

Action Design Research in Health IT: Research, Development, and Commercialization of a HealthATM Network



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Presentation Agenda

- Introduction to Kay Center
- PHR and Underserved
- Action Design Research
- Field Testing Health ATM

Kay Center for E-Health Research

The mission of the Kay Center for E-Health Research is to advance scientific understanding and public policy improvements relative to how new electronic health systems can best incorporate health, chronic disease, and disability needs so as to enable industry efficiency and promote societal welfare.

<http://kaycenter.cgu.edu>

Kay Center Activities

- **Research Highlights**

- Personal health records for underserved populations
 - Innovative systems for disability determination and health management
 - Multi-media end-to-end systems in support of emergency response

- **Education and Training Opportunities**

- Graduate Courses in Consumer Health Informatics and Public Health Informatics
 - Collaboration in CGU's Masters in Health Information Management (MHIM)

- **Outreach and Impact**

- Three national forums, including recently co-sponsored symposium on "Cyberinfrastructure for Public Health and Health Services"

- Representation on the AHIC (Consumer Empowerment WG) and recent federal deliberation relating to meaningful use and national health information networks

Underserved Populations

- Health care reform necessitates addressing the 47 million uninsured and close to 100 million underserved:
 - 80% US residents; recent growth due to economy
 - Less than 10% of adults who are uninsured in California qualify for public health insurance, and the largest share (32%) are of Latino ethnicity
 - Low use of preventative measures and regular checkups
- Five chronic diseases account for 75% of health care dollars and are disproportionately represented by un and underinsured, ethnic minority groups, and those living in poverty
- Health IT discussion has focused on provider adoption – active engagement of consumers can be critical to positive health outcomes and underserved communities are especially important to achieve clinical and public health gains

Personal Health Records

- PHRs have come into the marketplace (Google, Kaiser, VA) and are demonstrating value for consumers.
- Current PHR research focused on use by relatively educated health care consumers (e.g., health plan subscribers).
- Need for health self-management resources for vulnerable and underserved cannot be overstated.
- Successful adoption of PHRs hinge on the ability to engage patients, provide communication pathways, allow for personalization and create a transparent system such that there is a notion of trust.
- There is little data on health systems performance for the millions of underserved Americans, and PHRs can play a role in performance monitoring as well as broader population and public health analyses.

Research Goal and Objectives

- The overarching goal of our research has been to identify how access to and use of personal health record (PHR) systems can assist underserved and diverse populations in managing their health to achieve positive health outcomes.
- A first research objective has been to create of a conceptual and evaluative requirements framework that can be used by healthcare providers for designing, implementing and evaluating personal health and care management systems targeted for use within underserved populations.
- A second research objective has been to create of a prototype personal health system for testing in underserved settings, investigating impacts on usage, health activation, and health outcomes.
- A third objective has emerged– commercialization of the prototype.

Phase I Research Blue Shield Foundation

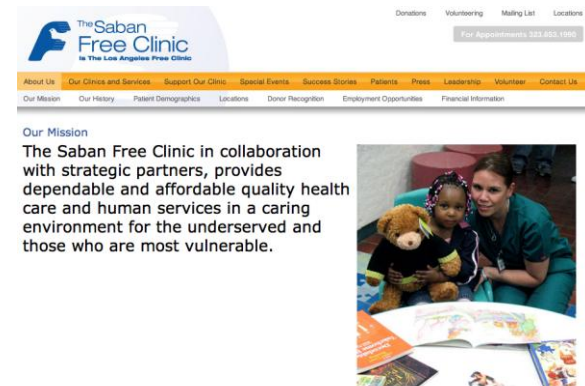
Domain	Methodology	Focus
User/Technology	<ul style="list-style-type: none"> ▪ Literature review ▪ Focus groups ▪ Literature review 	<ul style="list-style-type: none"> ▪ User Needs and Interests Across Different Platforms
Organization	<ul style="list-style-type: none"> ▪ Literature review ▪ Comparative case study Mi Via in Nor Cal Camino de Salude in So Ca 	<ul style="list-style-type: none"> ▪ Financial and process issues and constraints to adoption in ER and community clinics
Policy	<ul style="list-style-type: none"> ▪ Expert interviews ▪ Literature Review 	<ul style="list-style-type: none"> ▪ Policy needs and rationale for PHR systems, especially as relates to ER usage an public health

