

HIT Trailblazers

How the senior executives of leading vendor companies are preparing for transformative change

HEALTHCARE INNOVATION

JANUARY 30, 2019



Health IQ: Healthcare IT Talent Acquisition Meets the Gig Economy



Dr. Rebecca Quammen DBA MBA FACHE CEO HealthITq

Healthcare Is A People Business

While this title is painfully obvious, it also seems to be the most forgotten, ignored, exploited, and sometimes maligned concept in our industry. Whether your healthcare industry perspective revolves around wellness, prevention, or illness – it involves people. With a technology lens, my focus is quite naturally on the need for expert IT talent to support the demands of our challenging and constantly evolving healthcare industry.

HIT Trends and Challenges in 2019

“More of the same” is what many of us are feeling as we approach another year where the words and initiatives change slightly – interoperability, quality, payment reform, value-based care, telehealth, consumerism, IoT, cybersecurity, M&A, divestitures – while the effort that is needed to support them remains constant. At HealthITq we believe that meeting the HIT challenges of the coming year requires acknowledgment that our IT workforce is irreversibly changing.

Embracing an independent and highly specialized HIT workforce is paramount to our success in 2019. The global workforce and economy are being defined by terms such as GIG, agile, sharing, contingent, freelance, and independent. From a clinical perspective we

readily embrace a contingent workforce model as is evidenced by our routine use of locum tenens and traveling nurses. The picture is quite different in HIT. While historically consultants have supported specific IT projects and initiatives, the traditional FTE workforce model remains essentially unchanged. IT organizations continue to struggle with endless project lists, project demands, and deadlines that cannot be efficiently or cost effectively met with local skill sets due to the constant knowledge curve resulting from technology advances.

Changing HIT Workforce Models

It is obvious to all that interoperability, value-based care, telehealth, market consolidation and clinical/quality advances will dominate our energy in 2019. But just as trends in fashion cycle every few years, so must our approach to meeting the HIT challenges presented by these and other topics in 2019. It is an exciting time to work in HIT with the rapid introduction of technology and application innovations that free us from traditional work environments and challenge us to think out of the box. I am a forceful advocate for embracing a changing HIT workforce that is more agile with experiences across varied venues that can pivot to meet stakeholder needs. The rigidity of the traditional FTE model in most healthcare IT organizations is, in my estimation, the primary reason we are unable to keep up with innovation. For years I have promoted the idea that our ability to deliver solutions to our stakeholders is predicated on the skill of our best employed analyst. In a traditional FTE model where IT talent is hired to meet the needs of today, is it practical to believe the same talent can constantly evolve to meet the ever-changing HIT landscape? In healthcare, as with other industries, we are quickly becoming a workforce of experts, whether in specific technologies or software applications, and it is the rare person who can pivot quickly to assimilate new knowledge and skills to meet the demand. An agile, contingent workforce is an essential complement to the local IT team if we truly want leverage IT as a competitive advantage.

Integration is Job 1 (1995) Vs. Interoperability (2019)

Incentives for true interoperability in a competitive marketplace remain an outstanding issue. As challenging is developing a common definition of interoperability – will we know it when we see? For the front-line care giver, interoperability means ease of use and beneficial data that enhances productivity. For the patient or consumer interoperability means every healthcare encounter is informed by the data amassed in previous encounters. Like many veteran healthcare workers, I have struggled with interoperability issues for more than two decades, Now, our arsenal to combat interoperability is greatly enhanced by availability of exponentially advanced technologies, regulation requiring data sharing, and market consolidation to only a handful of single source EMR vendors. Death of the “best of breed”

application strategy known to many of us in those early years is likely the number one credit for our current interoperability. In 2019 we remain in need of a practical working definition for interoperability and our collective challenge is to continue to find ways to collaborate and share relevant patient data. Interoperability is clearly a marathon and not a sprint.



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In 2019, Rhapsody is Taking Interoperability to the Next Level



Erkan Akyuz President & CEO Rhapsody

What do you think the biggest HIT trend in 2019 will be?

