Electronic Records Fail to Deliver Better Care

BY MARY ANN MOON

FROM ARCHIVES OF INTERNAL MEDICINE

Electronic health records, either with or without features to aid clinical decision making, failed to improve the quality of outpatient care in a study of more than 240,000 physician visits across the country, according to a report published online.

The study findings "cast doubt on the argument that the use of electronic health records is a 'magic bullet' for health care quality improvement, as some advocates imply," according to Max J. Romano and Dr. Randall S. Stafford of the prevention research center at Stanford (Calif.) University.

"Since 1991, the Institute of Medicine has repeatedly called for increasing electronic health record (EHR) use to improve" quality, the authors wrote, adding that "the American Reinvestment and Recovery Act stimulus bill set aside $19.2 billion to promote health information technology use in the United States, with the underlying assumption that more health IT is better.

"Nonetheless, evidence linking increased national use of outpatient EHRs to improved quality is lacking," as are data supporting included clinical decision support tools, Mr. Romano and Dr. Stafford said.

They analyzed data from two nationally representative samples collected by the National Center for Health Statistics in 2005-2007, the most recent years available. This included 243,478 patient visits to office-based, emergency department, and outpatient department physicians in family medicine, internal medicine, geriatrics, pediatrics, and general practice.

To evaluate the quality of care provided during these visits, 20 quality indicators were assessed in five areas: pharmacologic management of chronic diseases (such as atrial fibrillation, coronary artery disease, heart failure, hyperlipidemia, asthma, and hypertension); appropriate antibiotic use in urinary tract and viral upper respiratory tract infections; preventive counseling regarding diet, exercise, and smoking cessation; appropriate use of screening tests such as blood pressure measurement, urinalysis, and echocardiography; and inappropriate prescribing in the elderly.

Electronic health records were used in approximately 30% of all patient visits, and clinical decision support features were used in 17%. Neither EHR nor clinical decision support features were associated with higher-quality care.

When an EHR was used, care quality was better than when no EHR was used for only 1 of the 20 quality indicators (dietary counseling). Similarly, when a clinical decision support feature was used, care quality was better for only 1 of 20 indicators (avoidance of unnecessary electrocardiography during routine examinations).

An analysis of the office-based visits separately from the hospital-based visits showed similar results. The use of a clinical decision support feature was helpful only in avoiding inappropriate ECGs in office-based visits. And such features were helpful in promoting smoking cessation counseling in hospital-based visits, but actually were linked to poorer performance in the use of inhaled corticosteroids for asthma and the use of appropriate blood pressure monitoring.

The investigators found that EHRs were used much more frequently during visits in the Western United States than in other regions. A post-hoc analysis showed that this did not correlate with improved care in the Western United States. "Western visits had higher quality than other regions for 2 indicators (appropriate antibiotic use in respiratory infection and avoiding inappropriate ECG ordering), worse quality for 3 indicators (UTI antibiotic selection, diet counseling, and exercise counseling), and similar quality for the remaining 15 indicators," they wrote (Arch. Intern. Med. 2011 Jan. 24 [doi:10.1001/archinternmed.2010.527]).

Since the use of EHRs and clinical decision support features is expected to increase because of federal incentives associated with their use, the real world performance of such systems "should be monitored carefully and [their] impact and cost evaluated rigorously," Mr. Romano and Dr. Stafford added.

This study was supported by the National Heart, Lung, and Blood Institute and Stanford University. ■

VIEW ON THE NEWS

Surprising Results

The "dismal" results reported by Mr. Romano and Dr. Stafford were surprising, given that previously reported randomized controlled trials had found that the use of EHRs and clinical decision support features were strongly beneficial, said Dr. Clement McDonald and Dr. Swapna Abhyankar.

"We know from multiple randomized controlled trials that well-implemented clinical decision support systems can produce large and important improvements in care processes. What we do not know is whether we can extend these results to a national level.

"The results of Romano and Stafford's study suggest not. However, we suspect that the EHR and clinical decision support systems in use at the time of their study were immature, did not cover many of the guidelines that the study targeted, and had incomplete patient data," they wrote.

DR. MCDONALD and DR. ABHYANKAR are with the National Library of Medicine in Bethesda, Md. They reported no relevant financial disclosures. These comments were taken from their invited commentary that accompanied the report by Mr. Romano and Dr. Stafford (Arch. Intern. Med. 2011 Jan. 24 [doi:10.1001/archinternmed.2010.518]).

EHR Interoperability Remains Elusive

BY M. ALEXANDER OTTO

FROM A SYMPOSIUM HELD BY THE SWEDISH MEDICAL CENTER

SEATTLE – True electronic health record interoperability, with seamless information transfer between systems made by different companies, is still years off, agreed panelists discussing health information technology.

They also agreed that when interoperability comes, it will quickly identify emerging public health problems, address outcomes disparities, and lead to new drugs and other treatments because connected systems will, in effect, function as a massive clinical database.

"We would be a failure as an industry if we weren't [eventually] able to find problems with chloromycetin and thalidomide [for example] much earlier" using the new technology, said Judith Faulkner, founder and CEO of the electronic health records (EHR) company Epic Systems. "I would hope we can focus on things such as autism and figure out the causes."

The lack of EHR standardization stands in the way of such potential, panelists said. The tens of thousands of data elements in Epic's database are different from the elements in the Cerner database, which are different from those in the AllScripts database, said Peter Neupert, who is corporate vice president of Microsoft's health solutions group.

One of the reasons, he said, is that vendors have little economic incentive to share information and standardize their approaches.

If an interoperability solution is not found, however, "China's going to figure it out and export it here, or India is going to export it here," said Mr. Neupert. Those countries are developing health information technology to sell at prices lower than U.S. developers' prices, he said.

Microsoft's HealthVault allows consumers to store health information online for quick access wherever they're treated, among other functions. Amalga, another Microsoft product, allows organizations to aggregate and mine clinical data.

Epic is developing Care Everywhere, a system to transfer medical records – with patients' consent – across different EHR systems.

It's also working on a Connect the Docs system to facilitate communication and expertise-sharing between physicians, Ms. Faulkner said.

The federal government is working on interoperability fixes, too, said panelists. The current incentives for physicians and hospitals to install EHR systems include the goal that they eventually will be interoperable.

Among other measures, the 2009 Health Information Technology for Economic and Clinical Health (HITECH) Act funds the formation of regional health information repositories that can be queried by providers. The Office of the National Coordinator for Health Information Technology created by the act is developing a secure, e-mail–like system over which providers can exchange patients' medical information.

HITECH, however, "is a start, not a finish," said Rep. Jay Inslee (D-Wash.), also a panelist. He agreed that the challenge remains in "making sure systems can work together."

Mr. Neupert expressed confidence. "Computing is going to get 1,000 times faster in the next 10 years. With cheap storage and 1,000 times the processing power, we can translate stuff in Epic's data store [and] Cerner's data store and every other data store into a meaningful operational data asset. It's going to be really fabulous for individuals." ■