

hfma's **financing the future III**



## Today's Technology Spending Trends: Strategies for the Healthcare Executive



**hfma**  
healthcare financial management association

In partnership with

GE  
Healthcare Financial Services

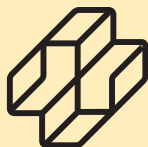


**Financing the Future III**  
**Report 2**  
**Today's Technology Spending Trends: Strategies for the Healthcare Executive**

Copyright 2007  
Healthcare Financial Management Association  
All rights reserved.

Healthcare Financial Management Association  
Two Westbrook Corporate Center, Suite 700  
Westchester, IL 60154-5700  
[www.hfma.org](http://www.hfma.org)  
[www.financingthefuture.org](http://www.financingthefuture.org)

Correspondence: [resourcecenter@hfma.org](mailto:resourcecenter@hfma.org)



**hfma**<sup>™</sup>  
healthcare financial management association

In partnership with

GE  
Healthcare Financial Services



September 2007

# Table of Contents

## Financing the Future III

### Report 2

#### Today's Technology Spending Trends: Strategies for the Healthcare Executive

<b>Preface: Financing the Future III</b> .....	ii
<b>Today's Technology Spending Trends: Strategies for the Healthcare Executive</b> .....	1
<b>Technology Purchases</b> .....	2
Shifting Priorities .....	2
<b>The Outlook for New Technology Funding</b> .....	5
Barriers to Spending .....	5
No Sign of Significant Funds.....	5
What Will Hospitals Do? .....	7
<b>Optimizing Technology Resources</b> .....	12
Tips to Drive Revenue from Existing IT .....	12
<b>Moving Forward</b> .....	14
<b>Endnotes</b> .....	15

# Preface: Financing the Future III

Since 2003, HFMA's Financing the Future project has given healthcare providers the information they need to help their organizations deliver the necessary resources to provide safe, high-quality care to their communities.

The first Financing the Future series featured six reports that brought together key stakeholders to share knowledge about and produce empirical evidence of healthcare capital needs, availability, and factors associated with access. One of the key findings was a growing gap between “have” and “have-not” hospitals with respect to financial condition. Further, the reports found the number of “have-not” hospitals growing at a greater rate than that of the “have” hospitals. This series was led by HFMA in partnership with GE Healthcare Financial Services, with research conducted by HFMA and PricewaterhouseCoopers.

The second Financing the Future series identified the best practices of capital planning and access. The cornerstone principle, carried through in each of six reports, was that adherence to a rigorous corporate finance process is critical to a hospital's ability to increase access to capital, make wise investments in the organization's future, and improve financial performance. Thus, the goal of Financing the Future II was to define, provide examples of, and encourage the implementation of a successful, corporate finance-based approach to financial management in healthcare organizations. HFMA's partners for Financing the Future II were GE Healthcare Financial Services and Kaufman, Hall & Associates.

This report is part of the third—and in many ways the most ambitious—Financing the Future series. HFMA, in partnership with GE Healthcare Financial Services, has set out to identify key industry trends that affect hospitals' capital position and ability to fund important future initiatives. The reports focus on the following.

- *Payment trends*, including pay for performance, impact of consumerism, and coping with the consumer's rising financial stake in paying for healthcare services
- *Healthcare technology*, including innovations in clinical and information technology such as electronic health records
- *Unfunded liabilities*, including pensions, malpractice insurance, and other enterprisewide risk; areas to be addressed include the impact from pension reform legislation, insurance captives, and funding mechanisms
- *New hospital construction*, including integrated planning, design, construction, and financing that reduces costs and enhances efficiency and quality; areas to be addressed include workflow redesign, workforce change, and efficient layout of space that can improve patient safety

The Financing the Future project embodies the goal of HFMA and GE Healthcare Financial Services to give healthcare providers the business tools they need to be thriving assets to their communities.

# Today's Technology Spending Trends: Strategies for the Healthcare Executive

Innovations such as fully integrated electronic health records (EHRs), telemonitoring, and electronic prescribing tools are widely seen as key to improving patient care and reducing medical errors. And as pay for performance and consumer-directed health plans continue to take hold, demands for hospitals to improve patient safety have never been greater.

Although the healthcare industry is embracing the concept of better health care through technology, widespread implementation of these initiatives in the hospital setting continues to be slow at best. Such inertia is troubling given that hospitals that wait for policy changes, significant sources of government funds, or other external sources of support to jumpstart their activities may put themselves at financial risk.

A recent special healthcare report from Fitch Ratings notes that a hospital's ability to use IT to enhance quality of care, patient safety, and patient outcomes "will have a direct impact on efficiency, labor recruitment and retention, and reimbursement; ultimately influencing financial outcomes."<sup>1</sup>

The ratings agency further states that hospitals investing in clinical quality and patient safety are likely to benefit from increased volumes and greater leverage with managed care payers. Conversely, those that do not make these investments may experience declining market shares that ultimately will have a negative effect on their operations. "Tangible and measurable improvements in quality, safety, and efficiency, while not immediately rewarded with greater reimbursement, will be differentiating factors in hospital credit quality going forward," notes Fitch.

In order to understand the current and future state of healthcare technology spending, HFMA recently interviewed healthcare futurists, a healthcare economist, and leaders at hospitals recognized throughout the nation for IT excellence. These experts offer their perspectives on the state of healthcare technology innovation today, near and long-term trends and barriers regarding IT adoption, and ideas regarding funding for IT initiatives. Most important, they provide practical strategies to help hospitals maximize technology investments to best balance the demands of rising costs and patient safety.

# Technology Purchases

Perhaps nowhere is the healthcare executive's abilities tested more than in planning capital expenditures that involve technology. These projects typically have potential to significantly affect the clinical and financial operations of the organization, are notorious for having a high rate of failure, and may have some of the most lasting consequences to the organization, with poor planning or decision failures likely to be felt for years to come.