Unleashing the potential of artificial intelligence (AI) and machine learning (ML) by enabling true data interoperability. Federated AI and ML will continue to trend in 2019. Compiling large amounts of data in a normalized format will be key to AI/ML success. As such, interoperability is critical to connecting disparate data sets to solve healthcare's most intractable problems.

For example: the opioid epidemic has been complicated by an inability to gather data sets and identify patterns. Additionally, access to care faces challenges when health systems don't have access to all necessary information to match patients with appropriate providers.

Data liquidity is the key and historically, for a number of technical and business reasons, data has remained siloed. However, the technical issues have largely been resolved by solutions like ours, allowing organizations to focus on these more political angles of interoperability challenges.

I expect great progress in 2019 resulting from these technical advances making business challenges easy to overcome.

What do you think the biggest HIT challenge in 2019 will be?

Overcoming data interoperability/liquidity challenges to achieve patient-centered care through community data sharing and enabling communities of care. The interoperability technical challenges within hospitals and health systems have largely been solved by solutions like Rhapsody. However, effective information sharing across communities requires a new way of thinking.

Today we define community of care primarily geographically. We have statewide and regional information exchanges to facilitate access to patient records. Moving forward we need a more patient-centric focus and consider the community of care around a patient – including resources that cross geographic boundaries.

What can we expect in regard to interoperability in 2019?

Promising initiatives to not only overcome technical barriers to interoperability, but political barriers. We can expect increased focus on interoperability at a much higher level.

To date, the primary focus has been around data sharing within affiliated networks, which have been successful, effectively solving the technical issues. The next horizon is addressing interoperability at a macro level, seeking improvement beyond information sharing *within*, but *among* systems.

There are many examples of this currently – Nashville’s Center for Medical Interoperability has an initiative bringing together larger systems. The federal government also enacted a project to enhance data interoperability within CMS. Given these project’s large areas of focus, we expect 2019 will see great progress as it pertains to these higher-level issues.

What can organizations do to ramp up their security in 2019?

Learn from the mistakes of others and industries that stay ahead of hackers. Information security is a constant arms race of new threats emerging, with continually developing best practices to address them. It’s particularly challenging in healthcare as the street value of health information is climbing with the price of a health record far exceeding a social security number on the dark web.

Partnering with experts is a good first step in keeping up with this evolving threat landscape. Find vendors that take security seriously and keep your organization up to date.

Healthcare can benefit from fintech and consumer product industry learnings. Cloud-based technology is a smart choice for healthcare organizations which tend to have strong security protocols and can afford to invest in the latest technologies on behalf of their customers.

Of course, human vulnerability is the greatest weakness to an organization’s security and healthcare organizations must be vigilant when it comes to training, pen testing, and keeping up with compliance requirements.

What type of innovative products/services will your company be offering in 2019?

Contemporary technologies and business models that enable our partners and users to achieve interoperability, to build connections for a healthier world. Having been on the market for over 20 years, Rhapsody operates in thousands of provider and payer institutions globally. This experience has resulted in a proven product. Beginning 2019 as an independent company, our emphasis is to make this technology available to a wider range of audiences and achieve these high-level interoperability opportunities.

One way we are doing this is by putting an emphasis on partnerships. We are already embedded in many leading HIT platforms and aggressively looking to partner with more vendors. Also, organizations now have the flexibility to implement our technology on site or in the cloud as we now offer our solution as a service – making interoperability more widely available.

Having essentially solved the technical dimensions of interoperability, our mission is to make sure the solution is available and incorporated in as many places as possible. Additionally, we want to help our customers and partners tackle these higher-level interoperability issues.



Rhapsody

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**Snowflake: Securely Linking the World's Health Data in
One Cloud-Built Data Warehouse**



Todd Crosslin VP of Healthcare Strategy Snowflake

What do you think the biggest health information technology (HIT) trend will be in 2019?

