BIG DATA TRANSFORMS EMR AND THE POINT OF CARE

Thanks to the rollout of the pay-for-performance model in the US, healthcare leaders understand that the key to their survival is to use a comprehensive set of data to make informed business and clinical decisions. The need to outperform competitors on cost and effectiveness will ensure that data becomes the healthcare provider's most valuable asset. And while storing data electronically provides tremendous advantages, losing that data for spans of time is a legitimate concern.

Healthcare IT (HIT) proponents claimed that electronic medical record (EMR) systems would help the industry overcome quality and cost issues associated with fragmentation and information barriers. Cynics suggested that the stated benefits had been exaggerated and that the net-net outcome of HIT investments were increases in costs, not improvements to quality and cost issues. After the past few years of debate and rapid EMR adoption, the industry is beginning to better understand the value of EMR add-on applications.

As organizations continue to balance their technology objectives, they must explore how to use their existing EMR applications. Stories of healthcare institutions implementing add-on technologies to securely transfer and use data captured in EMR applications are becoming more common as they look to technology to help them meet tomorrow's objectives.

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ELECTRONIC MEDICAL RECORDS COME OF AGE

Healthcare providers have been implementing EMR systems at a noteworthy rate. In 2012 the Department of Health and Human Services reported that nearly half of all hospitals and providers were implementing EMR systems and registered to receive reimbursement subsidies through EHR Incentive Programs. At of the end of 2012, nearly $9 billion in related EHR payments had been made to eligible providers.

These early adopters realize that EMR systems are key to potential cost savings, improving care outcomes, and leveraging data to drive business value.

Despite the advantages associated with electronic health data, however, many EMR systems are not living up to their potential. Hospitals and providers must evaluate what their EMR system can and cannot do, and adjust their expectations to better match reality—understanding that EMR systems are the *foundation* for solutions and *not* the solutions themselves. Organizations looking to propel themselves forward in the race to the top must understand that their EMR system must be coupled with other applications to meet their strategic goals and objectives.

EMR ADD-ON FUNCTIONALITY

EMR systems open the door to data analytics—enabling organizations to identify quality and performance measures and set goals—and also capture the data necessary to tier patients for population health management, compare patient treatment regimes with results, do side-by-side comparisons of physician outcomes and identify areas of opportunity for the organization, among other functions. **While an EMR system is home to this data, making use of the data isn't the job of the system. Instead, it relies on a host of applications to do its job and deliver value to its users.**

PATIENT RELATIONSHIP MANAGEMENT APPLICATIONS

Because the type and frequency of care today is different than before, solutions have emerged to better align care options with patient and provider needs. The most notable solutions are "Relationship Management" applications, which piggyback on data captured by EMR systems to identify areas of opportunity for hospitals and providers.

Physicians and patients are working more closely than ever to improve health outcomes and minimize costly, unnecessary catastrophic events. Patient Relationship Management (PRM) applications are built upon the premise that communication is key, and strive to improve medical care by improving the exchange of knowledge between patients and providers. By fostering communication, PRM systems can ensure that patients or caregivers understand their role and how it affects the outcome of the treatment regime.

Organizations implementing Relationship Management applications understand that patients are integral to improving care outcomes, and that the customization of education and learning tools provide much needed support to both physicians and providers.

VENDOR-NEUTRAL ARCHIVING

The initial drive to reduce film usage and increase digitization, coupled with problematic departmental purchasing cultures, has driven healthcare providers and imaging companies to create Picture Archiving and Communication Systems (PACS) to support their various imaging needs. These siloed systems decrease efficiency, increase costs, and force companies to remain in vendor relationships that are no longer beneficial.

Imaging providers must find a way to build a vendor-neutral platform for secure and efficient sharing of images, with efficient workflows that allow them to scale support for the ever-increasing demand for services. An image-enabled EMR with a vendor-neutral archive is one of the key additions a healthcare IT organization can make to drive value from their existing imaging investments.

CONTINUOUSLY AVAILABLE INFRASTRUCTURE

The demands placed on IT by the healthcare industry are heavier than any other industry, because healthcare providers never close their doors. When Hurricane Sandy hit the northeast coast of the US in late 2012, many hospitals with power shortages were forced to discharge non-critical patients and evacuate critical patients. Both patients and patient records had to be transported to in-taking hospitals.

This is just one example of why hospitals must have reliable access to years' worth of data 24 hours a day, seven days a week to provide the appropriate care—and why hospital systems are looking for ways to ensure that their EMR applications and critical add-on applications are continuously available. Healthcare providers will need to adopt a game-changing approach to availability, starting with conducting thorough assessments, planning, cost/benefit analysis, and roadmap definition.

Virtualization has emerged as a key component for healthcare disaster recovery. Coupled with rigorous planning and automation, virtualization enables healthcare providers to reduce downtime by replicating IT resources and hosting them at an off-site facility—ensuring that when a disaster strikes, the necessary data is still available and no one is left in the dark.

INFO ON THE GO

Healthcare-provider IT organizations are beset by the constant challenge of trying to meet the needs of clinicians, who are vying for accessible mobile systems for the administration of patient care, and need to take the EMR mobile. Virtualized desktops essentially mobile-enable the EMR and radically change the way care is delivered, allowing caregivers to securely navigate seamlessly regardless of their location within a hospital system.

Storing patient data in a data center instead of on desktops improves security, increases productivity, reduces operational costs, minimizes desktop support and maintenance, and improves business and care outcomes.

As care networks expand, healthcare provider IT organizations also need to be able to provide information access to physician partners beyond the firewall. The demand for mobile health solutions is unique in the fact that it comes from both patients and providers, but the promise that it brings to healthcare is undeniable. Adding a mobile solution to an EMR system takes the system to a new level of functionality.

CONCLUSION

Healthcare organizations need technology solutions that deliver value by:

- Exchanging data to improve outcomes—Technology must further the industry in its essential quest to exchange data and information to better serve sick patients and keep communities healthy.

- Analyzing Big Data to better decisions—Providers need to look at a comprehensive set of data to make informed business and clinical decisions. Organizations will ensure their existence in the future by outperforming their competitors—a task that requires informed decision-making.

- Getting the most out of their investments—Providers need to ensure that technology investments will deliver the greatest business value and the highest possible ROI.

Storing data electronically provides tremendous advantages, but without add-on technologies, it may not pack the needed punch. Healthcare IT organizations must explore how add-on technologies can help them met their objectives and ensure their success.

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