

Sponsored and Prepared by Impact Advisors, Tonya Edwards, MD

Executive Summary: CIOs of eight leading healthcare organizations convened in Fall 2014 for the annual Scottsdale Institute CIO Summit. This year's theme, **Information Requirements for the Competitive Marketplace**, yielded lively discussion. In the session, the group shared strategies, tactics and insights for emerging informatics requirements in the healthcare space, along with insights regarding the skill set that CIOs will need to lead organizations through the sea change occurring in healthcare. This report highlights the key themes and specific strategies employed by the organizations represented in the summit and is intended to help other providers plan for success.





SUMMIT PARTICIPANTS

- > George Conklin CHRISTUS Health
- > John Delano INTEGRIS Health
- > Robert Eardley Houston Methodist
- > Jon Manis Sutter Health
- > Ed Marx Texas Health Resources
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Background

The traditional healthcare landscape is rapidly transforming and competition is intensifying as competitors from more customer savvy industries like retail and technology invade the health space, rolling out innovative new products and services and competing with low price

points and expertise in consumer behavior. Large employers are increasing their direct contracting with "Centers of Excellence" as well as local systems in an effort to get the best quality care for the lowest healthcare dollar.

The healthcare sector is responding, and many medical groups, IPAs, hospitals, and health systems will continue to merge or be acquired in order to gain increased access points, greater critical mass, population health management knowledge, and a



stronger presence in geographic areas. There is continued strong focus on physician engagement and alignment as well as joint accountability with physicians, either through employment or a multitude of other strategies. Innovative partnerships are emerging and some established provider systems are now entering the insurance business to compete for healthcare dollars that were previously reserved for insurers.

The challenges this transformational change in healthcare raise for CIOs are formidable and were the topic for this year's Scottsdale Institute Fall CIO summit, sponsored by Impact Advisors, entitled Information Requirements for the Competitive Marketplace. Eight CIOs from leading healthcare organizations spent a day sharing their insights and outlining some of their biggest challenges and strategies they are employing to succeed in the face of those challenges.

Together, the CIO group represents \$50 billion in annual net-patient revenue, 264 hospitals, 1900+ care sites and nearly 13,000 physicians in either an employed or foundation model in more than 30 states. They represented a diverse group of organizations across the country. Although their organizations are quite diverse, the challenges they face in today's market place are not. Throughout the day there was surprising consensus around the most pressing or difficult challenges they face.

The following report highlights these CIO's key insights regarding their top challenges in today's marketplace and strategies these thought leaders are employing to help their organizations succeed.

Consumerism

In recent years retail, banking and real estate have all combined social media, mobile and cloud technologies and analytics to offer an unprecedented level of customer service. This has fostered development of empowered consumers who now expect the health industry to follow suit. Consumers want affordable and convenient care alternatives with people and technology closer to home or work.

Not only that, consumers want to be able to comparison shop. The pace of price transparency is picking up as more employers are offering only high deductible plans and are putting more of the responsibility for controlling medical costs on the employee. Patients are also clamoring for quality data to make the best choices, and the days when a health system can rest on its' community reputation for having good quality are nearing an end.

In the face of growing consumerism in the healthcare market, our CIOs offered these strategies:

STRATEGIES

FOCUS ON PATIENT AND FAMILY EXPERIENCE

In order to compete organizations are placing strong focus on patient and family experience, and patients want convenience, choice, access and affordability. This represents a significant paradigm shift from provider-centric care to patient or consumer-centric care. It is not easy, and often one of the biggest challenges for the CIO and other operational leaders are the cultural changes required in the institution to accomplish this. The need for a Consumer Officer within organizations to own and drive this change was a sentiment echoed across the room. "At Sutter," says CIO Jon Manis, "an entire new organizational design is in the works to address this important trend."

Marcus Shipley, CIO at CHE Trinity, notes that "shifting to being consumer-centric is a whole different way of thinking about providing services. Access, communication and coordination are key to the consumer experience strategy."

Moving to being consumer centric is a big cultural change for doctors in particular. Several CIOs have implemented services intended to help the organization become more consumer-centric, only to have them not embraced by physicians. Robert Eardley, CIO at Houston Methodist, notes that at his system there is a very engaged Patient Experience Council, but to date it has been very acute care focused.

"We need to move in the direction of non-acute, including consumer apps like FitBit."

