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Scottsdale Institute Annual Membership Conference Summary

April 4-6, 2001

Introduction

The Scottsdale Institute's eighth annual Membership Conference was held at the Camelback Inn in Scottsdale, Ariz., April 4-6, 2001. A record number of attendees heard a variety of speakers and topics ranging from Bill Dwyer's compelling look at how pharmaceuticals and genomics is changing medicine to Don Wegmiller's richly detailed talk on the state of the industry. Feedback from last year's conference indicated a desire for more discussion and fewer presentations. As a result, this year we encouraged an open discussion format for lively exchange among the participants. While space does not permit us to publish comprehensive proceedings of the conference—out of necessity, some very good discussions were left on the editing room floor—this IE report tries to summarize highlights for our busy executives. For those members who are interested, discussion documents from the conference are available on our Website at www.scottsdaleinstitute.org. Thanks again to all the speakers and participants. We'll see you next year April 18-20 at the Camelback Inn.

Pre-Conference Workshop

The 11 Habits of Highly Effective IS Organizations: A Dashboard for Measuring IT Performance

The group of CIOs and IT executives gathered to discuss 11 "habits" or benchmarks of IT performance, rated on a 0-100 scale and presented as a "dashboard" that shows IT organizations where their performance is strongest and where they have the greatest opportunity for growth. The purpose of this session was to allow IT executives to share their experiences and discuss with each other both areas in which they perform well and areas that they would like to improve. Stan Nelson, Chairman, Scottsdale Institute, introduced the session by placing the 11 habits in context. He noted a growing gap between what is expected of IT and what is realistic. That gap is fueled by unreasonably high expectations and is exacerbated by pressures to comply with HIPAA and other regulations, and to improve patient safety. At the same time, he noted increasing skepticism of IT due to what he called the "Y2K hangover," which is coming to an end, and to questions about the value of investments in IT.

Martin Belscher, VP, First Consulting Group, pointed out that the process used to derive scores includes interviewing executives, end users outside of the IS organization, IS staff, as well as extensive document review.

Project management emerged as a major theme of the roundtable discussion. Mr. Belscher reported research across industries found that only 15% of IT projects were completed on schedule three years ago, and about 20% are finished on time today. "Things are improving," he said, "but we're still just crawling up the basement stairs."

Here's how 30 health systems are doing with the 11 Habits. The scale shows the lowest, median and highest scores on a 0-100 scale

	Low	Median	High
Strategic Alignment			
Strategic Planning and Continuity	18	27	71
Governance and Policy	22	40	86
Future Focus & Regulatory Requirements	52	52	52
Project Execution and Delivery	21	40	67
Value Realization			
Application Management	52	68	83
Fiscal Responsibility and Management	32	48	80
IT Value	12	32	57
Operations & Data Center Management	49	67	74
IS Department Operational Excellence			
Infrastructure	55	62	79
Organization, Leadership & Staff Development	29	52	78
Service Level Agreements	0	30	71

Source: First Consulting Group

After a review of industry findings related to the "11 Habits of Effective IT Organizations", three IT executives shared with the other participants areas of strength as well as lower scoring areas in each of their organizations. Discussion about the common challenges ensued, with suggestions and comments from the group.

Mary Finlay, Deputy CIO, Partners HealthCare System Inc., Boston, Mass., discussed fiscal management and project delivery. The fiscal challenge at Partners is setting and managing a $100 million IT operating and capital budget each year. Local operating units must compete with central integration needs for resources. To allocate those resources, Partners begins by reviewing and revising budget and growth assumptions. Budgets are set in three categories: systems support, ongoing initiatives and new initiatives.

Among the challenges that Partners faces in managing projects are the complexity of its organizational structure, which makes it difficult to set overall priorities, and the lack of a standard project methodology.

Several participants stressed the importance of IT leaders managing change in a way that goes beyond project management. Identifying and nurturing clinical leaders who understand new tools and the thinking behind them was noted as a critical success factor. It was suggested that one reason that

scores in project execution and delivery were low in our industry over all is that the scope of change involved in introducing new systems, and accompanying budgets, are underestimated.

