AHRQ's Ambulatory Safety and Quality Program: Health IT Portfolio

The mission of AHRQ is to improve the quality, safety, efficiency, and effectiveness of health care by:

- Using evidence to improve health care.
- Improving health care outcomes through research.
- Transforming research into practice.

Introduction

The purpose of the Agency for Healthcare Research and Quality's (AHRQ) Ambulatory Safety and Quality (ASQ) program is to improve the safety and quality of ambulatory health care in the United States. For the purpose of this program, AHRQ defines ambulatory care as health services provided by healthcare professionals in outpatient settings. These settings include practitioner offices, clinics, outpatient departments of hospitals, large or small group practices, community health centers, emergency departments, diagnostic imaging centers, dialysis centers, home care, mental health centers, occupational health centers, and school health facilities.

The scope of ambulatory care has increased over the past decade, as the volume and complexity of interventions have expanded. Safe, high-quality ambulatory care requires complex information management and coordination across multiple settings, especially for patients with chronic illnesses. The opportunity to turn the potential of health information technology (health IT) toward improving safety and quality in the ambulatory care setting, especially within care transitions, forms the cornerstone of the ASQ Program. The program accentuates the role of health IT through the following three funding opportunity announcements (FOAs):

Acronyms

CDSS - clinical decision support system

EDR - electronic dental record

EDS - electronic data system

Health IT - health information technology

EHR - electronic health record

EMR - electronic medical record

HIE - health information exchange

PHR - personal health record

PQRI - physician quality reporting initiative

RHIOs - regional health information organizations

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- Enabling Quality Measurement Through Health IT (EQM) (also includes a patient safety focus)
- Improving Quality Through Clinician Use of Health IT (IQHIT)
- Enabling Patient-Centered Care Through Health IT (PCC)

Overall, 53 health IT grants have been awarded, totaling approximately $21 million.

Enabling Quality Measurement (EQM) Through Health IT

The purpose of this FOA is to develop safety and quality measures in ambulatory care settings, automate quality measurement, demonstrate the ability of electronic data systems (EDS) (such as electronic health records (EHRs) or claims data merged with EHR data) to expand potential safety and quality measures, and demonstrate improved ability to export data for reporting performance on measures and improvement.

Applicants were encouraged to consider projects that focus on a variety of aspects of quality measurement. Some aspects of interest include process, data elements, value and accuracy, creation of meaningful information, and timeliness of data integration.

EQM Grants

In total, 17 health IT grants were awarded under this FOA. An additional four grants were funded through patient safety set-asides The projects described focus on common chronic illnesses and prevention. There is prominent involvement of national organizations and initiatives such as the American Medical Association, the National Committee for Quality Assurance (NCQA), the American Gastroenterological Association, and the Ambulatory Care Quality Alliance (AQA). A variety of ambulatory settings and organizations are addressed, from large integrated delivery systems to small provider practices and from urban settings to small rural communities.

Closing the Feedback Loop To Improve Diagnostic Quality
Estimated Total Funding: $998,509

Develops ways to close the loop of outpatient diagnosis in an effort to improve the quality of diagnostic and therapeutic decisionmaking in ambulatory settings.

Focus Area(s): Quantitative scale to determine quality of diagnosis in the clinical setting.
Type of Health IT: Clinical decision support

Principal Investigator: Eta Berner
Grant No. 1R18HS017060
Applicant Institution: University of Alabama at Birmingham, Birmingham, AL
Estimated Dates: 9/14/2007–9/29/2009

Colorado Associated Community Health Information Exchange (CACHIE)
Estimated Total Funding: $986,302

Designs, develops, implements, and evaluates an interoperable quality information system (QIS) for a collaborative network of community health centers (CHC) that permits real-time and synchronous quality reporting to inform patient care, quality interventions, and health policy and advocacy efforts.

Focus Area(s): Specific measures to be determined
Type of Health IT: Health information exchange, quality of care decision support

Principal Investigator: Arthur Davidson
Grant No. 1R18HS017205
Applicant Institution: Denver Health

and Hospital Authority, Denver, CO
Estimated Dates: 9/30/2007–9/29/2009

Automating Assessment of Asthma Care Quality
Estimated Total Funding: $871,711

Develops, validates, applies, and evaluates a scalable method for routine and comprehensive measurement of outpatient asthma care quality.

Focus Area(s): 19 asthma care quality measures from the RAND Quality Assessment Tools
Type of Health IT: Quality of care decision support, data electronic transform & load

Principal Investigator: Brian Hazlehurst
Grant No. 1R18HS017022
Applicant Institution: Kaiser Foundation Research Institute, Portland, OR
Estimated Dates: 9/30/2007–9/29/2009

Developing and Using Valid Clinical Quality Metrics for Health IT With HIE
Estimated Total Funding: $974,545

Proposes to derive a set of quality metrics, that can capture the effects of health IT with health information exchange (HIE) and that can be retrieved electronically through the contributions of the Health Information Technology Evaluation Collaborative, the New York State Department of Health, and four regional health information organizations (RHIOs) that are implementing health IT with HIE and focusing on the ambulatory setting.

