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.

Since 2004, the Health IT Portfolio at the Agency for Healthcare Research and Quality (AHRQ) has funded research projects that are critical to improving health care for all Americans. Having invested in grants and contracts in more than 200 communities throughout the Nation, the Health IT Portfolio has expanded significantly over the years to include funding for projects that address cutting-edge, health IT-related issues. In addition to funding various health IT-related projects, the Health IT Portfolio—
- Anticipates the future needs of the health care system and supports development of innovative health IT solutions.
- Identifies and fills current gaps in knowledge about health IT.
- Leverages the capability of health IT to improve the quality, safety, efficiency, and effectiveness of health care.

Key Acronyms
- CDS - clinical decision support
- CPOE – computerized provider order entry
- EHR - electronic health record
- EMR - electronic medical record
- Health IT - health information technology
- HIE - health information exchange
- HITRC - Health Information Technology Research Center
- PHR - personal health record

AHRQ and Its Federal Partners

AHRQ has a key role in developing and disseminating evidence and evidence-based tools on how health IT can improve health care quality, safety, efficiency, and effectiveness. Given the scope and complexity of implementing health IT to improve the Nation’s health care system, AHRQ’s Health IT Portfolio recognizes the benefits of leveraging resources with other Federal
agencies with common programmatic interests to facilitate quality improvement through the use of health IT. Some of AHRQ’s most notable collaborations in this regard have been with the following agencies:

- Centers for Medicare & Medicaid Services (CMS)
- Office of the National Coordinator for Health Information Technology (ONC)
- National Science Foundation (NSF)
- National Institutes of Health (NIH)
- Indian Health Service (IHS)

This fact sheet describes AHRQ Health IT Portfolio projects where the Portfolio served as a research partner with other Federal agencies to generate evidence or evidence-based tools or for which the Portfolio provided joint funding with other Federal entities to advance the quality of health care through the use of health IT.

**Centers for Medicare & Medicaid Services (CMS)**

**Development of an Electronic Health Record Format for Children.** The AHRQ Health IT Portfolio, in collaboration with CMS, one of its sister Agencies in the Department of Health and Human Services (HHS), has developed the Children’s Electronic Health Record (EHR) Format—a database of requirements that provides a blueprint for the child-specific functionality that EHR developers can integrate into their systems. This project was conducted in response to the 2009 Children’s Health Insurance Program Reauthorization Act (CHIPRA) directive to the HHS to develop a “format” or set of requirements that includes the need for EHRs to be “accessible, interoperable, viewable, and compatible with other EHR standards.”

More than 20 child-specific topics are addressed in the Format, including prenatal and newborn screening tests, immunizations, growth data, information for children with special health needs, and child abuse reporting. Access the Children’s EHR Format at [http://healthit.ahrq.gov/childehrformat](http://healthit.ahrq.gov/childehrformat).

**Pilot Projects in E-prescribing.** In 2005, AHRQ and CMS collaborated on a major project involving pilot testing of electronic prescribing (e-prescribing) standards. Through a nearly $6 million award from HHS, five grantees teams were selected to test several systems of electronic data transmission standards to determine how efficiently and effectively prescriptions and prescription-related information could be sent to and received by the providers and pharmacies participating in e-prescribing for Medicare Part D beneficiaries. The five pilot project sites, representing the States of Minnesota, Massachusetts, Ohio, California, and Virginia, included partnerships and collaborations with local nursing and physician practices, hospitals, health care consortiums, insurance providers, universities, and EHR and e-prescribing vendors. One project became the first to evaluate how e-prescribing standards work in certain long-term care settings and assessed the impact of e-prescribing on the workflow among prescribers, nurses, the pharmacies, and payers. Another evaluated 47 primary care clinics in its State to establish differences in practice culture, workflow, and efficiency and determine issues in the adoption of e-prescribing. Other pilots conducted needed research into ambulatory drug safety and the impact of e-prescribing on physician workflows and sought to determine changes in drug use, clinical outcomes, and patient satisfaction as a result of e-prescribing. In addition, how e-prescribing standards work in a variety...
of practice settings, geographic areas,
and e-prescribing technologies was
evaluated along with how prescriber and
vendor characteristics influence e-
prescribing adoption and what "best
features" of vendor software improve
medication-related safety outcomes.
AHRQ led the effort to evaluate and
summarize the projects’ findings.
The final reports for each of these
projects and the evaluation report are
available at http://healthit.ahrq.gov/
erxpilots.

Technical Assistance for Health
Information Technology and Health
Information Exchange in the
Medicaid and Children’s Health
Insurance Program (CHIP). From
September 2007 until May 2012, CMS
partnered with AHRQ to provide a
technical assistance program to
Medicaid and CHIP agencies to help
them develop, implement, or participate
in health IT and health information
exchange (HIE). AHRQ’s technical
assistance program developed and
provided a wide range of resources and
tools to assist Medicaid and CHIP
agencies in improving the delivery and
coordination of care. These resources
helped to improve the proactive
management of the health of Medicaid
and CHIP beneficiaries through the use
of health IT. The program was a
resource for agencies needing assistance
with plans for using or implementing
health IT, including HIEs to support
internal and external business and
operating needs and the efficient
delivery of quality services.
The program included the following
components:

• A repository of information relevant
to Medicaid and CHIP to support
the technical assistance and
disseminate best practices.
• Over 50 technical assistance events,
including Webinars, Web-based and
in-person workshops, and
Community of Practice (CoP)
meetings.

