

AHRQ Annual Highlights, 2012

Mission and Vision

The Agency for Health Care Research and Quality (AHRQ) is 1 of 12 agencies within the Department of Health and Human Services (HHS). Its mission is to improve the quality, safety, efficiency, and effectiveness of health care for all Americans. The Agency fulfills this mission by conducting health care services research which examines how people get access to health care, how much care costs, and what happens as a result of the care they receive. The principal goals of health services research are to identify the most effective ways to organize manage, finance, and deliver high quality care, reduce medical errors, and improve patient safety. AHRQ pursues its mission through six research portfolios:

- Patient-Centered Health Research: improves health care quality by providing patients and physicians with state-of-the-science information on which medical treatments work best for a given condition.
- Prevention/Care Management Research: focuses on improving the quality, safety, efficiency, and effectiveness of the delivery of evidence-based preventive services and chronic care management in ambulatory care settings.
- Value Research: focuses on finding a way to achieve greater value in health care – reducing unnecessary costs and waste while maintaining or improving quality.
- Health Information Technology: Health IT research develops and disseminates evidence and evidence-based tools to inform policy and practice on how Health IT can improve the quality of American health care.
- Patient Safety: identifies risks and hazards that lead to medical errors and finding ways to prevent patient injury associated with delivery of health care.
- Crosscutting Activities Related to Quality, Effectiveness and Efficiency: includes investigator-initiated and targeted research grants and contracts that focus on health services research in the areas of quality, effectiveness, and efficiency. Crosscutting Activities also includes additional research activities that support all of our research portfolios including data collection, measurement, dissemination and translation, and program evaluation.

In addition to AHRQ's six research portfolios, the Agency supports the Medical Expenditure Panel Survey (MEPS), which is the only national source for annual data on how Americans use and pay for medical care. MEPS supports all of AHRQ's research related strategic goal areas.

AHRQ's vision is that, as a result of its efforts, American health care will provide services of the highest quality, with the best possible outcomes, at the lowest cost. This report represents the Agency's key accomplishments, initiatives, and research findings during fiscal year 2012 (FY12) that have brought us closer to making this vision a reality.



Medical Expenditure Panel Survey

New study projects savings by Affordable Care Act to individual health insurance policyholders

People with private individual health insurance would likely save \$280 a year in out-of-pocket spending for medical care, including prescription drugs, under the Affordable Care Act (ACA). ACA would decrease out-of-pocket spending by \$589 for people ages 55 to 64 and by \$535 for low-income adults. The study also estimates that under ACA, the percentage of individually insured adults whose out-of-pocket spending exceeds \$6,000 a year would fall from 2.6 percent to 0.6 percent. The study projected an individual's likely annual savings from 2001 to 2008, based on data from the MEPS. (See "Individual insurance benefits to be available under health reform would have cut out-of-pocket spending in 2001-08," by Stephen C. Hill, in the June 2012 *Health Affairs* 31(6), pp. 1349-56.

Six in 10 obese adults have joint pain

Fifty-eight percent of obese and nearly 69 percent of extremely obese adults age 20 or older reported suffering from joint pain in 2009. Among obese adults, nearly 42 percent reported having a heart condition, 42 percent said they had elevated cholesterol and 15 percent said they suffered from diabetes. The percentages of those with a heart condition or diabetes were typically higher among those who were considered extremely obese (having a body mass index of 40 or more). In addition:

- One in four American adults was considered obese and another 5 percent were considered extremely obese.
- Black Americans were more likely than other racial or ethnic groups to be obese (31 percent) or extremely obese (8 percent) as compared with Hispanics, whites, and all other races, which were primarily Asian.
- Adults with a college degree were less likely to be obese (20 percent) or extremely obese (3 percent) compared with high school graduates and those with less than a high school degree.