Flexibility in project design was encouraged depending on such variables as the size of the project, its complexity and past level of teamwork among project participants.

Bruce Smith, VP, Information Systems and CIO, Advocate Health Care, Chicago, discussed some of the benefits of taking a centralized approach. Mr. Smith said that three guiding principles form the backbone of Advocate's IT efforts: centralization, standardization and integration. Advocate consolidated eight data centers into two, and is planning to combine those into one. Every Advocate site uses the same registration, billing and laboratory systems, a level of standardization that will extend to pharmacy and radiology.

System upgrades take place at the same time system-wide. Reducing costs was a major driving force behind standardization, Smith said, and savings have been realized through central system maintenance, disaster recovery and data management systems.

Advocate has a single network and email system linking 200 sites, operated with an emphasis on users following consistent rules and procedures. Smith noted that executive-level support helped overcome reluctance by local managers to give up customized software solutions. Persuading department-level managers to work within the centralized IT philosophy was an 18-month educational process. Smith noted that while technology is well standardized across Advocate, work processes are not as uniform. The group discussed these benefits and the many challenges to achieving standardization.

Richard Pollack, M.S., VP and CIO, U.T.M.D. Anderson Cancer Center, Houston, discussed the benefits of a single focus. Mr. Pollack attributed M.D. Anderson's well-defined strategic vision to unique environment factors: its singular focus as a cancer-care facility and its closed medical staff. Every employee knows that M.D. Anderson's mission is "to eradicate cancer through innovative programs in clinical care research, prevention and education."

The institution's business plan and three-year rolling information system strategic plan spell out steps for improving the efficiency of M.D. Anderson's information infrastructure for patients and employees. The institution's clinical and executive leaders endorse the IS plan, which is updated annually, another key to success.

All potential IS projects must pass a budget review and have a tactical plan that specifies requested resources and shows how the project supports the institution's business objectives. Final decision making authority over IS projects rests with an information systems steering committee, which encompasses most of the management committee, including the CEO, executive vice president and other senior leadership of the institution. The group then discussed the challenges as well as their own successes in achieving executive leadership and support.

IT Cost Benchmarking Database is Available

Scottsdale Institute members can now enter data into this database and compare your organization with others. Please contact Cynthia Pratt at 952.545.5880 or at cpratt@fcg.com to obtain your username and instructions for accessing the database.

Day One

Keynote: The Future of Pharmaceutical and Medical Technologies and the Impact on Healthcare Providers

William M. Dwyer, VP, Strategic Marketing, Abbott Laboratories, Abbott Park, Ill.

Bill Dwyer, a leading researcher and speaker on advances in medical technology, told us that we will double existing medical knowledge twice in the next 20 years. Here are some of the specific medical technologies that he reviewed.

Human Genome Project

Even though the preliminary map of the human genome was completed last June, scientists still have work to do before the complete mapping is accomplished, probably before 2003. There are only 30,000 genes in humans, which was surprising because even the fruit fly has 19,000 genes.

Mr. Dwyer noted there are three billion genetic sequences and, using the analogy of language, you start with an alphabet, go to a dictionary, then to an encyclopedia and ultimately get the complete works of Shakespeare. He estimated that the genetic equivalent of the complete works of Shakespeare is 50 years away. First we'll see screening and diagnostics for single genes that are inheritable and have DNA coding that express disease. There are 200 to1,000 of those genes. We'll see changes in asthma, various cancers, heart disease and bacterially induced chronic diseases.

Angiogenesis

Mr. Dwyer next discussed angiogenesis, which is the body's ability to grow new vessels. It has been shown to occur in animals, for example in a deep vein thrombosis in a lower limb. In the future, the body will be able to grow new vessels in a week around a blockage and oxygenate the lower limb; recent research shows that new vessel growth can work around blockages in the heart.

Genetic screening

Mr. Dwyer predicted that, using DNA on a microchip, we'll be able to do tests on individuals without them being present so we'll have near-immediate results available for something like the breast cancer gene.

