health care systems' mission of improving local population health and outcomes will also be affected.

Additionally, lagging behind on building the foundation might mean that it ends up being too late to play 'catch up' later when there is limited budget to invest. Furthermore, organizations that were early adopters and users of advanced analytics (as measured by the HIMSS Analytics Electronic Medical Record Adoption Model stage ranging from 0 to 7), tend to have higher net margins (Figure 2).

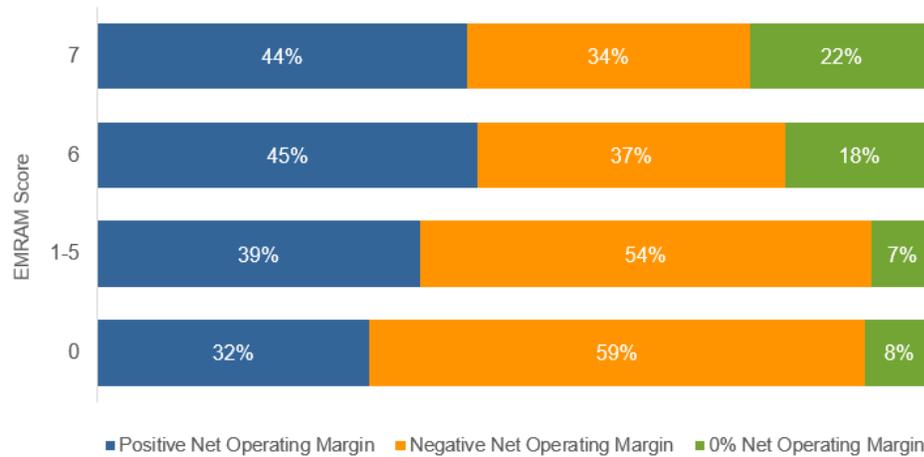
Figure 1. The Different Stages of Realizing the Potential Value of Advanced Analytics



Notes: *Descriptive analytics* is the most widely used and offer perspective into what is happening or has happened, coupling health system data with other unique data sources to help providers assess where they stand against industry best practices or standards. *Diagnostic analytics* uses clinical decision support (CDS) tools and artificial intelligence algorithms to help clinicians determine the most appropriate testing or treatment options based on a patient's symptoms and history, while also helping to evaluate factors such as cost vs effectiveness or benefit vs risk. *Predictive analytics* enable users to project the likelihood of a specific result. Accurately predicting what will happen in the future helps providers not only choose the right care interventions but also hone service offerings and assess their risk readiness. Currently the most-talked-about class of advanced analytic tools, predictive analytics will become the backbone of population health management strategies. Called the "holy grail" of big data, *prescriptive analytics* is the newest but least evolved class of advanced analytics. Also known as precision or personalized medicine, these tools can help users develop personalized care plans based on existing data. Such information may include robust outcomes data, non-discrete information such as practice guidelines, medical literature and clinical protocols. Because of the immense data requirements, there are few examples of commercial prescriptive analytics models available today. But when effectively employed, the tools support a data-driven, customized approach to medicine.

² First-Mover Disadvantage, Boulding and Christen, Harvard Business Review, October 2001

Figure 2. Net Operating Margin Category by EMRAM Score³



Notes: Positive Net Operating Margin = net operating margin greater than 0%; Negative Net Operating Margin = net operating margin less than 0%; 0% Net Operating Margin = net operating margins equal to 0%; EMRAM = Electronic Medical Record Adoption Model; EMR = Electronic Medical Record; **EMRAM Score Defined:** 0 = EMR not installed in lab, pharmacy and radiology; 1 = EMR installed in lab, pharmacy and radiology, and “PACS; Digital Non-DICOM Image Management”; 2 = “Clinical Data Repository; Internal interoperability; basic security”; 3 = “Nursing and allied health documentation; Electronic medication administration record application; role-based security”; 4 = “Computerized Practitioner Order Entry with clinical decision support; nursing and allied health documentation; basic business continuity”; 5 = “Physician documentation using structured templates; intrusion/device protection”; 6 = Technology enabled medication, blood products, and human milk administration; risk reporting; full clinical decision support”; 7 = Complete EMR; external health information exchange; data analytics, governance, disaster recovery, privacy and security”; **Analysis Description:** This analysis is a sample of 5,871 hospitals’ net operating margin and EMRAM score. Within the EMRAM scores, 3,239 hospitals scored 0, 122 scored hospitals 1-5, 2,150 hospitals scored 6 and 360 hospitals scored 7. Of the hospitals that scored 0 EMRAM, 32% had positive net operating margin. Of the hospitals that scored 1-5 EMRAM, 39% had positive net operating margin. Of the hospitals that scored 6 EMRAM, 45% had positive net operating margin. Of the hospitals that scored 7 EMRAM, 44% had positive net operating margin.

³ Sg2 analysis of Definitive Health data, 2018.

Getting Off the Ground: Don't Rush But Begin Looking for Quick Wins

By delaying the implementation of advanced analytics, health systems are only widening the chasm between themselves and earlier adopters. With growing margin pressures, thoughtful adoption and investment in advanced analytics that can demonstrate timely return-on-outcomes (as well as return-on-investment) will be crucial.

1. **Consider starting simple, but start soon.** For those just getting their feet wet, a good starting point is identifying high-risk patient populations and prime areas to address. This may include reducing readmission rates or examining market access to ensure services and staffing are sufficient to meet the needs of that population. Keep in mind that time to value should be measured in months rather than years. Results that show positive, immediate and tangible improvements to the bottom line will help accelerate adoption.
2. **Sync deployment with transition to alternative payment models.** Advanced analytics will be essential to thrive under value-based payment models, which are gaining traction. By 2018 the U.S. Department of Health and Human Services expected to base half of total provider payments on alternative payment models and to tie 90% of Medicare fee-for-service payments to quality or value. While those numbers might not have been fully realized, private payers are also moving toward such value-based models as accountable care organizations and bundled payments, which heavily rely on analytics.
3. **Descriptive analytics may be the least shiny of the lot, but they're a key building block of analytics strategy.** Establishing and delivering a robust business reporting platform (eg, performance metric dashboard) is how organizations create a trusted data source that they can then build on. Growing data stores and capabilities ease the process of tackling progressively more complex objectives.
4. **Keep an eye toward enterprise strategy.** Whatever the starting point, an advanced analytics strategy should be firmly rooted in system-wide strategic objectives. By grounding deployment efforts in broader plans for transformation or growth, organizations can seek the optimal analytics tools to provide answers to their most pressing business questions.
5. **Focus on organizational readiness.** Provider systems compelled to move forward quickly may think it prudent to start sifting through platform options, but advanced analytics strategy begins well ahead of any vendor dialogue. Focus first steps on understanding existing capabilities and internal data assets. Then gauge potential hurdles to determine where outsourcing or partnership opportunities lie.
6. **Consider continuum-wide opportunity.** The 4 analytics segments (Figure 1) are not mutually exclusive; multiple analytics can, and often should, be used together. The most robust predictive and prescriptive analyses tend to build directly from retrospective data gathered in earlier phases along the continuum. Success isn't about leapfrogging forward, it's about creating a complementary and robust analytics portfolio.

The content for this publication was sponsored by All Covered, IT Services Division of Konica Minolta. For more information, go to allcovered.com/healthcare.