> Robert Eardley, CIO, Houston Methodist



Ed Marx, CIO at Texas Health Resources, addresses that in several ways. His organization does market studies to determine what patients want. "We determine what they want and how much they are willing to pay for it. Then when we implement it we pay a small group of doctors a salary to test everything, both on the inpatient and the ambulatory side." He finds that this is a quicker way to not only work out the bugs in a pilot but also to socialize the change and get adoption.

MAXIMIZE PATIENT PORTALS

Patient portals are one of the best tools to increase patient engagement and are now being used to allow patients to securely communicate with physician offices as well as schedule appointments, pay bills, be reminded of needed care, and obtain trusted educational materials. Maximizing the use of patient portals is one of the best methods to engage patients and their families. For instance, Kaiser Permanente, a pioneer in integrated EHR adoption, has a very well developed program for family member proxy access focused on both pediatrics and elderly plan members, allowing immediate access to important information about their loved ones.

Not all portal solutions are keeping pace with the degree of connectedness patients want. Adventist CIO Brent Snyder notes "the vendors are not being progressive about portal solutions." Many agreed that health systems will need to continue to push vendors to develop solutions that meet consumer needs.

IMPLEMENT E-VISITS AND TELEMEDICINE

According to Health Affairs, the market for remote monitoring and telemedicine applications will double from \$11.6 billion in 2011 to about \$27.3 billion in 2016. Much of the interest is being fueled by the influx in newly insured as a result of the Affordable Care Act, a surge of

new consumers that our system simply can't treat in person.

Telemedicine has been proven as a cost effective, scalable and patient friendly way to connect the patient and care provider. It has vast potential uses including e-visits, remote consultations, home monitoring, post-hospitalization follow up, wearable devices, care management and others.

Most CIOs indicated that their organizations are implementing

"We have a lot of rural facilities. Because of that we have a big focus on telemedicine and e-health. It's a critical part of our access strategy."

John Delano, CIO, Integris Health



telemedicine in a variety of ways. Jon Manis notes that this service was instituted at Sutter Health for targeted populations, primarily busy mothers, rural populations and those with minor medical issues who may not have time or interest in a traditional office visit. As the organization moves to having more patients in a capitated environment, this is a strategy that can really assist the health system to meet the needs of its patients and customers.

CHE Trinity Health is also implementing telemedicine. The system is beginning by implementing MDLIVE, an on-demand telehealth company that provides patients with remote access via video, phone, and secure email to board certified doctors and licensed therapists. CIO Marcus Shipley notes that "the challenge is integrating e-visits into provider workflow including scheduling and optimizing MD time. In one of our regions we are testing an eVisit solution that is integrated into the patient portal for the consumer, and into the ambulatory EMR for the physician."

George Conklin, SVP/CIO at CHRISTUS notes "home monitoring is being used to improve care... for instance with Congestive Heart Failure we have decreased readmissions by using home monitoring of weights. This allows us to recognize a potential problem much earlier and treat the patient before a readmission results."

DEVELOP A ROBUST MOBILITY STRATEGY

Customers and caregivers want to be able to connect anytime, anywhere and on any device. The healthcare industry has lagged behind retail and other industries in mobile strategy and application development but now the healthcare industry is becoming a big focus point for mobile app development, as evidenced by the recent release of Google Fit and Apple HealthKit.

There is still some physician resistance however. For instance, Marcus Shipley, CIO at CHE Trinity notes that working with in-house developers his department developed a great iPhone app for physician scheduling but the adoption rate was disappointing.

BECOME TRANSPARENT

According to the Robert Wood Johnson Foundation, transparency is an idea whose time has come—in large part because U.S. consumers are feeling so much pain from higher health costs. Consumer's out-of-pocket cost for health care has dramatically increased as almost three in five workers in small firms, and one in three workers in larger firms, are in a health plan with a deductible of at least \$1,000 for single coverage. Much of this money is being spent on health care of questionable value. The public has a longstanding misunderstanding that the more expensive the care, the better the quality. But many highly esteemed medical centers that end up routinely on "best hospital" lists don't make the Joint Commission's tally of top performers on basic quality and safety measures.

To combat this there has been a ground swell of activity to improve transparency of both price and quality.

According to CIO Ed Marx, Texas Health Resources has made a strategic decision to share quality and safety data with the public and has recently started publishing these data. They are making future plans to take performance reporting to the next level with full transparency of quality data.

DEVELOP A RETAIL STRATEGY

Many of the organizations represented are starting to develop a retail strategy including partnerships with existing retail organizations like Walgreens. Most agree that they need to do more to fully develop the strategy going forward.