All of these developments have associated ethical issues, around which Mr. Dwyer raised hypothetical questions. Should candidates for medical school be tested for terminal genes that will show up in their 40s? Should society make the same kind of investment in those who have such genes? Should corporations genetically test to help identify high-potential executive candidates? Should health plans use blood samples to determine who they won't cover because of the almost perfect knowledge they will have in predicting high-cost diseases later in life? "Of course not," Mr. Dwyer said. He pointed out that federal laws to prevent genetic discrimination are needed.

Telomeres

Telomeres are snippets of genetic material on the end of the DNA in every living cell. You have a limited number at birth, and as your cells divide and as you age, they're used up. So your skin and bone cells can't replace themselves and you die a natural death. As such, Mr. Dwyer noted, telomeres provide a mortal clock for humans. Two years ago, Dr. Woodring Wright's group at the University of Texas Southwestern Medical Center in Dallas discovered a way to make telomeres grow back in living human cells. If this is true, Mr. Dwyer predicted that new opportunities against diseases like macular degeneration that are related to aging will arise.

Gene therapy
According to Mr. Dwyer, it's not the genes, but the cellular proteins that are generating the most excitement. With gene therapy, if you didn't get the gene that's responsible for building insulin, you transfer the gene into your cells so you can build insulin. Only two years ago, the first gene responsible for 15% of adult onset of diabetes in North American population was discovered. Already this year a second gene has been discovered. Mr. Dwyer predicted that screening and gene therapy will evolve quickly.

Drug-delivery tools
Mr. Dwyer highlighted several promising technologies likely to change drug delivery:

- Aerosol devices perfected for anti-bioterrorism warfare produce precise small fluid particles that can be breathed into the lung. The lung is wonderful for drug delivery because 90% of medicine that touches the surface of the lung immediately comes into the blood system, compared with 10% absorption for a solid oral pill.
- Needle-free injections, perhaps using a patch with a microchip.
- Using the skin to deliver medications into the body. A watch-size device uses an electrical charge on the skin and creates a blister. A biosensor on the back of the device does a real-time glucose check. Reverse polarity on the watch, and it pushes insulin down through the skin. It's a closed-loop diagnostic and medication device.

Evolving mortality
Mr. Dwyer noted that a hundred years ago the top five causes of death in America were pneumonia/flu,TB, diarrhea/enteritis, heart disease and stroke. By World War II heart disease, cancer, and stroke emerged as the top three. If you're managing hospitals, these top three are your book of business. In 40 or 50 years this list will change again because of the human genome project, he said. He challenged us to use this information in our strategic planning and thinking.

With heart disease, we're moving toward near-perfect robotic surgery, according to Mr. Dwyer. Already, Da Vinci Surgical Systems' device has been approved by the FDA. As a result, we will correct some defects in utero. He also predicted a greater use of stem cells.

Middle-aged at 100?
Mr. Dwyer said probably his most controversial prediction is that some people will live to 200 years. At the time of Christ the average lifespan was 25 years. In 1900, the average age was 47. A child born in today's hospitals will live about 80 years. Their children will live 140 years.

Trends, Issues and Strategic Implications for Healthcare Providers

Presentation:
Don Wegmiller, President and CEO, HealthCare Compensation Strategies, Minneapolis, Minn.

CEO Panel:
William Young, Jr., President and CEO, Central Maine Healthcare Corp., Lewiston, Maine
Van Johnson, President and CEO, Sutter Health, Sacramento, Calif.
David Benfer, President and CEO, Saint Raphael Healthcare System, New Haven, Conn.

Mr. Wegmiller discussed trends and issues facing the healthcare industry and their strategic implications. He noted the following trends:

1. Strategic planning. Short-term viability concerns are preventing organizations from doing necessary strategic planning.

2. Workforce issues. Shortages will continue and the workforce pool will keep shrinking. The workforce between the ages of 20 and 50 will decline in the next 10 years by about 9%. California has already passed legislation mandating staffing ratios for nurses, and similar measures could affect other employees. To address the labor shortage, hospitals are relying on outsourcing and computerization to replace personnel.

3. Merger mania is subsiding, largely because of unsuccessful mergers. All three rating agencies suspect that most organizations are ill prepared to carry off a successful merger. A consensus has emerged that physician integration was a good strategy, but horribly executed.