Focus Area(s): Ambulatory quality metrics responsive to the effects of health IT and HIE
Type of Health IT: Health information exchange

Principal Investigator: Rainu Kaushal
Grant No. 1R18HS017067
Applicant Institution: Weill Medical College of Cornell University, New

York, NY
Estimated Dates: 9/30/2007–9/29/2009

Surveillance for Adverse Drug Events in Ambulatory Pediatrics
Estimated Total Funding: $992,699

Uses a computerized system to detect and report Adverse Drug Events (ADEs) that occur in the outpatient setting, in the emergency department, and during the transitions of hospital admission and discharge.

Focus Area(s): Adverse drug events for pediatric patients in ambulatory settings, emergency departments, and transitions of care
Type of Health IT: Operational decision support – quality of care

Principal Investigator: Peter Kilbridge
Grant No. 1R18HS017010
Applicant Institution: Washington University, St. Louis, MO
Estimated Dates: 9/01/2007–8/31/2009

Cardio-HIT Phase II
Estimated Total Funding: $996,166

Studies exception reporting to: (1) document the prevalence and patterns of exception reporting for performance measures for coronary artery disease and heart failure; (2) assess the feasibility and accuracy of exception reporting and (3) analyze and address stakeholder concerns regarding exception reporting.

Focus Area(s): Coronary artery disease and heart failure measures
Type of Health IT: Operational decision support – quality of care

rincipal Investigator: Karen Kmetik
Grant No. R18HS017160
Applicant Institution: American Medical Association, Chicago, IL
Estimated Dates: 9/30/2007–9/29/2009

Electronic Support for Public Health - Vaccine Adverse Event Reporting System
Estimated Total Funding: $999,995

Seeks to improve the quality of vaccination programs by improving the quality of physician adverse vaccine event detection and reporting to the national Vaccine Adverse Event Reporting System (VAERS).

Focus Area(s): Vaccine adverse effects
Type of Health IT: Registry (vaccination), clinical/medication reminders (provider-focused)

Principal Investigator: Ross Lazarus
Grant No. 1R18HS017045
Applicant Institution: Harvard Pilgrim Health Care, Inc., Boston, MA
Estimated Dates: 9/30/2007–9/29/2009

Medication Monitoring for Vulnerable Populations via IT
Estimated Total Funding: $994,325

Demonstrates the ability of health information interoperable exchange and electronic health records (EHR) to provide useful quality and safety measures for the vulnerable populations served by a community health center (CHC).

Focus Area(s): Medication safety monitoring for ACEI/ARB, Digoxin, diuretics and statins
Type of Health IT: System integration, quality of care decision support

Principal Investigator: Christopher Lehmann
Grant No. 1R18HS017018
Applicant Institution: Johns Hopkins University, Baltimore, MD
Estimated Dates: 9/21/2007–8/31/2009

Improving Quality in Cancer Screening: The Excellence Report for Colonoscopy
Estimated Total Funding: $616,207

Seeks to evaluate and improve the quality of screening and diagnostic

colonoscopies in ambulatory care settings.

Focus Area(s): Colonoscopy pre-procedure, procedure and post-procedure measures
Type of Health IT: Operational decision support – quality of care

Principal Investigator: Judith R. Logan
Grant No. 1R18HS017017
Applicant Institution: Oregon Health & Science University, Portland, OR
Estimated Dates: 9/30/2007–9/29/2009

Standardization and Automatic Extraction of Quality Measures in an Ambulatory EMR
Estimated Total Funding: $889,681

Establishes the standardization efforts necessary for data capture of quality measures in an ambulatory EMR system and demonstrates the efficiency and accuracy of using a data extraction and reporting expert to perform quality measurement in the ambulatory care setting.

Focus Area(s): Physician quality reporting initiative
Type of Health IT: Standards (semantic), data electronic transform & load

Principal Investigator: Denni McColm
Grant No. 1R18HS017094
Applicant Institution: Citizens Memorial Hospital District, Bolivar, MO
Estimated Dates: 9/07/2007–8/31/2009

Bringing Measurement to the Point of Care
Estimated Total Funding: $694,961

Enables measurement of the quality of care, with a focus on public health priority issues, disadvantaged populations, and small office practices. This project will design and test a "quality dashboard" suitable for small office practices that will integrate quality measurement and clinical decision support at the point of care.

Focus Area(s): Ambulatory care screening measures
Type of Health IT: Health information exchange, Quality of care decision support

Principal Investigator: Farzad Mostashari
Grant No. 1R18HS017059
Applicant Institution: New York City Health/Mental Hygiene, New York, NY
Estimated Dates: 9/30/2007–9/29/2009

Massachusetts Quality E-Measure Validation Study
Estimated Total Funding: $995,575

Evaluates the readiness of structured EHR data to support ambulatory clinical quality measurement by using the AQA ambulatory care measurement set to compare quality measurement based on a structured EHR data measurement method to two standard measurement methods.

Focus Areas: AQA starter set for primary care (26 measures)
Type of Health IT: System integration, quality of care decision support

Principal Investigator: Eric Schneider
Grant No. 1R18HS017048
Applicant Institution: Harvard University (School of Public Health), Boston, MA
Estimated Dates: 9/12/2007–8/31/2009

Feedback of Treatment Intensification Data To Reduce Cardiovascular Disease Risk
Estimated Total Funding: $997,069

Proposes to develop and evaluate a treatment intensification protocol using an electronic health record to identify patients in need of treatment intensification for systolic blood pressure.

