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Cedars-Sinai Doctors Cling to Pen and Paper

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LOS ANGELES -- It was a dirty little secret among the nurses. A veteran physician at the prestigious Cedars-Sinai Medical Center here had been mixing up a certain drug dosage for decades.

Every time he wrote the prescription for 10 times the proper amount, a nurse simply corrected it, recalled Paul Hackmeyer.

Then the computers arrived -- and when the doctor typed in his medication order, the machine barked at him. And he barked back.

"He thought the computer was screwing up," said Hackmeyer, an obstetrician-gynecologist who did not want to identify his embarrassed colleague. "What we discovered was that for 20 years he was writing the wrong dose."

For proponents of electronic medical records, the tale of the confused physician would seem the perfect argument for using technology as a safety net for fallible humans. Instead, his reaction proved to be emblematic of an array of problems that grew into a full-blown staff rebellion in the fall of 2002 and forced Cedars-Sinai to shelve its \$34 million computer system after three months.

For every doctor, nurse and executive here, there is a different explanation of what went wrong. The technology, created in-house, was clunky and slow. Only a fraction of the 2,000 doctors with privileges at the hospital were involved in developing the system, even though they faced a dramatic change in the way they practiced medicine, from jotting notes on a clipboard to logging onto a computer to type in their treatment and medication orders. Training was insufficient, and administrators opted for what Hackmeyer called a "big bang" implementation rather than switching one ward at a time.

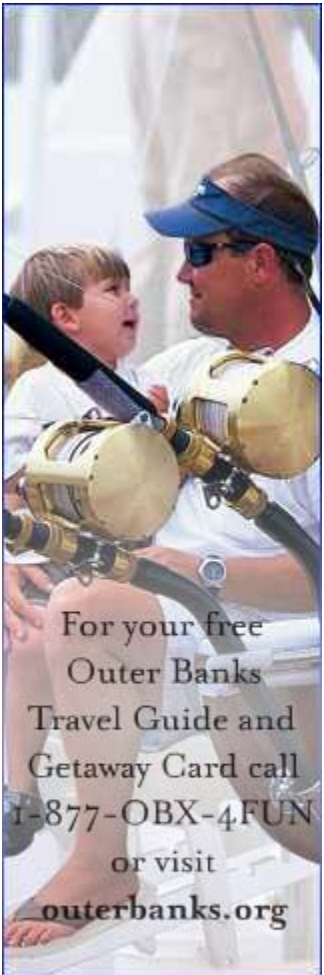
Now, two years later, the hospital often viewed as an industry leader is being held up as a cautionary tale in the drive toward bringing medicine into the computer age, and officials here say they have no intention of trying again for at least a year.

The marriage of information technology and medicine is all the rage in health policy circles. Five years after the Institute of Medicine issued a landmark report cataloguing the life-and-death consequences of medical errors, corporate leaders, politicians and physicians are embracing computer-assisted health care.

Sen. Hillary Rodham Clinton (D-N.Y.) and former Republican House speaker Newt Gingrich (R-Ga.) tout it as a tool for improving safety and quality. Employers, desperate to rein in soaring medical bills, are pressing doctors and hospitals to use computers to reduce costly mistakes. And President Bush has asked Congress for \$125 million for computerized patient safety projects this year.

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"Most industries in America have used information technology to make their businesses more cost-effective, more efficient and more productive," Bush said in a recent visit to the Cleveland Clinic. "The truth of the matter is, health care hasn't."

Yet the spectacular failure at Cedars-Sinai -- described by Bush's technology guru as "the worst case" he has seen -- demonstrates how difficult it can be to make the transition. Even well-financed, sophisticated hospitals face enormous hurdles moving from the Marcus Welby era of pen and paper to one in which doctors spend precious minutes entering data into a machine that never went to medical school and does not have the flexibility to make nuanced judgment calls.

"First and foremost, it was change," said nursing chief Linda Burnes Bolton. By January 2003, at a heated showdown with management, several hundred doctors demanded an end to the hospital's short-lived experiment.

"The important lesson of the Cedars-Sinai case is that electronic health record implementation is risky," David J. Brailer, national coordinator for health information technology, said in an interview. "Up to 30 percent fail."

Today, about 6 percent of hospitals nationwide have computerized systems for doctors' orders. Ironically, the rationale for introducing information technology is also one of the primary reasons the transition is so difficult, he said.

"You are moving from a freewheeling environment -- which is why there are a lot of errors -- to very controlled processes" that often do not account for creativity, instinct and judgment, he said. "It changes the way everyone interacts."

