

HEALTHCARE ENTERPRISE DATA MANAGEMENT: GETTING THE FOUNDATION RIGHT

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Prior to the COVID-19 pandemic, the healthcare industry was experiencing a major shift in how it collects, stores, protects and uses data to inform business decisions and improve clinical care and outcomes. Coming out of the pandemic, organizations face not only an acceleration of digitization and digital care but a deluge of new data added to the already massive amount of information within their increasingly complex digital ecosystems.

As the digital transformation in healthcare continues and competition for consumers heats up, organizations are playing catch-up with their data management while simultaneously figuring out how to spur growth by using data to create efficiencies, drive business goals and improve experiences for consumers, physicians and employees.

With such a complex and transformational task at hand, leaders can struggle to build a cohesive, holistic strategy that serves clinical and operational stakeholders as well as patients and consumers. Moreover, healthcare's big investments in technology to drive predictive analytics and enable the use of advancements like artificial intelligence have been slow to yield breakthrough results.

Lack of progress can be blamed in part on disjointed approaches to data analytics versus shifting the entire organization — and

organizational mindset — to one rooted in data-driven decision making. Another area of friction: the way in which organizations are set up to store and fetch data.

Shoring Up Digital Infrastructures

An organization's digital and data infrastructures are guided by two basic questions: *How does data interact with systems? How does data interact with other data?*

Over the last few decades, the move to electronic health records (EHRs) fueled healthcare's culture of data collection. Organizations have become diligent about populating fields and collecting information, but the complexity of healthcare, an ever-growing list of disparate systems and lingering interoperability issues have kept the industry from realizing the potential of predictive data and advanced analytics that leverage data across multiple systems.

Gleaning meaningful clinical or business insights is largely dependent on an organization's technical infrastructure — where its data is stored and how different data sources are integrated.

Build the Foundation With Cloud Technology

A growing number of businesses have turned to cloud technology to streamline data and transform their organizations, but uncertainty around cloud capabilities and system integration has left many leaders apprehensive about its use in healthcare.

The cloud, in its simplest terms, moves software and data storage from computer hard drives to the internet, making programs and files accessible from any internet-enabled device. But cloud technology doesn't just change where applications live; it has the potential to change what is fundamentally possible for healthcare providers.

Chief information officers (CIOs) and chief technology officers (CTOs) play a critical role in defining the business case for accelerating their organization's move to the cloud. While enhanced accessibility and cost savings (largely derived from shifting to online data storage) are a few motivators influencing organizations' decisions, savvy leaders see the cloud as a platform for innovation with advanced capabilities that can support business outcomes, improve clinical care, increase consumer engagement and position an organization for the future.

5 REASONS TO MOVE TO THE CLOUD

COST SAVINGS

Online data storage reduces hardware, real estate, energy and maintenance costs associated with traditional on-premises data centers.

RISK MITIGATION

Data is stored and backed up on multiple remote servers, significantly reducing the risk of data loss or theft. Data encryption provides added protection against hackers and malware.

SCALABILITY

Cloud storage allows organizations to pay for the space they need and makes it easier to add or reduce data storage as the organization grows or consolidates.

INFRASTRUCTURE MODERNIZATION

Cloud technology eliminates hardware upgrades, reduces organizations' carbon footprints and provides access to software and files from any internet-enabled device.

INNOVATIVE CAPABILITIES

Leaders can deploy advanced tools such as artificial intelligence, machine learning, analytics and automation to enhance care and improve consumer experience through data-driven decisions.

Embrace an Enterprisewide Approach to Data

While most organizations have experience with cloud-based applications, few have a clear enterprise data management strategy. The key to unlocking the cloud's full potential is a holistic, enterprisewide approach to application and data management.

As CIOs and CTOs seek to take their data to the next level, they will need to understand which major cloud platforms — including Amazon Web Services (AWS), Google Cloud and Microsoft Azure — are right for their needs. No matter the vendor, the output should be the same: an infrastructure that seamlessly integrates artificial intelligence (AI), automation and predictive analytics across applications to maximize data insights and help improve patient outcomes.

Modernize Data Storage to Accelerate Value

As organizations grow and reorganize their digital ecosystems, including the migration from legacy EHRs, data storage cannot be overlooked. While not new to enterprise data storage, [data lakes remain an important tool](#) for how organizations manage the growing scope of health data. Cloud technology moves data lakes to remote servers, providing a scalable archive solution for long-term data storage.

By investing in a comprehensive cloud platform, IT teams can spend less time managing and maintaining physical data storage infrastructure and software, and more time leveraging AI to automate tasks like data labeling, reducing the time and resources spent preparing data for use in reporting and analytics.

Establishing the Foundation to Put Data to Work

The biggest challenge healthcare organizations face is getting data to the end user in their current environment with meaningful insights.

This challenge applies to internal stakeholders — clinicians, caregivers, and employees and staff — as well as consumer-facing data for patients and their families.

Building data into everyday life and workflows can be characterized by two key questions: *How do people interact with data? How does data interact with people?*

Whether seeking to drive business goals or improve care, provider success in the future of healthcare will center on the ability to use data in a meaningful way to guide decisions.

Focusing on the following foundational aspects of data analytics can help advance data integrity and analytics programs:

- **Trust:** Without trust in the data itself, an organization's data becomes clutter that takes up space and is not actionable. Enterprise data governance and stewardship boosts trust and facilitates organizationwide understanding.
- **Insight:** Data becomes trivial and less insightful without meaningful context. Interesting correlations can be made, but it does not help caregivers and employees make decisions or impact outcomes. Start with a specific organizational challenge, need or desired outcome, then focus analysis on that goal to provide context and direction for the data.
- **Action:** Leaders can get a false sense of control by simply having data and knowledge. Having a clear and consistent plan of action on how to put data to work will lead to better outcomes.

In a data-driven culture, patients and consumers remain at the center of everything the organization does, but data is the driver of the actions people take. And for healthcare organizations, the job becomes embedding data-driven interactions into the fundamental way people do their jobs.

Application Rationalization: Take a Second — and Third — Look

Application rationalization gets overlooked for the importance of its role in advancing data management and data utilization strategies and, ultimately, reducing costs.

Most organizations don't know how many applications they are running, who uses them, who pays for them and how they interact with other applications. This organizational chaos is what results from a lack of governance and lack of strategy to embed tools into day-to-day lives.

In addition to establishing governance over application procurement and maintenance, organizations should seek to regularly reevaluate their application portfolio to determine who uses them, how they are used and for how long they will be needed.

Key Takeaways

Leaders looking to turn data into actionable insights to inform business decisions need to:

Think differently.

Look at cloud technology as the foundation for enterprise data management rather than a short-term solution for individual applications.

Plan differently.

Take inventory of what data you are currently collecting and identify opportunities to reduce overlap, fill gaps and improve data quality.

Act differently.

Draft an action plan that defines what insights and outcomes you want to derive from your data and what steps and technology you need to achieve those outcomes.



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