4. Quality of care has been elevated to a public policy issue and will remain so for the foreseeable future. Quality-of-care activity is high, but provider groups are not leading it. Electronic medical records, an area in which hospitals have a long way to go, may offer one of the most effective quality-improvement solutions.

5. Consumer involvement in healthcare is growing, as evidenced by 52 million inquiries to healthcare Web sites. Provider report cards/hospital ratings are proliferating. Consumer demands are driving IT innovation. Patients are getting more difficult to satisfy.

6. For-profit chains will re-emerge as buyers and competitors. The not-for-profit healthcare arena had a breather while the federal government sued for-profit chains. Large for-profits are doing well financially and will be on the hunt for acquisitions.

7. Healthcare leaders remain hard to find. The leadership supply and demand ratio remains poor. One in seven CEOs leaves each year, and replacement time has lengthened in the last five years from four months to seven months. Healthcare leaders are highly paid, remain in high demand and are likely to be even more highly paid. Mr. Wegmiller called for a shift to a talent-based strategy at all levels of management.

8. Financial viability of many hospitals is still in question. 33% of hospitals lost money in 1999, and that figure will go to 40% when 2000 figures are out. Margins were a robust minus 4%.

9. Capital availability is decreasing. All three rating agencies report more downgrades than upgrades. (The weighted average is somewhere between an A- and a triple B+). Capital rating agencies look at long-range capital plans, yet only one in five healthcare organizations has one.

10. Board structures and governance aren't changing. Boards remain too large and too local. As opposed to strategic issues, he recommended that board members should be selected on the basis of knowledge, skills and abilities that will benefit the organization over the long term and not just emphasize short-term gain.

William Young, Jr., President and CEO, Central Maine Healthcare Corp., Lewiston, Maine

In his response, Mr. Young focused on what he called getting back to basics by making sure that hospitals capture all charges and realizing the full revenue potential of high-volume inpatient operations. He noted the financial damage that results from poorly documented and coded care,

EHealth Update

This is a tool for ongoing measurement of your activities against the market trends and is available at no charge to those members who piloted the program last year. Members can update the information submitted last spring and compare your Ehealth plans and activities with the industry. An interactive Website and reporting tool has been established. Please call Cynthia for your password.

adding, "There's a lot of money on the billing room floor that we need to pick up and get into our cash flow." By more aggressively collecting accounts receivable, Central Maine reduced AR days to 60.8 from 92.7 and added $10 million to net income.

Mr. Young expressed surprise at a statistic cited by Mr. Wegmiller that showed fundraising as the leading concern of corporate board members. In Mr. Young's opinion, boards should focus on assuring that the right people are in top management jobs, on quality of care and strategy.

Van Johnson, President and CEO, Sutter Health, Sacramento, Calif.
Mr. Johnson cited the challenges of attracting physicians to his area in Northern California, in part because of high housing costs. In response, Sutter will actually help with home financing. He supported the idea of locally recruiting board members, but added that they must be properly trained to understand their responsibilities. In support of this, Sutter holds a system-wide quarterly forum for local board chairs that includes a report on criteria used to measure and reward CEO performance.

David Benfer, President and CEO, Saint Raphael Healthcare System, New Haven, Conn.
Mr. Benfer suggested that more attention should be paid to the Leapfrog Group's efforts to promote evidence-based referrals and the quality-improvement efforts of the Institute of Medicine. He predicts that their efforts will drive up costs and contribute to an increase in malpractice litigation.

Proven Tools for Patient Safety

Introduction:
David Calendar, M.D., Senior VP and CMO, University of Texas M.D. Anderson Cancer Center, Houston; Mitch Morris, M.D., VP, First Consulting Group and former Senior VP and CIO, University of Texas M.D. Anderson Cancer Center, Houston

Moderator:
David Classen, M.D., VP, First Consulting Group, Salt Lake City, Utah

Panel:
Bob Cook, Director, Loss Prevention and Program Services, Ascension Health, St. Louis, Mo.
Cindy Spurr, MBA, RN, Corporate Director, Clinical Systems Management, Partners Healthcare System, Inc., Chestnut Hill, Mass.
Tom Tinstman, M.D., Senior VP, Cerner Corp., Kansas City, Mo.

