

Using Electronic Data to Improve Care of Patients With Known or Suspected Cancer

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Summary: Patients with known or suspected cancers transition through several ambulatory care settings to receive timely diagnoses and treatment. The survival benefits conferred by early diagnosis and treatment depend on well-coordinated care. This project tests the use of health information technology (IT) to identify patients for whom the diagnosis of specific cancers (prostate, lung, or colon) might be delayed.

This project used data from two electronic health record (EHR) systems—the Veterans Administration’s (VA’s) Computerized Patient Record System and Veterans Health Information Systems and Technology Architecture (CPRS/VistA), and EMRx, the EHR at the Scott and White Health system, a large private integrated health care delivery system in central Texas—to develop, test, and refine queries to mine a clinical data warehouse for triggers that might signal a delayed diagnosis. A randomized controlled trial (RCT) was conducted, and providers in the intervention group received electronic communication and surveillance if potential delays in their patients’ diagnostic work-up were identified by the triggers. Outcome measures, obtained through chart reviews, consisted of time intervals between several key steps in the pathway of diagnosis.

Specific Aims:

- Identify patients with cancer-related diagnostic delays using trigger-based data mining of an EHR repository. **(Achieved)**
- Determine the effectiveness of a health IT-based intervention to facilitate cancer diagnosis as compared with usual care. **(Achieved)**

2012 Activities: The focus of 2012 was the completion of the RCT in July to test the intervention of delivering information to primary care providers about their “trigger-positive” patients, i.e., patients with potential delays in the diagnostic evaluation for colorectal, lung, or prostate cancer. Seventy-two providers were recruited. The second half of the year was dedicated to chart reviews from the intervention and control group medical records. A preliminary statistical analysis of the effectiveness of the triggers and the intervention on improving diagnosis and followup has been completed, and further in-depth analysis of the data was ongoing at the end of the year.

As last self-reported in the AHRQ Research Reporting System, project progress and activities are mostly on track, and project budget spending is on target. Due to initial project delays and the unanticipated

amount of time needed to develop the initial triggers, the project team used two no-cost extensions to complete the RCT, chart reviews, and the subsequent analysis.

Preliminary Impact and Findings: Preliminary analysis of the trigger algorithm revealed that patients under the care of an intervention group provider were more likely to receive subsequent appropriate followup action for colorectal and prostate cancer, indicating that employing an electronic trigger-based program to identify patients with potential delays in cancer-related care, and using these findings to inform the respective provider of confirmed delays in diagnosis can mitigate delays in cancer diagnosis and care.

Target Population: Adults, Cancer: Colon, Lung, and Prostate, Veterans

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions in care settings, and the use of electronic exchange of health information to improve quality of care.

Business Goal: Implementation and Use
