



● **PATIENCE REWARDED.** After a four-year computerized physician order entry rollout, Montefiore Medical Center has full physician compliance—a crucial step toward both improved patient care and a return on investment, says Steven M. Safyer, M.D., senior vice president and chief medical officer. "To make it profitable, you must work hard to tailor it to your environment. These systems are expensive, and physicians are not always ready to embrace them."

Nothing Measured, Nothing Gained

ROI on technology investments can be found—
if you know where to look.

Back in the spring of 2003, nothing much was blooming for Kevin Baumlin, M.D. The director of informatics in the emergency medicine department at Mount Sinai Hospital in New York, Baumlin was mired in an information systems makeover that was in danger of sinking in a sea of red ink. Having contracted with Cerner Corp. for a new ED information system, Sinai, which has 1,000 staffed beds, was staring down some \$2 million in cost overruns resulting from hardware, software and infrastructure issues. Even though the Cerner system offered sophisticated data capture, a protracted installation was threatening to undermine value. "We could not see the ROI, so we chose a less expensive alternative," Baumlin recalls.

Of course, Sinai is not the first hospital to confront runaway IT expenditures. As many hospital chief information officers can attest, pinpointing a return on investment

on multimillion dollar IT projects is tricky. Projects have a way of coming in over budget, and even when they don't, measuring the value of an electronic medical records system, a new lab system or a wireless network is a difficult proposition in a service industry where reimbursement is only marginally linked to performance. "As an industry, healthcare does a poor job of identifying metrics to show ROI" on clinical IT, says Mike Davis, executive vice president of HIMSS Analytics, a Chicago-based research firm and nonprofit subsidiary of the Health Information and Management Systems Society.

Technology investments *can* pay off both financially and clinically by boosting revenue, trimming expenses, streamlining workflows and improving care delivery. Take the right steps and the ROI can be accelerated, even boosted. But according to Davis, many hospitals do not find ROI in their IT projects simply because they

have not identified any measurable components. “In many organizations, ROI is not the driving force,” he says. “They are going to try to improve their outcomes or processes, so indirectly there may be an ROI. But to express the ROI meaningfully takes a lot of work.”

Outside help

When Inova Health System wanted to revisit its own ROI estimates on a picture-archiving and communications system deployment that began in late 2004, the six-hospital Falls Church, Va.-based system hired IT consultant Jay Backstrom. Inova was plowing some \$6.6 million into the PACS from Stentor. The health system figured it could save \$9.2 million after the first three years by reducing costly film and increasing radiologists’ productivity. But Backstrom revised the estimates based on a two-year deployment. By cutting the deployment to nine months and speeding the adoption of the technology among physicians, Inova could easily see a \$13 million return after three years, according to Backstrom’s analysis.

“We analyzed the hospitals and prioritized which should come first,” recalls Backstrom, a vice president at Technology Solutions in Chicago. “We tried to avoid doing a pilot and the ‘slow burn.’ We focused on the referring physicians who were ordering the most tests—mostly ortho, surgeons, neurosurgeons and ED docs.” Backstrom’s plan worked, and the PACS technology sped report turnaround time, reduced film expenses, and decreased related labor costs. Inova is on track to hit the ROI projections, he says.

PACS technology offers a clear example of financial return, says Davis. According to HIMSS data, more than 80 percent of large hospitals have deployed PACS. “The ROI is easy,” says Davis.

Where the dollars are

But even EMR technology can offer major financial returns, especially in the physician practice setting. Southeast Texas Medical Associates recouped its initial EMR investment of \$750,000 within a few years, says James Holly, M.D., chief executive officer of the 26-physician multispe-

cialty group based in Beaumont, Texas. After deploying EMR technology from NextGen Corp. in 1998, the practice conducted a formal independent ROI analysis in 2001. Key elements include:

- reduced transcription costs, as physicians document electronically, account for \$14,000 in monthly savings.
- increased revenue, as the practice is able to justify a higher level of coding.
- increased services, as physicians are prompted to do preventive screenings.

Holly dismisses the notion that EMR technology is too expensive to warrant any meaningful returns for physicians. But he cautions that physicians must do more than just document encounters electronically to see any financial gain. “If you gain no leverage by auditing yourself and applying national standards of care, then EMR is too expensive,” he says. “But with electronic

Proportion of executive sponsors responsible for demonstrating ROI on IT-enabled business or clinical initiatives. Source: HIMSS Analytics

patient management and decision-support tools, EMR is cheap.”

For example, Southeast Texas Medical Associates physicians are prompted to make sure patients are receiving adequate tests for their age group or diagnosis. Without the electronic prompts, it’s easy for physicians to focus on a narrow problem and miss legitimate billing opportunities. “Patients will never say they want preventive care,” says Holly. He contends that in the short run, high-quality care will cost more, but that in the long run, it will save money by averting costly hospitalizations.

Holly’s argument is the very premise of many pay-for-performance initiatives. As more data is gathered on the relationship between automation and improved outcomes, P4P programs will get a boost, according to Davis. “As the model shifts to reimbursement for bet-

ter outcomes, it will improve the ROI for EMRs.”

A little intuition

Meanwhile, many hospital leaders investing millions in clinical IT are just banking on intuition. In the past decade, 1,060-staffed-bed Montefiore Medical Center has spent \$150 million on information systems, with half of that on purely clinical IT, such as order entry. But when it comes to measuring ROI, the Bronx, N.Y.-based academic medical center is laying low. “Our success is linked to IT,” says Steven M. Safyer, M.D., senior vice president and chief medical officer. “But you cannot tease the thing apart. It is a myth that you simply put the money into IT and then the returns come out the other end. To make it profitable, you must work hard to tailor it to your environment. These systems are expensive, and physicians are not always ready to embrace them.”

Montefiore’s computerized physician order entry rollout took four years, but now the facility has full physician compliance—a major step toward improved patient safety and better care, says Safyer. “CPOE took longer than we envisioned. You need to have the stomach for a large investment where you cannot always pinpoint the ROI.”

After scrapping its Cerner client-server installation, Mount Sinai opted to lease an emergency department information system from Picis, spending about \$100,000 annually for the software. After completing the deployment in the summer of 2004, Sinai has seen improvement in both hospital and physician billing, says Baumlin. Thanks to enhanced charge capture, physician revenue more than doubled, from \$2.5 million to a projected \$6 million for 2006. Likewise, hospital revenue jumped from \$9.8 million to a projected \$14 million.

“It’s a misconception you won’t make money with an EMR,” Baumlin says. ■

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