For more information, go to [Statistical Brief #364: Obesity in America: Estimates for the U.S. Civilian Noninstitutionalized Population Age 20 and Older, 2009.](#)

Requests for assistance on health initiatives

MEPS is an important data source to inform health care policy decisionmaking at the State and national levels. In FY12, AHRQ received and responded to requests for MEPS data regarding the Affordable Care Act, emergency room expenses, ambulatory care visits,

prescription drug costs, health insurance, Medicaid, chronic pain conditions, and barriers to care. Table 1 briefly summarizes some of the responses provided in FY12. Additional details on these requests can be found at <http://www.ahrq.gov/policymakers/health-initiatives/index.html>.

Table 1. MEPS Responses to Requests for Assistance on Health Initiatives for FY12

Source of Request	Assistance Provided
Government Accountability Office	<p>Provided access to GAO staff to restricted MEPS data through AHRQ's Data Center to conduct a study on the demographic and geographic profile of adults with pre-existing medical conditions.</p> <p>Provided substantive consultations on using MEPS to inform analyses of barriers to care for Medicaid beneficiaries and on psychotropic drug and other mental health therapies for children.</p>
Senate Appropriations Committee	Responded to a request for analysis of the health care expenditures by women which were associated with chronic fatigue syndrome, endometriosis, fibromyalgia, interstitial cystitis, temporomandibular disorders, and vulvodynia.
Congressional Budget Office	<p>Provided technical assistance and national estimates on trends in out-of-pocket payments for persons with private health insurance.</p> <p>Provided national estimates of employment-related insurance policies held by nonelderly active employees, former employees (under COBRA continuing coverage provisions), and retirees.</p> <p>Provided assistance in interpreting the estimates from the MEPS tables emergency room expenses for person on Medicaid.</p> <p>Provided data on employer contributions for private health insurance from 1996 through 2010 and on the effects of insurance expansions in the Affordable Care Act on people with mental disorders.</p>
Office of U.S. Congressman William Cassidy, M.D. (R-LA)	Provided consultation on expenditure estimates from the MEPS for individuals with chronic conditions.

Patient-Centered Health Research

The Agency helps to inform health-care decisions by providing evidence on the effectiveness, benefits, and risks of different treatment options through patient-centered health research. This research, developed by the agency's Effective Health Care Program, is then translated and disseminated to our stakeholders through comparative effectiveness reviews, clinician and patient summaries, continuing education activities, and faculty slide sets. Examples of these reports and their products are as follows:

Parent training is effective for treating young children with ADHD

In the past 25 years, four major parent behavior training (PBT) methods have been developed that help parents manage their child's problem behavior with effective discipline strategies using rewards and nonpunitive consequences. Each promotes a positive and caring relationship between parents and their child, and seeks to improve both child behavior and parenting skills. Formal training in parenting strategies is a low-risk, effective method for improving behavior in preschool-age children at risk for developing attention deficit hyperactivity disorder (ADHD). The report indicates that PBT methods are supported by strong evidence for effectiveness for children younger than the age of 6, with no reports of complications or harms, while there is less evidence supporting the use of medications for children younger than 6 years old. However, one large barrier to the success of PBT is parents who drop out of therapy programs. For children older than age 6, methylphenidate (sold under the brand name Ritalin) and another drug used to treat ADHD symptoms, atomoxetine (sold as Strattera), are generally safe and effective for improving behavior, but their effects beyond 12 to 24 months have not been well studied. Little information is available about the long-term effects of other medications used to treat ADHD symptoms. (Go to [Attention Deficit Hyperactivity Disorder: Effectiveness of Treatment in At-Risk Preschoolers; Long-Term Effectiveness in All Ages; and Variability in Prevalence, Diagnosis, and Treatment.](#))

Newer antidepressants are equally effective in treating clinical depression

An updated evidence review that examined the comparative effectiveness and side effects of 13 second-generation antidepressants found that all of them are equally effective in treating clinical depression in adults. Despite similar effectiveness, however, antidepressants cannot be considered identical. Some differences exist among drugs around response time, side effects, and measures of health-related quality of life. Additional research is needed on patient responses to antidepressants when initial treatment is unsuccessful and when medications are changed. (Go to [Second-Generation Antidepressants in the Pharmacologic Treatment of Adult Depression – An Update to a 2007 Report.](#))