The shift to public cloud will accelerate and everyone will need to fully embrace longitudinal data sets, not only within but also between their organizations and those of their clients and partners to meet the needed outcomes and performance-based payment models. Legacy reporting mechanisms will be hard-pressed to keep up with the demands of these new models.

What do you think the biggest HIT challenges in 2019 will be?

I think healthcare has both organizational and technological challenges. We learned from a recent survey conducted by Harvard Business Review Analytics Services that the most significant organizational barriers to achieving a data-driven healthcare evolution include organizational silos, legacy processes, lack of key digital and analytics skills, and resistance to change. Gartner and other analyst firms study and document unsuccessful implementations and how they diminish the business value of data and analytics. The high expense of on-premises solutions challenges HIT organizations. With the cloud pay-as-you go model, organizations can now take advantage of an iterative approach. The important question is, will HIT leaders have the courage to take that leap?

What can we expect concerning interoperability in 2019?

Health Level Seven (HL7), Fast Healthcare Interoperability Resources (FHIR), and Substitutable Medical Applications, Reusable Technologies (SMART) on FHIR will continue to evolve and gain momentum as organizations embrace new technologies. Snowflake brings modern data sharing to the toolbox, which replaces data “moving” with shares by query.

What can organizations do to improve data security in 2019?

With regard to healthcare data, Health Insurance Portability and Accountability Act (HIPAA) compliance, and other regulatory safeguards, deploying a solution based on a modern architecture is essential. Snowflake address security concerns with Tri-Secret Secure (three-key) encryption and fine-grained data access controls for securely and performantly storing customer data. Data loaded into Snowflake is automatically split into small encrypted micro-partitions, and the metadata is extracted to enable efficient query processing. Snowflake encrypts these micro-partitions, stores them in a columnar format, and compresses them. In short, Snowflake’s security is built in, so our customers can focus on the bigger picture.

What type of innovative products/services will Snowflake be offering in 2019?

Healthcare organizations are limited by the amount of healthcare data they can effectively join and link together. It’s unfeasible and sometimes impossible to transport substantial amounts of data while maintaining tight security and fully protecting Personally Identifiable Information (PII) and Protected Health Information (PHI). Through its Snowflake Data Sharing feature, Snowflake provides a modern capability where data can be shared, linked, joined, and accessed without moving, exporting, or even copying any data. Organizations can easily establish data connections between a data provider (the data owner) and a data consumer (internal or external data users) to governed, secure, and read-only data in real time.

Snowflake is available on both Amazon Web Services (AWS) and Microsoft Azure. Currently, data sharing is available within one cloud provider and one region. Throughout 2019, Snowflake will be expanding Snowflake Data Sharing to allow sharing between multiple regions of the same cloud provider. Eventually, availability across multiple cloud providers and regions will play a pivotal role in creating a truly global Data Economy.

About Todd Crosslin Todd is Vice President of Healthcare Strategy at Snowflake. From provider roles in pharmacy and hospital environments to leading and/serving software development teams. Todd has over 30 years of experience in healthcare.

As a former Snowflake customer, Todd has firsthand knowledge of the benefits of Snowflake's cloud-native architecture in a healthcare environment. Securely storing billions of records and democratizing data across organizations helps bring analytics to the touchpoint of patient care with no upfront capital purchase. The added benefits of scalability on demand, a 10-to-100x performance increase, and no required database maintenance are resonating across the healthcare industry.



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Dimensional Insight: HIT in 2019: What Does the Year Ahead Have to Offer?



Fred Powers CEO and Co-founder Dimensional Insight

What do you think the biggest HIT trend in 2019 will be?

Without question, the largest trend in HIT right now is artificial intelligence (AI) and machine learning. However, while most hospitals are talking about AI, they aren't seeing

much success. For example, the industry had high hopes for IBM Watson, but that has been scaled back as the anticipated results have not been realized. Most notably, the University of Texas' M.D. Anderson Cancer Center canceled a \$62 million Watson contract.