Technology: Part of the Solution
Dr. Calendar outlined efforts M.D. Anderson has taken that to impact the cultural change needed for patient safety. He said that making improvements requires technology changes, process improvements and most important, cultural improvements; large investments in technology are not required. Simple technologies and cultural changes can do much to raise awareness about patient safety and improve the environment for patients.

However, related to technology, Dr. Calendar cited the following new programs:

- An inpatient pharmacy robot nicknamed "Tex-Rx," installed in 1996, fills 5,000 prescriptions per day and has not made one error in five years.
- Order sets are now available online to clinicians. Those arose from efforts in evidence-based medicine and fit nicely at an institution that does protocol research.

- Physicians prescribe online, using a browser-based system.
- Clinical calculators for chemotherapy are online, which reduces errors when calculating doses.
- A digital diagnostic imaging system handles 400 CT scans per day, and distributing digitized images is done immediately, rather than passing film.

Bob Cook, Director, Loss Prevention and Program Services, Ascension Health, St. Louis

Standards of Care and Performance Evaluation

Mr. Cook reported that, starting this July, Ascension will incorporate formalized aspects of patient safety that may include medication safety and obstetrical care into Ascension's 50 CEOs' performance evaluations. Ascension's leadership has committed to a system-wide priority of reducing errors and malpractice claims while improving care.

He said that since the organization is self-insured for professional liability, it conducted a system-wide root cause analysis of malpractice claims to identify patterns. Mr. Cook urged vigilance in assuring that standards are consistently followed, and noted that those standards of care serve as substantiation for a plaintiff's attorney! Ascension views standards of care as minimal expectations rather than absolute rules, and has developed loss-prevention guidelines at all of its hospitals.

Cindy Spurr, MBA, RN, Corporate Director, Clinical Systems Management, Partners Healthcare System, Inc., Chestnut Hill, Mass.

A Culture of Safety

Ms. Spurr noted that while technological tools can help improve patient safety, there are limits to what automation can accomplish. To help develop a culture of safety at Partners hospitals, the chief medical officer, the chief operating officer and the chief nursing officer make rounds every week for an hour at inpatient units and randomly talk to nurses and physicians. They sometimes present hypothetical examples of errors and discuss reporting issues with the teams. The goal is to encourage an atmosphere where people feel more comfortable talking about errors. Ms. Spurr also told of regular meetings of department heads from throughout the Partners system to discuss patient safety issues.

Tom Tinstman, M.D., Senior VP, Cerner Corp., Kansas City, Mo.

A Three-Pronged Attack

Dr. Tinstman suggested that three changes must take place in order to reduce medical errors:

- **Improving access to information.** He advocated making all necessary changes, whether simple or complex, to improve access to patient information and medical knowledge.
- **Reducing re-copying errors.** Dr. Tinstman noted that the College of American Pathologists stamped out re-copying (which leads to 5-10% error rate), in the 1960s and 70s and our labs today are safer as a result. Whereas in hospitals, everything that gets done with the pen gets re-copied at least once, maybe several times.
- **Monitoring.** He reminded us that rules engines can monitor 24 hours a day, 7 days a week and catch items that people may forget. For example, a physician could prescribe Gentamicin and forget to check the patient's creatinine level the next day. The computer won't forget.

SI April Membership Conference Discussion Documents are Available

Discussion documents from the SI Conference are available on the Scottsdale Institute Website at www.scottsdaleinstitute.org. SI Members can enter their username and password, and then access the Members Only section. The presentations can be accessed under Conferences. Please contact SI if you have any questions.

Evaluating IT Outsourcing: Is it Right for You?

Panel:
Don Kooy, CIO, McLaren Healthcare Corporation, Flint, Mich., and President and CEO, Lapeer Regional Hospital
Guy Scalzi, VP, FCG Management Services, LLC, New York Presbyterian Healthcare/FCG, New York
David Pryor, M.D., Senior VP and CIO, Allina Health System, Minneapolis

Lessons Learned at McLaren

Mr. Kooy reported on an outsourcing partnership that McLaren set up with Provider HealthNet Services (PHNS). McLaren has a 10-year service agreement with and owns 21% of PHNS, and is their first client. PHNS took over McLaren's IT, medical records, coding and transcription in January 2000.