Focus Area(s): Cardiovascular disease process and outcome measures
Type of Health IT: Clinical decision support (provider focused)

Principal Investigator: Joe Selby
Grant No. 1R18HS017031
Applicant Institution: Kaiser Foundation Research Institute, Oakland, CA
Estimated Dates: 9/01/2007–8/31/2009

Using Electronic Records To Detect and Learn From Ambulatory Diagnostic Errors
Estimated Total Funding: $873,108

Uses data from electronic health records (EHRs) to detect diagnostic errors in primary care, understand their causes, and lay groundwork for formulating future prevention strategies.

Focus Area(s): Measuring potential diagnostic errors in primary care
Type of Health IT: Operational decision support (quality of care)

Principal Investigator: Eric Thomas
Grant No. 1R18HS017244
Applicant Institution: University of Texas Health Science Center at Houston, Houston, TX
Estimated Dates: 9/30/2007–9/29/2009

Monitoring Intensification of Treatment for Hyperglycemia and Hyperlipidemia
Estimated Total Funding: $533,431

Develops and validates a new diabetes quality-of-care process measure and the technology for monitoring that measure using analysis of the text of physician notes in the EMR.

Focus Area(s): Development of new diabetes quality-of-care process measures
Type of Health IT: Quality of care decision support, data electronic transform & load

Principal Investigator: Alexander Turchin
Grant No. R18HS017030
Applicant Institution: Brigham and Women's Hospital, Boston, MA
Estimated Dates: 9/30/2007–9/29/2009

Using IT To Improve the Quality of CVD Prevention & Management
Estimated Total Funding: $605,862

Uses electronic medical records (EMRs) in a large health care system to: (1) identify practice variations in delivery of key cardiovascular disease (CVD) preventive and disease management services; (2) relate practice variation to outcomes among patients in the clinical practices, and (3) provide feedback to managers on how guidelines adherence relates to morbid and mortal events, and to costs of care.

Focus Area(s): Prevention index and disease management index
Type of Health IT: Quality of care decision support

Principal Investigator: Thomas Vogt
Grant No. 1R18HS017016
Applicant Institution: Kaiser Foundation Research Institute, Honolulu, HI
Estimated Dates: 9/05/2007–8/31/2009

Crossing the Quality Assessment Chasm: Aligning Measured and True Quality of Care
Estimated Total Funding: $812,237

Identifies and quantifies the impact on quality assessment of real-world circumstances where the current cross-sectional measures of quality do not reflect the true quality of care being rendered. The result of the analysis will help to create a new set of quality measures that is more consistent with actual clinical care.

Focus Area(s): Diabetes care measurement techniques accounting for differences in patient populations
Type of Health IT: Quality of care decision support

Principal Investigator: Mark Weiner
Grant No. 1R18HS017099
Applicant Institution: University of Pennsylvania, Philadelphia, PA
Estimated Dates: 9/30/2007–9/29/2009

Improving Quality Through Clinician Use of Health IT (IQHIT)

The purpose of this FOA is to investigate novel methods or evaluate existing strategies for clinician use of health IT in ambulatory settings to improve outcomes through more effective clinical decision support, medication management, or care delivery. Applicants were encouraged to demonstrate the ability of EHRs and medication management systems to effectively move evidence-based information to the point of care, including the development/utilization of machine-actionable, evidence-based clinical information to providers and participates in health information exchanges. Applicants were encouraged to consider projects that focus on:

- The impact of health IT on outcomes in ambulatory settings and across high-risk transitions of care
- The relationship between health IT and workflow redesign
- Systemic barriers to health IT adoption
- Care for patients with multiple chronic conditions
- Improved use of effective alert strategies for decision support

IQHIT Grants

Twenty-four projects were funded under this FOA. The projects have a diverse range of interventions, using different health IT applications. Many applications target the primary care office as the setting of care while some address the home environment. Many of the projects addressed use effective alert strategies for decision support while others examine the impact of health IT on outcomes in ambulatory settings.

Using Precision Performance Measurement To Conduct Focused Quality Improvement
Estimated Total Funding: $1,199,415

Creates systems that improve quality data and seamlessly link this data to practice-level quality improvement programs and point of care interventions.

Focus Area(s): Impact of Health IT on outcomes in ambulatory settings
Type of Health IT: Quality of care decision support, vocabulary/coding standards

Principal Investigator: David W. Baker
Grant No. 1R18HS017163
Applicant Institution: Northwestern University, Chicago, IL
Estimated Dates: 9/30/2007–9/29/2010

Enabling Electronic Prescribing and Enhanced Management of Controlled Medications
Estimated Total Funding: $1,199,794

Uses electronic prescribing for federally controlled medications in the ambulatory care setting, to improve medication management by ambulatory care clinicians at the point-of-care.

Focus Area(s): Impact of health IT on outcomes in ambulatory settings; systemic barriers to health IT adoption
Type of Health IT: Electronic prescribing

Principal Investigator: Grant M. Carrow
Grant No. 1R18 HS017157
Applicant Institution: Massachusetts State Department of Public Health, Boston, MA
Estimated Dates: 9/30/2007–9/29/2010

Impact of Office-Based E-Prescribing on Prescribing Processes and Outcomes
Estimated Total Funding: $1,199,007

Evaluates the full spectrum of e-prescribing by partnering with the makers of an office-based, e-prescribing

system that is already in widespread use and with multiple insurance companies and public programs who will provide claims data.