The focus now in AI is more targeted. There are more than 100 AI startups in healthcare, and many are extremely focused in one area such as radiology or diagnosing conditions such as sepsis. In addition, AI is being used for assisted analytics. This will help direct end users and proactively notify them of areas of concern in their organizations rather than users having to do the legwork themselves.

What do you think the biggest HIT challenge in 2019 will be?

Technology by itself is nothing. The biggest HIT challenges boil down to staffing, management, and culture.

With hospitals going digital over the last 10 years, IT departments are now expected to manage hundreds of projects. How do you do this with limited resources? How do you merge new systems with old ones? How do you recruit talented staff? And how do you effectively bring them forward with their skillsets through training? Once you have the right staff, how do you manage and retain them? And how do you develop your culture, ensuring that you have collaboration and teamwork? And how do you do all this while there is this enormous technological change happening? These are the issues that today's CIO faces, and there's no easy solution.

What can we expect in regard to interoperability in 2019?

The path to interoperability is moving slow because there are multiple stakeholders: the federal government, vendors, and hospitals. As the FHIR standard catches on and as vendors start working together on interoperability standards, these will be passed down to hospitals. With regards to data analytics, today healthcare organizations can get the data out of multiple systems and join that data together. Healthcare organizations need to have people on board who both understand the data and understand how it can be joined and moved out to a common display.

What can organizations do to improve analytical insight in 2019?

Healthcare organizations now have tremendous volumes of data they can access. How they digest that becomes a challenge. Organizations can improve analytical insight by having a two-tier system of their data. This would provide the "best of both worlds" in terms of gaining insight.

The first tier would be the raw data—about 85 to 90% of the data—which would be in a data lake. This would have limited oversight and could be accessed by data scientists or report writers. This enables self-service and flexibility, and it allows the scientists to quickly deliver projects to end-users.

The remaining 10 to 15% of data would be highly curated. It would be validated for accuracy and have data governance applied to it. This data would be accessible to executives and subject matter experts who could easily understand it and quickly collaborate and make important decisions based off of it.

What type of innovative products/services will your company be offering in 2019?

We are always committed to ensuring our customers are able to make better decisions in order to improve patient care and outcomes. To that end, Dimensional Insight is focused on three areas in 2019.

First is satisfying access to the data lake and the curated data. That includes access to hundreds of KPIs (or measures) that allow hospitals to more efficiently run operations. We ensure those measures are correct and allow customers to dive into the underlying data so they can see how the measures are made up.

Second, we will be moving data onto smartphones so senior management has access in their pocket to all the KPIs they need to monitor the business.

Third, we are working on AI in assisted analytics. It's not enough to provide the measure or KPI. The machine has to then provide guidance as to why that measure has the value it has. We utilize AI to make the analyst more efficient by providing the direction they need to understand the underlying data. We anticipate this will greatly help with some of the resource constraints hospitals face today.



Dimensional
I N S I G H T

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LexisNexis: Defining HIT Trends, Challenges and Opportunities for 2019



Josh Schoeller Senior VP LexisNexis Risk Solutions – Healthcare

What do you think the biggest HIT trend in 2019 will be?

We see a continued move toward value-based care, and that trend is playing out in five different ways:

Massive market consolidations – At the heart of value-based care is the need to improve health outcomes. Health systems recognize they can better influence those outcomes if they control the patient’s complete healthcare journey. For that reason, we’re seeing deals between companies like CVS and Aetna, and Walmart and Humana, which bring a giant drugstore chain, pharmacy benefit manager, clinic operator and insurer together under one roof.

Consumerism – Consumers used to have limited choices for healthcare. A single plan typically had a PPO and an HMO; pick one. Now health plans offer dozens of choices along with a wide range of deductibles. Consumers benefit by being able to purchase a health plan that more closely fits their needs.

Increased transparency – Access to information about the price and quality of healthcare services can help consumers make better decisions about their care.