Each McLaren facility has clinical and financial service level agreements with PHNS. Director-level managers get monthly reports with succinct measures, including uptime, delivery of reports, and timeliness of interfaces.

PHNS conducted detailed hardware and software inventories as well as vendor contract and invoice audits when they took over, which helped McLaren set priorities and eliminate redundant systems.

McLaren Outsourcing Savings ($000)

	2000 Actual Savings	2001 Projected Savings
Depreciation Restructuring	506	1,593
IT Staff Reduction	660	700
Consulting	475	1,200
Thin Client/Lockdown	25	120
MR Staff Reduction	100	200
Operations Consolidation	60	200
Help Desk Consolidation	60	200
LAN/WAN Leverage	120	225
Hardware/Software	120	250

Source: McLaren Healthcare Corp.

Guy Scalzi, VP, FCG Management Services, LLC, New York Presbyterian Healthcare/FCG, New York

New York Presbyterian: First Year Progress Report

Mr. Scalzi offered an update on the year-old outsourcing contract between New York Presbyterian Healthcare and FCG Management Services LLC (FCGMS). He reviewed the following key benefits achieved to date:

- **Service-Level Agreements.** The most important achievement in the first year is in the area of service-level agreements. Noting that IT has often been measured in anecdotal rather than quantitative terms, he argued that the only way to get objective criteria is through SLAs. FCGMS agreed to initiate 26 SLAs by May 2001. Fifteen were done by the end of last year, including:
    - *Host availability*
    - *Server availability*
    - *Help desk*
    - *Network availability*
    - *Interface engine availability*
    - *Interface availability*
    - *Desktop support*
- **Documentation.** Mr. Scalzi reported that FCGMS extensively documented the structure and content of New York Presbyterian's network.
- **Solid Planning.** FCGMS established a five-year overall architecture plan for the network and three-year plans for each institution.
- **Skills Enhancement.** Mr. Scalzi reported that problems in some areas were addressed by replacing staff with fewer but more highly skilled personnel.

He noted that FCGMS has recovered more than $12 million in revenue from a variety of sources in the first year of the New York Presbyterian contract.

David Pryor, M.D., Senior VP and CIO, Allina Health System, Minneapolis

When The Fit Isn't Right

Dr. Pryor agreed that outsourcing IT could help the system meet its capital needs, however, he also cited several potential disadvantages to outsourcing that led to Allina's decision not to proceed:

- **Human resources issues.**
- **Loss of control.**
- **Core competency.**
- **Risk of vendor failure.**
- **Uncertainty in the face of future technology changes.**
- **Strategic vulnerability.**

Upon completing its review, Allina reached bottom-line conclusions that contributed to its decision not to outsource, Dr. Pryor reported:

- **Current opportunities for significant IS cost reduction were minimal;** outsourcing is unlikely to reduce IS expenses by 15% below current budget. An outsourcer would need to generate an initial net cost reduction of 22% to 25%, to achieve an after-tax return of 3.5% to 5%, while maintaining and improving service levels without added expenditures.
- **Allina could achieve organic IS savings of $3 million to $4 million on its own.**

Day Two

What You Really Need (and Want) to Know About eBusiness in Healthcare

Introduction:
Ralph Wakerly, VP, First Consulting Group

Panel:
David Bradshaw, VP and CIO, Memorial Hermann Healthcare System, Houston
Rear Admiral Mike Cowan, Deputy Executive Director, TRICARE Management Activity, Falls Church, Va.
Scott Decker, CEO, President and Director, HEALTHvision, Irving, Texas
John Hummel, VP and CIO, Sutter Health, Sacramento, Calif.
Paul Tang, M.D., Chief Medical Information Officer, Palo Alto Medical Foundation—Sutter Health, Los Altos, Calif.

Wiring Physicians and Patients

Created through the merger of Memorial and Hermann health systems in 1997, Memorial Hermann's view is that, while important, the Internet cannot be all consuming. A year ago, the organization looked at whether it had the focus, resources and staying power to sustain an in-house Internet initiative, or whether it needed a partner. At the time, keeping Internet talent was also a big challenge and Memorial Hermann signed an outsourcing contract with HEALTHvision.