Evidence is lacking on effectiveness of antipsychotics for children

This comparative effectiveness review provides a comprehensive synthesis of the evidence examining the benefits and harms associated with the use of FDA-approved first- and second-generation antipsychotics (FGAs and SGAs) for treating psychiatric and behavioral conditions in children, adolescents, and young adults 24 years of age and younger. For

symptom improvement and other short- and long-term outcomes, most of the evidence examining head-to-head comparisons of different antipsychotic drugs was graded low or insufficient to draw conclusions. This was particularly true for comparisons of FGAs with SGAs and FGAs versus other FGAs. Similarly, few conclusions can be drawn regarding the comparison of adverse event profiles across different antipsychotics. Some SGAs are associated with a better adverse-event profile than other SGAs. SGAs consistently resulted in greater symptom improvement and greater risk for adverse events than placebo. Numerous studies reported separate outcomes for various subpopulations; however, few consistent trends were observed. Future high-quality, head-to-head comparisons are needed to determine the relative effectiveness and safety of various antipsychotics in children, adolescents, and young adults. (Go to [First- and Second-Generation Antipsychotics for Children and Young Adults](#).)

Noninvasive positive pressure ventilation improves COPD patient outcomes

Patients with acute respiratory failure due to severe worsening of chronic obstructive pulmonary disease (COPD) or congestive heart failure have improved outcomes, including mortality and intubation rates, with noninvasive positive pressure ventilation (NPPV) compared to supportive care (hospital support without invasive ventilation) alone, according to a new research review. Current evidence suggests that NPPV offers potential benefits for patients with acute respiratory failure who are postoperative or post-transplant. In select populations it may facilitate weaning from invasive ventilation, or prevent recurrent respiratory failure after a breathing tube is removed. These findings are generally consistent with previous systematic reviews and clinical guidelines on NPPV. (Go to [Noninvasive Positive Pressure Ventilation for Acute Respiratory Failure](#).)

Insulin pump and glucose monitoring improve blood-sugar control for patients with type 1 diabetes

Sensor-augmented insulin pumps (intensive insulin therapy combined with real-time continuous blood-glucose monitoring) are superior to multiple daily insulin injections and self-monitoring of blood glucose (fingersticks) to lower hemoglobin A1c (the preferred method of assessing blood-sugar control) in patients with type 1 diabetes. The review found an improved quality of life for patients using insulin-intensive therapies and real-time self-monitoring of glucose (sensors attached to the body that continuously measure blood sugar), when the patients wear the sensor at least 60 percent of the time. However, insulin-intensive therapies are expensive and require increased monitoring and engagement with health care professionals, and are not right for every patient. Insulin therapies can be individualized for every patient to accommodate their needs. (Go to [Methods of Insulin Delivery and Glucose Monitoring: A Comparative Effectiveness Review](#).)

Research summaries for consumers, clinicians, and policymakers

The Effective Health Care Program creates [free research summaries](#) for consumers, clinicians, and policymakers about the benefits and risks of different treatments for different health conditions. The summaries are based on comparative effectiveness reviews that cover health topics suggested by the public. In FY12, AHRQ released summaries on the following topics:

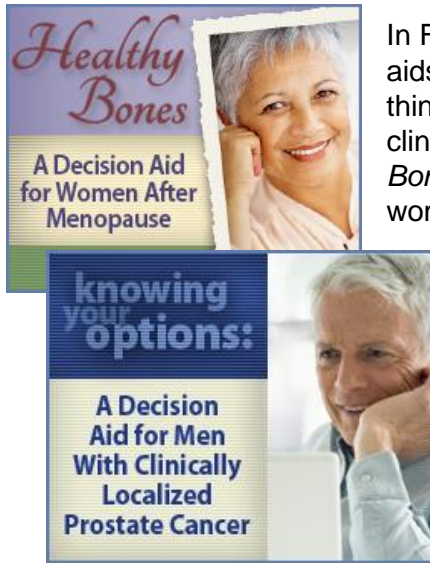
- ADHD in Children and Teens
- Insulin Delivery and Glucose Monitoring Methods for Diabetes Mellitus
- Non-surgical Treatments for Urinary Incontinence
- Treating Chronic Pelvic Pain
- Venous Thromboembolism Prophylaxis in Orthopedic Surgery
- Effectiveness of Self-Measured Blood Pressure Monitoring
- Antipsychotic Medicines for Children and Teens
- Off-Label Use of Atypical Antipsychotics
- Second-Generation Antidepressants for Treating Adult Depression
- Nonpharmacologic Interventions for Treatment-Resistant Depression in Adults
- Treatment To Prevent Osteoporotic Fractures
- Analgesics for Osteoarthritis
- Progestogens To Prevent Preterm Birth
- Medicines for Early Stage Chronic Kidney Disease

AHRQ provides professional continuing education for clinicians

In FY12, AHRQ developed over [30 accredited continuing medical education/continuing education](#) (CME/CE) activities for physicians, pharmacists, nurse practitioners, nurses, physician assistants, case managers, psychologists, medical assistants, and health education specialists on the following topics:

- Attention Deficit Hyperactivity Disorder
- Autism Spectrum Disorders
- Type 2 Diabetes Mellitus
- Gastroesophageal Reflux Disease
- Urinary Incontinence
- Noncyclic Chronic Pelvic Pain Therapies
- Coronary Artery Disease
- Dietary Supplements in Adults taking Cardiovascular Drugs
- Adjunctive Devices for Patients with Acute Coronary Syndromes
- Self-Measured Blood Pressure Monitoring
- Off-label Use of Atypical Antipsychotics
- Alcohol Misuse
- Depression
- Prostate Cancer
- Preventing Fractures in Men and Women with Osteoporosis
- Rheumatoid Arthritis
- Analgesics for Osteoarthritis
- Juvenile Idiopathic Arthritis
- Chronic Kidney Disease

Patient Decision Aids



In FY12, the Effective Health Care Program developed decision aids designed for patients with certain conditions to help them think about what is important to them when talking with their clinician about treatment options. The decision aid – *Healthy Bones: A Decision Aid for Women After Menopause* – helps women prepare to talk with their clinician about osteoporosis medications and treatment options. For men with prostate cancer, the *Knowing Your Options: A Decision Aid for Men With Clinically Localized Prostate Cancer* decision aid can help them prepare to talk with their doctors about options for treating or monitoring their cancer.

The Effective Health Care Program helps patients, doctors, nurses, pharmacists, and others choose the most effective treatments by sponsoring the development of evidence reports and technology assessments to assist public- and private-sector organizations in their efforts to improve the quality of health care in the United States. More information about the program can be found at www.effectivehealthcare.ahrq.gov.

Prevention/Care Management Portfolio

AHRQ's Prevention/Care Management Portfolio works to improve the delivery of primary care services to meet the needs of the American population for high-quality, safe, effective, and efficient clinical prevention and chronic disease care. Improving primary care practice and helping with evidence-based decisionmaking serve as the foundation of the Prevention and Chronic Care Program (PCC).

Self-Management Support

Responding to the reality that patients with chronic conditions are called on to manage the broad range of factors that contribute to their health, PCC developed and launched a library of [resources and videos](#) about Self-Management Support. These resources enable patients to manage their conditions, develop the confidence to make healthy choices day to day, and to take informed responsibility for their care. Clinicians can incorporate self-management support into the daily routine of their clinical practices using these helpful programs and resources.

AHRQ Practice Facilitation Resources

AHRQ's Primary Care Practice Facilitation learning community offers information and learning opportunities to individuals with an interest in practice facilitation as one way to improve primary care practice. Tools and resources include Practice Facilitation Webinars and an eNewsletter. In addition, AHRQ published a how-to manual on practice facilitation titled Developing and Running a Practice Facilitation Program for Primary Care Transformation: A How-To Guide and hosted a series of four Webinars on practice facilitation.

