

High-tech Texas hospitals see fewer complications, lower costs, researcher finds

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Texas hospitals using health information technologies had fewer complications, lower mortality rates and lower costs, a UT Southwestern Medical Center researcher has found.

The study, available Jan. 26 in *The Archives of Internal Medicine*, measured automation in urban hospitals using a Clinical Information Technology Assessment Tool. The tool, administered to physicians who provide inpatient care, assesses the degree to which clinical information processes in the hospital are computerized.

"Hospitals that achieved a highly usable, well-structured technology system that physicians wanted to use had extraordinary outcomes," said Dr. Ruben Amarasingham, assistant professor of internal medicine at UT Southwestern and the study's lead author. "If implementation is done well, health information technologies can be hugely beneficial for patients. To our knowledge this is the largest study of its kind examining hospital information system capabilities from the perspective of the physician."

Texas was selected as the study site because of its large and diverse patient population and its wide range of hospitals.

Three factors were measured for a hospital to receive a high score: The information process must be available as fully computerized; the physicians must know how to activate the computerized process; and they must choose the computerized process over other alternatives, such

as paper-based documentation.

Dr. Amarasingham and his colleagues examined the association between the hospitals' automation and inpatient mortality, complications, costs and length of stay among patients with myocardial infarction, congestive heart failure, coronary artery bypass grafting or pneumonia.

For all the medical conditions studied, automation of notes and records was associated with a decrease in fatalities. Higher scores in order entry were associated with decreases in death from myocardial infarction and coronary artery graft procedures. Additionally, hospitals that scored high on test results, order entry and decision support had lower costs for all hospital admissions.

"It's an emerging view that a health-care system is a combination of technologies and its people," said Dr. Amarasingham, who also serves as associate chief of medicine at Parkland Health & Hospital System. "You cannot really divorce one from the other. If hospitals don't take the extra steps to make sure a system is well-designed from the perspective of physicians and other health professionals, there is the potential to spend a great deal of money and have no impact."

Source: UT Southwestern Medical Center

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