Mr. Bradshaw discussed Physician Link, which was launched as a result and which carries the health system's brand. Physician Link's Web portal is available wherever physicians have Web access and therefore turnaround time to get test results has improved dramatically.

Memorial Hermann's patient portal has a pre-registration capability that allows a patient who has been referred by a doctor to complete all pre-registration before they come to the hospital. All forms that must be physically witnessed are ready when the patient shows up.

John Hummel, VP and CIO, Sutter Health, Sacramento, Calif.

Steps to an E-enabled Business

Mr. Hummel discussed several steps Sutter has taken to e-enable business practices, including:

- **Consumer Web template.** All 65 Sutter business units share a common Web template running on a common platform. Each is branded locally, but runs across the system in an efficient fashion that's saved $2.5 million in development and hosting fees.
- **Online patient services.** Sutter has introduced online registration, online payment, a pre-surgical and post-surgical information system, and disease management using telemedicine to allow at-home patient monitoring.
- **Connecting physicians**. Three years ago Sutter was told that it would cost $14.4 million to provide all 4,813 Sutter physicians access to its Cerner clinical information system. Web technology has dropped the price to a little over $2.5 million.
- **Business-to-business processes.** Sutter is a beta site for Lawson, and has full XML connectivity into 80% of online transactions. By the end of 2003, 35,000 employees' paychecks will run on the Lawson system. Employees obtain online checks or remittance stubs, change their W-4s and benefit options online.

The Case For Change

The Case For Change Tool for planning IT capital projects is available to all SI members free of charge on the SI website: www.scottsdaleinstitute.org. Members who use the tool and modify it can send the final result to Scottsdale Institute allowing us to build a library for members to share. Look for an upcoming Information Edge issue to revisit The Business Planning for IT Investment.

- **Security concerns.** Sutter IT actively and constantly monitors Sutter's and its vendors' sites because Sutter requires that vendors adhere to its security standards.

The Business Case for PACS (Picture Archiving and Communication System)

Moderator:
Shelli Williamson, Executive Director, Scottsdale Institute, Chicago, Ill.

Panel:
David Bradshaw, VP and CIO, and
Shane Spees, Assistant VP, Operations, Memorial Hermann Healthcare System, Houston
C. Matthew Calais, Senior VP and CIO, Legacy Health System, Portland, Ore.

The Case for PACS

Memorial Hermann Hospital performs 200,000 radiology procedures a year. Mr. Spees described how they developed the business case and negotiated a successful contract based on ROI. Bradshaw and Spees listed six objectives that the system sought from a PACS implementation:

- **Improved image management**
- **Increased access to images**
- **Improved efficiency and productivity of radiologists and technologists**
- **Reduced operating expenses**
- **Increased revenue**
- **Opportunity to reengineer outdated and inefficient processes**

Since Memorial Hermann spends $1 million a year on radiology supplies, they concluded that they would save enough in operating expenses over four to five years to pay for a PACS.

C. Matthew Calais, Senior VP and CIO, Legacy Health System, Portland, Ore.

The Limits of PACS

Mr. Calais discussed Legacy's evaluation of PACS over several years and why they postponed a purchase until now. He argued that the decision to implement PACS should be strictly a financial one.

Six years ago, Legacy concluded that a full PACS implementation was not justified, and that PACS would show a return on investment only after Legacy achieved substantive market growth in imaging revenue. A full PACS would have cost Legacy $16 million. Three years later, the cost had dropped to $12 million. A third review this year found that a full PACS would cost $6.5 million. So, by waiting, Legacy has avoided spending $10 million.

He also led an open discussion about the cultural changes and process changes required to achieve the appropriate return.

Wrap-up

This year's conference was both one with the highest attendance and one of the highest rated ever in terms of audience satisfaction. Still, our goal is to improve so that next year's conference is even better. In that spirit, we welcome your feedback so we can improve the content and format with an emphasis on audience interaction. Look for a survey to come your way this summer. We look forward to hearing from you to help shape next year's agenda.

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