Jon Manis, CIO at Sutter Health summed it up for the group, "In terms of retail we're all moving too slowly. Health care is becoming more of a retail-like industry and we just don't seem to know it yet." He notes that now at Sutter they are working on redesigning the care model to be mobile and remote-based and far more consumer-centric.



"We don't call it telemedicine, mobile medicine or consumer medicine. It is just medicine; modern medicine. Except for the most critically ill patients, people don't want a traditional hospital or clinic experience; they would prefer more of a retail-like experience with convenience, mobile access, options, choice, and concierge services."

Jon Manis, CIO, Sutter Health

"Retail competitors are moving quickly," notes Marcus Shipley. "They now have a clinician in the front of the store, sending a strong healthcare message and they have the consumer data we don't have." For CHE Trinity, partnering with retail giant Walgreens is the strategic direction they have taken.

Bruce Smith, CIO at Advocate, a health system that is also exploring a partnership with Walgreens, says that the trend toward retailization is "making us think more like competitors and focus on transparent pricing. Take imaging for example, we now have a variety of price points in a variety of locations. If we are going to think about publishing that data, we need to work toward standardizing our prices."

Some CIOs did feel that retail chains "break the continuum of care and we'll never get the data back." Most agreed

George Conklin, whose organization CHRISTUS Health has hospitals and clinics in Mexico and Chile, noted that "In Mexico

hospitals have stores in shopping malls. It is a very successful model and possibly something we need to embrace here."





with Brent Snyder when he said, "We have partnerships but it's a one way street." Going forward health systems partnering with retail organizations will need to develop strategies to incorporate patient data from convenient care sites and make it accessible to the health system.

Information Security

Over the past few years, there has been a quantum leap in the number of cyber attacks on healthcare organizations. Healthcare is increasingly attractive to cyber-criminals because the information obtained when stealing a medical identity is worth far more on the street than Social Security numbers or credit card numbers alone. This is costly to victims and devastating to healthcare organizations that face lawsuits and government penalties as the result of security breaches.

One of the most prominent recent breaches was the breach at Community Health Systems (CHS), a very large for-profit health system. The company was the victim of hackers, who illicitly gained access to an estimated 4.5 million patient records in April and June of this year.

The attacker was an "Advanced Persistent Threat" group originating from China who used highly sophisticated malware and technology to attack CHS systems, bypass the company's security measures and successfully copy and transfer patient data outside the company.

The consensus among CIOs in the room was that in spite of herculean efforts it is not a matter of if their health systems will be breached, it is a question of when. In fact, around the room, when the question of "what keeps you awake at night" was raised, the consensus was on security.



"One of my biggest concerns is security," states Jon Manis. "Like all industries with valuable data, health care has become the target of those with malice of intent. We are all vulnerable to cybercriminals both foreign and domestic, especially those from China and Russia. Absolute security will never be a guarantee. We all must understand that we live in an escalated threat environment and this threat environment has become the new normal. Cyber attacks should be considered a constant threat and we need better tools and technologies to mitigate the risk and combat the attacks."

Robert Eardley from Houston Methodist agrees. "If the government of China is trying to hack us, we are probably not going to be able to stop them. We've even had discussions with the FBI about this. We are focused on trying to prevent all other intrusions."

Other organizations have a similar approach.

John Delano, CIO from Integris commented on how important these breaches can be in the local media and overall public relations. "When a recent breach occurred it created quite a media stir in the community, and patients were concerned about the privacy of their data. We had to do extensive public relations work even though our health system was not affected by the breach."

STRATEGIES

IMPLEMENT END-TO-END SECURITY STANDARDS

Proactively focus on protection of data. Work with vendors to design and outline end-to-end security standards. The investment in advanced security practices is critical to the success of the organization.

"Enterprise standards are a part of "tomorrow's Integris" says John Delano, "we're working closely with supply chain and others on standards for security as well as data interoperability, and reorganizing IT to better support an enterprise architecture with standards at the center."

TRAIN END USERS

Comprehensive end-user training for information security practices is critical, as is monitoring of employee compliance with policies.

"Training is a big focus for us at all levels," says Marcus Shipley.

Brent Snyder from Adventist Health System notes that "most breaches are internal from employees and we can definitely do a better job of managing that."

PROACTIVELY MONITOR AND RAPIDLY RESPOND

Organizations must proactively monitor security logs and network endpoints for unusual patterns and be able to respond quickly to any security breaches.

