



Connecting the Telecom Dots in the Health Care Industry

Abstract

This white paper speaks to the challenges health care organizations face today and how to best address them. These challenges extend beyond HIPAA or security around electronic health records (EHR). How can the health care industry achieve new levels of efficiency and effective patient care? By leveraging telecommunications and a modernized IT infrastructure. However, most health care organizations are probably not entirely comfortable dealing with these new pressures.

Attention All Health Care Organizations

Mobility, wireless communication, high-speed Internet connectivity, empowerment of the individual user, and the pace of technological change are all contributing to a profound, fundamental shift in the health care industry. The health care industry is on the forefront of a revolution where telecommunications technologies can, and will play a critical role. Technology is rapidly being deployed in all aspects of health care. It is no longer viewed as just a necessity, but a way to deliver quality health care.

The use of health care information technology and management systems is increasing the effectiveness, efficiency, safety, and quality of patient care. These systems have led to the implementation (and proliferation) of electronic health records (EHR) and clinical information systems in health care networks around the world. One example is the success of the Veterans Administration's EHR program that proved itself in the aftermath of Hurricane Katrina. (www.businessweek.com/magazine/content/06_29/b3993061.htm?chan=search) After Katrina, the only medical records consistently available for immediate, nationwide access were those from the VA.

Yet, there is still work to be done. Wireless LAN access, voice over IP technology, RFID tags, increased digital imaging requirements, telemedicine consulting, and limited resources are all creating new challenges for the health care industry. Challenges also remain relative to HIPAA compliance, especially in light of some of the technologies mentioned above.

The key question is whether your health care organization can assemble all the pieces required to achieve your technology initiatives. Are your employees/colleagues confused, overwhelmed, and/or struggling to separate the reality from the hype? You may not be alone.

To put these challenges in perspective, you must be aware of the three forces revolutionizing the way telecommunications is impacting health care today.

1. *Bandwidth is a commodity.* This ultimately means the death of distance and the emergence of virtual presence. It also means that opportunities for telemedicine, including remote patient monitoring, radiological consulting, and other 24/7 consultative services are available when required, regardless of the patient's location.
2. *The power of computing will double every 15–18 months due to advances in integrated circuit transistor chip density (Moore's Law).* Today's complex solutions are using more and more processing power. Yet technology rapidly becomes obsolete, and everyone is forced to learn or adopt something new. The pace of change is demanding a level of future-proofing that may



shift capital expenditures to operating expenditures. Organizations struggle to decide what pieces of equipment to keep, what to update, or what to use in a migration plan.

3. *Storage is becoming a commodity.* Health care facilities must store more bits than ever, as digital imaging (PACS) and electronic health records become more prolific. Yet data must remain readily accessible. Business continuance and disaster recovery planning are additional key aspects of a holistic telecommunications strategy for health care services.

As a result of these three forces, the health care business is becoming “flatter,” to borrow a term from Thomas Friedman (<http://www.thomasfriedman.com/worldisflat.htm>) In a flat health care world, patients will expect their medical information to be accessible anywhere, anytime. Information will need to be shared seamlessly across different organizations and will need to include all business partners and users of the information, regardless of their location.

Several recent articles in *Business Week* confirm this conclusion. The first is one by David Goulden, published October 2, 2006.

The health care industry provides an example of what’s in store for many industries. The delivery of medical care involves a complex web of caregivers and health care organizations as a patient is diagnosed, treated, and monitored over the course of his illness and recovery. Patients, medical institutions, physicians, insurers, employers, and government agencies are all important participants in delivering and continuously improving health care safety, quality, and efficiency.

The increasing use of information technology by this network of focused specialists provides many benefits, including improvements in physicians’ productivity, the tracking of medial outcomes, and the possibilities for remote care. More and more we find an electronic health record (EHR) for each patient at the heart of this network.

From any number of resources, the EHR brings a consolidated, centralized, and secure view of a patient’s clinical, imaging, administrative, and insurance-billing information. It delivers a unified view of patient information from birth to present day, serving as a repository that can be quickly accessed by authorized physicians, clinical labs, pharmacies, hospital staff, and insurers.

In coming years, many industries will resemble the health care industry.
(www.businessweek.com/technology/content/oct2006/tc20061002_818019.htm?chan=search)

A second article published in June 2006 about remote patient monitoring explains that Sentara Norfolk General Hospital provides around-the-clock coverage for 11 intensive care units at six hospitals, over a 60-mile area. Sentara uses an electronic ICU from Visicu (www.visicu.com). Sentara’s initial \$1.6 million investment paid for itself in just six months!

According to the article, “much of the savings came from a dramatic plunge in complications such as hospital-acquired pneumonia and bloodstream infections, which occur more often when patients are not monitored by experts who understand the meaning of subtle changes in their condition.” In addition, the electronic ICU “cut almost a day off the average ICU stay, from 4.4 days to 3.6.” (www.businessweek.com/magazine/content/06_26/b3990076.htm?chan=search)

Hill Associates recognizes that understanding technology’s impact on businesses like the health care industry can be challenging. The medical industry is complicated enough in and of itself.



Determining how MPLS, Wi-Fi, security, VLANs, VoIP, RFID and storage technologies apply to the industry or can help the industry is even more challenging.

Many health care facilities have dedicated IT staff. If your organization uses telecommunications technology, you understand that a standard technological infrastructure that uses Ethernet and IP can optimize the elements required to run an effective business. But do you also realize that there must be an integrated relationship among the applications used by the business and the technologies used to bring them together? Moreover, you must also understand the flow of data information, so that when it is leveraged, it allows an organization to more effectively communicate, and as a result, operate more effectively.

