

Improving Management of Test Results That Return After Hospital Discharge

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Organization:	Indiana University
Mechanism:	PAR: HS09-085: Mentored Clinical Scientist Research Career Development Award (K08)
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Target Population: Adults

Summary: Nearly half of the hospital patients discharged with pending test results experience medical errors related to missed results for those tests. These errors largely arise from poor methods of managing test results and poor communication with the followup providers. Discharge summaries, the main mode of inpatient-to-outpatient communication, remain highly inadequate at documenting tests with pending results at discharge. While the problems related to poor management of test results returning after hospital discharge is widely acknowledged, little has been done to implement and evaluate interventions to improve existing systems.

This project will implement and evaluate two health information technology interventions aimed at improving management of tests with pending results at hospital discharge. The first is a tool to automatically identify tests with pending results at hospital discharge and assist in incorporating these tests into the discharge summary. The second is a modification of an existing clinical-messaging tool (DOCS4DOCS[®]) to automatically deliver results for pending tests to the followup providers.

This work will be conducted at Wishard Memorial Hospital (WMH), a 353-bed urban public hospital on the campus of Indiana University School of Medicine. WMH uses the Regenstrief Medical Record System (RMRS) integrated with the Regenstrief-developed Gopher computerized provider order entry (CPOE) system. All inpatient orders and discharge summaries must be entered electronically via Gopher. The newly-developed tool will deliver pending results to providers through the Gopher CPOE system. Dr. Were and his team will use a combination of randomized controlled studies and surveys to discern the specific effects of each technology on processes of care.

Specific Aims:

- Develop and implement a computerized tool to automatically identify tests with pending results at hospital discharge and assist in the incorporation of these tests into the discharge summary. **(Achieved)**
- Evaluate the impact of this tool on accuracy of documenting pending tests in discharge summaries **(Ongoing)**
- Modify an existing clinical-messaging program to enable automatic delivery of returning results for pending tests to the designated outpatient followup providers. **(Upcoming)**
- Evaluate how the automatic delivery of test results impacts followup providers' actions and attitudes. **(Upcoming)**

In addition to these specific research aims, Dr. Were, as part of the Mentored Clinical Scientist Research Career Development Award, will continue his long-term career goal of implementing and evaluating informatics-based interventions that improve quality of care and patient safety. Project funds allow him to acquire advanced skills through structured coursework, regular seminars, and mentoring with leaders in medical informatics, health services research, biostatistics, and implementation research.

2010 Activities: The project team completed Java-language programming of the processor, called the Pending Test Processor (PTP), which incorporates pending tests into the electronically-prepared discharge summaries. This system is programmed to allow the Gopher CPOE system to send an HL7 trigger message to the PTP when a discharging provider signs the electronic discharge summary. Upon receiving this trigger message, the PTP identifies tests with pending results by querying the RMRS database. The tests identified through the queries are then delivered via Gopher back to the discharging provider, who can select tests for inclusion in the discharge summary. A study to evaluate the impact of this tool is underway.

Preliminary Impact and Findings: The project does not have any findings to date. Evaluations are ongoing.

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: Knowledge Creation