"Hospitals and other providers confront a complex financial decision when they seek to invest in IT," notes John Glaser, PhD, FHIMSS, vice president and CIO, Partners HealthCare, Boston, an integrated health system that includes Brigham and Women's Hospital and Massachusetts General Hospital as well as several community hospitals, specialty hospitals, community health centers, a physician network, and home health and long-term care services. "While they are committed to the mission of delivering the best possible patient care, these technologies represent significant initial and ongoing expense commitments."<sup>2</sup>

What's more, these are particularly tenuous times for making spending decisions as the technology landscape begins to change. The key role that healthcare executives, particularly financial managers, play in steering the organization's technology investment strategy has become increasingly important—and difficult.

## Shifting Priorities

Generally speaking, hospitals are beyond the point of early adoption of core IT systems. As those interviewed noted, many, if not most, hospitals have already established accounting, billing, charge management, claims processing, and decision support systems and are at some level of implementing electronic medical records (EMRs). Today's healthcare financial managers are

increasingly involved in discussions of how to move to the next level of technology strategy: using resources to optimize clinical and operational performance.

**Clinical quality-focused innovation.** The role of IT in the hospital setting for today and the near term is seen largely in improving quality of care, enhancing patient safety, and increasing efficiencies. With this in mind, those interviewed noted typical hospital technology investments for the next several years will largely revolve around such innovations as fully integrated EHRs, computerized provider order entry (CPOE) systems, robotic automation, telemedicine, and integrated medical devices.

"It's very clear to me that almost every aspect of process improvement has an IT piece," says Stanley Hupfeld, CEO, Integris Health, the largest Oklahoma-owned health system, with hospitals, rehabilitation centers, physician clinics, mental health facilities, independent living centers, and home health agencies throughout much of the state.

This shift presents increased challenges to the financial executive, as many of these quality-focused initiatives are grounded on more elusive goals than a financial case for investment. Determining ROI for a picture archiving and communications system is familiar territory to the CFO, who in building a five-year financial projection can readily point to such factors as film cost reductions and radiographer productivity.<sup>3</sup> Yet when it comes to an EHR investment, how does one assign exact value to such things as a safer environment or improved performance transparency?

What's more, when such benefits are quantified, they rarely drive the investment. When it comes to electronic records, hospital executives often find themselves making presentations to their boards in support of projects that, based on the numbers, simply wouldn't make sense.

## What's on Your To-Do List?

In the near term, many hospitals are considering investments in the following IT initiatives.

**Comprehensive electronic records.** According to a 2006 American Hospital Association study of more than 1,500 community hospitals, 68 percent of hospitals had either fully or partially implemented electronic health records (EHRs).<sup>1</sup> Current interviews with hospital executives echoed what was reported in the study. “Electronic records are really important in health care right now,” says Stanley Hupfeld, CEO of Oklahoma-based Integris Health. “Twenty years from now, people will look back and be amazed that we actually wrote things down with a pencil. Until we have an electronic health record that’s pervasive and completely eliminates paper, we’re really not where we need to be.”

The next step, then, will be fully implementing electronic records and investing in applications that leverage existing systems to increase record-keeping efficiency and improve the stream of information about whole populations rather than individuals. Patient population data will allow hospitals to better identify trends and measure performance on a wider scale than ever before to improve the quality of health care. “Our watchwords are process improvement and patient safety, and the electronic medical record is our tool to get there,” says Hupfeld.

**Computerized provider order entry (CPOE) systems.** CPOE systems also are a high priority because they directly impact patient safety. Many providers see them as key because they provide real-time access to relevant clinical and decision support information

while reducing interpretation errors associated with paper or verbal orders. CPOE systems also save money by potentially eliminating duplicate prescriptions and reducing patients’ length of stay in hospitals due to adverse drug interactions.

**Robotic devices.** Use of these technologies is occurring in a variety of settings to automate manual tasks, such as testing specimens in medical laboratories, delivering materials to specific locations in the hospital, or performing specific surgical processes.

**Telemedicine.** Telemedicine is also hot right now. Viewing patient status from a remote location means the patient can be monitored more frequently—and more affordably. Patient travel is reduced, physicians’ time is optimized, and access to a wider range of care is improved for those who live in rural or remote areas or who are unable to travel.

Telemedicine also supports self-management of chronic diseases, such as diabetes or heart disease. Sophisticated devices are being developed, including cell phones with probes that collect blood from diabetics before sending the results to a lab. Such innovations help patients to monitor their own conditions, which reduces money spent on unnecessary physician visits and improves patient satisfaction.

**Integrated medical devices.** Since most hospitals have established a core infrastructure, there is also a trend toward investing in medical devices that directly link into information systems in the interest of centralizing patient data. For example, data related to patients’ health may be entered into the medical record directly from imaging equipment or cardiac monitors.

<sup>1</sup> *Continued Progress: Hospital Use of Information Technology*, American Hospital Association, February 2007, p. 5.

Eric Yablonka, vice president and CIO at the University of Chicago Medical Center, relates such an experience. When his organization weighed a major investment in CPOE and EMR systems, leaders conducted a detailed analysis of the investment and quantified potential benefits. The result, he says, showed such a modest return that it didn't fall within any sort of typical industry standard for investment. "If you were justifying it strictly on a financial basis, you just wouldn't do it," he says.

Rather, strategic significance set the business case for investment. Yablonka says his organization views the project—expected to ultimately cost more than \$60 million—as a cost of doing business. "We have to have certain capabilities; otherwise, we can't compete," he says.

Anticipated benefits of the project include improving medication safety and preventive care, attracting physicians and nurses, generating and analyzing data to further clinical research, and advancing the organization's mission to provide high-quality, safe care. "We felt that these are the modern tools that you need to be in the game," he says.