Focus Area(s): Impact of Health IT on outcomes in ambulatory settings; improved use of effective alert strategies for decision support
Type of Health IT: Electronic prescribing

Principal Investigator: Michael A. Fischer
Grant No. 1R18HS017151
Applicant Institution: Brigham and Women's Hospital, Boston, MA
Estimated Dates: 9/30/2007–9/29/2010

Improving Otitis Media Care With EHR-based Clinical Decision Support and Feedback
Estimated Total Funding: $877,011

Uses Children's Hospital of Philadelphia's electronic health record to integrate care across time and to supply physicians with the knowledge they need about how to treat a patient at the point of care to address the overuse of antibiotics for otitis media.

Focus Area(s): Impact of Health IT on outcomes in ambulatory settings; improved use of effective alert strategies for decision support
Type of Health IT: Clinical/operational decision support (provider-focused)

Principal Investigator: Christopher B. Forrest
Grant No. 1R18HS017042
Applicant Institution: Children's Hospital of Philadelphia, Philadelphia, PA
Estimated Dates: 9/30/2007–9/29/2010

The BLUES Project: Improving Diabetes Outcomes in Mississippi with Health IT
Estimated Total Funding: $1,163,573

Demonstrates the effects of diabetes management practices at several ambulatory clinics throughout Mississippi when utilizing well-designed, comprehensive health information technology.

Focus Area(s): Impact of health IT on outcomes in ambulatory settings
Type of Health IT: Electronic medical record

Principal Investigator: Karen Fox
Grant No. 1R18HS017233
Applicant Institution: Delta Health Alliance, Inc., Jackson, MS
Estimated Dates: 9/30/2007–9/29/2010

eHealth Records To Improve Dental Care for Patients With Chronic Illnesses
Estimated Total Funding: $996,737

Conducts a randomized clinical trial to evaluate the effectiveness of an integrated electronic health record system that includes an eMedical Record (EMR), eDental Record (EDR), and a Personal Health Record (PHR) to improve the quality and safety of dental care for patients with chronic illnesses.

Focus Area(s): Improved use of effective alert strategies for decision support
Type of Health IT: Systems Integration, clinical/medication reminders (provider-focused)

Principal Investigator: James R. Fricton
Grant No. 1R18HS017270
Applicant Institution: Healthpartners Research Foundation, Minneapolis, MN
Estimated Dates: 9/30/2007–9/29/2010

Pharmaceutical Safety Tracking (PhaST): Managing Medications for Patient Safety
Estimated Total Funding: $1,156,142

Compares use of PhaST, an automated system for monitoring of medication adherence, side effects, and patient symptoms, to usual care in a large urban multispecialty mental health system serving a primarily Medicaid population.

Focus Area(s): Impact of Health IT on outcomes in ambulatory settings
Type of Health IT: Clinical/medication reminders (provider-focused), human/machine interface

Principal Investigator: William P. Gardner
Grant No. 1R18HS017258
Applicant Institution: Children's Research Institute, Columbus, OH

Estimated Dates: 9/30/2007–9/29/2010

RxSafe: Shared Medication Management and Decision Support for Rural Clinicians
Estimated Total Funding: $1,200,000

Uses previously developed technology to support shared medication management for persons with chronic conditions.

Focus Area(s): Impact of health IT on outcomes in ambulatory settings; care for patients with multiple chronic conditions; improved use of effective alert strategies for decision support
Type of Health IT: Clinical/operational decision support (provider-focused)

Principal Investigator: Paul N. Gorman
Grant No. 1R18HS017102
Applicant Institution: Oregon Health & Science University, Portland, OR
Estimated Dates: 9/30/2007–9/29/2010

Improving Posthospital Medication Management of Older Adults Through Health IT
Estimated Total Funding: $1,199,952

Develops and evaluates the value of a health IT-based medication reconciliation system superimposed on the ambulatory electronic medical record (EMR) to improve the quality and safety of medication management, focusing particularly on the transition from the inpatient to the ambulatory setting for older adults with multiple comorbid conditions who are prescribed high-risk medications.

Focus Area(s): Impact of health IT on

outcomes in ambulatory settings; care for patients with multiple chronic conditions; improved use of effective alert strategies for decision support
Type of Health IT: Quality of care decision support

Principal Investigator: Jerry H. Gurwitz
Grant No. 1R18HS017203
Applicant Institution: University of Massachusetts Medical School Worcester, Worcester, MA
Estimated Dates: 9/30/2007–9/29/2010

STEPStools: Developing Web Services for Safe Pediatric Dosing
Estimated Total Funding: $1,157,753

Constructs, pilot tests, and evaluates generally available tools that provide medication-specific knowledge about rounding and extemporaneous formulations necessary for small children.

Focus Area(s): Impact of health IT on outcomes in ambulatory settings
Type of Health IT: Health IT architecture, clinical decision support (provider-focused), electronic prescribing

Principal Investigator: Kevin B. Johnson
Grant No. 1R18HS017216
Applicant Institution: Vanderbilt University, Nashville, TN
Estimated Dates: 9/30/2007–9/29/2010

Electronic Prescribing and Electronic Transmission of Discharge Medication Lists
Estimated Total Funding: $1,187,674

Consists of three studies that will measure the impact of health IT on patient safety in the ambulatory setting.

