Data Management KEY TO MOVING THE NEEDLE

▶ *Companies continue to grapple with managing the huge datasets available that impact all aspects of their business.*

Experts agree that to manage data for business use, it needs to be standardized and formatted in a consistent manner, but the devil is in the details.

More than ever, the healthcare industry is challenged with gathering data from multiple sources and comprehending what the massive data sets mean to drive operational efficiencies with the goal to improve patient outcomes.

Experts at Tableau state that companies struggle with implementing new practices to align with the value-based care paradigm and enterprise business objectives as well as with implementing repeatable processes to improve supply chain efficiency, revenue cycle management, and clinical productivity.

Healthcare organizations continue to accumulate massive amounts of data that are stored in silos across the entire enterprise. At the same time, these silos make it difficult to spot savings opportunities in the thousands of daily supply chains. Analysts at SAS concluded that connecting these islands of information is key to understanding the big picture and making smarter decisions. The ability to aggregate and blend data on a common field is key.

In a similar way, they say "unpolluted" data are core to a successful business — particularly one that relies on analytics to survive. But preparing data for analytics brings with it different requirements than storing data in a warehouse. SAS found that most data scientists spend 50% to 80% of their model development time on data preparation. That cuts sharply into the time they could have spent generating insights. For data scientists and business analysts who prepare data for analytics, data management technology can act like a data filter — providing a single platform that lets them access, cleanse, transform and structure data for any analytical purpose.

SAS adheres to five data management best practices that support advanced analytics and deeper insights:

▶ Simplify access to traditional and emerging data.
▶ Strengthen the data scientist's arsenal with advanced analytics techniques.
▶ Scrub data to build quality into existing processes.
▶ Shape data using flexible manipulation techniques.
▶ Share metadata across data management and analytics domains.

EXECUTIVE VIEWPOINTS
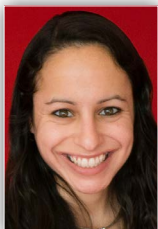
DANIELLE ADLER
Manager, Marketing Analytics, Ogilvy CommonHealth Worldwide, a WPP Health & Wellness company

THE NEW REALITY OF ANALYTICS

Advances in data analytics have created a reality where organizations can understand and respond to competitive pressures, changing business conditions, and evolving customer preferences. To harness this potential, organizations must integrate data and analytics closely into the production processes. An analytics specialist should regularly present to key stakeholders with implementable recommendations to enable the ability to act quickly in a changing marketplace.

TRANSLATING DATA INTO INSIGHTS

While data has the potential to generate tremendous insight, analytics — the art of translating data into insights — is vital. In order to produce meaningful results and outcomes, analysts need to understand crucial business questions, package the findings to ensure the understanding of those insights, and provide clear decision recommendations. We have found that projecting the potential business impact of key recommendations helps motivate implementation and ultimately realization of tangible benefits.

JOHN BUSALACCHI
Leader of Center of Excellence, Enterprise Information Management, QuintilesIMS

ELIMINATING SILOS

A centralized, cloud-based enterprise information management (EIM) hub, containing all relevant business information, enables organizations to quickly anticipate and respond to change. Centralized information allows pharmaceutical companies to eliminate silos and act as a single company with the agility to launch new business models, refine segmentation, and optimize campaigns. A single repository supports multiple applications for operational and analytical workloads without error-prone, expensive data replication, and it has the flexibility to supply different views of data based on dynamic business strategies.

DR. NICK JONES
VP and General Manager, Technology Solutions, US, QuintilesIMS

INTEGRATING ANALYTICS

Retrospective data analysis is valuable, however, by its very nature, the result is out of date as soon as it has been performed. Real-time integration of information into predictive modeling or machine learning environments, which have a direct impact on the actions taken, will be more effective at generating success. For a simple example: if a physician opens or responds to an email from your company and a sales rep has that knowledge when he or she visits the same day, the rep can have a much more impactful conversation. Again, it comes back to interoperability, fast connection, and real-time analytics.

Because of its ever-growing volume and variety, big data is difficult to find, prepare, master, govern, and protect, say analysts at Informatica. As the pace of business speeds up and the velocity of data from the Internet of Things increases, organizations are finding it increasingly difficult to capture and process big data in real time. Manual processes for reconciling fragmented, duplicate, inconsistent, inaccurate, and incomplete data, as well as fragmented point solutions, result in dubious data and delayed business insights that can't be trusted.

These analysts say a systematic approach to big data management that is cloud-ready from day one enables companies to quickly and repeatably get more business value from more big data without more risk.