Academy for Integrating Behavioral Health and Primary Care

To advance the field of integration, the Agency created the Academy for Integrating Behavioral Health and Primary Care to serve as a national resource and coordinating center. AHRQ's vision for the Academy is to support the collection, analysis, synthesis, and dissemination of actionable information that is useful to policymakers, investigators, and consumers. Integration in this context refers to primary care and behavioral health clinicians working together with patients and families, using a systematic and cost effective approach to provide patient-centered care. This care may address mental health and substance abuse conditions, health behaviors (including their contribution to chronic medical illnesses), life stressors and crises, stress-related physical symptoms, and ineffective patterns of health care utilization. The Academy portal offers visitors access to six Divisions — Research, Education and Workforce, Policy, Financing & Sustainability, Clinical & Community, Health Information Technology. It also includes areas for Resources and Collaboration. For more information, go to <http://integrationacademy.ahrq.gov/>.

Primary care workforce facts and stats series can inform policy discussions

To further inform policy discussions around the U.S. primary care workforce, AHRQ released the first two in a series of fact sheets to provide health care policy and decisionmakers with information on:

- The primary care workforce currently in place in the United States.
- Its capacity to care for the current U.S. population.
- Needed growth in this workforce to accommodate population changes and expanded health insurance coverage.

The two fact sheets available now are:

- The Number of Practicing Primary Care Physicians in the U.S., which reports that, of the 624,434 physicians who spend the majority of their time in direct patient care, slightly less than one-third are in primary care.
- The Number of Nurse Practitioners and Physician Assistants Practicing Primary Care in the U.S., which estimates that, in 2010, approximately 56,000 nurse practitioners and 30,000 physician assistants were practicing primary care.

AHRQ will release additional Primary Care Workforce Fact Sheets examining topics such as:

- The distribution of the U.S. primary care workforce.
- Patient panel sizes in primary care.
- Primary care workforce needs due to changes in population growth, demographics, and other factors.

The U.S. Primary Care Workforce Facts and Stats Series can be found at <http://www.ahrq.gov/research/findings/factsheets/primary/pcworkforce/index.html>.

Improving the evidence base for clinical preventive services

AHRQ's Prevention and Care Management Portfolio provides ongoing administrative, research, technical, and dissemination support to the U. S. Preventive Services Task Force (USPSTF). The USPSTF is an independent panel of non-Federal experts in prevention and evidence-based medicine and is composed of primary care providers (such as internists, pediatricians, family physicians, gynecologists/obstetricians, nurses, and health behavior specialists). The USPSTF conducts scientific evidence reviews of a broad range of clinical preventive health care services (such as screening, counseling, and preventive medications) and develops recommendations for primary care clinicians and health systems. These recommendations are published in the form of "Recommendation Statements."

In FY12, to support its goal of enhancing transparency and communication, the USPSTF began posting draft research plans for public comment for all topics online, along with consumer guides to understanding draft and final recommendations. An example of these new materials includes the recent final recommendation (and table of resources) on Screening for Ovarian Cancer: www.uspreventiveservicestaskforce.org/uspstf/uspsovar.htm.

U.S. Preventive Services Task Force

The USPSTF released recommendations for the following in FY12:

- Coronary Heart Disease (Electrocardiography)
- Falls Prevention in Older Adults
- Healthful Diet and Physical Activity to Prevent Cardiovascular Disease
- Hearing Loss, Older Adults
- Intimate Partner Violence and Elderly Abuse
- Kidney Disease
- Obesity in Adults
- Pap Smear
- Prostate Cancer
- Skin Cancer
- Ovarian Cancer

More information on the USPSTF can be found at
<http://www.uspreventiveservicestaskforce.org/>.

Value Portfolio

AHRQ's Value Portfolio produces the measures, data, tools, evidence, and strategies that health care organizations, systems, insurers, purchasers, and policymakers need to improve the value, affordability, and transparency of health care.