Focus Area(s): Impact of health IT on outcomes in ambulatory settings
Type of Health IT: Electronic prescribing, quality of care decision support

Principal Investigator: Rainu Kaushal
Grant No. 1R18HS017029
Applicant Institution: Weill Medical College of Cornell University, New York, NY
Estimated Dates: 9/30/2007–9/29/2010

Evaluation of a Computerized Clinical Decision Support System and EHR-Linked Registry To Improve Management of Hypertension in Community-Based Health Centers
Estimated Total Funding: $1,132,569

Analyzes the efficacy of office-based electronic decision support and provider feedback in improving hypertension control in community health centers.

Focus Area(s): Impact of health IT on outcomes in ambulatory settings
Type of Health IT: Registries (hypertension), clinical decision support

Principal Investigator: Helene Kopal
Grant No: 1R18HS017167
Applicant Institution: Primary Care Development Corporation, New York, NY
Estimated Dates: 9/30/2007–9/29/2010

Optimizing Medication History Value in Clinical Encounters With Elderly Patients
Estimated Total Funding: $1,199,989

Conducts a randomized clinical trial to test geriatric specific algorithms and compliance triggers for improved medication management at the point of care.

Focus Area(s): Improved use of effective alert strategies for decision support
Type of Health IT: Electronic prescribing, clinical decision support (provider-focused)

Principal Investigator: Kate L. Lapane
Grant No. 1R18HS017150
Applicant Institution: Brown University, Providence, RI
Estimated Dates: 9/30/2007–9/29/2010

Improving Quality Through Decision Support for Evidence-Based Pharmacotherapy
Estimated Total Funding: $1,198,429

Seeks to improve care quality and safety in an ambulatory care setting through clinical decision support for evidence-based pharmacotherapy delivered as point-of-care reports to clinic-based practitioners and as population health-based alerts to care managers.

Focus Area(s): Improved use of effective alert strategies for decision support
Type of Health IT: Health information exchange, clinical decision support (provider-focused)

Principal Investigator: David F. Lobach
Grant No. R18HS017072
Applicant Institution: Duke University, Durham, NC
Estimated Dates: 9/30/2007–9/29/2010

Using Health IT To Improve Ambulatory Chronic Disease Care
Estimated Total Funding: $1,192,603

Conducts a phased implementation of selected ambulatory care health IT systems and functions to: (1) improve providers' access to information, allowing individual providers to compare and improve their clinical performance against standardized performance targets and peers' performance; and (2) enhance patient-provider connectivity and communication to improve clinical decisionmaking, patient participation in the care process, and, ultimately, patient outcomes.

Focus Area(s): Impact of health IT on outcomes in ambulatory settings
Type of Health IT: EMR, telehealth (patient-focused), quality of care

decision support

Principal Investigator: David R. Mehr
Grant No. 1R18HS017035
Applicant Institution: University of Missouri-Columbia, Columbia, MO
Estimated Dates: 9/30/2007–9/29/2010

VA Integrated Medication Manager
Estimated Total Funding: $594,582

Studies a new technology called the Integrated Medication Manager that facilitates improved decisionmaking by helping clinicians to consider more relevant data and to better plan patient care.

Focus Area(s): Improved use of effective alert strategies for decision support
Type of Health IT: Clinical decision support

Principal Investigator: Jonathan R. Nebeker
Grant No. 1R18HS017186
Applicant Institution: Western Institute for Biomedical Research, Salt Lake City, UT
Estimated Dates: 9/30/2007–9/29/2010

Medication Safety in Primary Care Practice - Translating Research Into Practice
Estimated Total Funding: $1,183,549

Develops a set of medication safety measures relevant for primary care, incorporates these measures in practice performance reports sent quarterly to participating practices, and assesses the impact of the intervention on the incidence of medication errors.

Focus Area(s): Relationship between health IT and workflow redesign; Improved use of effective alert strategies for decision support
Type of Health IT: Quality of care decision support

Principal Investigator: Steven M. Ornstein
Grant No. 1R18HS017037
Applicant Institution: Medical

University of South Carolina, Charleston, SC
Estimated Dates: 9/30/2007–9/29/2010

A Partnership for Clinician EHR Use and Quality of Care
Estimated Total Funding: $1,184,765

Studies the effectiveness of a partnership that shares resources and utilizes a data-driven approach to promote full clinician use of an EHR in three nurse managed health centers and three community health centers to improve the quality of care in areas of preventive care, chronic disease management, and medication management for vulnerable populations.

Focus Area(s): Improved use of effective alert strategies for decision support
Type of Health IT: Quality of care decision support

Principal Investigator: Joanne M. Pohl
Grant No. 1R18HS017191
Applicant Institution: Michigan Public Health Institute, Ann Arbor, MI
Estimated Dates: 9/30/2007–9/29/2010

Harnessing Health IT to Prevent Medication-Induced Birth Defects
Estimated Total Funding: $1,199,370

Develops and evaluates ways computers may be able to help doctors counsel women about preventing birth defects caused by use of certain medications.