Blockchain technology – The promise to connect multiple data sources, track all transactions across the chain, and then publish the resulting information can help health systems increase efficiencies and make data-driven decisions.

Artificial intelligence (AI) – AI will have a positive impact in delivering care in less costly manners. Through its deep learning, it is becoming increasingly useful in diagnosing disease and developing precise care plans and wellness programming.

As all of these different pieces come together, HIT will play a vital role in helping healthcare organizations execute, track and measure their progress toward value-based care.

What do you think the biggest HIT challenge in 2019 will be?

We see three major challenges:

Interoperability – Looking back five years ago, everyone thought health information exchanges would be the solution, because information could be shared and accessed across care settings. Today, we realize that getting information from one system to another under one roof—let alone trying to bridge platforms and physical locations—presents significant obstacles. The recent corporate mergers in healthcare along with the emphasis on value-based care are forcing health systems to focus again on solving the interoperability problem to improve the quality, safety and cost of patient care.

Data sharing – Data relating to patient care is controlled by a matrix of federal policy, state laws and business agreements. The complexity of these restrictions necessitates setting standards for data sharing and data blocking to ensure the right user has access to the right data for the right purpose. Patients are also now getting more involved in understanding and deciding what happens to their data.

Data governance – Protecting data integrity is crucial for patient safety and care quality. Healthcare organizations must establish policies, procedures and processes that oversee data creation, aggregation, exchange, maintenance and access. Data governance becomes even more critical as we see healthcare embrace technologies such as blockchain, in which all parties can contribute, change and share data, with little oversight.

What can organizations do to amp up their IT security in 2019?

The healthcare business at LexisNexis® Risk Solutions has a unique perspective in that we serve every market in healthcare—providers, health plans, life sciences, pharmacies and government. We see how these stakeholders converge and interact, which has led us to promote the following approach to security:

Erase – Healthcare organizations should remove any data they don't need in their system. Member Social Security numbers, for example, aren't required for identification anymore. What's not in their system can't be stolen or misused.

Replace – Replace data like SSNs with a member ID or LexID® that's not tied to financial information.

Protect – Access to patient data is critical to value-based care, but it must be protected. Encrypt or tokenize data so it can still be used but isn't open to breach. Establish security perimeters around access points like devices and portals to ensure that only appropriate access is granted and in a way that does not hinder patients from engaging with their information.

What type of innovative products/services will your company be offering in 2019?

Among the products we'll offer are:

Social Determinants of Health (SDOH) – We continue to innovate in giving providers real-time insights on SDOH that they can use in improving patient care. We're introducing API access to scores and incremental analytics that can inform care management involved in patient follow-up planning. It allows them to be proactive with patients who face social influences that could negatively impact their health outcome and, in the case of hospital patients, result in complications and readmission.

A unique patient identifier - LexID® – We're launching an enhanced LexID for healthcare that offers an alternative, unique identifier for patient identification and record matching. It encompasses the under-18 population, which represents 25 to 40 percent of patient records and presents a challenge because minors often lack identifiable public information such as a driver's license, voter registration or credit card.

LexisNexis® Provider Data MasterFile™ – Provider information serves as the backbone of a healthcare organization's entire ecosystem, and MasterFile is the industry's trusted source for that data. As health systems shift to a value-based system, MasterFile can be used to better coordinate care and fuel data-driven decisions that improve efficiencies and maximize cost savings.

OneMedNet: Unlocking the Value of Imaging Data



Christopher Hanna CEO and President OneMedNet Corporation

Dominant Trend

It's safe to say that the field of artificial intelligence (AI) and machine learning (ML) is a "collective area" generating more attention and resource investment -human and financial- than most others. The benefits are increasingly seen in many parts of our daily lives, and clearly, there are a bounty of utilization opportunities for impactful clinical decision support within healthcare.

Obviously, the surrounding issues and potential effects are massive. Thus, the focus here will be on AI and ML trending relative to clinical imaging. Undeniably, many clinical disciplines rely upon imaging for diagnosis and treatment, with radiology often front and center. To that end, OneMedNet participated in the recent RSNA (Radiological Society of North America) exhibition, and more specifically, the relatively new "machine learning" area.