Ed Marx says he has continually communicated to senior management that "It is not a question of if we will be breached, but when. What we're focusing on is resilience from such a breach—how quickly we can recover and stop it."



Ed Marx, CIO, Texas Health Resources

Preparation for Value-Based Payment

We are also seeing expansion of ACOs and implementation of population health strategies. ACO participation will nearly double in 2014. As providers work to improve their way to shared savings payments, look for a more intensive focus on the biggest health care consumers: those with multiple chronic conditions. As a result health systems are realizing that they have to adapt their care processes to include coordinated care management for patients with chronic conditions and behavioral health needs, in order to lower hospital utilization, including inpatient bed days, length of stay, admissions, readmissions, and ED visits.

Whether or not a health system is officially an ACO, there is a trend towards every health system starting to think in the mindset of an ACO because of regulatory trends, Medicare and Medicaid cuts, and the trend for shared risks with commercial payers. The National Scorecard on Payment Reform, published by 2014 Catalyst for Payment Reform which is funded by the Commonwealth Fund and the California Healthcare Foundation, recently noted that 38% of all hospital payments, 10% of outpatient specialty payments and 24% of all outpatient PCP payments are value-based. That trend is expected to rapidly progress toward more and more value-based payment.

To combat penalties for readmissions introduced by the Hospital Readmissions Reduction Program, some health systems are looking to predictive analytics for help. By using predictive modeling incorporating clinical, demographic and socioeconomic data, health systems are exploring ways to identify which inpatients are at the highest risk of post-discharge readmission in either real or near-real time. That way clinicians can take action while a patient is still hospitalized, and simultaneously target the patient for post-discharge processes that are aimed at preventing early readmission.

Current predictive models are immature, but healthcare organizations will soon come to expect much more from vendors, including rigorous predictive models on the risk of mortality, sepsis, transfers to an intensive care unit and excessive length of stay. Healthcare providers are also exploring a host of other ways to utilize predictive analytics and are embracing the potential of these tools to identify patients at risk for chronic disease, deliver better care at lower costs as well as develop more customized treatment plans

Along with the need to analyze data, a considerable challenge facing CIOs is the need to manage burgeoning data demands. Data must be normalized and standardized to be useful when we try to apply analytics to answer questions; no small feat when we look at the number of data sources that are being aggregated. The sheer magnitude of healthcare data needing storage is impressive now at 50 petabytes. According to Knowledgent in its whitepaper Big Data and Healthcare Payers, that number will be an overwhelming 25,000 petabytes in 2020, just 6 short years away.

The tools needed to succeed in population health management are:

- a common (or at least interoperable) EHR
- > a robust data warehouse
- > a care management platform and
- > robust analytics.

Effective use of data requires integrating business, financial, and clinical data into an effective enterprise data warehouse because data warehousing is the foundational platform for analytics.

STRATEGIES

IMPLEMENT BIG DATA AND ANALYTICS... CAREFULLY

Big Data has been all the buzz, but do we really know what that means for our organizations? So called for its complexity, diversity and timeliness, big data has already been embraced by many sectors from banking to retail. CIOs said they need to lead the conversation about what business need(s) we are trying to meet by incorporating the use of big data in our organizations. Time spent developing a strategic vision will lead us to the tactical decisions we need to be successful.

There will be new skill sets needed within the IT department, particularly in analytics and data science. CIOs agree that they may not be easy to find. According to George Conklin "We don't think we can even find enough of these people and pay them enough to keep them. We are looking to find a partner who has the talent and knows the data... it would be a win-win... they want our clinical data, they have the talent."

In spite of that analytics, particularly related to population health, are a big part of the future. "We are going direct to employers with bundles, guaranteed price and quality/outcomes, we are preparing to go to full risk," says Ed Marx. Marcus Shipley agrees, "this is at the heart of our clinical integration strategy." Some, including Bruce Smith at Advocate, are working with their primary vendors on building analytics capabilities. Advocate has partnered with Cerner to build out a population health platform.

ESTABLISH ANALYTICS GOVERNANCE WITH OWNERSHIP OUTSIDE OF IT

There will be many competing demands for analytics. Organizations will need to focus on specific business goals and metrics to limit scope and help ensure early success. "Push it outside of IT," says Ed Marx.