Through the program, AHRQ reached
agency staff from all 50 States, the
District of Columbia, the Virgin Islands,
and American Samoa and published
over 700 documents in the repository.
Through the course of the technical
assistance program, AHRQ convened
several CoPs. The CoPs were conceived
as open, collegial platforms for Medicaid
and CHIP staff to use for exchanging
up-to-date information on health IT
and HIE issues and to share their
questions and experiences related to
those issues. At various points in the
project, CoPs formed to address these
topic areas:

• Privacy and security
• Sustainability and funding
• Use of health IT for children (CHIP
and children’s issues in health IT and
HIE CoP and health IT for
children’s health care quality CoP)
• Collaboration between Medicaid and
other health IT initiatives
(collaborative activities between
Medicaid and Regional Extension
Centers [RECs]/State HIE grantees
CoP and Medicaid involvement in
State HIE CoP)
• Managing multiple health IT
projects in Medicaid and CHIP

Resources developed through this
project are available at
http://healthit.ahrq.gov/
Medicaid-SCHIP.

Office of the National
Coordinator for Health
Information Technology (ONC)

AHRQ, in collaboration with ONC,
leads the Health Information
Technology Research Center (HITRC),
which was funded under the Health
Information Technology for Economic
and Clinical Health Act.
The HITRC incorporates input from
relevant sources, including—

• Other Federal agencies with
demonstrated experience and
expertise in information technology
services.
• Users of health IT, such as providers
and their support and clerical staff
and others from the health care and
health IT industry involved in the
care and care coordination of
patients.
The purposes of the HITRC are to—

• Provide a forum for the exchange of
knowledge and experience.
• Accelerate the transfer of lessons
learned from existing public and
private sector initiatives, including
those currently receiving Federal
financial support.
• Assemble, analyze, and widely
disseminate evidence and experience
related to the adoption,
implementation, and effective use of
health IT that allows for the
electronic exchange and use of
information including through the
RECs.
• Provide technical assistance for the
establishment and evaluation of
regional and local health information
networks to facilitate the electronic
exchange of information across
health care settings and improve the
quality of health care.
• Provide technical assistance for the
development and dissemination of
solutions to barriers to the exchange
of electronic health information.
• Learn about effective strategies to
adopt and utilize health IT in
medically underserved communities.
National Science Foundation (NSF)

Advancing Health Services Through System Modeling Research. In September 2009, AHRQ and the NSF convened a workshop (http://healthit.ahrq.gov/engineeringhealth) to define a research agenda for how industrial and systems engineering may support health services research and health care delivery redesign, with a focus on health IT.

The objectives of the workshop were to—

- Articulate a vision for an ideal health care delivery system.
- Determine why current efforts to apply industrial and systems engineering knowledge to health care have not resulted in meaningful change.
- Propose a research and action agenda to enable industrial and systems engineering to substantially contribute to the realization of an ideal health care delivery system.

The research agenda can be found at http://healthit.ahrq.gov/engineeringhealthfinalreport.

The two agencies subsequently developed a joint grant solicitation (available at http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504720) to address the research challenges and agenda set forth in the workshop, foster collaborations between health services researchers and industrial and systems engineers, and fund research projects that address systems modeling in health services research, with a specific emphasis on the supportive role of health IT.

Several grants were awarded that addressed the following: ensuring balanced workload distribution for a patient-centered medical home model; developing health IT interfaces to alert health care providers to errors during blood transfusion and other complex procedures; providing a tool for improving rapid response operations in hospitals; examining the role of screening and treatment for depression among women living with HIV/AIDS; creating simulations for studying coordinated care systems aimed at reducing readmissions and medical errors; and studying the use of hospital transitional care units.

National Institutes of Health (NIH)

Improving Guideline Development and Implementation. Researchers at Yale University have designed a research program, cofunded by the National Library of Medicine, NIH, and AHRQ, intended to reduce guideline ambiguities, improve efficiency, and create and evaluate tools that promote authoring of comprehensive and implementable guidelines. Derived from this program, the Building Recommendations in a Developer’s Guideline Editor (BRIDGE-Wiz) tool formalizes and systematizes a process for creating implementable guideline recommendation statements by using a wizard approach to answering questions (such as under what circumstances, who, what level of obligation, purpose, and to whom, how, and why?). Overall, users found that BRIDGE-Wiz facilitated the development of clear, transparent, and implementable guideline recommendations.

Indian Health Service (IHS)

Health Information Technology to Support Integration of Self-Management Support in Primary Care Delivery. In 2007, the IHS Chronic Care Initiative (CCI) began to implement strategies to improve the health status of patients and populations affected by chronic conditions and to reduce the prevalence and impact of those conditions. This project, conducted in collaboration with AHRQ, was designed to support the improvement of the delivery of prevention and care management services through the IHS CCI.

Self-management support (SMS) is the care and encouragement of people with chronic conditions to help them understand their central role in managing their illness, make informed decisions about care, and engage in healthy behaviors. Two questions arising from IPC work on SMS are (1) What elements (e.g., goal setting, action planning, followup) can be integrated into the EHR to help prompt and document SMS within a newly designed model of care? and (2) What key measure(s) should be collected from the EHR to drive performance improvement? The project also sought to understand, develop, and test EHR elements that improve the delivery, documentation, and tracking of SMS services.

Additional Information

For more information about AHRQ’s Health IT Portfolio, go to healthit.ahrq.gov.

For more programmatic information, contact——

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