The ML area has significantly increased in size every year since it was initiated. There are many opinions as to the slope of the projected AI and ML adoption curve, as well as the optimal clinical and research applications. But several facts are clear: 1) money is pouring into this space on the industry side spanning start-ups to Goliaths; and 2) this exhibition area was flooded with clinicians and administrators trying to learn as much as possible

about how this large wave can best be steered for their particular institution or healthcare system.

Biggest Challenges

There are a multitude of companies and clinical research teams working feverishly on the development of impactful algorithms offering improved identification, insight, and predictivity. The challenge these teams have is access to relevant medical imaging data. Image archives tend not to be easily searchable. Healthcare institutions often have data that is limited to discreet patient populations reducing their demographic value.

Access to large quantities of imaging data representing diverse patient populations is difficult due to the reluctance of healthcare providers to share and/or sell de-identified patient information. Earlier this year, Reaction Data conducted a survey on our behalf to better understand the current provider sentiment around selling de-identified historical imaging data sets. Ten percent of respondents were fully supportive (or already doing it), while forty-six percent answered, “It Depends”. The remaining respondents said “No”. Of those in the middle, the answer primarily depended on: 1) how that data would be used; 2) ensuring the data was fully de-identified; and 3) who would be using the data.

Accessing Data

OneMedNet has a strong history in imaging and data security with many worry-free installations of our BEAM® Data Exchange solution. This internal core competency has evolved to cover data migration solutions, advanced data workflow solutions for AI and ML, and the relatively new area of image data mining and brokering. There has never been a better time to tap into and unlock the value in global medical imaging archives than today. Researchers and AI/ML companies are starved for good quality data and healthcare providers hold this high value but untapped asset class.

OneMedNet’s data management services—exchange, migration, work-flow and brokering—enable researchers in both academia and industry to acquire curated de-identified clinical data from a network of participating healthcare institutions. In the case of the brokering services, a web client enables users to search a database of federated image archives using various criteria to find samples of relevant clinical data. An internal data curation service is used to verify the clinical data is de-identified and matches the relevant search criteria prior to distribution. Cloud-based storage is then used to manage and distribute the clinical data to the buyer. A local search service may also be provided to a participating institution so that internal researchers can self-find relevant clinical data in their local archive(s) for their research projects.

Takeaway

Many healthcare leaders believe that the biggest HIT trend in 2019 (and beyond) will be the rapid development and use of AI and ML for clinical decision support. OneMedNet's contribution to this emerging field is finding and delivering highly curated medical imaging data needed by providers and vendors to develop, train, and continually QA their decision support solutions. For OneMedNet, this means helping our customers UNLOCK the clinical, technical, and financial value of their medical imaging data.



Health

Lenovo

Virtual Desktops — Why bother? Think Security, Manageability and IT Responsiveness

Savvy IT pros know that virtual desktop infrastructure (VDI) isn't about an ROI. According to Gartner, virtual desktops have the potential to save capital, but virtualization only shifts costs from the desktop to the data center. There's a price to pay for virtualization from repurposing equipment and buying new kits to updating and standardizing peripherals.

So why consider VDI? Virtualization dramatically improves endpoint security, while simplifying infrastructure management and improving IT responsiveness.

Security Remains a Primary Threat

In April 2018, the security community identified the Orangeworm attack. According to analysis by cyber defense leader Symantec, 40 percent of the Orangeworm victims were in the healthcare marketplace. In October of 2018, CMS officials disclosed that a significant attack was made on the Federally Facilitated Exchanges (FFE), a government site managed by CMS and used by health insurance agents and brokers to enroll users in Obamacare plans. The personal information of roughly 75,000 individuals was stolen in the attack.

Hackers attack along two primary lines:

- Cyber-extortion: Data becomes the new hostage when attackers extort funds.
- Black market selling: Personal information is stolen and sold for economic gain.