Focus Area(s): Improved use of effective alert strategies for decision support
Type of Health IT: Clinical decision support (provider-focused), human/machine interface

Principal Investigator: Eleanor B. Schwarz
Grant No. 1R18HS017093
Applicant Institution: University of Pittsburgh at Pittsburgh, Pittsburgh, PA
Estimated Dates: 9/30/2007–9/29/2010

Can Risk Score Alerts Improve Office Care for Chest Pain?
Estimated Total Funding: $687,539

Implements and evaluates electronic risk alerts to risk stratify outpatients with chest pain and present this information to primary care clinicians within the context of an electronic health record.

Focus Area(s): Improved use of effective alert strategies for decision support
Type of Health IT: Clinical/operational decision support (provider-focused)

Principal Investigator: Thomas D. Sequist
Grant No. 1R18HS017075
Applicant Institution: Brigham and Women's Hospital, Boston, MA
Estimated Dates: 9/30/2007–9/29/2010

Improving Laboratory Monitoring in Community Practices: A Randomized Trial
Estimated Total Funding: $990,640

The Massachusetts e-Health Collaborative (MAeHC) will conduct a trial of computerized point-of-care alerts in the electronic health record to prevent errors related to laboratory monitoring at the initiation and continuation of drug therapy and a results management system to prevent errors related to the delay in followup of abnormal laboratory testing.

Focus Area(s): Improved use of effective alert strategies for decision support
Type of Health IT: Community health network, results reporting, clinical/medication reminders (provider-focused)

Principal Investigator: Steven R. Simon
Grant No. 1R18HS017201
Applicant Institution: Harvard Pilgrim Health Care, Inc., Boston, MA
Estimated Dates: 9/30/2007–9/29/2010

A Systems Engineering Approach: Improving Medication Safety with Clinician Use of Health IT
Estimated Total Funding: $1,200,000

Modifies and implements an IT-based Crew Resource Management (CRM) tool called ACORN to examine the impact of the intervention on reducing selected adverse drug events among geriatric patients in a primary care setting; examines the impact of the intervention on improving monitoring for geriatric patients on Persistent Medications; and evaluates office staff use and application of the tool for improving geriatric medication safety by examining utilization of the IT tool and changes in safety attitude constructs.

Focus Area(s): Impact of health IT on outcomes in ambulatory settings
Type of Health IT: Quality of care decision support

Principal Investigator: Gurdev Singh
Grant No. 1R18HS017020-01
Applicant Institution: State University of New York at Buffalo, Buffalo, NY
Estimated Dates: 9/30/2007–9/29/2010

Using Information Technology To Provide Measurement Based Care for Chronic Illness
Estimated Total Funding: $1,196,703

Tests the implementation of measurement based care (MBC) in an ambulatory care setting with an integrated clinical decision support system (CDSS) and an electronic health record.

Focus Area(s): Improved use of effective alert strategies for decision support
Type of Health IT: Clinical decision support (provider-focused)

Principal Investigator: Madhukar H. Trivedi
Grant No. 1R18HS017189
Applicant Institution: University of Texas Southwest Medical Center at Dallas, Dallas, TX
Estimated Dates: 9/30/2007–9/29/2010

Electronic Prescribing and Decision Support To Improve Rural Primary Care Quality
Estimated Total Funding: $1,181,866

Examines whether, in rural ambulatory care settings, the use of an electronic prescribing system with clinical decision support related to medication management increases patient prescription adherence, improves health outcomes in hypertensive patients, and improves the medication management process.

Focus Area(s): Systemic barriers to health IT adoption; improved use of effective alert strategies for decision support
Type of Health IT: Community health networks (rural communities), electronic prescribing, clinical/medication reminders (provider-focused)

Principal Investigator: James Thomas Veline
Grant No. 1R18HS017149-01
Applicant Institution: Avera Health, Sioux Falls, SD
Estimated Dates: 9/30/2007–9/29/2010

Enabling Patient-Centered Care Through Health IT

The purpose of this FOA is to investigate novel methods or evaluate existing strategies for using health IT to create or enhance patient-centered models of care in the ambulatory setting. Applicants were expected to demonstrate how patient-centered care can improve health outcomes, patient safety, and patients' reported experience with care. Applicants were encouraged to consider projects that focus on:

- Shared decisionmaking
- Patient-clinician communication
- Personal health records
- Integration of patient information across transitions in care, or
- Patient self-management of chronic conditions

The long-term goal of this effort is to improve the delivery of patient-centered care in ambulatory settings.

PCC Grants

Sixteen grants were awarded under this FOA. The projects have a diverse range of interventions, using different health IT applications. Most applications target the primary care office as the setting of care while others address the home environment. Two projects address subspecialty care and one specifically focuses on transitions between the inpatient and ambulatory setting. While all areas of patient-centered care are addressed across the grants, most of the projects focus on patient self-management.

Conversational IT for Better, Safer Pediatric Primary Care
Estimated Total Funding: $1,159,609

Develops and evaluates an integrated patient-centered health information system, the Personal Health Partner (PHP) that will use fully automated, interactive, conversations to gather personal health data and counsel parents before scheduled visits, exchange that data with the child's primary care clinician via the electronic health record (EHR), and offer personalized follow-up assessment and counseling after visits.