STANDARDIZE

Reduce variability to reduce cost. At all of the institutions represented standardization is still a challenge and is receiving considerable attention. Standardizing workflows and order sets are a big focus, but at a more granular level so is standardizing data. For instance, from Houston Methodist, a 7 hospital regional health system in Texas, CIO Robert Eardley reminded us that, "Some institutions encounter large number of patients with the same name and birthdate. Tools such as palm scanners exist that bring more accuracy to the registration process."

"It's critical for the clinical and business partners to be actively engaged," says Marcus Shipley. "Where they

"Where they are involved, it works well. Where they are not, it doesn't."

Marcus Shipley, CIO, CHE Trinity Health, Inc.



That represents a big problem if the data is not standardized across the entire system. "Tools such as palm scanners exist that bring more accuracy to the registration process."

ENABLE CARE MANAGEMENT ACROSS THE CONTINUUM

To be successful in managing populations, health systems must implement tools that allow for seamless care management across the continuum. "Coordinated care management is essential," said Jon Manis. "And the individual patient or customer has a critically important role to play, with a personal accountability for his or her own care."

ANALYZE LEAKAGE

Analyzing referral patterns and identifying leakage within the system is a high priority for our CIOs. Bruce Smith, Advocate HealthCare, notes "At Advocate we are part of an ACO and have been since 1995. We started watching patient movement and found that 45% were going outside of the system." They are now working hard to minimize leakage out of the system and monitoring improvement. "Keeping patients in network is critical... providers will either be rewarded or penalized based on referral patterns."

RE-ENGINEER/OPTIMIZE WORKFLOWS AND PROCESSES FOR EFFICIENCY

Implement process improvement programs like Lean Six-Sigma to maximize the efficiency of workflows and staff and provider productivity.

CONSIDER THE CLOUD

For years Healthcare has marked the cloud as a security threat, when in fact many would argue that storing PHI remotely, perhaps in a private cloud, is far more secure than data locally stored on a laptop or other device. The HHS.gov site outlines that 69% of all cases affected by breaches have been from loss or theft of physical assets, while only 18% are from hacking. Cloud service providers have been taking notice of the healthcare communities needs and over the past year many large cloud services providers have begun signing business associate agreements to satisfy the needs of the healthcare community.

As organizations require higher speeds, larger data storage, and convenient data access, CIOs should consider the Cloud as a viable, safe alternative that is cost effective, scalable and allows easy accessibility. Without exception, the CIOs participating in this Summit have begun using cloud data storage.

ENGAGE IN SOFTWARE DEVELOPMENT

Explore internal software development or co development with the vender to fill gaps not filled well by vendors. The CIOs agreed that vendors often make interoperability difficult, especially if vendors offer similar products. Some of the CIOs are addressing this by developing software in house. CIOs need to continue to push vendors to allow ways to be open to other apps allowing connectivity. But as long as we continue to face challenges or uncertainty related to vendor interoperability there will be a need for in house custom development abilities.



Brent Snyder, Adventist Health System, notes "AHS historically had a software development shop, but now relies on vender developed software which creates a tough challenge to make modifications to meet the organizations changing business requirements. So AHS has shifted to co-developing with its venders in order to obtain key functionality that it deems important to meets it business objectives."

Brent Snyder, CIO, Adventist Health System

Implications for the CIO

So what does this all mean for today's healthcare CIO? Pretty clearly the CIOs role will change as IT touches every aspect of healthcare. While not so long ago healthcare IT was far more focused on automating financial processes, today's CIO also has to address clinical and operational needs.

Increasing regulatory requirements and cuts in government funding along with shrinking inpatient volumes and decreasing margins will drive organizations to reduce operating expenses. Put simply the CIO will need to be able to do more with less. All the CIOs agreed that the major roadblock to faster progress is still the economic model of healthcare payment.

New leadership roles are emerging and there have been changes in organizational talent requirements. According to a recent study by Spencer Stuart and



the American Hospital Association, the evolution in healthcare delivery and payment models is impacting the leadership, talent and organizational structures of hospitals and care systems. Traditional hospital roles are changing and becoming more strategic and larger in scope, to respond to the changing demands of the field. As a result, traditional C-suite residents are being asked to develop a broader set of leadership and technical skills and increase their understanding of health care delivery beyond the hospital setting.

In light of this challenge, leadership emerged as the final theme of the day.

STRATEGIES

INNOVATE BUT WITH MODERATION

Plan to fail fast, frequently and frugally as you apply rapid-cycle learning.

COLLABORATE

Embrace emerging leadership roles and multidisciplinary strategic planning and decision making.