MONAHRQ® (My Own Network, Powered by AHRQ) is a free desktop software tool helps organizations generate a health care reporting Web site using their own local hospital discharge data, health care quality measures from the Centers for Medicare and Medicaid Services' Hospital Compare, and/or HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) patient survey measures. The software is useful for hospitals and hospital associations, State health departments, health care data organizations, health plans, and Chartered Value Exchanges.

In FY12, AHRQ released MONAHRQ 4.0 which imports and reports pre-calculated AHRQ Quality Indicator results that can be created outside of MONAHRQ using any version of the AHRQ Quality Indicators software. MONAHRQ can also now report two additional CMS Hospital Compare measures: Central Line Associated Blood Stream Infections and Statin Prescribed at Discharge. Additional features include customizable description information for MONAHRQ quality measures and health topics, support for multiple years of cost-to-charge ratio data, a redesigned Web site generation wizard, and support for additional file formats. To date, five States (Utah, Kentucky, Maine, Hawaii, and Nevada) have created public Web sites using MONAHRQ. For more information, go to www.monahrq.ahrq.gov.

Arkansas Department of Health, Maine Health Data Organization, and Utah Department of Health use MONAHRQ® to publicly report hospital discharge data

Consumers and providers in Arkansas can now access a public Web site (<http://healthdata.ar.gov>) that reports inpatient discharge data by county. The Maine Health Data Organization (MHDO) was able to launch a public health care reporting Web site (<http://gateway.maine.gov/mhdo/monahrq/index.html>). Both the Arkansas Department of Health (ADH) and the MHDO participated in the MONAHRQ Learning Network, an AHRQ Knowledge Transfer project. The Learning Network provided the technical considerations, resources, and tools enabling them to launch their own public MONAHRQ Web sites. The Utah Department of Health used MONAHRQ to create the online "Utah Hospital Comparison Report," (<https://health.utah.gov/myhealthcare/monahrq/>) which provides an immediate way for the public to review data from different sources about hospital care in the State.

Because Arkansas law does not allow the public release of data from individual hospitals, the ADH collaborated with organizations in States with similar laws, and decided to use MONAHRQ's customization options to group data by county. Arkansas' public site shows maps by county indicating potentially avoidable hospitalizations and rates. It also shows county maps of health conditions and procedures.

The MHDO had inpatient discharge data and wanted to leverage it in a format that would allow more use and analysis. However, they did not have the budget needed or staff time required to conduct the type of focus groups and analysis that the users of MONAHRQ had already completed. Participating in the Learning Network was extremely helpful because it gave MHDO access to and assistance from the AHRQ software developers. MHDO's MONAHRQ-generated site includes inpatient discharge data from all nonspecialty hospitals in the State.

As a result of MONAHRQ, the "Utah Hospital Comparison Report" evolved from a series of static data pages to an interactive tool that provides data in a variety of easy-to-read formats. Using MONAHRQ also provided significant administrative savings. MONAHRQ reduced by half the time it used to take to build the static data tables using Utah's old process. The online report compares the performance of Utah hospitals on measures such as patient safety and average charges. The report also shows maps of county rates of readmissions, hospitals' adherence to guidelines for recommended care, and patient satisfaction. Patients can use the report to evaluate health care facilities. Health care professionals, policymakers, and legislators can use the information to discuss ways to improve health care quality and safety while lowering costs.

Consumers choose high-value health care providers when given cost and quality information

An AHRQ-funded study found that when asked to choose a health care provider based only on cost, consumers choose the more expensive option. Results indicated consumers equate cost with quality and worry that lower cost means lower quality care. Higher costs may indicate unnecessary services or inefficiencies, so cost information alone does not help consumers get the best value for their health care dollar. When consumers were shown the right mix of cost and quality information, they were better able to choose high-value health care providers—defined as those who deliver high-quality care at a lower cost.