Focus Area(s): Patient self-management; access to medical information (clinicians)
Type of Health IT: Telehealth (patient-focused), PHR, Human/machine interface

Principal Investigator: William G. Adams
Grant No. 1R18HS017248
Applicant Institution: Boston Medical Center, Boston, MA
Estimated Dates: 9/30/2007–9/29/2010

Using a Telemedicine System To Promote Patient Care Among Underserved Individuals
Estimated Total Funding: $1,198,371

Seeks to advance care for hypertension for African-Americans in North Philadelphia by enhancing an existing telemedicine system that supports the chronic care model by increasing access, incorporating hypertension treatment guidelines, quality measures, automating reminders and feedback for both patients and health care providers, and enabling the personal health record (PHR) to exchange data between other HL7-compliant electronic medical record systems.

Focus Area(s): patient self-management of chronic illness; access to medical information (patients and clinicians); shared decisionmaking; patient-clinician communication;
Type of Health IT: Telehealth (patient-focused), data electronic transform & load, clinical/medication reminders (patient & provider-focused)

Principal Investigator: Alfred Bove
Grant No. 1R18HS017202
Applicant Institution: Temple University, Philadelphia, PA
Estimated Dates: 9/30/2007–9/29/2010

Enhancing Self-Management of T2DM With an Automated Reminder and Feedback System
Estimated Total Funding: $1,166,243

Tests an Automated Self-Management Monitor (ASMM) with low-income housing sites and through primary care clinics to determine whether ASMM can improve self-monitoring of blood glucose (SMBG) and glycemic control in patients with type II diabetes mellitus.

Focus Area(s): Patient self-management of chronic illness
Type of Health IT: clinical/medication reminders (patient-focused), human/machine interface

Principal Investigator: Edith Burns
Grant No. R18HS017276
Applicant Institution: Medical College of Wisconsin, Milwaukee, WI
Estimated Dates: 9/01/2007–8/31/2010

Personal Health Records and Elder Medication Use Quality
Estimated Total Funding: $1,199,999

Investigates the effect of a current PHR system among older adults on patient-reported medication therapy management (MTM) behaviors, beliefs about medications, medication-use quality indicators, and on medication adherence.

Focus Area(s): Patient self-management; access to medical information (patients)
Type of Health IT: human/machine interface, PHR, clinical/medication reminders (patient-focused)

Principal Investigator: Elizabeth Chrischilles
Grant No. 1R18HS017034
Applicant Institution: University of Iowa, Iowa City, IA
Estimated Dates: 9/30/2007–9/29/2010

Ambulatory Care Compact To Organize Risk and Decisionmaking (ACCORD)
Estimated Total Funding: $923,783

Designs, develops, implements, and evaluates a model of care delivery that enables patients and primary care providers (PCPs) to agree upon shared, followup care plans that incorporate patient and provider preferences.

Focus Area(s): Patient self-management; shared decisionmaking
Type of Health IT: System architecture, PHR

Principal Investigator: Henry Chueh
Grant No. 1R18HS017190
Applicant Institution: Massachusetts
General Hospital (MGH), Boston, MA
Estimated Dates: 9/30/2007–9/29/2010

**mplementing a Low-Literacy,
Multimedia IT System To Enhance
Patient-Centered Cancer Care
Estimated Total Funding: $1,198,839**

Tests whether a low-literacy-friendly,
multimedia information and assessment
system used in daily clinical practice
enhances patient-centered care and
improves patient outcomes for
vulnerable populations.

Focus Area(s): Patient self-management
of chronic illness; patient-clinician
communication
Type of Health IT: Human/machine
interface, clinical/medication reminders
(patient-focused)

Principal Investigator: Elizabeth Hahn
Grant No. 1R18HS017300
Applicant Institution: Evanston
Northwestern Healthcare,
Chicago, IL
Estimated Dates: 9/30/2007–9/29/2010

**Virtual Patient Advocate To Reduce
Ambulatory Adverse Drug Events
Estimated Total Funding: $1,180,772**

Focuses on the transition between
hospitalization and the first ambulatory
visit; also tests a Virtual Patient
Advocate (or VPA) to prepare patients
for discharge and determines their
degree of understanding of self-care,
medications, and followup.

Focus Area(s): Patient self-management;
access to medical information (patients
and clinicians)
Type of Health IT: clinical/medication
reminders (patient-focused),
human/machine interface

Principal Investigator: Brian Jack
Grant No. 1R18HS017196

Applicant Institution: Boston Medical
Center, Boston, MA
Estimated Dates: 9/01/2007–8/31/2010

**An Interactive Preventive Health
Record (IPHR) To Promote Patient-
Centered Care
Estimated Total Funding: $1,198,677**

Investigates whether an interactive
preventive health record (IPHR), called
My Preventive Care, increases the
delivery of recommended preventive
services and whether the IPHR increases
shared decisionmaking and improves
clinician-patient communication.

Focus Area(s): Shared decisionmaking;
patient-clinician communication
Type of Health IT: PHR,
clinical/medication reminders (patient
and provider focused)

Principal Investigator: Alexander Krist
Grant No. 1R18HS017046
Applicant Institution: Virginia
Commonwealth University, Richmond,
VA
Estimated Dates: 9/01/2007–8/31/2010

**Tailored DVD To Improve
Medication Management for Low
Literate Elderly Patients
Estimated Total Funding: $1,199,014**

Uses an electronic medication history to
develop tailored patient education
DVDs and print materials for low-
literate audiences to empower geriatric
patients and their caregivers to
participate in treatment decisions and
negotiate acceptable medication
regimens that are more amenable to
follow-through.