These days, many organizations are looking beyond hard dollars. HFMA research shows insufficient financial return does not appear to be a significant factor in most hospitals' willingness to support EHR investment.<sup>4</sup>

**Greater integration.** Additionally, many hospitals' overall approach toward IT purchasing is changing. Best-of-breed solutions are rapidly losing favor as hospitals find themselves with a network that is a hodge-podge of different systems and interfaces. Hospitals frequently find that tying systems together with a variety of different interfaces increases the likelihood of security risks and may lead to maintenance difficulties.

This shift in purchasing is a positive step, according to Michael M. Allen, vice president and CFO of Winona Health Services, Winona, Minn., which operates Community Memorial Hospital as well as physician clinics, independent and assisted living centers, pharmacy services, hospice services, and home care services. "I firmly believe that as an industry, we are much better served by integrated solutions," he says.

Supporters of streamlined integration see the approach as a way to reduce overhead and dramatically cut the costs of maintaining and supporting multiple applications and systems. "Hospitals are looking for IT vendors to deliver a broader, more comprehensive range of solutions," says Allen.

# The Outlook for New Technology Funding

Despite the promise that new technologies hold to improve hospital clinical and operational performance, many providers report limited plans for investment. Health IT spending as a percentage of operating costs has not increased over the past year, and health IT spending as a percentage of capital costs has actually decreased, as noted by an annual IT survey of nearly 350 healthcare executives.<sup>5</sup>

## Barriers to Spending

Lack of increased spending is largely attributed to little federal money behind these projects and a payment system that does not provide adequate incentive for widespread, rapid adoption of innovations. The current payment system does not provide substantial support for improvements in quality or investment in IT systems, notes Jeffrey Bauer, PhD, a medical economist and healthcare futurist who is a partner with ACS Healthcare Solutions. For example, hospitals that equip patients with state-of-the-art devices for home care can reduce overall expense and improve outcomes, but they realize less net revenue as a result.

“Hospitals and medical groups need a compact with payers that will allow them to keep the money they save by improving operations through technology investments,” says Bauer. “Why would a hospital want to invest in IT to become more efficient if it cannot keep the money it saves?”

Initial and ongoing costs of IT were listed as the greatest barriers to health IT adoption in a recent American Hospital Association survey of more than 1,500 community hospitals. Among those surveyed, 94 percent cited initial costs and 87 percent noted ongoing costs as barriers.<sup>6</sup>

A reluctance to spend on IT, however, creates a chicken-and-egg scenario. Most healthcare professionals believe IT will be the key to realizing the type of large-scale cost savings necessary to fund new capital investments. However, these cost-efficiencies must first be realized to fund new technologies.

## No Sign of Significant Funds

So, if the money to finance IT is coming from IT, how, then, will hospitals create this revenue in the first place? Those interviewed say it is unlikely that they will be tapping resources in the near term that they have largely depended on in the past—namely government and capital lenders. Managed care and, indirectly, consumers may be called upon to take up some of this burden. Largely, however, the burden is likely to fall upon hospitals themselves.

**Policymakers.** The government is providing limited financial aid for healthcare IT adoption in the face of rising national debt and increased defense spending. The war in Iraq and national security efforts have continually pushed health care to lowered priority.

In the near term, providers should not anticipate any notable IT funding relief. “Hospitals are going to have to learn to live with what they have got,” says Bauer. “There will be no new money available to them.”

**Capital lenders.** The outlook for some hospitals to access the capital markets for healthcare IT funding also appears rather bleak. For hospitals and health systems with declining creditworthiness, as reflected in declining financial performance, access to the capital markets is increasingly difficult and is projected to continue to be so.<sup>7</sup> What is particularly troubling is that organizations that have had difficulty responding to marketplace and industry challenges are likely to have problems accessing capital to support the very technologies that are needed to stay competitive.

As Lisa Goldstein, senior vice president and team leader for Moody’s Investors Service, says: “Higher-rated hospitals with more resources to dedicate to quality initiatives may achieve growth in volumes and market share, improved payer arrangements, and cost reductions. Hospitals that cannot differentiate themselves in fragmented markets may fall further behind.”<sup>8</sup> (For financing options, see page 7.)

**Payers.** Hospitals currently absorb almost all of the costs of IT investment and typically do not demand increases in payment for the use of these new technologies. However, many of the financial benefits of IT, such as a decreased need for repeat tests, lower readmission rates, and shortened lengths of stay, are realized by healthcare purchasers—Medicare/Medicaid, insurers, and consumers. Many of those interviewed noted this disparity must be reconciled if healthcare IT investment is going to stay on course.

It remains doubtful that consumers—directly or indirectly through increased coverage costs—would be willing to pick up the tab for innovations that enhance quality, says Derek van Amerongen, MD, vice president and chief medical officer of Humana Health Plans of Ohio.

“We approach things in medicine like we all work at McDonald’s; If you want an extra pickle, you have to pay for it,” he says. “But you cannot come to the marketplace and say, ‘We are doing things internally to increase our margins, streamline operations, and improve the quality of our services, so now you have to pay extra for that.’ Forget it. Healthcare consumers are like any other

consumer. They’ll just go to your competitor who is also working hard to improve operations but is not asking them to pay a surcharge for it.”

Those interviewed frequently stressed the need for a collaborative approach among all stakeholders to provide hospitals with the necessary incentives for technology investment. For true benefits of technology on quality of care to be realized, many, such as Winona Health’s Allen, said revising the current payment system itself will likely be necessary.

“As things stand, if providers install technology that makes processes more efficient and the result is less patient contact and fewer visits, care is cheaper,” he says. “Hospitals are paid less, and insurers or third-party payers benefit. So, we know we have to improve performance, but we are concerned about whether we will be reimbursed fairly to become more efficient.”

Healthcare economist Bauer echoes the call for healthcare purchasers and payers to make changes that will reward providers for making investments and transforming processes that result in better outcomes, both financially and clinically. “The disincentives in reimbursement must be corrected,” he says.

