

## EHR Use and Care Coordination

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| <b>Organization:</b>           | University of California, Berkeley   |
| <b>Mechanism:</b>              | PAR: HS09-212: AHRQ Grants for Health Services Research Dissertation Program (R36) |
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**Summary:** While electronic health record (EHR) systems have been consistently promoted as a policy priority for improving the quality and efficiency of the U.S. health care system, there is limited research evidence to inform policymakers about the effects of EHR use on care coordination. This study is using a quasi-experimental design with concurrent controls to evaluate the impact of outpatient physician use of a newly-implemented, certified EHR system at Kaiser Permanente Northern California (KPNC) on measures of care coordination and, in turn, the association between care coordination and care quality for patients receiving care from multiple clinicians. The study includes 110 primary care teams in 18 medical centers within the KPNC delivery system, which served more than 2 million adult patients 18-years-and-older between the years 2005 and 2008.

Researchers are examining the association between EHR use and care coordination, while adjusting for clinician characteristics and organizational factors. They are further examining whether the association between EHR use and care coordination varies by team climate. Measures of care coordination and team climate are being captured using existing self-administered survey responses collected from primary care clinicians in 2005, 2006, and 2008 during the staggered implementation of the EHR system. Quality and clinical outcome measures are captured using the health system's automated databases. They include guideline-adherent prescription drug use and laboratory monitoring, and physiologic disease control for diabetes patients receiving care from multiple clinicians.

This study uses existing data, including survey responses that capture detailed measures of clinician-reported care coordination and team climate at multiple points in time, as well as substantial data resources from the study setting. The staggered nature of the EHR implementation allows for adjustment of secular changes.

The outcomes of this study will provide evidence of the impact of EHR use on care coordination and quality improvement. In the current clinical environment, where care provided to patients is increasingly fragmented and complex, effective care coordination is essential. The EHR offers new opportunities for improving overall quality of care, preventing medical errors, and reducing health care costs.

The principal investigator (PI) is researching the impact of EHR use on care coordination and clinical quality for patients with complex health care needs for her dissertation. For the last 7 years, she has been working with Kaiser Permanente on a long-term study to examine the impact of new health IT on clinical care. She completed preliminary analyses based upon the data sources used in this study and will build upon this work and her experience as a doctoral candidate in University of California Berkeley's Health Services.

**Specific Aims:**

- Examine the association between EHR use and care coordination among teams with positive and negative reports of team climate, while adjusting for patient, physician, team, and medical center characteristics. **(Ongoing)**
- Examine the association between care coordination and clinical care quality for patients receiving care from multiple clinicians. **(Ongoing)**

**2011 Activities:** The project focused on analysis of data sets obtained from Kaiser Permanente to examine the relation of EHR use and process and outcome measures such as test intervals and HgA1c levels respectively.

**Preliminary Impact and Findings:** This project has no findings to date.

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**Target Population:** Adults, Diabetes\*

**Strategic Goal:** Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions and the electronic exchange of health information to improve quality of care.

**Business Goal:** Knowledge Creation

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*\* This target population is one of AHRQ's priority populations.*