

## Randomized Control Trial Embedded in an Electronic Health Record

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<b>Organization:</b>	University of California San Francisco (UCSF)
<b>Mechanism:</b>	RFA: HS08-002: Ambulatory Safety and Quality Program: Improving Management of Individuals with Complex Healthcare Needs through Health Information Technology (MCP)
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<b>Project Period:</b>	September 2008 – August 2012
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**Summary:** HIV/AIDS is a chronic illness and applying the chronic care model (CCM) to this disease may lead to improved outpatient care and easier, safer clinical transitions for HIV-infected patients. Clinical information systems (CISs) are a key element in the CCM. While most CISs have focused on the provider as the recipient of critical data, CISs that target patients might also improve health care. The electronic personal health record (ePHR) is a recent and increasingly common information system that allows patients to view data necessary to guide practical outpatient decisions and provides portability of clinical data between health care venues.

This project expanded an existing secure ePHR, called my Healthcare Evaluation Record Organizer (myHERO), to provide information, Web-based tools, and reminders to promote self-management, increase safer clinical transitions, and improve outcomes among patients with HIV/AIDS in a public health setting. myHERO is integrated with HERO, the electronic health record system used by the University of California at San Francisco's Positive Health Program, a primary care clinic that specializes in care for patients with HIV/AIDS. The enhancements included adding established tools to assess tobacco use, depression, anxiety, and medication adherence, and to translate responses into numeric scores that trigger decision-support for patients and directs them to resources or Web-based interventions.

A 12-month randomized controlled trial is evaluating the impact of the ePHR on clinical outcomes including: 1) qualities—i.e. trust, communication, and health promotion—of the patient-clinician interaction; 2) changes in patient behaviors such as adherence to antiretroviral medications and tobacco use; 3) clinical outcomes, i.e. CD4+ T-lymphocytes, detectable plasma HIV RNA, depression, anxiety, and quality of life; 4) safety, i.e. documentation of drug allergies, adverse events, and medication reconciliation; and 5) utilization, including office visits. In addition, the project team will evaluate patient and clinician experiences in engaging with the ePHR tools including patient access and use of support for tobacco cessation, depression abatement, anxiety reduction, adherence improvement, and patient and clinician satisfaction with the ePHR.

### Specific Aims:

- Build the infrastructure and content of the ePHR to provide patient decision support, information retrieval, and communication tools. **(Achieved)**
- Evaluate patient and provider experiences using the ePHR, including patient access and use of health education materials and patient-provider satisfaction with the ePHR. **(Ongoing)**

- Assess outcomes, including quality of patient-provider interactions, changes in patient behaviors, clinical outcomes, safety, and health services utilization. **(Ongoing)**

**2011 Activities:** Dr. Kahn and his research team completed data collection during 2011 and are using a 12-month no-cost extension to complete data analysis. An article, [A cross-sectional study of barriers to personal health record use among patients attending a safety-net clinic](#), was submitted in 2011 and published in the PLoS One Journal in early 2012. Dr. Kahn did not submit a report with a status of activities or project spending in 2011 to the AHRQ Research Reporting System

**Preliminary Impact and Findings:** The research team found that, among patients attending a safety-net HIV/AIDS clinic, mental health/substance abuse conditions were not barriers to engagement with Web-based health information. Level of computer competency was a way to identify individuals who required substantial computer training in order to fully participate in the study.

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**Target Population:** Adults, Chronic Care\*, HIV/AIDS

**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

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