

Project Title: Using IT to Improve the Quality of Cardiovascular Disease (CVD) Prevention and Management

Principal Investigator: Vogt, Thomas, M.D.

Organization: Kaiser Foundation Research Institute

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

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AHRQ Funding Amount: \$605,862

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 November 2007 and has completed the first half of the grant period. This ongoing project is using Epic's Certification Commission for Healthcare Information Technology (CCHIT) certified Electronic Medical Record (EMR) HealthConnect (Hyperspace Spring 2007 IU2; November 10, 2008, K- package level) in two large health care systems to refine and test a promising method for determining the actual relationship between patterns of preventive and disease management care of cardiovascular disease (CVD). The preventive and disease management services that are being analyzed include: blood pressure management, tobacco counseling, weight/nutrition counseling, and blood pressure screening. The project includes data sets from Kaiser Permanente Hawaii and Kaiser Permanente Portland. A longitudinal dataset (4–5 years) for each individual will be generated. Using a person-time methodology that evaluates adherence to prevention and selected CVD management guidelines, this project will describe variations at the practice level in CVD prevention and preventive management of patients with hypertension, hyperlipidemia, diabetes, congestive heart failure, and past myocardial infarction. Those variations will be related to morbidity, mortality, and health care costs over the follow-up period. Patients without diabetes, hypertension, hyperlipidemia, and prior CVD are being examined separately for preventive services. Patients with prior CVD and related diagnoses are being examined for both preventive and management guidelines adherence. These data will clarify the relationships between evidence-based guidelines adherence and outcomes. The information will then be provided to managers in order to determine the impact on health care process and policies.

Specific Aims

- Identify practice-level primary care variations in preventive care, weight management, and selected chronic disease management, including drug prescription patterns aimed at reducing cardiovascular disease morbidity. **(Ongoing)**
- Determine the associations of quality of preventive care and disease management practices to morbidity, mortality, and costs of care. **(Ongoing)**
- Improve delivery of care. **(Upcoming)**

2008 Activities: Dr. Vogt and his team decided to extend the data for blood pressure screening and management and weight/nutrition management to Kaiser Permanente Northwest due to greater follow-up duration, resulting in a memorandum of understanding between the two groups along with transfer of funds. Throughout the year, the project work plan and timeline were continually updated to reflect

changes in key milestones, and project management processes were put in place to coordinate between the two sites.

The provisional analyses of blood pressure management services were conducted. The results indicated inconsistencies in handling data across the two involved health systems, leading to a revision in the data specifications. Concurrently, the data specification templates were drafted for glycosylated hemoglobin (HbA1c) screening, HbA1c management, and post-myocardial infarction beta-blocker use. The basic tables program was re-written and refined to reflect additional data that needed to be included and changes to the output format.

Preliminary Impact and Findings: Preliminary data on quality of blood pressure management showed a reduction in quality of blood pressure management from 2004–2007, a period that coincides both with the implementation of the EMR system and with cutbacks related to financial shortfalls in the system. Two major lessons learned include: 1) awareness of the difficulties and complexities of assuring that cross-system data are equivalent; and 2) the recognition that our quality scores can detect patterns consistent with known changes in the system. Blood pressure management data runs were planned again for January 2009, and extractions and basic tables for tobacco/smoking and obesity management runs were planned for February and March 2009.

The first attempt to relate blood pressure management to outcomes resulted in data that were not consistent across the two health systems and not credible in terms of result. Extensive revision both of the extraction request and of the summary tables was nearly complete by the end of 2008. Problems of appropriate adjustment of models for co-morbidities across patient populations of individual clinical practices are still being reviewed, but will be settled soon. Cost analyses await the morbidity outcome data.

While Dr. Vogt and the team would like to use the project's intervention to determine the impact of these data on care, the incorporation of Aim 3 was requested by the project's review committee without additional budget. As a result of the 2-year funding period and lack of additional funds, the project team does not expect to conduct an adequate evaluation of the ability of these data to change practice. In lieu of an in-depth evaluation, the project is planning to mail out some limited results to physicians and obtain feedback on their response to it. Recent challenges around linking the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey data to clinician performance and changes in performance have also arisen. Contrary to prior input from the health system, there is a chance that the available serial CAHPS data may not allow for linking to primary care physician data. Dr. Vogt continues to work on this issue but it is possible that the failure of linkage of patient to physician may be a problem for the CAHPS component of the study.

Selected Outputs

Blood Pressure Management Data Request Tool and Practice Survey Questionnaire designed to help inform the provision of feedback to managers on guidelines adherence at the practice, health care team, and system levels.

Grantee's Most Recent Self-Reported Quarterly Status: The project is somewhat delayed in conducting provisional final analyses of the first preventive service, blood pressure management, due to inconsistencies in handling the data across two involved health systems which resulted in inaccurate findings. The blood pressure management analyses will be repeated during the next quarter to resolve the issue. In addition, the basic tables program for all preventive services being evaluated is being re-written due to problems with the output and is expected to be ready by the beginning of next quarter. The linkage of these quality scores to practice level change in patient satisfaction may be problematic if we are unable

to obtain CAHPS data that can be linked to primary care physicians. As a result of the milestone delays, adjustments have been made to the budget to distribute the appropriate level of support over the lifetime of the grant. As such, temporarily the project is significantly under spent by 20 percent. A modest no-cost extension is anticipated in August 2009; over time, full use of the budget is planned and completion of the project is expected.

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

Budget: Significantly under spent, more than 20 percent.