Marcus Shipley agrees. "It's increasingly less about the tech. It is now about business alignment. CIOs need to push tactical management down to the director level and spend more of their time on strategy and collaboration."



"The C-suite is getting more crowded. There is much more competition for focus and resources. The CIO role is now much more about

collaboration and working with people" says Bruce Smith. "Future CIOs may not come from the traditional IT department."

Bruce Smith, CIO, Advocate Health Care

HIRE "TRANSLATORS"

In reality very few C-suite or VP level leaders have the right balance of knowledge and skills between business and technology. Think about hiring mid-level leaders as "translators." For instance, a CMO should consider hiring someone who understands customers and business needs but speaks the language of IT. The CIO may need to hire technical people with a strong background in business or clinical areas.

REDUCE BARRIERS TO PROVIDERS WORKING AT FULL CAPACITY

Integrate process improvement like Lean Six-Sigma into your team to help streamline processes and let your users work efficiently.

George Conklin said that "the noise from CPOE has quieted, we're now focused on the whole process of order management."

LEARN THE BUSINESS

Grow your knowledge not only of technology but also the operations, finance and clinical side of the healthcare business. Pay particular attention to learning about ambulatory needs, as there will be considerably more focus on ambulatory care going forward. "The post-modern CIO," says Ed Marx, "needs to understand the entire business to make IT successful." "We're the one place it all comes together; we see the entire enterprise," says Marcus Shipley. That puts the CIO in the unique position of being able to view the big picture and help guide leadership decisions from that perspective.

LEARN FROM OTHERS

Spend time learning best practices from other industries. We can learn much from industries like retail and technology about being consumer-centric.

TRAIN YOUR REPLACEMENT

Develop your leaders. As you spend more time in strategic planning, your leadership team will need to take over day to day management. Make sure they have the skills to do that well.

"We use a combination of inside leadership development programs and outside leadership courses from universities as well as programs like CHIME," noted Marcus Shipley. "Leadership can come from all levels in your organization."

"Get your extended leadership team working on larger issues and learning to 'work a level up' and develop the relationships that are required," commented Robert Eardley.

DEVELOP A ROBUST VALUE MANAGEMENT PROGRAM

To compete in today's marketplace new capabilities—within or outside of EHRs—will be required including advanced analytics, clinical dashboards, disease registries, patient engagement tools, personal health records, referral tracking and management, risk identification and stratification, telemedicine and remote monitoring, clinical data exchange and care management tools.

Align IT initiatives with organizational strategy and prioritize initiatives based on value to the organization. The pace of change is accelerating to the point that scope, time, and resources can no longer be balanced with demand, expectation and sustainability. The CIO needs to lead strategic decisions about prioritization.

Bruce Smith reminded us "if the CEOs and clinical leadership don't want something, let it die!" Marcus Shipley agreed, stating that engagement of the CEOs is a critical factor in any adoption or deployment success.

CHANGE IT FROM COST CENTER TO BUSINESS VALUE ENABLER

Going forward the CIO needs to shift IT from being a cost center to being a business-revenue facilitator and enabler. In the big data era, the CIO is accountable for using technical infrastructure to enable and accelerate revenue growth. CIOs will need to have a keen sense that technology is a means to achieve business ends and be able to use sophisticated analytics to make business cases and be able to articulate trade-offs and options based on cost, time, and priorities.

"Focus on keeping the connection between organization strategy and IT investment," says Marcus Shipley.

DEVELOP A NIMBLE TEAM

There is a need for rapid implementation of new tools in order to succeed in the new paradigm of value-based care/ reimbursement. Those that can move quickly and manage resources efficiently will be the winners.

Conclusion

This CIO Summit provided an opportunity for healthcare CIO thought leaders to discuss challenges they are facing in the increasingly competitive marketplace and strategies they are employing to be successful in the face of those challenges. Leadership, consumerism, security and preparation for value-based payment are key issues that need to be addressed, with resultant increased demands and leadership challenges for CIOs.

One thing is certain: There is no cookbook to do it right. There are too many differences between organizations and regional competitive marketplace forces. But the strategies and keen insights offered by these thought leaders can offer guiding principles that CIOs can use to help navigate the new world of healthcare.

ABOUT SI

The Scottsdale Institute (SI) is a not-forprofit membership organization of prominent healthcare systems whose goal is to support our members as they move forward to achieve clinical integration and transformation through information technology.

SI facilitates knowledge sharing by providing intimate and informal forums that embrace SI's "Three Pillars:"

- > Collaboration
- > Education
- > Networking

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