## FINANCING THE FUTURE III

### What’s the Government Doing About Healthcare Technology Funding?

While significant change in technology-focused healthcare payment and incentives remains elusive, some promising steps are being made.

The IRS recently issued a ruling that some believe will encourage IT adoption by not-for-profit healthcare providers. The ruling pertains to impermissible private benefits provided to hospital staff, including nonaffiliated physicians, in violation of section 501(c)(3) of the United States Internal Revenue Code. The IRS memorandum notes that some hospitals believe their medical staff physicians need a financial incentive to acquire and implement software to connect to hospitals’ electronic medical record (EMR) systems. The ruling will allow not-for-profit hospitals to provide financial assistance to staff physicians to acquire and implement software that is used predominantly for creating, maintaining, transmitting, or receiving EMRs for their patients.

In May 2007, Sen. Debbie Stabenow (D-Mich.) introduced the Health Information Technology Act of 2007, or “Health Tech Act,” that would provide \$4 billion in tax incentives and resources over five years to offset the costs of investing in new health information technology. The bill, which is a reintroduction of a similar bill last year, is co-sponsored by Sen. Olympia Snowe (R-Maine).<sup>1</sup>

In the same month, Rep. Phil Gingrey (R-Ga.) introduced the Assisting Doctors to Obtain Proficient and Transmissible Health Information Technology Act—or ADOPT HIT Act—which seeks to change the federal tax code to allow physicians to write off \$250,000 a year on the purchase of healthcare IT systems, rather than the currently allowable \$100,000.<sup>2</sup>

Both bills are indicative that policy makers are starting to look at out-of-the-box ways to fund healthcare IT.

<sup>1</sup> Conn, Joseph. “Some ‘Guardedly Optimistic’ About New Health IT Bill,” *Modern Healthcare Online*. May 18, 2007.

<sup>2</sup> Manos, Diana. “Healthcare IT Gains Traction in Congress,” *Healthcare IT News*. May 21, 2007.

“Government policymakers and private insurers must agree not to cut payments for those hospitals that invest in technology to improve operations. Providers need to retain the savings in order to pay back the investments that made the savings possible.”

That’s not to say some progress in the payer arena is not being made. In some markets, private payers are making specific efforts to aid technology adoption, chiefly in the use of electronic records. Notable projects include:

- The Health Care Service Corp., which runs Blue Cross and Blue Shield operations in Illinois, New Mexico, Oklahoma, and Texas, has been working for two years to merge the plans’ various IT systems that contain data about eligibility, medication, lab visits, hospitalization, and physician office visits into a single system. It plans to offer physicians and clients free access to the service.<sup>9</sup>
- Blue Cross and Blue Shield of Florida and Humana Inc. began statewide expansion of their multipayer EHRs, with work slated for completion by the end of 2007.<sup>10</sup>
- Representatives from America’s Health Insurance Plans and the Blue Cross and Blue Shield Association have launched a web-based tool that contains a consumer’s claims and administration information as well as core health data. This industry model personal health record would be maintained by the insurer, but would conceivably be portable, moving from insurer to insurer as patients switch coverage.<sup>11</sup>

Still, without a more systemized, comprehensive, collaborative approach, those interviewed generally agreed that widespread, rapid adoption of new technologies such as comprehensive EHRs, integrated medical devices, or web-based portals that encourage self-care will remain elusive.

“One of the biggest barriers to adopting new technologies centers on the macroscopic economics of payment around disease management,” explains Brandon Savage, MD, chief medical officer for GE Healthcare’s integrated IT solutions and general manager of global marketing. “There is no good mechanism for reimbursing providers that deliver the best quality of preventive care. The solution will rely on providers, payers, government, and employers coming together to realign incentives that support technology investment.”

## What Will Hospitals Do?

With hospitals facing little prospect of significant external funding mechanisms, those interviewed stated IT spending for the near term will largely need to result from hospitals being able to keep the revenues that they themselves create. Overwhelmingly, the panel of experts agreed that money must somehow be found within the confines of providers’ current practices.

“Hospitals need to get out of the mentality that if they are going to share information in the 21st century, then someone else has to pay the bill,” says van Amerongen. “Are hospitals really going to be content with prescription errors and dying patients and information lost and inefficiency reigning? They simply need to find a way to pay for technology. Hospitals found a way to pay for their electronic billing systems, and they can find a way to pay for EMRs.”

The key, he says, is adopting the right attitude. “We need to lose this victim mindset that health care has embraced wholeheartedly over the past 15 years and look dispassionately at what we are doing to find opportunities for improvement.”

### FINANCING THE FUTURE III

## Financing Options

Hospitals have exhibited a predisposition to funding IT acquisitions via leasing and internal funds, according to a recent survey of 35 hospital CFOs. Two thirds of hospital CFOs surveyed cited internal operations/fund-raising as a primary source of revenue for IT acquisition, followed closely by leasing (approximately 60 percent). Public bonds were identified by 15 percent. Other options, such as private placement, tax-exempt debt, and taxable leases and loans provide alternative access to capital for hospitals that are less than investment grade. Financing may be obtained from captive vendor financiers, independent leasing/financing companies, and banks.

Source: GE Healthcare Financial Services proprietary research.

# Technology Investment in Action

To get a sense of where the industry is headed, HFMA asked several hospital executives recognized for national IT excellence about large-scale technology investments they are making—and what’s prompting them to spend.

**Lynn H. Vogel, PhD, vice president and CIO, University of Texas M. D. Anderson Cancer Center, Houston**

Vogel has received a CIO 100 Award for his work with the University of Texas M.D. Anderson Cancer Center. The award recognizes companies for their achievement in creating new business value through IT-enabled innovation. Honorees range from small organizations with a few million in revenue to multi-billion dollar global powerhouses, and they span numerous industries. The University of Texas M. D. Anderson Cancer Center also received Best in Class 2007 recognition from *ComputerWorld*.

