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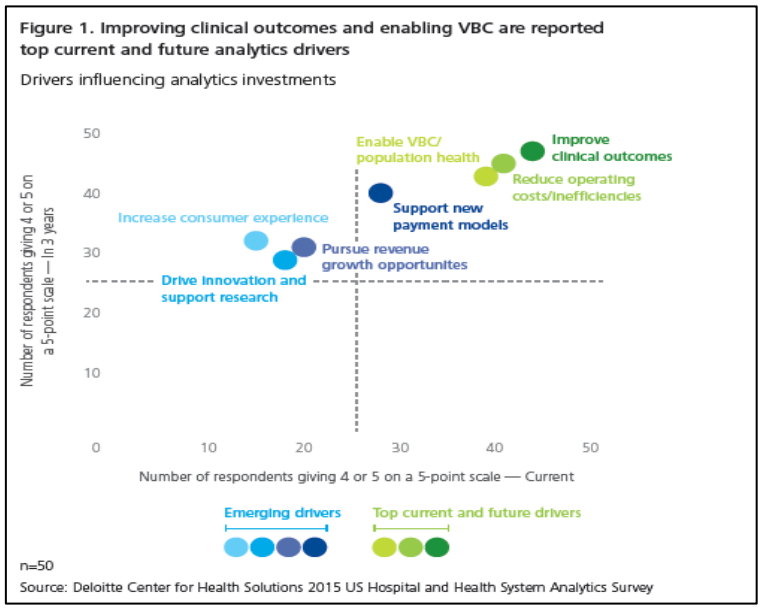
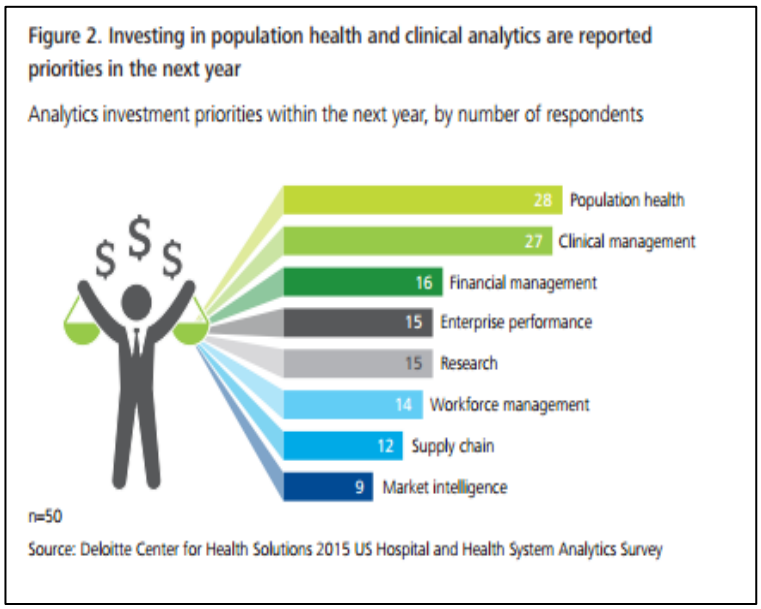
Healthcare Market Drivers for 2016

March 18, 2016

Prime Dimensions conducted desktop research on the market drivers for healthcare IT and analytics, based on industry trends and challenges. Our research revealed the findings and insights below, most notably with data analytics as the highest priority and growth area, with approx. $4.5B market size and 30% CAGR. According to a July 2015 MarketsandMarkets report[1], the global healthcare data analytics market size is estimated at $5.8B, with an expected 26.5% CAGR through 2020.

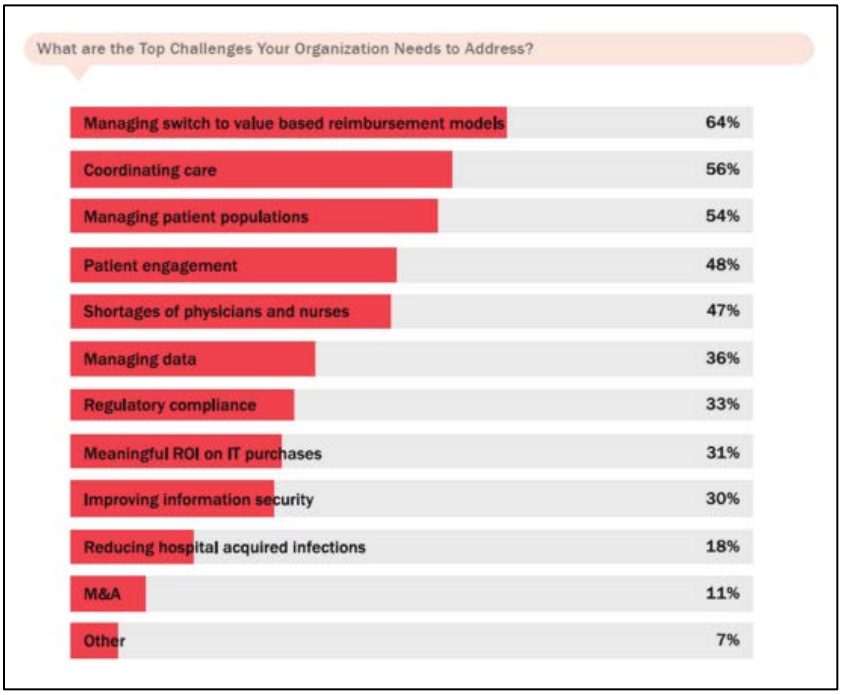
The three primary industry trends driving adoption of both healthcare IT and analytics solutions among healthcare organizations (HCOs) are: (1) healthcare reform/mandates, (2) changing payment structure and (3) patient-centered care. Figures 1 and 2 below by Deloitte[2] are generally consistent with most sources and provide additional insights into emerging drivers. Collectively, these drivers support the Triple Aim – improved quality and outcomes, lower costs and greater access.





