

Study says there's little benefit from electronic health records from 2005 to 2007

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(PhysOrg.com) -- Electronic health records did little to improve the quality of health care from 2005 through 2007, even when bolstered by software that gives doctors treatment tips for individual patients.

That's what two researchers at the Stanford University School of Medicine found by analyzing nationwide physician survey data from nearly 250,000 patient visits over that three-year period.

The study was published online Jan. 24 in the *Archives of Internal Medicine*.

"There's a lot of enthusiasm and money being invested in [electronic health records](#)," said the senior author of the study, Randall Stafford, MD, PhD, associate professor of medicine at the Stanford Prevention Research Center. The federal government's economic stimulus package of 2009 invested \$19 billion in health information technology, including incentives for adoption of electronic health record systems. "It makes sense, but on the other hand it's an unproven proposition. When the federal government decides to invest in health-care technology because it will improve the quality of care, that's not based on evidence. That's a presumption."

And based on the new study, that presumption is in doubt, at least when it comes to the current use of electronic health records, even those that offer treatment guidance — a feature called clinical decision support.

The new study builds on a 2007 analysis by Stafford and colleagues showing that electronic records alone had not made an impact. In the new study, Stafford and former Stanford undergraduate student Max Romano (now a medical student at Johns Hopkins) analyzed more current data and looked specifically at whether clinical decision support improved the quality of care.

“Decision support software provides physicians with specific guidance based on best practice,” said Stafford. “For example, the computer system might flash up an alert reminding physicians about something they failed to do (for example, checking blood pressure). In other cases, the software might question a particular choice the physician has made about an order for a diagnostic test or a medication. If a physician orders ampicillin for a woman with a urinary tract infection, the computer program will say this isn’t the best antibiotic to use and offer better alternatives.”

The analysis, based on physician survey data from the National Ambulatory Medical Care Survey and the National Hospital Ambulatory Medical Care Survey, revealed that electronic health records were used in 30 percent of U.S. outpatient visits, with clinical decision support software in place for 17 percent of all visits. Other findings were that electronic health records were more likely to be used in the western United States and in group and hospital-affiliated practices than in practices that were smaller or located elsewhere in the country.

“Most studies before ours focused on how single EHR systems work in a few premier academic medical centers, and some of those studies have found significant benefits,” said Romano. “Our study takes a different approach: We looked at all non-federal outpatient settings in the United States, from solo private practices to community health centers, to see whether EHRs were having any noticeable impacts in the real world, and we found no significant differences in care quality.”

So why didn't electronic health records translate into better care? "These are complicated systems used by individuals who have received little formal training, at least until recently," said Stafford. As a result, physicians might not have made full use of them.

Some other factors that influence quality of care include physician communication skills, patients' access to health care, patients' health literacy, pressures of outpatient practice and whether physician payment rewards good quality care.

"We've shown that electronic health records and clinical decision support don't by themselves improve quality," said Stafford. "If we want improved quality, we have to look at the whole range of issues that affect quality of care and not put all of our hopes on a single technology."

"Most people will agree that electronic health records are coming regardless of government action," said Romano. "To give a comparison, my supermarket transitioned to electronic records decades ago and my auto mechanic transitioned last year.

"If the government is going to spend \$19 billion dollars in support of a type of software," he added, "that money can't just focus on getting the technology into the marketplace quickly. Perhaps government spending and research should focus more on the issues of quality and equity rather than just broadly endorsing information technology as categorically good."

Provided by Stanford University Medical Center

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