#### **Project:**

Electronic medical record. “We are probably among the very few healthcare institutions in the country that have decided to develop our own EMR system in-house.”

#### **Purpose:**

Vogel says the organization decided to develop its own EMR when it couldn’t find a vendor to adequately integrate patient-generated research and clinical data. “This is understandable since in most institutions, clinical care and research are quite separate, while at M. D. Anderson they are highly integrated,” he says. “Vendors developing products for the healthcare marketplace have tended to focus either on inpatient acute care or ambulatory settings, and none of them on the integration of research processes. Although one might reasonably argue that with the coming of personalized medicine, which is already being practiced on a routine basis in some areas of cancer care, this integration will become more commonplace—and in fact a necessity for both quality care and quality research.”

Vogel notes that paper records simply can’t keep up with the many demands for access to a patient’s medical record. “We are fortunate to have a strong IT governance

process that approves and prioritizes our IT investment proposals and then tracks them from initiation to conclusion,” he says. “Each month close to 200 faculty and staff—most of whom are not from our IS department—participate in our IT governance process, and they have identified our EMR development as the top institutional priority.”

#### **Payback:**

“The value we are looking for is similar to other EMR efforts—higher quality care for our patients and better access to data for our decision makers, both of which in the end mean better outcomes for our patients,” he says. “Service industries like health care bring special challenges in determining returns from IT investments, especially if one focuses primarily on financial returns.

“Our most expensive resource—our physicians—and our scarcest resource—our nurses—have already experienced significant productivity gains from using the EMR capabilities we have developed,” says Vogel. “Putting a financial value on those gains is a real challenge, since we don’t employ fewer of either category as a result of the EMR. In addition, since productivity gains don’t generally flow directly to the bottom line, we tend to rely on more informal feedback from our customers as to the benefits of this type of investment.

“That said, we have absolutely achieved our goal of enhancing the productivity of our clinical staff, if for no other reason than they now have at their fingertips all of the data they need to manage the care of our patients.”

**John P. Ferguson, president and CEO, Hackensack University Medical Center, New Jersey**

Ferguson was recognized with the 2007 CEO IT Achievement Award co-sponsored by *Modern Healthcare* magazine and the Healthcare Information and Management Systems Society and has been named as one of the “100 Most Powerful People in Healthcare” by *Modern Healthcare* for the past three years. For two consecutive years, HUMC has been named the top performer in the nation in the CMS Pay-for-Performance

**Demonstration Project.** For the ninth consecutive year, the center has been named among the 100 “Most Wired” hospitals in the United States by *Hospitals and Health Networks* magazine.

---

**Project:**

Over the past decade, the medical center has invested \$136 million in IT. This investment has been and continues to be used for building and upgrading the data/voice/video network infrastructure foundation for becoming a digital hospital; deploying CPOE, electronic medication administration, and nursing documentation; and migrating from interfaced best-of-breed clinical systems to one integrated EMR that serves the inpatient and outpatient population.

Along with this capital investment, the organization also has invested operating funds in reengineering the IT division from a back office department of 25 people with an annual operating budget of \$6 million to a service-driven organization of more than 100 professionals with an annual budget of \$22 million. In addition, HUMC has been implementing a redundant and secure network infrastructure that includes a 5,000 square foot-network operations center and outside disaster recovery services. The organization also is implementing a secure portal-driven intranet and extranet for communication among physicians, patients, nurses, and employees and laying the foundation for a full EMR.

**Purpose:**

“We envisioned IT as the vehicle for a major evolution in quality, safety, and operational effectiveness,” says Ferguson. “To achieve this vision, we set the goal of using IT to build a ‘hospital without walls,’ a medical center where physicians could securely access medical records from anywhere in the world to provide the highest level of quality, safety, and operational efficiency for our patients.”

**Payback:**

“We expected that our IT investments would provide us with metrics of institutional quality and performance and enable us to achieve measurable results in the ongoing process of improving clinical quality and operating effectiveness,” says Ferguson.

A key benefit of the technology is its ability to monitor the “vital signs” of the medical center in real time and take prompt action for performance improvement, he says. “We projected that our investments would yield instant knowledge about clinical care outcomes, the financial health of the institution, and the quality of operating performance. This instant knowledge would enable our operating team to take corrective action, when and where necessary, to remain on course for achieving our annual and strategic goals and to be accountable and rewarded for the results.”

As a result of the successful outcomes to-date from its investments, HUMC now has the tools to monitor, align, and integrate clinical and operational data at the service line, departmental, patient care unit, and practitioner level. “These tools enable our clinical and operations management to measure and improve institutional performance,” says Ferguson. “Through wireless and web-based access to information systems at the source of care and service, organizational data are collected and monitored for planning and operational decision making and performance improvement.”

As an example of how these investments have returned value in advancing the quality of institutional performance, Ferguson points to the organization’s use of an electronic unit scorecard. The unit scorecard provides a patient care unit-based view of clinical and financial outcomes. Measures of disease states, patient satisfaction, and financial outcomes (such as length of stay and cost per case), are closely monitored on a regular basis. The scorecard enables each unit to track and to develop action plans to improve outcomes and results. “The measurable results achieved through unit scorecards and CPOE are indicative of the value we have received from our investments in IT,” he says.

Ferguson also notes that efforts and benefits achieved are ongoing. “Our goal of using IT to provide the highest level of quality, safety, and operational efficiency for our patients is an evolving journey,” he says. “And the journey continues.”

# Technology Investment in Action (continued)

**William A. Spooner, senior vice president and CIO,  
Sharp HealthCare, San Diego**

Sharp HealthCare has been ranked in the top 100 “Most Wired Systems” in the country by *Hospitals and Health Networks* magazine for nine consecutive years. It has been named a “Best Place to Work in IT” by *Computerworld* magazine. In addition, Michael Murphy, Sharp HealthCare’s CEO, is a recipient of this year’s CEO IT Achievement Award, co-sponsored by *Modern Healthcare* magazine and the Healthcare Information and Management Systems Society.

