

March 9, 2005

## Doctors' Journal Says Computing Is No Panacea

By [STEVE LOHR](#)

**T**he Bush administration and many health experts have declared that the nation's health care system needs to move quickly from paper records and prescriptions into the computer age. Modern information technology, they insist, can deliver a huge payoff: fewer medical errors, lower costs and better care.

But research papers and an editorial published today in The Journal of the American Medical Association cast doubt on the wisdom of betting heavily that information technology can transform health care anytime soon.

One paper, based on a lengthy study at a large teaching hospital, found 22 ways that a computer system for physicians could increase the risk of medication errors. Most of these problems, the authors said, were created by poorly designed software that too often ignored how doctors and nurses actually work in a hospital setting.

The likelihood of errors was increased, the paper stated, because information on patients' medications was scattered in different places in the computer system. To find a single patient's medications, the researchers found, a doctor might have to browse through up to 20 screens of information.

Among the potential causes of errors they listed were patient names' being grouped together confusingly in tiny print, drug dosages that seem arbitrary and computer crashes.

"These systems force people to wrap themselves around the technology like a pretzel instead of making sure the technology is responsive to the people doing the work," said Ross J. Koppel, the principal author of the medical journal's article on the weaknesses of computerized systems for ordering drugs and tests. Dr. Koppel is a sociologist and researcher at the Center for Clinical Epidemiology and Biostatistics at the University of Pennsylvania School of Medicine.

The research focused on ways that computer systems can unintentionally increase the risk of medical errors. The study did not try to assess whether the risks of computer systems outweigh the benefits, like the elimination of errors that had been caused by paper records and prescriptions.

Yet Dr. Koppel said he was skeptical of the belief that broad adoption of information technology could deliver big improvements in health care. "These computer systems hold great promise, but they also introduce a stunning number of faults," he said. "The emperor isn't naked, but pretty darn threadbare."

Another article in the journal looked at 100 trials of computer systems intended to assist physicians in diagnosing and treating patients. It found that most of the glowing assessments of those clinical decision support systems came from technologists who often had a hand in designing the systems.

"In fact, 'grading oneself' was the only factor that was consistently associated with good evaluations," observed the journal's editorial on computer technology in clinical settings, titled "Still Waiting for Godot."

The principal author of the editorial, Dr. Robert L. Wears, a professor in the department of emergency medicine at the University of Florida College of Medicine in Jacksonville, said the message from the research studies was that computer systems for patient records, the ordering of treatments and clinical decision support have not yet shown themselves to be mature enough to be useful in most hospitals and doctors' offices.

"These systems are as much experiments as they are solutions," said Dr. Wears, who also holds a master's degree in computer science.

The medical journal's articles, according to some physicians and technology experts, tend to be too broad in their criticisms because the technology is still developing rapidly and some of the computer systems reviewed were old.

Still, even those experts conceded that the articles raised some good points.

"They are absolutely right that the people who design these systems need to be in tune with the work," said Dr. Andrew M. Wiesenthal, a physician who oversees information technology projects at Kaiser Permanente, the nation's largest nonprofit managed care company. "But the newer systems are designed more that way."

Dr. David J. Brailer, the administration's national coordinator for health information technology, termed the articles a "useful wake-up call," though he said the findings were not surprising. In health care, as in other industries, he said, technology alone is never a lasting solution.

"The way health information technology is developed, the way it is implemented and the way it is used are what matter," Dr. Brailer said.

But Dr. Brailer did take issue with the suggestion that the Bush administration is encouraging a headlong rush to invest in health information technology.

For the next year, he said, his policy efforts will be to try to encourage the health industry to agree on common computer standards, product certification and other measures that could become the foundation for digital patient records and health computer systems.

"We're not ready yet to really accelerate investment and adoption," Dr. Brailer said. "We have about a year's worth of work."

Dr. David W. Bates, medical director for clinical and quality analysis in information systems at Partners HealthCare, a nonprofit medical group that includes Massachusetts General Hospital and Brigham and Women's Hospital, said careful planning and realistic expectations were essential for technology in health care.

"But the danger is if people take the view that computerized physician order entry and other systems are a bad idea," said Dr. Bates, who is a professor at the Harvard Medical School. "That would be throwing out the baby with the bath water."