The Future of Big Data

For companies that can transform and manage it, data represent a huge opportunity as a source of competitive advantage and should be leveraged as such, say analysts at Oracle. Further, big data is touching every industry and every individual in some way, from IT professionals and business leaders to the customers they serve.
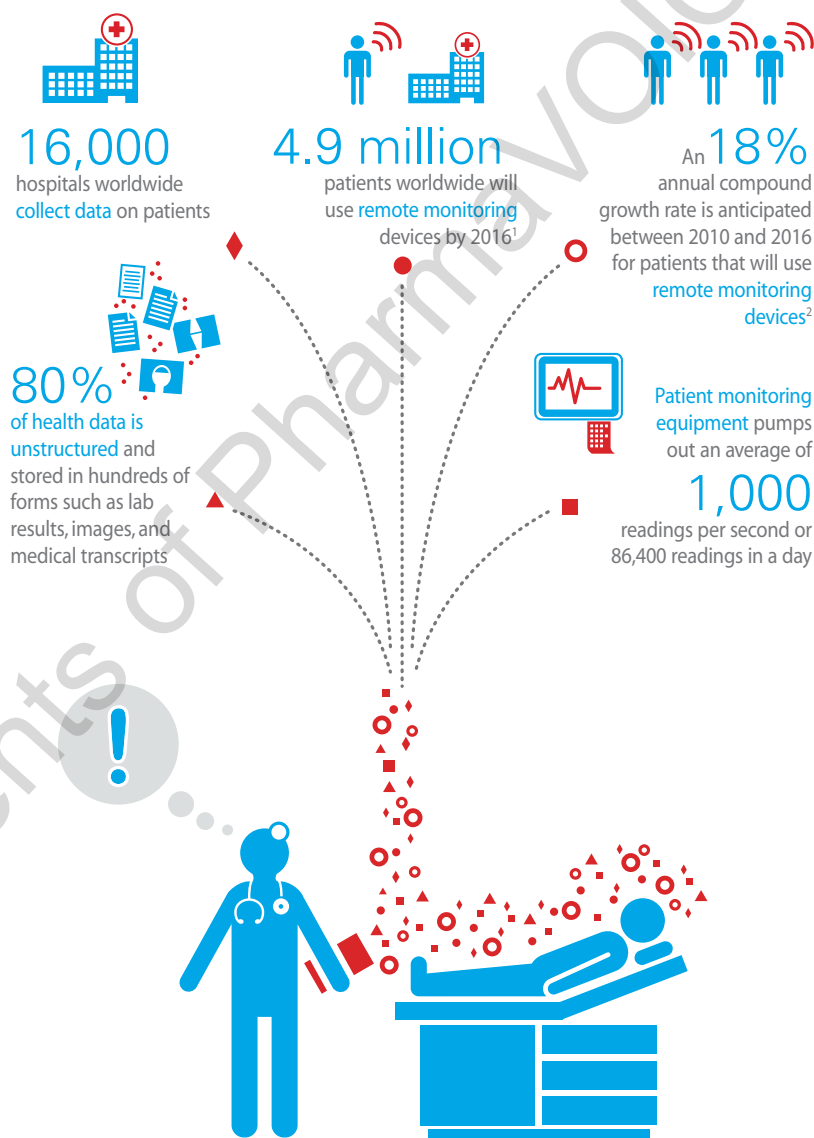
As big data and cloud are two technologies driving several dramatic transformations, Oracle offers several key big data predictions for 2017. One key trend they say is the era of ubiquitous machine learning has arrived. Machine learning is no longer the sole preserve of data scientists. The ability to apply machine learning to vast amounts of data is greatly increasing its importance and wider adoption. They expect a huge increase in the availability of machine learning capabilities into tools for both business analysts and end users — impacting how both corporations and governments conduct their business.

Oracle also predicts that in the future, more organizations will need to develop cloud strategies for handling data in multiple locations. It's not always possible to move data to an external data center — privacy issues, regulations, and data sovereignty concerns often preclude such actions. Or sometimes, the volume of data is so great that the network cost of relocating it would exceed any potential benefits. In such instances, the answer is to bring the cloud to the data.

The analysts at Oracle also highlight the need for data virtualization, which is emerging as a means to enable real-time big data analytics without the need for data movement. They

say data silos proliferate in the enterprise on platforms such as Hadoop, Spark, and NoSQL databases. Potentially valuable data stays dark because it's hard to access and also hard to find.

Organizations are realizing that it's not feasible to move everything into a single repository for unified access, and that a different approach is required. **PV**

Big Data in Healthcare: Tapping New Insight to Save Lives

Healthcare is challenged by large amounts of data in motion that is diverse, unstructured and growing exponentially. Data constantly streams in through interconnected sensors, monitors and instruments in real-time faster than a physician or nurse can keep up.

16,000 hospitals worldwide collect data on patients

4.9 million patients worldwide will use remote monitoring devices by 2016[1]

An **18%** annual compound growth rate is anticipated between 2010 and 2016 for patients that will use remote monitoring devices[2]

80% of health data is unstructured and stored in hundreds of forms such as lab results, images, and medical transcripts

Patient monitoring equipment pumps out an average of **1,000** readings per second or 86,400 readings in a day

The ability to analyze big data in motion in real-time as it streams in can help predict the onset of illness and respond instantly from new insights that will help transform healthcare.

Notes: Source: IBM; [1,2] Berg Research