## **Project:**

New core hospital clinical/EMR system. It is a five-year, \$75 million program that will affect Sharp’s seven hospitals and three medical groups to replace numerous separate electronic records systems with two that will be able to work together.

“Our goal is achieving a paper-light environment in our new hospital to be opened in mid 2008—Sharp Memorial Hospital,” says Spooner. The 334-bed hospital will replace the existing Sharp Memorial Community Hospital, a 301-bed facility built in 1955. Using this success, Sharp will then roll the EMR out across the system in 2009 and Sharp Rees-Stealy Medical Group and Sharp Mission Park Medical Group will implement the laboratory and radiology components of the system in 2010.

## **Purpose:**

“What prompted the investment was a desire to improve workflow across related functions that could not be accomplished with current best-of-breed systems,” notes Spooner. IT staff have frequently needed to write software to connect the disparate systems in place, with interfaces between order entry and nursing documentation proving to be particularly challenging. When working with the vendor for the single, integrated clinical solution, Sharp assembled a team of more than 120 clinical experts and physicians to provide insight into optimal use.

“We view this as a clinical initiative intended to enhance quality through physician-focused

evidence-based medicine practices based on CPOE and electronic documentation,” says Spooner.

## **Payback:**

“Ask us in late 2008.”

**Eric B. Yablonka, vice president and CIO,  
University of Chicago Medical Center**

Yablonka is the recipient of this year’s CHIME/HIMSS John E. Gall, Jr. CIO of the Year Award, which recognizes information systems executives who have made significant contributions to their organization and to the profession. In addition, The University of Chicago Medical Center has been recognized with a CIO 100 Award for achievement in creating new business value through IT-enabled innovation, a recognition that spans numerous industries and widely varying organizational size.

## **Project:**

The University of Chicago Medical Center has large technology investments throughout the organization, including supply chain, human resource, revenue cycle, and clinical systems, as well as computerized medical equipment. One of its most notable initiatives at present, however, is investment in EMR and CPOE.

Over the next four to five years the organization plans to spend more than \$60 million on the project, which will be rolled out through the organization’s inpatient facilities (a primary adult care hospital, children’s hospital, and women’s health and maternity facility). Once successful, efforts will then shift to the organization’s outpatient clinics, which receive about 400,000 visits each year.

The project has a phased implementation, with many functions occurring concurrently. During the first 18 months of the project, the University of Chicago Medical Center has been replacing its pharmacy and radiology information systems. At the same time, the organization is upgrading existing record systems to ready them to accept new software. The organization also has had to build considerable technology infrastructure, including servers, disaster recovery systems, systems for high-performance computing, and storage systems.

Over the next year, the organization will be preparing for implementation of its electronic documentation system, emergency department system, and CPOE implementation effort. Once complete, phase-in of the outpatient clinics will begin.

**Purpose:**

The project is seen as key to improving medication safety and preventive care, attracting physicians and nurses, and generating and analyzing data to further clinical research.

“We are a nationally ranked academic medical center. Clinical care, quality, and safety are extremely important and the data associated with all of that activity are crucial for our researchers,” says Yablonka. “Our ability to produce that data as a byproduct of our patient care activity is actually a big asset to the organization, to the University of Chicago Medical Center, and to the University of Chicago community.”

**Payback:**

“We don’t believe there is a financial ROI,” he says. Nor was that the health system’s goal. “We did not ‘sell’ it that way or justify it that way to the board or organization. As we worked through the financial case and also the call to action, we quickly settled on very few examples either in the literature or in the industry where such investment had been cost-justified. There had been some experiences, but nothing really concrete, where we could sit there and say either our budgets will be reduced or cost will be changed by a certain amount. Nothing that we felt was solid enough that we could make that commitment.”

Rather, Yabloka says the benefits perceived cut more to the core of being a clinical delivery organization: quality, safety, and patient and staff satisfaction. “We had to do this for the care of our patients.”

He said the case for action started several years ago at a very high, strategic level and eventually led to engaging medical staff and others throughout the organization in both the selection of the product and its implications financially and operationally. This input also helped shape clinical-business targets and establish levels of accountability for the project.

“There was discussion that we would have to trade off other investments to support this, and we wanted to make sure that our faculty and our clinical leadership were engaged as part of that discussion,” he says. “There’s only so much money to go around, and we were also building new buildings and making significant investments in our diagnostic imaging capability. Whether you have a large budget or more modest budget, there are always going to be capital investment tradeoffs.”

Yablonka also notes the importance of viewing investment value within the scope of long-range costs and goals. “We believe that when the project is done, we will continue to invest in IT for very large sums, assuming we can afford it and as long as we need to, because systems always get upgraded. New capabilities are always needed. Once systems get installed, people learn how to use them and have ideas about ways to improve them. So whether it’s the need to have staff there to support the system or the need to continually update and improve the system, we know it’s not a one-time investment, but a sustained investment over time.

“The other piece that I keep an eye on is the dramatic march and convergence of medical equipment with IT,” he continues. Because the equipment is now computerized, hospitals have to pay attention to needs to integrate the equipment with the medical record or put it on the organization’s wireless network. “Investment in IT is just not IT anymore. It’s what you do throughout the organization, from cardiology to gastroenterology, imaging, laboratory, and the revenue cycle. All of these areas require sustained investments in IT,” he says.

A strong relationship between financial, technology, and organizational leadership also is important for obtaining optimal value from technology investments. A large-scale EMR project requires agreement on the technology’s potential value and effectiveness. “You’re certainly going to want to harmonize the CFO, CIO, and CEO on these kinds of things because of the level of cultural transformation and change required,” says Yablonka. “You need everybody lined up and comfortable that these are the right decisions. These are hard decisions.”