A third attack vector is gaining momentum as hackers capture data for political gain or terrorism.

Economics are simply at the root: hacks that hold operations hostage yield immediate payment in untraceable bitcoin. More dramatically, credit card information is worth only \$1-\$3 per record on the black market, but a social security number, a primary identifier in healthcare, is worth \$15!

IT and risk management professionals must control access, control the attack surface, and minimize the very real risk of successful attacks. This is where virtualization really delivers — the vulnerable endpoint.

Dramatically Barrow your Attack Surface

In a sense, VDI fulfills the idea of a zero-trust policy for endpoints, and dramatically narrows the vulnerable attack surface. Here's how:

- VDI delivers the desktop but not the data
Virtualization leaves no data at the endpoint. Immediately the attack surface is narrowed building greater endpoint security. If the device is hacked, stolen, or compromised, there is no data local to the device. Using secure digital or biometric sign-on, a stolen device is a difficult-to-penetrate access point with no valuable information. With strong access and identity management built in, VDI essentially supports a Zero Trust Policy.
- VDI simplifies data access policy enforcement

With no persistent data, security professionals can better enforce and ensure data and program access from the core infrastructure. The attack surface is better controlled. In today's healthcare environment, care delivery requires clinical staff to move between locations; dynamically restarting care conversations in different rooms, environments and work spaces. This workflow is discretely enabled through VDI providing controlled access authorization without risking at risk devices at the edge. This centralized access control provides policy enforcement to device, system and records access and supports HIPAA and security compliance without hampering productivity.

- VDI eliminates hidden attacks through endpoint software vulnerabilities

With no software installed on the client, malware attacks lose their bite. The virtual desktop can be maintained under strict control. The opportunity for infection from a malicious web page or application is greatly diminished. Should the virtual instance accidentally become infected, individual session is controlled and can be automatically rolled back to a clean state; removing the infection and protecting the data and applications.

There is cost justification in security alone for a VDI solution. According to research by the Ponemon Institute, the average cost per breached record in healthcare is \$380. That is more than 2.5 times the global average across industries at \$141 per record. Healthcare IT organizations looking to control risk while staying compliant with patient data and privacy regulations should strongly consider VDI as part of a robust security strategy.

Simplify Management

IT priorities are constantly under pressure from the wave of innovation in customer experience, clinical operations, and patient care. Scarce dollars and resources must be focused on these innovations.

With VDI, applications and data are centrally managed, stored, and secured. VDI significantly reduces the resource required to install, update and patch applications, and, as a result, it dramatically simplifies software asset/license management.

VDI solutions also dramatically simplify availability of resources. A remote user or new device connected to the network can become immediately productive with access to the entire technology suite without the burden of installation.

“Low touch” endpoints simplify infrastructure management and dramatically reduce infrastructure complexity. The ability to create unique desktop environments without capital investment provides versatility, and the opportunity to test a number of different configurations, desktop software suites, etc.

Added Cost Benefits of VDI

Some companies benefit from a long-term contribution to hard dollar savings since 50 to 70 percent of the total cost of ownership of traditional clients is tied to maintaining and managing intelligent endpoints. IT teams also find long-term benefit in broader standardization of peripheral devices and further simplification and scalability of their enterprise infrastructure.

Respond Faster

Speed endpoint deployment, maintenance, and support with VDI. By design, thin clients have very little application intelligence and/or data on the desktop. VDI environments make endpoint hardware refresh and replacement simple. VDI reduces mean time to repair

because problems can be more quickly diagnosed, isolated, and solved. There are simply fewer points of failure on the endpoint.

And, if you're working through a merger, common application use is more quickly deployed across the new integrated organization without forcing expensive upgrades.

Taking a Step Back

For organizations that have already begun virtualization in the data center, desktop virtualization is a natural next step to consider. VDI will help increase security and compliance while enabling a more nimble, responsive healthcare IT organization.