This is especially critical today, as the health care business becomes more digital and virtually accessible from anywhere. Serious concerns are now being raised around the threat of medical identity theft. It is estimated that for \$60, a thief can buy a patient's health care records, use them to obtain costly medical care, and intermingle bad medical information with known good historical medical data in the patient's records.

According to the World Privacy Forum, more than 250,000 Americans have had their medical information stolen or misused recently (http://www.businessweek.com/magazine/content/07_02/b4016041.htm). This is much more serious than a small credit card theft used to buy a big screen high definition TV. This has some serious consequences, and is literally a matter of life and death.

How Hill Associates Can Help

Hill Associates can help you connect the dots using our C3E framework. We develop education around technology, applications, and products that is contextual, connected, continuous, and experiential (C3E).

Contextual ensures that the technology and products address key business concepts that concern your customers. Connected relates all of the things happening with the telecommunications industry and in the world at large, not just one particular technology or product. Continuous means that learning is ongoing, not just a one-time event. Finally, experiential means that your team members must participate in order to learn.

Our C3E concept is designed to be a consistent, holistic structure that enables the maximum performance from a sales and marketing organization within a telecommunication company. This unique concept has led our partners to achieve the goals they seek related to their business objectives in today's competitive market.

In addition, Hill Associates understands the players working with you to suggest solutions to your business challenges. Our value is that we can provide an unbiased, vendor-neutral complex business solution—one that also addresses rapidly changing technology. We can also help you maximize limited funds so that you can effectively use your chosen technology. You need an organization that can provide trusted, reliable advice. Let us help you navigate the road to success.

About Hill Associates

Hill Associates is internationally known in the field of telecommunications and is proud of its reputation as a premier provider of assessment, training and strategic advice. For over 25 years, we have demystified the complex world of voice and data communications for some of the most recognized players in the industry, from RBOCs and telecommunications service providers to



equipment manufacturers to Fortune size companies. Today, we offer a broad array of courses and seminars to these and other clients, while also providing public training via the Web.

Hill Associates' central mission has always been to impart knowledge, inspire, and increase the on-job performance of our clients. We have educated tens of thousands of professionals at every level of the organization—sales and sales support people, engineers, management, and executives at the highest levels of major corporations. Our delivery methods range from traditional instructor-led courses to progressive technology-based learning programs. As pioneers of the blended approach to education, we design comprehensive curricula that can blend classroom experience with hands-on workshops, strategic seminars, live and “flex” e-learning programs, and learning portal technology. Curricula can include customized programs like comprehensive products and services training, which combines core technology training with our clients' specific product information. At the same time, these programs can provide sales methodology lessons to enable students to effectively assess and fulfill customer needs, and ultimately, communicate their company's value proposition.

At Hill Associates, our customers are our partners. In addition to providing “off-the-shelf” courses, we offer highly collaborative program development services, which address each client's unique needs and challenges, providing as much or as little support as our clients need to plan, design, and implement a training program. We conduct needs assessment, plan instructional design to meet specific job skills, develop curricula to meet targeted goals using both our extensive content library as well as our client's custom content, and finally, can provide testing, program assessment, and feedback.

Why do business with Hill Associates? Because we understand that a well trained team with a solid foundation in technologies and their company's products and services will perform better, differentiate them, and be more successful against competition. Our clients choose Hill Associates for our unmatched combination of currency and depth of material, course design, technical expertise, and the dynamic and engaging learning environment our instructors present regardless of the delivery mode.

Hill Associates' industry insight and quality training programs provide future-minded companies with the know-how to stay ahead in the highly competitive telecommunications environment. That is our promise to our clients and that is how, each day, we create new leaders in telecommunications.

Visit our website (www.hill.com) for more information. While there, check out our newsletter, blog, and podcasts.

About the Author

Mark Steinberg is the Director of Business Development for Hill Associates. Mark has spent more than 25 years in the business of technology. The telecommunications industry has been experiencing dramatic changes over the past three decades. Mark often provides consulting services regarding the strategic implications of technological change.

In addition to teaching the Hill Associates core curricula, he facilitates interactive discussions with a variety of audience types. These have included middle and senior management of Hill Associates' client companies and training partners. Over the past several years, he has used his expertise in communications and business strategy to create and deliver courses that focus on the issues facing companies involved in the communications marketplace. Business leaders rely on Mark's insights as they determine their business and technology strategies. His knowledge of convergence, both voice and data and wireline and wireless, has allowed him to create a variety of programs that address these business strategies. His engagements have been with companies such as CANTV, Telstra,



AT&T, Qwest, Global Crossing, BellSouth, Verizon, Cingular, Ernst & Young, and Sprint—in the U.S., South America, Europe, Asia, and Australia.

A dynamic and energetic presenter with a broad perspective on technology and business, Mark is capable of dealing with technology and learning challenges in the classroom. Mark often combines real world analogies and humor to help explain the technical details. He has developed educational programs for technical and non-technical audiences that range from five days to over sixty days. A Senior Member of the Technical Staff, Mark has been with Hill Associates since 1994.

Mark is a Certified Information Systems Security Professional (CISSP #49990). He holds an MBA in International Finance from the University of Santa Clara, CA, a BA in Pre-med/Biology from Hartwick College in Oneonta, NY, and has done graduate work in Astronomical Physics at the University of Colorado, Colorado Springs, CO. He was previously a consultant to TeleCommunications, Inc. (TCL, now Comcast) and a Product Manager at both McDATA Corporation (now part of EMC) and Honeywell's Solid State Electronics Division.