

**Project Title:** Developing and Using Valid Clinical Quality Metrics for Health Information Technology (Health IT) with Health Information Exchange (HIE)

**Principal Investigator:** Kaushal, Rainu, M.D.

**Organization:** Joan and Sanford I. Weill Medical College of Cornell University

**Mechanism:** RFA: HS07-002: Ambulatory Safety and Quality Program: Enabling Quality Measurement through Health IT (EQM)

**Grant Number:** R18 HS 017067

**Project Period:** 09/07 – 09/09

**AHRQ Funding Amount:** \$974,545

**Summary Status as of:** December 2008

---

**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:** Knowledge Creation

**Summary:** This project was initiated in September 2007 and has completed the first half of the grant period. The goals of this project are: 1) to develop a set of quality metrics that can be retrieved electronically and that is sensitive to the types of changes in quality that electronic health records (EHR) with health information exchange (HIE) may contribute to ambulatory care; 2) to validate this metric set with a national expert panel; 3) to test the reliability of electronic reporting of these metrics, compared to manual review of EHRs; and 4) to use the metric set to measure changes in quality over time. This project has developed a set of quality metrics through review and rating of existing quality metrics, plus development of novel metrics to address topics not well represented among existing metrics. Selected existing and novel quality metrics were validated by a panel of national experts in quality measurement and HIE. The project intends to test the accuracy of electronic retrieval of data for the metric set, compared to manual review of EHRs, using data from the Hudson Valley region of New York. The project will also repeat electronic reporting of the metric set to determine changes in quality in the Hudson Valley over time. Completion of the project is intended to result in a shared and transparent framework for evaluating the quality of health care delivery in an ambulatory care setting that exchanges clinical data electronically across care settings, benefiting patients, providers, and payers in addition to influencing discussions of how to implement HIE for optimal outcomes. The selection of the EHR product that will be used to test the reliability of electronic reporting of the metric set is being finalized.

### Specific Aims

- Develop a modified set of quality metrics that can be retrieved electronically and that is sensitive to the types of improvements in quality that health IT with HIE may contribute in an ambulatory care setting. **(Achieved)**
- Validate the modified quality metric set. **(Achieved)**
- Test the reliability of electronic retrieval of the modified quality metric set. **(Ongoing)**
- Use the modified quality metric set, evaluate the long-term effects of using health IT with HIE on improving health care quality. **(Upcoming)**

**2008 Activities:** The project successfully developed and validated a modified set of quality metrics that can be retrieved electronically, and a manuscript describing the final metric set and methodology by which it was created has been submitted to a peer-reviewed journal. The metrics were developed through a series of steps, which included working with members of an expert panel in quality measurement and

HIE to rate the measures pre-defined criteria. The final set of metrics, selected from existing metric sets, covers a range of topics including asthma, cardiovascular diseases, congestive heart failure, diabetes, medication/allergy management, osteoporosis, and prevention. The investigators are in the process of identifying the EHR vendor in the Hudson Valley most able to report these metrics electronically.

**Preliminary Impact and Findings:** Publicly available findings will be made available closer to the end of the project.

---

### **Selected Outputs**

AHRQ 2008 Annual Conference presentation: Developing a Metric Set for Measuring and Reporting Ambulatory Quality of Care in the Setting of Health IT with HIE ([PowerPoint® File](#), 185 KB; [Web Version](#))

---

**Grantee's Most Recent Self-Reported Quarterly Status:** Testing the reliability of the electronic retrieval of the modified quality metrics set and data collection is delayed because most EHR vendors cannot currently report the measures. As a result, the timeline for activities related to testing the reliability of electronic reporting and measuring changes in quality over time is delayed. The project budget is somewhat under spent by 5 to 20 percent, partially due to the technical delays cited above and to changes in staffing. The project recently hired a junior biostatistician, which, along with progress against the remaining milestones, will lead to a fully utilized budget by the end of the project.

**Milestones:** Progress is on track in some respects but not others.

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