Conceptual Level	Constructs	Guidelines Relating to Underserved
Policy	Funding & Regulations	<ul style="list-style-type: none"> Federal ARRA of 2009 and related policies need to advance significant PHR requirements and incentives that are inclusive of underserved populations,
Organizational	Adoption & Integration	<ul style="list-style-type: none"> Community health organizations require increased financial support in order to boost adoption PHRs and their role in integrated service delivery
	Outreach	<ul style="list-style-type: none"> Increased efforts are needed to provide outreach and education that address the unique personal health management and communication needs of underserved issues of the underserved especially within rural regions is vital in order to truly activate these communities
	Administration	<ul style="list-style-type: none"> A majority of community health patient data is still paper-based, providers will require incentives to adopt new technologies
Technical	Infrastructure	<ul style="list-style-type: none"> Low-cost standardized means for effectively importing and exporting patient data across community clinic environments are needed to allow for low-cost architectural approaches.
	User Network	<ul style="list-style-type: none"> Computer access is limited for the underserved and therefore very user-friendly and publicly accessible interfaces need to be provided
Personal	Privacy	<ul style="list-style-type: none"> Privacy and security features need to not only address HIPAA requirements, but allay concerns unique to underserved populations.
	Language & Literacy	<ul style="list-style-type: none"> PHR systems in underserved communities need to feature multi-lingual capabilities
	Health Management	<ul style="list-style-type: none"> PHR systems in underserved communities needs to address integrated care challenges, and allow for continuity of care with proper assessment and maintenance of health outcomes

Camino de Salud Network

Goals

1. Improve the overall health and well-being of LAC+USC Healthcare Network Service Area patients and maximize availability of medical center resources for appropriate patient care needs.
2. Decrease unnecessary/inappropriate utilization of high-cost and intensive ED and inpatient services at LAC+USC Medical Center.
3. Improve communication and coordination of services between LAC+USC Medical Center and local non-profit primary care clinics.

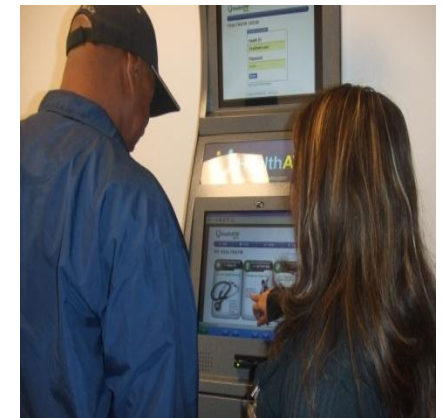
A screenshot of the website for The Saban Free Clinic. The website has a blue and white color scheme. The logo for The Saban Free Clinic is at the top left. The navigation menu includes links for Donations, Volunteering, Mailing List, and Locations. Below the navigation menu, there is a section titled "Our Mission" which states: "The Saban Free Clinic in collaboration with strategic partners, provides dependable and affordable quality health care and human services in a caring environment for the underserved and those who are most vulnerable." To the right of the text is a photograph of a healthcare professional in green scrubs sitting on the floor with a young child and a teddy bear, looking at a book together.

Focus Group Findings

- Care givers regularly communicate and develop care plans with patients, though typically done verbally.
- Inconsistent follow-up on care plans one of the major frustrations in achieving desired health outcomes.
- The concept of 'personal health records' is not readily understood nor value readily appreciated.
- The need and opportunity exists to facilitate care plan communication and adherence but needs to be executed through a very 'lite' platform.

Creation of HealthATM

- Reflection on Focus Group Findings led to idea to create ATM-like platform that had following characteristics:
 - Simple and Transaction Based
 - Facilitates Health Management and Communication
 - Low Organizational Requirements
 - Connects with policy needs as well as off the shelf commercial platforms.