# Optimizing Technology Resources

**D**espite today's funding challenges, hospitals can implement specific strategies to improve their financial position in the interest of continuing to adopt new technologies. And this revenue often can be garnered through existing resources.

While initial spending on health IT has been shown to add to cost, the longer term effect is one of reduction in costs. Research from PricewaterhouseCoopers has shown that health IT investments typically reach a tipping point in terms of costs, and that tipping point tends to reflect continued investment after which hospital operating costs are reduced.<sup>12</sup>

Using sophisticated economic analysis and modeling, PricewaterhouseCoopers determined that more than 60 percent of U.S. hospitals have made significant enough investments in IT to begin seeing reductions in operating costs. Based on a scale that ranked hospital healthcare IT application mix and capital value mix, researchers concluded that projects at many hospitals today are finally becoming mature enough to begin demonstrating appropriate return and delivering on the promises of efficiency and performance that were part of the justification for making these large-scale investments in the first place.

Analysis suggests that at some point IT capital pays for itself by displacing costs elsewhere in the organization such as through improved quality. Not only are efficiencies gained once start-up expenses have been incurred (e.g., networking infrastructure, recruitment of IT staff), but it's also believed the organization develops better skill at leveraging the technology to improve clinical and business processes.

Therefore, at this stage of the game, the question most hospital executives must ask themselves is not "What new technology should we implement tomorrow?" but, "How can we optimize the efficiencies of existing technology to create savings that will fuel tomorrow's technology expenditures?"

## Tips to Drive Revenue from Existing IT

When looking to optimize a hospital's technology resources, financial executives are advised to keep in mind the following strategies.

**Solve process issues first.** Prior to applying technology to a process, it's vital to ensure the process itself is sound. For example, providing prescribers with automated order entry isn't useful to the organization if the patient registration process in place fails to capture a patient's full and accurate medical history.

Areas with greatest potential for improvement typically include those with too many go/no-go decision points, too many feedback loops, duplication, non-value-added steps, role or authority ambiguity, and bottlenecks.<sup>13</sup> Careful examination of processes allows providers to identify productivity opportunities, note best practices that can be replicated elsewhere, create workflow consistency, and best address root causes of problems.

"The real innovation that must now occur will focus on evaluating and reworking the processes behind existing systems," says Glaser, of Partners HealthCare. "If process issues are not remedied, applying technology to fix the problem only results in tasks being performed faster—not better."

### **Optimize data that you are already generating.**

Granted, transitioning to a CPOE system may be the organization's ultimate strategy to reduce medication errors, but it certainly shouldn't be the only one. Some challenges can be addressed by simply putting existing data to better use. As an example, a provider trying to reduce medication errors can cull information from existing pharmacy and/or medication administration systems to uncover problems and make necessary changes to reduce errors.

Hospitals capture reams of clinical data every day through existing information systems. How well are these data being put to use? Successful providers apply business intelligence tools to existing data to drill down into various performance metrics and better understand and address factors that affect performance.

**Focus on projects that deliver short-term wins and are narrow in scope.** A short cycle of deliverables means savings from the technology can be realized more quickly to fund future investments. When benefits are introduced early, it's easier to build momentum and encourage user buy-in—a critical component of any technology project

In addition, projects that are highly defined in scope improve the organization's ability for returns that are measurable and achievable. "Develop prowess and mastery within one department or within a single IT system before moving on to the next," Glaser advises.

**Place budgetary priority on applications or peripheral technologies that enhance existing systems.** With existing core infrastructures maturing and stabilizing, now is the time to invest in applications or peripheral technologies that will maximize these systems. For example, by introducing biometric identification applications on top of CPOE systems, providers can improve security, speed, and access to the equipment. Applications tend to be much less costly than core systems, so return should follow more quickly and be more easily demonstrable—making the investment easier to justify.

**Focus on users.** One of the biggest barriers to truly realizing technological efficiencies is lack of utilization from users. "Now that technology systems are reaching a point of maturity, we need to focus our efforts on usability," says Allen. "It's great to have expensive technology in place, but you have to be able to use it to see its value."

To encourage technology acceptance, it is important to focus on what will be most meaningful for users. During implementation of CPOE, for example, discussions with physicians should focus on issues such as improved safety while those with business staff should center on potential to reduce cost. Also, providers are advised to devote adequate time and resources to activities such

as training, bringing a physician champion or similar influencer on board, and performing help-desk functions. Doing so will help bring users up to speed to shorten the learning curve, encourage rapid buy-in, and support better care.

The importance of such planning to obtain appropriate buy-in is often underestimated. According to Hupfeld: "As a hospital administrator, my biggest difficulty is moving my whole workforce into the new millennium. The human dynamic is much more difficult than the technology piece."

When planning projects, it's also useful to incorporate some flexibility into the process to allow for user input both before and during implementations, notes Hupfeld.

"In terms of technology implementation, it's one step forward, three steps back," he says. "When you take a group of physicians and staff that have been doing their jobs manually and then impose technology, there are bound to be some disconnects. We have instituted bits and pieces of our EMR, and then had to back up and redo them because people weren't trained properly or physicians were dissatisfied with the way the process was working."

Opportunities for feedback are important. People don't like to feel as though technology is being pushed on them, and users often can provide valuable insight on how to put the technology to the best use.

**Examine new ways to "package" existing technologies.** Where there used to be a focus on individual products or tests, hospitals are now becoming more consumer-oriented and focusing on common conditions. Successful hospitals are combining existing technologies with processes, consulting, and best practices around disease states and certain populations. For example, some cardiology clinics are bundling a complete set of services to solve a need rather than focusing on piecemeal testing services, such as cardiac catheters or CT heart scanners. "Hospitals are already specializing in service lines that focus on consumers' needs, such as women's health clinics, oncology centers, and specialized cardiac centers," says Savage. "Technology providers will also have to adapt and provide specialized solutions."

