

Project Title: Improving Otitis Media Care with Electronic Health Record (EHR)-Based Clinical Decision Support and Feedback

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Organization: Children's Hospital of Philadelphia

Mechanism: RFA: HS07-006: Ambulatory and Safety Quality Program: Improving Quality through Clinician Use of Health IT (IQHIT)

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Project Period: 09/07 – 02/10

AHRQ Funding Amount: \$877,011

Summary Status as of: December 2008

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

Summary: This project was initiated in September 2007 and has completed the first half of the grant period. This project addresses the quality problems of physicians' overuse of antibiotics as the treatment for otitis media (OM), and physicians' lack of awareness of national guidelines that recommend more judicious use of these medicines. The intervention uses the Children's Hospital of Philadelphia's (CHOP's) electronic health record (EHR) to integrate care across time and to supply physicians with the knowledge they need for treating a patient at the point of care. The full intervention comprises: 1) a method for linking all services a patient received from any physician into clinically logical clusters called episodes-of-care, 2) clinical decision support (CDS) for medications and referrals to specialists that are based on the best available scientific evidence, 3) feedback on past performance of OM care provided to physicians, and 4) physician training on how to use the tools. The study randomly allocates 28 primary care practices into usual care, full intervention, and full intervention without feedback.

The goal of the project is to develop, test, and disseminate an OM health information technology (health IT) intervention designed to improve quality and reduce resources associated with OM care.

The project is being conducted in the CHOP Pediatric Research Consortium (PeRC), which includes all primary care practices in the CHOP network and utilizes the Epic ambulatory electronic medical record system, EpicCare 2007, a Certification Commission for Healthcare Information Technology (CCHIT)-certified ambulatory EHR tool that affords immediate, secure electronic access to clinical information and communication at the point of care. Given that OM is a common disorder in children, the widespread adoption of the results from this project has the potential for affecting lives of millions of children.

Specific Aims

- Develop and pilot test the OM health IT intervention. **(Ongoing)**
- Examine the overall effect of the health IT intervention and the independent contribution of physician feedback on quality (primary outcomes). **(Ongoing)**
- Assess the effects of the intervention on the secondary outcomes of resource use and clinician adoption of the technology. Upon project completion, the study team will work with members of their advisory board, including the American Board of Pediatrics, National Committee for Quality Assurance (NCQA), and the Child Health Corporation of America to disseminate the work nationally to child health professionals. **(Upcoming)**

2008 Activities: Translation of the consensus OM guidelines to a Web-based, interactive algorithm has been completed, capitalizing on successful experiences with other clinical pathways available on the project's Intranet. The investigative team has established a relationship with the hospital's Web team and is creating a Web site on which two separate algorithms will be presented, one for acute OM (AOM) and one for OM with effusion (OME). Each pathway allows the user to "drill-down" to access background information explaining the rationale for each step in the pathway. To increase the utility of this information for patient care and clinician and trainee education, a link to this content is available through the CDS tool.

In addition, the finalized guidelines for the diagnosis and treatment of AOM and OME have been formatted to allow actionable CDS to be programmed; however, the timeline for this has been extended to allow for the refinement of the interface of the instrument using state-of-the-art methodologies. The assembly and analysis of the pre-intervention data from the primary care practice sites has been completed. The CDS tool has been reviewed with Epic physician champions, and feedback has been conveyed to the investigative team. Current and next steps for the investigative team include: 1) incorporating primary care physician champions feedback into CDS tool, 2) identifying the goals of the clinician training, and 3) interviewing key clinicians to complete a workflow analysis. The training and education materials are being developed.

Preliminary Impact and Findings: The project does not have preliminary impacts or findings at this time.

Selected Outputs

A mock-up of the CDS tool was created and has been distributed to the physician champions for their initial feedback and review.

Grantee's Most Recent Self-Reported Quarterly Status: There has been a slight delay in the implementation of the project due to the expanded decision support system. This project initially envisioned a decision support system that was a bit simpler than what was needed. The development of the more sophisticated system slowed down the initiation of the clinical trial. The project will spend the full budget as the intervention is now turned on.

Milestones: Progress is mostly on track.

Budget: Somewhat under spent, approximately 5 to 20 percent.