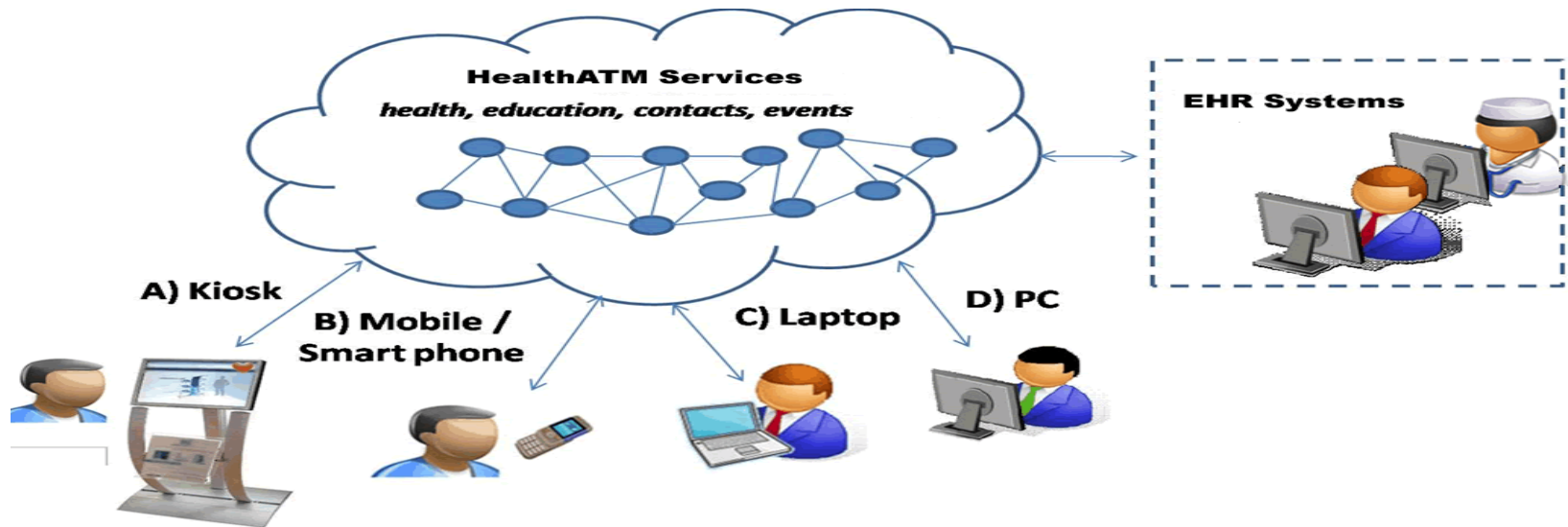
OUR GOAL...

Similar to a bank ATM, we aim to provide a simple easy to use personal healthcare system that simplifies day to day health transactions through a HealthATM network of stations and online systems

Personal Health Manager, Anywhere, Anytime

OUR NETWORK

Increasing the impact of PHRs and EHRs by leveraging resources across the cloud of online services for a population who might otherwise be unable to access this resource or know how to create a PHR



Problem:

Many Patients don't have access to electronic health records



No system rewards patients for taking control of managing their health



Unmanaged chronic conditions cost healthcare millions of dollars



Wasted health care expenditures in unnecessary ER and doctor visits when the condition can be more easily maintained



Solution:

HealthATM gives every user access to electronic health records

HealthATM rewards patients for managing their health and gives them control

HealthATM helps manage health conditions, including those with chronic conditions

HealthATM saves money by encouraging patients to have good health and helping them manage their health, resulting in less emergency room and doctor visits

HealthATM Field Test

California Healthcare Foundation

- Community clinics in LA and Kern County
- Assessment of Careplan Adherence, Health Activation, HealthATM Usability and Value Assessment, Health Services Utilization
- Related graduate business practicum to analyze sustainability model for use in clinics and beyond.



Click on a button below to get started:

USER: Health_ATM_001

 **MY HEALTH**

View your **Health Records!**



- Conditions
- Procedures
- Medications
- Test Results
- Allergies
- Immunizations

 **MY ACTIVITIES**

Manage your **Care Plan!**

- Appointments
- Communication
- Care Plan
- Education



 **MY REWARDS**

Collect Valuable **Rewards Points!**



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Purpose of Field Trial

- Investigate how the HealthATM is used and how it makes patients feel about their ability to manage their health.
- Assess how HealthATM and HiP assists and care management and patient self management.
- Explore how HealthATM can be best used with community health and health center context.
- Consider follow-up and sustainability options and interests.

Possible Beneficiaries



Expected Results

- Improved health and access to personal health information for diverse and underserved patients.
- Empowering patients to take more responsibility for their medical conditions.
- Improve coordination and communication between primary care and hospital/specialty care.
- Increased opportunities toward financial sustainability for the Safety Net.

Directions

- Meaningful Use requirements included elements of Patient Activation, with requirements beginning in 2011.
- Related needs and trends for toward integrated service delivery provides considerable opportunities for community related personal health records and systems.
- HealthATM pilot tests and related activities aim to extend the benefits of PHRs to a wide range of health consumers.

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- **Blue Shield Foundation**
 - Case Studies
 - Evaluation Framework
- **California Healthcare Foundation**
 - Field Test HealthATM in Community Clinics
 - Evaluate Influence on Care Plan Adherence