Focus Area(s): patient self-management;
shared decisionmaking; patient-clinician
communication
Type of Health IT: clinical/med
reminders (patient-focused),
human/machine interface

Principal Investigator: Kate Lapane
Grant No. 1R18HS017281
Applicant Institution: Brown University,
Providence, RI
Estimated Dates: 9/30/2007–9/29/2010

**Using IT for Patient-Centered
Communication and Decisionmaking
About Medications
Estimated Total Funding: $1,199,997**

Develops and tests a multimedia
program to help patients understand the
importance of both giving and receiving
accurate information about medications.

Focus Area(s): patient self-management;
shared decisionmaking; patient-clinician
communication
Type of Health IT: Clinical decision
support, medication management
(patient focused)

Principal Investigator: Gregory Makoul
Grant No. 1R18HS017220
Applicant Institution: Northwestern
University, Chicago, IL
Estimated Dates: 9/30/2007–9/29/2010

**Impact of a Wellness Portal on the
Delivery of Patient-Centered
Prospective Care
Estimated Total Funding: $902,411**

Develops, tests, and refines an Internet-
based patient wellness portal linked to
the previously developed Preventive
Services Reminder System (PSRS), to
will facilitate preventive care in primary
care practices.

Focus Area(s): Patient self-management;
shared decisionmaking
Type of Health IT: Telehealth (patient-
focused)

Principal Investigator: James Mold
Grant No. 1R18HS017188
Applicant Institution: University of
Oklahoma Health Sciences Center,
Oklahoma City, OK
Estimated Dates: 9/01/2007–8/31/2010

Patient-Centered Informatics System To Enhance Health Care in Rural Communities
Estimated Total Funding: $1,199,999

Evaluates whether integrating the functions of an electronic medical record, personal health record, and communication system leads to more patient-centered care in rural communities in the Intermountain West.

Focus Area(s): Patient self-management; access to medical information (patients and clinicians); patient-clinician communication
Type of Health IT: Community Health Network (rural), clinical/medication reminders (provider and patient-focused)

Principal Investigator: Matthew Samore
Grant No. 1R18HS017308
Applicant Institution: University of Utah, Salt Lake City, UT
Estimated Dates: 9/30/2007–9/29/2010

Harnessing Health IT for Self-Management Support and Medication Activation in a Medicaid Health Plan
Estimated Total Funding: $1,130,769

Tests the impact of the automated telephone self-management support (ATSM) on diabetes management and combine it with a medication activation communication strategy.

Focus Area(s): patient self-management of chronic illness
Type of Health IT: Telehealth (patient-focused), human/machine interface, clinical/medication reminders (patient-focused)

Principal Investigator: Dean Schillinger
Grant No. 1R18HS017261

Applicant Institution: University of California; San Francisco, San Francisco, CA
Estimated Dates: 9/01/2007–8/31/2010

Using An Electronic Personal Health Record To Empower Patients With Hypertension
Estimated Total Funding: $1,181,369

Examines the feasibility, acceptability, and impact of a health IT intervention (the ePHR) that has been modified to incorporate the experiences, perspectives, and insights of patients and family members actually using the system.

Focus Area(s): Patient self-management of chronic illness; access to medical information (patients); patient-clinician communication
Type of Health IT: PHR

Principal Investigator: Patricia Sodomka
Grant No. 1R18HS017234-01
Applicant Institution: Medical College of Georgia, Augusta, GA
Estimated Dates: 9/01/2007–8/31/2010

Enabling Sleep Apnea Patient-Centered Care Via an Internet Intervention
Estimated Total Funding: $1,155,062

Examines the effect of a Web-based intervention designed for patients with obstructive sleep apnea syndrome (OSA) that integrates a telemetry treatment device and an internet-based portal that tracks management of continuous positive airway pressure (CPAP).

Focus Area(s): Patient self-management of chronic illness
Type of Health IT: Telehealth (patient-focused), PHR

Principal Investigator: Carl Stepnowsky
Grant No. 1R18HS017246
Applicant Institution: Veterans Medical Research Foundation, San Diego, CA
Estimated Dates: 9/30/2007-9/29/2010

Patient-Centered Online Disease Management Using a Personal Health Record System
Estimated Total Funding: $1,158,401

Evaluates a Customized, Continuous Care Management (CCCM) program for diabetes care and examines the CCCM's impact on HgA1C as well as self-management practices, better processes of care, lower cardiovascular risk, enhanced patient experience and satisfaction, and improved patient psychosocial well-being.

Focus Area(s): Patient self-management of chronic illness; access to medical information (patients and clinicians)
Type of Health IT: PHR, clinical/medication reminders (patient-focused)

Principal Investigator: Paul Tang
Grant No. 1R18HS017179
Applicant Institution: Palo Alto Medical Foundation Research Institute, Palo Alto, CA
Estimated Dates: 9/01/2007–8/31/2010

For More Information

For additional information on AHRQ projects on health information technology, please visit www.healthit.ahrq.gov. or contact the health IT staff at healthit@ahrq.gov.

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