

Can computer-based decision support control health care costs?

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William M. Tierney, M.D. is president and CEO of the Regenstrief Institute, associate dean for clinical effectiveness research at the Indiana University School of Medicine, chief of medicine for Wishard-Eskenazi Health, and a practicing physician. Credit: Regenstrief Institute

William M. Tierney, M.D. focuses on the potential of electronic medical systems and computer-based decision support to control healthcare costs

in "Controlling costs with computer-based decision support: a hammer, a scalpel or an illusion?" published online in *JAMA Internal Medicine* on April 15.

Dr. Tierney is president and CEO of the Regenstrief Institute, associate dean for clinical [effectiveness research](#) at the Indiana University School of Medicine, chief of medicine for Wishard-Eskenazi Health, and a practicing physician.

Drawing upon his lengthy experience developing, testing and studying electronic medical record systems and clinical decision support systems in a variety of settings, Dr. Tierney says there is insufficient evidence to date for claims that these systems may help rein in costs that are spiraling out of control.

"Although doctors generate the vast majority of [health care costs](#), they are often unaware of the costliness of their decisions," said Dr. Tierney. "In a busy practice, doctors focus on their patients' problems and not on the financial implications of their decisions, which can be enormous. Studies are needed to create and test means of helping doctors deliver the highest quality care at the lowest cost."

His invited essay comments on a study where doctors were shown the prices of some laboratory tests and not others when using computers to order tests for their patients. When provided with prices of tests, doctors' testing costs dropped by almost 9 percent. However, according to Dr. Tierney, the intervention could have inhibited both unnecessary tests and tests that patients truly needed.

"[Health care](#) is complex, and physicians order tests for many reasons, some based on rational thinking (e.g. whether the results of a test will improve their [treatment decisions](#)), some based on non-rational fears (e.g. missing a highly morbid condition such as cancer, even if it's highly

unlikely), some based on patient demands and expectations," he wrote. "[Electronic medical record](#) systems and clinical decision support interventions will never alone overcome the [costs](#) of unnecessary [medical] testing. But they can help us deal with larger health system and cultural issues."

A member of the National Academy of Science's Institute of Medicine, Dr. Tierney leads the Regenstrief Institute, one of the country's oldest and largest medical research organizations dedicated to improving health care systems. The institute is the home of internationally recognized centers of excellence in medical and public health informatics, aging, and health services and health systems research. Institute investigators are faculty members of the IU School of Medicine, other schools at Indiana University-Purdue University Indianapolis or Purdue University.

"Designing, implementing and studying computer-based decision support and other electronic health-record-based interventions is difficult and requires collaboration among researchers, clinicians, administrators and technologists. Without such collaboration, realizing the benefits of electronic health records will continue to be a frustrating illusion to most hospitals and practices," he wrote.

Provided by Indiana University

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