[1] http://www.marketsandmarkets.com/Market-Reports/healthcare-data-analytics-market-905.html
[2] http://www2.deloitte.com/content/dam/Deloitte/us/Documents/life-sciences-health-care/us-dchs-provider-analytics-report.pdf

According to a recent report by peer60[3], *Into the Minds of the C-Suite*, the following are the top challenges facing hospital executives:



From these challenges and priorities, the following IT, data and analytics drivers that will continue to dominate in 2016:

1. Population Health Management

Population Health Management had emerged as a critical factor in ACO performance, and the CMIO is inherently involved in strategic planning for data sharing, integration, and harmonization and establishing a coordinated Big Data analytics strategy across all stakeholder groups.[4] There is much more urgency and impetus to share data across ACO entities (hospital networks, physician practices, etc.). It then becomes possible to generate analytics-based solutions for (1) risk stratification[5] and identification of high-cost or high-risk patients by using predictive models; (2) performance monitoring and evaluation of key quality measures; (3) development of longitudinal patient records; and (4) establishment of market-based models for bringing greater price transparency, measuring variation in cost and quality, and delivering predictable outcomes. By integrating multiple data sources (clinical, cost, utilization, quality and demographics), it is possible to relate to some of the most common—and often preventable—health conditions, including obesity, diabetes, hypertension, COPD, and heart disease. Critical information, such as high utilization associated with multiple conditions or frequent ED admissions, help to identify and prioritize patients in need of disease management support. Continuous monitoring of these patients reduces 30-day readmissions and close care gaps, such as lack of post-discharge follow-up or unfilled prescriptions, to proactively manage patients at increased risk for poor outcomes.

[3] https://www.peer60.com/hospital-c-suite-2015/
[4] http://www.cmio.net/topics/analytics-quality/healthcare-analytics-market-grow-24-2020
[5] http://healthitanalytics.com/news/big-data-analytics-improves-chronic-disease-risk-stratification

2. Value-based Payments

ACOs and value-based payment models are spurring the trend toward payer-provider mergers, partnerships, and joint ventures, to address fragmented healthcare delivery, emphasize patient-centered care, and promote care coordination, thereby aligning the goals and incentives among payers, providers, and patients. Hospital executives are challenged with revenue cycle disruptions due to the lower fee-for-services payments and additional risk due to quality-based incentive payments. From the patient perspective, with the expansion of high-deductible health plans and emphasis on healthy lifestyles and wellness, there is also more focus on ambulatory patient-generated data and the tools that support consumerization of healthcare.

3. EMR Interoperability

To fully operationalize analytics and gain actionable clinical insights, healthcare providers are anxiously seeking innovative, cost-effective solutions to provide efficient access to EMR data for improved interoperability and integration with point-of-care clinical applications and health information exchanges.[6] Accelerating EMR innovation across the care continuum becomes increasingly more important as our health system continues to shift towards a community of care that emphasizes a patient-centered focus via mobile devices. Moreover, as a significant portion of clinical and operational data resides in silos or discrete departmental databases, it is typically transformed multiple times through a series of system interfaces that also must be managed, before the data can be integrated and analyzed. This type of disjointed, fragmented data environment creates high latency and other inefficiencies with regard to data quality, data access, interoperability and collaboration. Thus, it is becoming increasingly critical to apply cross-boundary, cross-domain data governance to accelerate innovation and improved time-to-value of analytic applications. Along with cloud deployments and API management tools, providers and vendors are embracing the Fast Healthcare Interoperability Resource (FHIR) specification[7] to finally achieve true interoperability and workflow optimization. FHIR also supports the emergence of a new class of healthcare analytic applications for providers, health plans and patients.