A Matter of Time

In the medical world, Cedars-Sinai is known for pioneering new techniques and technologies. Researchers here invented a bio-artificial liver and the Swan-Ganz catheter for monitoring blood flow around the heart. And Cedars-Sinai was named by an industry magazine as one of the top 100 "most wired" hospitals in the United States.

"One of the great challenges doctors face is the explosion of medical knowledge," said chief executive Thomas Priselac, explaining his support of electronic medicine. "There is more knowledge than any one person can hold in their head."

Located a heartbeat from downtown Beverly Hills, the Cedars-Sinai complex has computers in the emergency department and intensive care unit. Nurses use computers to track patients, order tests and check records. A few doctors, such as John Harold, sleep with a laptop nearby to handle middle-of-the-night emergencies.

"I can't function as a physician without using a computer," said Harold, a cardiologist and former chief of staff. But the system Harold and his colleagues enthusiastically use is one in which doctors receive information such as lab results and X-rays. What they objected to was a system that required them to enter information.

"I personally liked using it," Harold said. "My frustration was the time" involved.

Each time a patient arrived, pulmonary specialist Andrew S. Wachtel would have to find a computer

(preferably one of the newer, faster ones), log in and begin checking boxes in at least a half-dozen categories to indicate the patient's symptoms, allergies, diagnosis, tests and medications. A task that once took three minutes to scribble shorthand at the patient's bedside suddenly devoured 30 to 40 minutes, he said.

"Who's got five extra hours in a day?" he said. "As it is, we work 80 hours a week."

The time issue was the subject of such intense debate that one doctor clocked colleagues with a stopwatch to prove the delays were exaggerated.

"The perception of time and actual time sometimes are not congruent," said Michael Langberg, Cedars-Sinai's vice president and chief medical officer. "It almost doesn't matter what the actual time was."

Although hospital officials acknowledge there were bugs in the system, they say many of the tensions were cultural. Nurses, who for decades have translated physicians' scrawls, were thrilled they no longer faced the choice of guessing -- or pestering doctors with after-hours questions. Younger doctors who grew up using computers and full-time staff physicians who were not also juggling a private practice were more receptive.

"No question this would be a much better way to take care of patients," said Albert Fuchs, an internist whose Beverly Hills office is paperless. "Sticking with paper ordering is dangerous." The goal is to "limit our exertion to exercising judgment, because that's what we're best at" and let computers do things such as tracking drug interactions.

After he created an electronic order form with all of the procedures for a routine delivery, Hackmeyer said the computer saved time and eliminated errors caused by sloppy handwriting or a sleepy doctor. Suddenly, "95 percent of what I did was one click away," he said.

Crying Wolf

Yet even techies found flaws. The system refused to recognize even slight misspellings, so Hackmeyer's efforts to order the laxative Dulcolax -- easily understood by nurses even if he was off by a letter or two -- were thwarted by the computer. It was also impossible to use it to order "clear liquids and advance diet as tolerated," another routine instruction when easing a patient back to solid foods, he said.

But the biggest complaint -- with potentially dangerous implications -- involved the automatic alerts that flashed on the screen every time a doctor made an out-of-the-ordinary request. Designed to catch errors before they occur, the alerts became an unending series of questions, reminders and requests on fairly basic decisions.

Infectious disease specialist Stephen Uman said he went around in circles trying to give patients the antibiotic Vancomycin. Although the recommended dosage is 928 milligrams, Uman knows to round up to 1 gram because pharmacies dispense the medication in multiples of 250 milligrams. But when he typed 1 gram into the computer, the machine rejected the request.

Cedars-Sinai was unable to strike a balance between useful computer warnings and a machine that seemed to constantly cry wolf, acknowledged Harold, the former chief of staff. "Buried in those annoying alerts is probably one life-saving alert," he said.

M. Michael Shabot, a surgeon and medical director of the hospital's information services, agreed the

alerts were a major stumbling block. But data collected in the three months the system was operational showed that physicians "backed out" of 35 percent of the orders that triggered alerts, suggesting the computer was preventing dangerous drug reactions and complications.

Even with that data, Cedars-Sinai is in no rush to try again. The hospital is waiting for the technology to improve and perhaps for more young, tech-savvy doctors to arrive. In the meantime, Neil Romanoff, the physician who oversees safety procedures here, said the hospital relies on extra layers of staff to double- and triple-check its procedures.

"We trap the potential misadventures," he said. "But that could be better done with technology."

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