How Cloud Computing Can Help Solve Healthcare’s Looming IT Crisis

Medical practices face substantial workflow and system challenges as they determine how best to meet new regulations and standards for electronic health records.

Introduction

Clinical, administrative, and financial workflows that support healthcare practices have undergone vast changes, transitioning from hard copy to software-based systems in just a few years. Facing ever more security and compliance standards, and with recent government-mandated changes for reporting and reimbursement, healthcare organizations are having to rethink their approach to, and investment in, electronic health records (EHR), practice management platforms, and cloud computing.

Yet, less than one-third of healthcare organizations are turning to the cloud. Many chief information officers and healthcare executives have concerns about data access, privacy, and cost, thinking that medical records kept in-house and under lock and key are a safer bet. However, the IT support needed to efficiently manage EHR under security and compliance regulations can quickly overwhelm even the most IT-savvy medical practices. And data breaches are becoming more common.

Impact of New Requirements on Healthcare Operations

From large hospitals and medical groups to smaller community doctors’ offices, healthcare organizations are facing new technical and EHR requirements. One of the most significant challenges is ICD-10, the newly revised standards used by medical coders and billers to document diagnoses.1 With ICD-9, billing codes are 3 to 5 digits in length and number over 14,000. ICD-10 codes are 3 to 7 digits and have expanded to 68,000, with thousands of more codes expected by late 2013. Addressing these changes requires significant effort and technology updates to the underlying systems for practice management.

Before health providers can implement ICD-10, however, they must first integrate new HIPAA transaction standards known as ANSI 5010. Mandated by the U.S. government, it is a global change in the format for submitting claims to Medicare and Medicaid.

Adding to security and compliance issues is the trend toward Accountable Care Organizations (ACOs), a new care delivery model based on healthcare outcomes. ACOs require compliant, integrative technology that allows them to connect, track, collaborate, treat, and report across providers and agencies.

All of these changes present substantial challenges, especially for those organizations without dedicated IT departments, highly trained staff, or sufficient software systems, all of which require extensive operational and financial bandwidth. Those with on-premise medical software have to wait for updates, which may not be timely, efficient, or free of interoperability problems.
Reluctance Despite Incentives
To encourage use of more advanced and connected technologies, the government instituted incentives to organizations that adopt and “meaningfully use” EHR technology. Organizations that meet the Meaningful Use criteria for Medicare and Medicaid healthcare management are given monetary rewards for their efforts.2
Yet, according to a CDW Cloud Computing Tracking Poll, just 30 percent of medical practices have transitioned to cloud computing services.3 This reluctance to embrace remotely hosted solutions and SaaS is, in part, because of a misguided belief that records kept in-house are more private and secure. Unfortunately, reports of data breaches as a result of physical theft are becoming more common. According to the 2012 Data Breach Investigations Report conducted by Verizon, seven percent of all data breaches occur in the healthcare industry.4 And, as healthcare organizations are discovering, the cost of non-compliance can be high.
One such breach occurred involving a large national insurance provider. As the article states, “57 computer hard drives were stolen from a locked data network closet in a leased office facility. The drives contained the unencrypted protected health information of more than one million individuals, including names, Social Security numbers, diagnosis codes, dates of birth, and health plan identification numbers.” This incident resulted in a settlement of USD1.5 million with the U.S. Department of Health and Human Services.5
As this example shows, and others like it, in-house systems are not necessarily more secure, compliant or private than systems and services provided by cloud computing.

Benefits of Outsourcing EHR to the Cloud
Key to successful transition to SaaS and cloud services is choosing vendors that have expertise in healthcare cloud computing, a proven record of security and compliance, and rely on advanced technologies and architectures.

Security, compliance, and privacy
Healthcare cloud services and hosting companies must meet security and compliance requirements of ICD-10 and ANSI 5010. Cloud-based healthcare software solutions offered by companies, such as industry leader, CareCloud, are not only 100 percent HIPAA compliant, they protect electronic data against unauthorized retrieval with 256-bit SSL file encryption, which is more stringent than government mandates.
In addition, advanced hosting services that use hardware-assisted security platforms (like the one described later in the Business Case) help protect data from possible breach of protected health information. Cloud-based systems also improve secure access and sharing of protected data through health information exchanges that connect medical practices and governing medical bodies, such as federal and state governments, insurance companies, and ACOs. These are assurances not easily matched by in-house IT systems.

Cost efficiency and improved focus
Even large healthcare organizations have a difficult time matching the cost effectiveness of massively scaled cloud providers and solutions without heavy and continuous investment in hardware, software, and personnel. In addition, most healthcare cloud-computing vendors offer 24-hour service and IT management, something few, if any, in-house IT system can provide. Cloud-computing vendors also support the technology and services that satisfy Meaningful Use incentives.
As regulations and compliance become more onerous for healthcare organizations, turning to cloud-computing SaaS not only makes budget sense, it can also improve core business performance. By outsourcing EHR, medical practices can focus on maintaining patient care and growing their businesses rather than on maintaining IT expertise.

"Intel and Terremark collaborate extensively on hardware-assisted security solutions; this ensures Terremark hosted customers, such as CareCloud, are able to take advantage of advanced security capabilities as they come to market."

Mario Santana, Vice President of Secure Information Services, Terremark
Flexibility and scalability
As medical practices grow, practice management software and hardware must adapt, too. But finding in-house IT solutions that can quickly scale is not easy. Healthcare cloud computing services, on the other hand, are robust, flexible, and scalable, providing support for medical practices at all stages of business growth.