4. Real-time Clinical Decision Support

An enterprise-wide stream processing capability is critical for achieving real-time clinical decision support, i.e. detect, correlate and monitor events across the enterprise as they occur for pattern matching, anomaly detection, aggregating data-in-motion with data-at-rest to enrich the context, make it actionable and apply advanced analytics and predictive modeling. To address these needs, EMR vendors are moving toward open, cloud-based platforms that allow easier access to data via Application Programming Interfaces (APIs) that connect data sources to facilitate integration of new features into existing applications and to develop innovative point-of-care applications that bring context to each patient encounter in real time. It is becoming increasingly important to have high performance computing (HPC) resources as a sandbox environment for prototyping of use cases to test performance and feasibility of various software and hardware configurations using Big Data technologies. As noted above, FHIR has been gaining momentum and emerging as a game-changing

[6] http://www.healthcare-informatics.com/article/intermountain-cmio-building-interoperability-building-clinical-app-store
[7] http://www.nuemd.com/news/2015/03/31/experts-believe-fhir-will-revolutionize-ehr-interoperability

solution for developing real-time clinical applications.[8] FHIR has enormous potential to improve patient quality and safety by having better visibility into all dimensions of healthcare delivery.

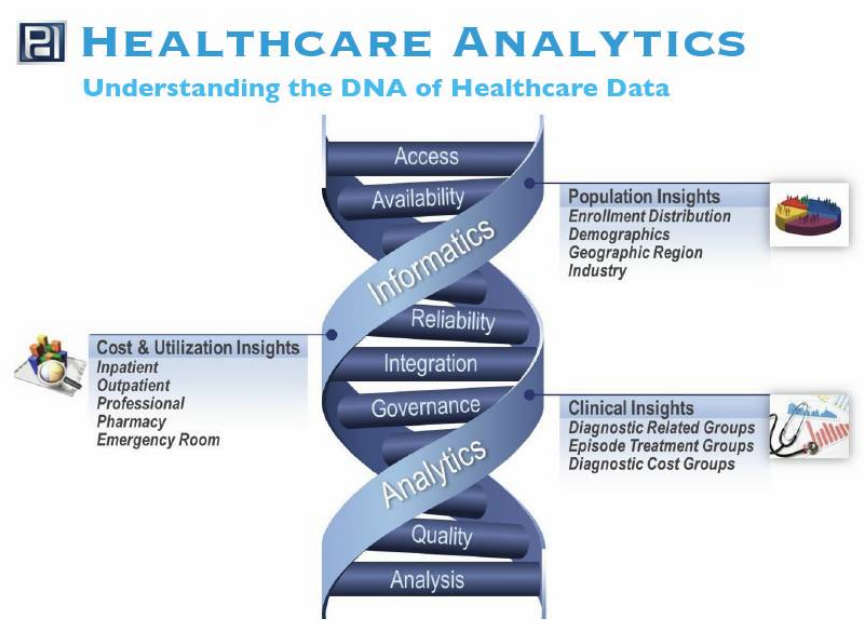
5. Internet of Things

The "Internet of Things"[9]– the proliferation of mobile and wearable personal devices, connected medical devices and sensors, patient monitoring equipment, and real-time location services (RTLS) – is unleashing an explosion of multi-structured, real-time data that will require new data integration services and sensor-based applications to converge, connect, interact and communicate more efficiently and at increased velocity. In-memory and NoSQL database solutions are emerging as an aggregation point for enterprise data across line-of-business and clinical applications to evolve from "systems of records" to "systems of engagement."

6. Precision Medicine

Big Data and advanced analytics solutions offer enormous promise to transform healthcare by extracting actionable intelligence from ever-increasing volumes of health data and moving toward platforms for cognitive computing, machine learning, and artificial intelligence. Analyzing massive genomics datasets and patient-specific disease pathways gives rise to the era of precision medicine, in which treatments for the most lethal diseases are designed for the patient's specific characteristics at the molecular level and targeted to address that individual patient's disease state. Processing the petabytes of genomic data to identify just one mutation in a cancer patient requires high performance computing resources, but the cost and speed to perform this analysis are plummeting. Due to the genetic nature of cancer, the oncology research has largely benefited from the advances in high-throughput genomics technologies in order to analyze molecular data and to select the best therapeutic alternative. Molecular profiling based on genomics information offers new insights into the prediction of the disease progression and the response to treatment for each individual patient.

In conclusion, Prime Dimensions is prepared to assist healthcare organizations on their journey toward analytics excellence. We are committed to transforming healthcare one byte at a time; it's in our DNA.



[8] http://fedscoop.com/this-medicare-tool-is-on-fhir-fire
[9] http://healthitanalytics.com/news/healthcare-big-data-analytics-driving-billions-in-market-growth