**Benchmark performance with peers.** Comparing how your hospital performs in relation to process outcomes, such as days in accounts receivable or average time to get an appointment, can often yield insight into ways the organization could be putting its technology to better use. “An important aspect of these value benchmarks is the identification of critical IT application

capabilities and related operational changes that enabled the achievement of superior results,” Glaser notes. “By understanding how other organizations achieved superior IT-enabled performance, leaders learn how to achieve the best possible value from their organization’s IT investments.”<sup>14</sup>

## Moving Forward

**M**ost healthcare organizations have already invested time and money in core technologies and are in the beginning to middle stages of implementation and deployment of large-scale systems. While the uncertainty of technology funding in the near term makes rapid, widespread adoption of tomorrow’s innovations unlikely, experts contend the coming years should not be a time of stagnation. The rise of consumerism and quality-based payment heightens the importance of properly deploying technology to stay competitive and improve quality of care.

Hospitals must leverage technology to fund technology. As information systems grow and mature, successful providers will develop processes for recording

accurate data, then turn these data into actionable information that will help create tomorrow’s consumer-oriented solutions. “I think this is a golden opportunity for health care to make some dramatic improvements,” says van Amerongen. “I am very optimistic about the next five to 10 years. I think one of the biggest challenges is coming together to understand exactly what the problems are; then we can galvanize the troops to move forward.”

Better information and more efficient processes will ultimately improve the overall quality of the healthcare experience. Healthcare organizations that embrace technology innovation will create the insights needed to fund business growth, manage costs more effectively, and deliver higher levels of quality care.

# Endnotes

- <sup>1</sup> *Modern Facility Design and Its Impact on Operational and Capital Strategies*, Fitch Ratings, Healthcare Special Report, May 22, 2007, p. 3.
- <sup>2</sup> Glaser, John. "Financial Incentives for Healthcare IT Adoption," *hfm*, April, 2007, p. 118.
- <sup>3</sup> "Masaryk Hospital—An ROI Case Study" at [www.hp.com](http://www.hp.com); "Hospital Imaging Systems: A Tough Sell," *ComputerWorld*, February 2, 2004; "A PACS Payoff," *Medical Imaging*, February 2005.
- <sup>4</sup> *Overcoming Barriers to Electronic Health Record Adoption*, Healthcare Financial Management Association, 2006, p. 6.
- <sup>5</sup> Conn, Joseph. "Still the Matter of Money—Annual IT Survey Shows Little Movement on Increased Budget Allocations," *Modern Healthcare Online*. February 26, 2007.
- <sup>6</sup> *Continued Progress: Hospital Use of Information Technology*, American Hospital Association, February 2007.
- <sup>7</sup> "The Outlook for Capital Access and Spending," Financing the Future II, Report 6, HFMA, August 2006.
- <sup>8</sup> "The Outlook for Capital Access and Spending," Financing the Future II, Report 6, HFMA, August 2006.
- <sup>9</sup> "Health Insurer offering Free Electronic Health Records to Doctors in Four States," *ComputerWorld Business Intelligence*, April 23, 2007.
- <sup>10</sup> "Florida Plans Expand EHR Access," *Healthcare IT News*, June 1, 2007.
- <sup>11</sup> "Insurance Groups Launch PHR Plan," *Healthcare IT News*, January 1, 2007.
- <sup>12</sup> *The Economics of IT and Hospital Performance: A Population Study Reveals Challenges and Opportunities*, PricewaterhouseCoopers, Tech Center, 2007.
- <sup>13</sup> *Process Mapping the Revenue Cycle*, HFMA Education Report, February 2006.
- <sup>14</sup> Glaser, John. "7 Strategies for Increasing Delivery of IT Value," *hfm*, October, 2003.

# Financing the Future III

Since 2003, HFMA's Financing the Future project has given healthcare providers the information they need to help their organizations have the resources necessary to provide safe, high-quality care for their communities. The project began with a series of reports highlighting strategies hospitals and other healthcare providers could use to improve access to capital. The series was a partnership between HFMA and GE Healthcare Financial Services with research conducted by HFMA and PricewaterhouseCoopers. Following the success of these reports, a second series took the concepts identified a step further by exploring best practices in capital management and providing practical tools and strategies hospitals could use for financial improvement. This series was a partnership between HFMA, GE Healthcare Financial Services, and Kaufman, Hall & Associates. With Financing the Future III, HFMA, in partnership with GE Healthcare Financial Services, sets out on its most perhaps its most ambitious effort to date: identifying key industry trends that affect hospitals' capital position and ability to fund important future initiatives. For each trend, a report will identify the current state and implications for the future. For more information about Financing the Future III and to access the complete archive of project reports, visit [www.financingthefuture.org](http://www.financingthefuture.org).



**hfma**

healthcare financial management association

HFMA is the nation's leading membership organization for more than 34,000 healthcare financial management professionals employed by hospitals, integrated delivery systems, managed care organizations, ambulatory and long-term care facilities, physician practices, accounting and consulting firms, and insurance companies. Members' positions include chief executive officer, chief financial officer, controller, patient accounts manager, accountant, and consultant. HFMA offers educational and professional development opportunities; information on key issues affecting healthcare financial managers; resources, such as technical data, checklists, and research reports; and networking opportunities—all of which provide our members with the practical tools and ideas they need to ensure career and organizational successes. For more information, visit HFMA's web site at [www.hfma.org](http://www.hfma.org).

GE

Healthcare Financial Services



GE Healthcare Financial Services is the premier provider of capital, financial solutions, and related services for the global healthcare market. With \$16 billion in assets, GE Healthcare Financial Services offers a full range of financing capabilities from equipment leasing and real estate financing to working capital lending, vendor programs, and acquisition financing. With a dedicated focus and a deep knowledge of the healthcare industry, GE Healthcare Financial Services collaborates with customers to create tailored financial solutions that help them improve their productivity and profitability. For more information, visit [www.gehealthcarefinance.com](http://www.gehealthcarefinance.com).