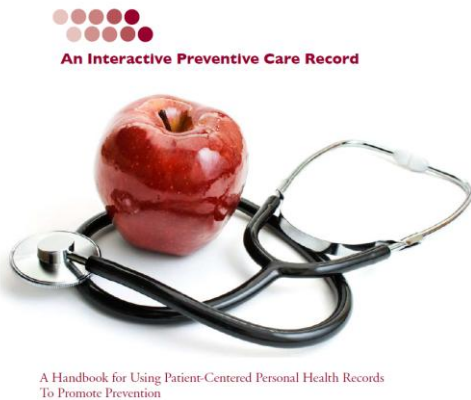
Researchers studied 1,400 employees in a randomized experiment to find out how they responded to different presentations of quality and cost information. When providers were clearly identified as high quality, cost had less influence on consumers' decisions and consumers were more likely to choose a provider with lower cost but better quality than a high-cost provider.

See "An Experiment Shows That a Well-Designed Report on Costs and Quality Can Help Consumers Choose High-Value Health Care," by Judith H. Hibbard, Jessica Greene, Shoshanna Sofaer, and others in the March 2012 *Health Affairs* 31(3), pp. 560-568.

Health Information Technology

The Health IT Portfolio demonstrates how health IT improves the quality, safety, efficiency, and effectiveness of health care, anticipates the future needs of the health care system by supporting development of innovative health IT solutions and identifies and fills existing gaps in knowledge about health IT.

A new handbook helps physician practices implement interactive preventive health records



A new handbook offers practical guidance to physician practices on the implementation of interactive preventive health records (IPHRs). The handbook is based on the lessons learned from implementation using electronic health records (EHRs) from three different vendors at 14 different physician practices. *An Interactive Preventive Care Record: A Handbook for Using Patient-Centered Personal Health Records to Promote Prevention* (<http://healthit.ahrq.gov/KRIST-IPHR-Guide-0612.pdf>) provides practical steps when integrating IPHRs as components of EHRs.

The IPHR was developed and studied in three AHRQ-funded projects to better understand how to broadly implement and disseminate patient-centered information systems throughout primary care. The projects show the development and effect of the IPHR tool on patient outcomes, the ability for it to be successfully adopted into multiple and varied EHRs and health care settings, and how it can be integrated into the primary care workflow for an entire practice's patient population.

Toolsets are available to help physicians and pharmacists implement e-prescribing

Two toolsets, one for physicians in small practices and one for independent pharmacies, to support e-prescribing implementation offer a step-by-step guide for preparing for and launching an e-prescribing system.

- *A Toolset for E-Prescribing Implementation in Physician Offices* is designed for use by a diverse range of provider organizations, from small, independent offices to large medical groups. The toolset also includes specific tools to support planning and decisionmaking, such as surveys to determine whether your organization is ready for e-prescribing, worksheets for planning the implementation and monitoring progress, and templates for communicating the launch to patients.
- *A Toolset for E-Prescribing Implementation in Independent Pharmacies* is designed to assist pharmacies in adopting electronic prescribing (e-prescribing). The toolset also includes specific tools to support planning and launching e-prescribing, such as templates for communicating the launch to providers and patients, tools to examine and assess pharmacy workflow, and a spreadsheet to determine the return-on-investment, among others.

Electronic health records improve nursing care, coordination, and patient safety

A new study found that nurses working in an electronic health record (EHR) environment are less likely to report poor patient safety compared to their peers working in non-EHR environments. University of Pennsylvania researchers surveyed 16,362 nurses working in 316 hospitals in California, Florida, New Jersey, and Pennsylvania. Nurses were asked about their workload, patient outcomes, and their hospital's patient safety culture using items from the AHRQ Hospital Survey on Patient Safety Culture. Of the 316 hospitals, only 7 percent had a basic EHR system functioning on all patient care units. The nurses from hospitals with fully implemented EHRs were significantly less likely to report unfavorable outcomes compared to nurses working in hospitals without fully implemented EHRs. Fewer nurses in the fully implemented hospitals reported frequent medication errors, poor quality of care, and poor confidence in a patient being ready for discharge. These nurses also had a 14 percent decrease in the odds of reporting that "things fell between the cracks" when patients were transferred between units. They were also less likely to report that patient safety is a low priority for hospital management. (See "The effect of hospital electronic health record adoption on nurse-assessed quality of care and patient safety," by Ann Kutney-Lee, Ph.D., R.N. and Deena Kelly, M.S., R.N., in the November 2011 *Journal of Nursing Administration* 41(11), pp. 466-472.)

