

Project Title: Connecting Healthcare in Central Appalachia
Principal Investigator: Bentley, Polly, R.N., R.H.I.T.
Organization: Appalachian Regional Healthcare, Inc.
Mechanism: RFA: HS04-011: Transforming Health Care Quality through Information Technology (THQIT)
Grant Number: UC1 HS 015182
Project Period: 09/04 – 08/08, Including No-Cost Extension
AHRQ Funding Amount: \$1,500,000
Summary Status as of: August 2008, Conclusion of Grant

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management.

Business Goal: Implementation and Use

Summary: As an integrated, not-for-profit rural health care system serving Eastern Kentucky and Southern West Virginia, Appalachian Regional Healthcare, Inc., (ARH) planned to implement electronic medical records (EMRs) at the system's nine hospitals. ARH is an integrated health care delivery system serving approximately 20 rural counties throughout Central Appalachia. The system provides a continuum of care for its patients, including clinics, inpatient and outpatient medical services, psychiatric services, rehabilitation, and home health and durable medical equipment and supplies. Hospitals range in size from critical access facilities (at most 25 beds) to a 308-bed regional medical center in Hazard, Kentucky. The rural care setting and wide range of services offered by this system require an intense focus on building connectivity via technology. Prior to this grant, ARH had successfully implemented financial/billing systems; the rollout process and train-the-trainer method of education used with this implementation served as models for the hospitals' EMR adoption effort. ARH recognized that the incremental introduction of a comprehensive clinical system is critical to its success as a quality health care provider. By electronically capturing and managing all patient care-related information, ARH hoped to reduce medical errors, improve clinical documentation, and optimize the patient care encounter. The potential outcomes impacted by EMR implementation included: improvement in access to patient information, improvement in the timeliness of care, reduction in errors, streamlining of workflows, improvement in data security, reduction in overall costs, and improvement in patient and provider satisfaction.

Specific Aims

- Increase connectivity between ARH facilities and staff through the adoption of EMRs that accommodates the needs of the ARH system. **(Achieved)**
- Develop the necessary infrastructure to transfer current patient files to the electronic system and alter workflow simultaneously. **(Achieved)**
- Implement the rollout and evaluation of the EMR system. **(Achieved)**
- Prepare ARH for further implementation of clinical information system components through evaluation and analysis of current rollout and future needs. **(Achieved)**

2008 Activities: Four of the nine facilities had their go-live dates in 2008, joining the other five hospitals in adopting the EMR system. Evaluation and quality improvement continued throughout.

Impact and Findings: Evaluation of the success of the system's implementation has been measured through attendance and participation at training sessions, successful competency rates, and smooth transition from a paper to a paperless environment with favorable feedback from clinicians and other

staff. Other measurements include turnaround times on chart scanning and indexing, which determines how soon after discharge the EMR is available to the physician, and chart delinquency rates. Principal findings relative to training were positive overall and in line with other prior ARH implementations. Staff found that facilities with a full-time education coordinator had a more organized training schedule with better results—more staff were trained prior to go-live (including physicians) with less chaos on the units at the time of go-live. Use of the system has grown over time, and at the end of the grant period 80 percent of physicians accessed at least parts of the record electronically.

One of the principal findings of this project involves the work done on forms standardization. It was determined that there were over 2,000 bootleg forms throughout the organization (600-plus at the Hazard, Kentucky location alone). In addition to standardizing the forms, barcodes had to be assigned and applied. The turnaround for charts after discharge has improved. With the EMR system in place, clerks make timely rounds of the nursing units to pick up charts of discharged patients and take them to their Health Information Management department. The charts are then scanned and indexed to assure that all the forms in each chart are electronically ‘filed’ in the right folders—most of this ‘filing’ is done automatically by the system through the use of the barcoded forms developed as part of the project. As soon as a chart has been indexed, it is available and accessible online to anyone who needs it, like coders, abstractors, billers, or physicians. These improvements in standardization and newfound commitment to system-wide quality improvement processes that have been triggered by this project indicate that ARH stands to benefit substantially from health information technology (IT) adoption. Implementation of the overall EMR, a process that began with the project’s adoption of an EMR and subsequent implementations of clinical documentation, clinical decision support, and provider order entry, will facilitate improvement in the overall patient care process by giving ARH an opportunity to critically rethink and redesign key processes. The success of this implementation has encouraged the ARH system to push forward with further development of health IT capabilities, and this project has given the staff confidence that significant changes can be accomplished.

Selected Outputs

This project does not have any outputs to date.

Grantee’s Most Recent Self-Reported Quarterly Status: At the conclusion of the grant, all milestones had been met.

Milestones: Progress is completely on track.

Budget: Somewhat underspent, approximately 5 to 20 percent.
