Sharing EHR data results in $2M in savings across Memphis EDs

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MEMPHIS, TN – Sharing electronic health information across every major emergency department in the Memphis, Tenn., area resulted in reduced hospital admissions, reduced radiology tests and an annual cost savings of nearly $2 million, according to a recent study conducted by Vanderbilt University Medical Center.

The study was released Monday by the Journal of the American Medical Informatics Association.

"The Financial Impact of Health Information Exchange on Emergency Department Care," led by Mark Frisse, MD, professor of Biomedical Informatics, is the nation's first city-wide study of the impact of widespread health information exchange (HIE) data access in emergency departments.

"This is the first study to show that, on a city-wide basis, investments in technology can save medical costs by improving care," Frisse said. "We took the 'Tennessee simple' approach and built a low-cost system that said, 'Folks, if you do it simply and build it up, doing the right thing can save you money.'"

HIE represents the transformation from provider-centric collection of healthcare information to a more comprehensive, patient-focused view of this information, allowing electronic health records to be exchanged with other care providers and patient-authorized entities.

Patient privacy protection within the system is "as rigorous and secure as any commercial electronic health record system," said Frisse.

"It makes available only the information you choose and it can only be used when you are needing care," he added. "It is far more secure and useful than paper, even if it was all in one place. Health information exchange ensures that we know exactly who has looked at it, when, where and why. So it is accountable to you."

Vanderbilt researchers studied all encounters in which HIE data were accessed in all 12 major emergency departments in Memphis over a 13-month period and matched those encounter records with a similar encounter record in which HIE data were not accessed.

Outcomes studied were ED-originated hospital admissions, admissions for observation, laboratory testing, head CT use, body CT use, ankle radiographs, chest radiographs and echocardiograms.

Clinicians used the technology voluntarily and only when they felt it was necessary for the patient – about seven in every 100 cases. When HIE data was accessed, it was associated with a significant decrease in CT scans and hospitalizations.

"Our people believe that the savings from this study are less than 2 percent of the overall savings these technologies can afford if every physician's office is connected," said Frisse. "And we are absolutely convinced and committed to extending this approach to every healthcare setting."

Frisse sees the study data as being a national model of how to take the first step.

"Emergency department care is such a very small part of our healthcare system, but the same value of complete information realized in emergency department settings is even more applicable when an elderly patient goes to multiple doctors without a single, comprehensive medical record," he said.

"It is the first step in showing that if you give physicians the tools to collaborate, they will voluntarily do the right thing for you, and they will save you money and your quality will improve. These are very busy emergency department physicians. They had to go look it up and they did it because they care."