And as organizations grow, so does the need for data and reporting that help make informed business decisions. Often, in-house software has pre-programmed reports that may not provide the level of detail needed by a multi-specialty organization. With cloud computing and SaaS, most EHR services can be phased in as needed and data easily accessed across clinical practices within a facility to offer robust reporting capabilities.

Cloud-Computing Business Case: South Florida Medicine
South Florida Medicine rapidly grew from a single specialty in radiation to a multi-specialty practice that now includes 30 doctors, 50 staff members, and 7 locations. Their rapid business growth drove South Florida Medicine to rethink its in-house IT solution, which was proving inadequate to meet their business needs for easier access to data and multi-level reporting.

After considered evaluation, South Florida Medicine chose CareCloud as its healthcare IT platform to consolidate data and workflow for multiple locations.

Security and processing power of Terremark and Intel
For advanced IT infrastructure services, CareCloud partners with Terremark, a leader in transforming and securing enterprise-class IT on a global scale. As a supplier to global enterprises and government agencies, its data centers, infrastructure, and technology platforms are monitored and secured at levels that exceed the requirements of HIPAA, HITECH, as well as other financial and reporting regulations.

Terremark’s enterprise-class platforms and comprehensive security practices set the standard for implementing cloud services on a global scale. Servers based on the Intel® Xeon® processor E5 family offer hardware-assisted security features that support Terremark’s own security programs (see Figure 1). Several innovative capabilities integrated into these platforms help reduce the typical data bottlenecks in cloud solutions. Intel’s platform enables businesses to scale their solutions within their existing data center footprint to accommodate business growth. And its extensible colocation services drive down the cost of IT operations.

“Intel and Terremark collaborate extensively on hardware-assisted security solutions,” said Mario Santana, vice president of secure information services for Terremark. “This ensures Terremark-hosted customers, such as CareCloud, are able to take advantage of advanced security capabilities as they come to market.”

By choosing the scalability and support of cloud-computing solutions for practice management, South Florida Medicine can concentrate on the growth of their organization, and not on the issues surrounding IT. Business decisions are now informed by the ability to analyze data from individual clinical practices and across the organization.

Results support a growing medical organization
For South Florida Medicine, the organization can grow quickly without having to add expensive servers in-house or expand their IT department. Because of their choice in cloud-computing services, when the organization adds a new practice, its members can easily be given access to the apps and IT platform.

Most importantly, privacy, security, and compliance concerns are no longer placed only on the shoulders of South Florida Medicine, as these issues are being managed in a secure way that meets, and most often exceeds, industry regulations and standards.

“Practice management is the lifeblood of medical organizations, just as ERP and CRM are for other businesses,” said Ravi Patel, managing partner of South Florida Medicine Radiation Oncology. “Using CareCloud’s software and services has given us the ability to scale quickly, bringing the different practices onto one practice management platform.”

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Figure 1. Prescription for a secured medical billing, practice management, and reporting system supported by a cloud-based IT processing platform.
Facing Challenges with Advanced Solutions

Whether it’s a health system with 400 doctors or a small practice with two physicians, both have the same concerns for coding, security, compliance, and privacy. Yet EHR mandates and new regulations and standards are changing the practice management landscape for everyone. All organizations have to adapt. That’s where cloud computing can make the difference.

For a medical organization to duplicate the technological capabilities that CareCloud, Terremark, and Intel brought to South Florida Medicine would be cost-prohibitive and impractical to maintain. However, the power of the cloud provides any medical organization the benefit of these advanced systems at a fraction of the cost.

Secure cloud-computing solutions running on Intel architecture, such as those from CareCloud and Terremark, help minimize privacy issues and reduce concerns about security and compliance. Even small medical practices have access to the same bandwidth and processing power as a large hospital, and can easily scale their computing needs as the organization grows, or as regulations and standards change.

Cost-efficient Choice

As in any industry considering a technology migration, cost is a major concern. Yet, cloud computing proves much more cost-effective than internally supporting and maintaining servers, hardware, software, and technical personnel who are often not experts in EHR. According to the CDW Cloud Computing Tracking Poll, 88 percent of healthcare organizations that use cloud computing have reduced IT costs by an average of 20 percent annually. But that’s not the only monetary benefit. Cloud computing for EHR can even help a clinic get paid for its effort. In a matter of months, a medical practice served by CareCloud earned USD 21,500 per physician from Medicaid for meeting Stage-1 Meaningful Use criteria, a timeframe made possible by the capabilities of cloud computing.

Conclusion

Cloud computing can free medical practices from the burden of supporting IT systems in-house, yet enable open access to data, files, analysis, and reporting, all within a secure and compliant environment. It’s how cloud computing, coupled with secure hosting and advanced processing, can help the healthcare industry meet the challenges of a changing practice management landscape.

For more information on CareCloud visit www.CareCloud.com or call 1-877-342-7517

For more information on Terremark visit www.Terremark.com or call 1-866-507-5004


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2 Making sense of Meaningful Use. CareCloud. www.carecloud.com/blog/meaningful-use-timeline
7 Reduce latency, improve data throughput with Intel® Integrated I/O. Intel Channel, YouTube. www.youtube.com/watch?v=5WU1rsgtv5I

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