Improving consumer health IT application development: Lessons from other industries

This report offers design methods that may be applicable for use in developing consumer health information technology (HIT) applications. *Improving Consumer Health IT Application Development: Lessons from other Industries* includes an environmental scan of design practices found in successful consumer products and identified those that could support improved development of consumer health IT applications. The report identified 18 distinct development methods differentiated by seven characteristics, and specified the methods most frequently used in the design of successful consumer products that merit consideration for use in development of consumer health IT applications.

AHRQ study shows clinical decision support systems are effective but research is needed to promote widespread use

Researchers found that clinical decision support systems (CDSSs) are effective in improving health care process measures across diverse settings, and that limited evidence is available about the impact on clinical and economic outcome measures. The article furthers current knowledge by demonstrating the benefits of CDSSs outside of experienced academic centers. The authors also suggested more research is required to promote widespread use of CDSSs and to increase the clinical effectiveness of the systems. In the article, the authors assessed health care process measures and clinical outcome measures associated with commercially and locally-developed CDSSs. The article expands on an evidence report from AHRQ, *Enabling Health Care Decisionmaking through Health Information Technology (Health IT)*, which discusses features key to successful implementation of CDSSs. (See "Effect of Clinical Decision-Support Systems: A Systematic Review" by T. J. Bright, A. Wong, R. Dhurjati, and others, in the July 3, 2012, *Annals of Internal Medicine*, 157(1):29-43.)

Health IT portfolio reports, tools, and resources are available at <http://healthit.ahrq.gov/>.

Patient Safety

The mission of AHRQ's Patient Safety Portfolio is to prevent, mitigate, and decrease patient safety risks and hazards, and quality gaps associated with health care and their harmful impact on patients. Projects within this portfolio seek to inform multiple stakeholders as well as disseminate information and implement initiatives designed to enhance patient safety and quality and establish cultures in health care organizations that support patient safety.

AHRQ patient safety project reduces bloodstream infections by 40 percent

A unique nationwide patient safety project reduced the rate of central line-associated bloodstream infections (CLABSI) in intensive care units by 40 percent, according to the agency's preliminary findings of the largest national effort to combat CLABSI to date. The project used the Comprehensive Unit-based Safety Program (CUSP) to achieve its landmark results that include preventing more than 2,000 CLABSI, saving more than 500 lives and avoiding more than \$34 million in health care costs.

The national project involved hospital teams at more than 1,100 adult intensive care units (ICUs) in 44 states over a 4-year period. Preliminary findings indicate that hospitals participating in this project reduced the rate of CLABSI nationally from 1.903 infections per 1,000 central line days to 1.137 infections per 1,000 line days, an overall reduction of 40 percent.

The CUSP is a customizable program that helps hospital units address the foundation of how clinical teams care for patients. It combines clinical best practices with an understanding of the science of safety, improved safety culture, and an increased focus on teamwork. Based on the experiences gained in this successful project, the CUSP toolkit helps doctors, nurses, and other members of the clinical team understand how to identify safety problems and gives them the tools to tackle these problems that threaten the safety of their patients. It includes teaching tools and resources to support implementation at the unit level.

Details about AHRQ's national CUSP project are available at <http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/hais.html>.

AHRQ's CUSP toolkit is available at <http://www.ahrq.gov/professionals/education/curriculum-tools/cusptoolkit/index.html>.

Improving patient safety in long-term care facilities training modules

Detecting and promptly reporting changes in a nursing home resident's condition are critical for ensuring the resident's well-being and safety. Such changes may represent a patient safety problem, and they can be a signal that the resident is at increased risk for falling and other complications.

Training nursing home staff—particularly nursing staff—to be on the lookout for changes in a nursing home resident's condition and to effectively communicate those changes is one tool nursing home administrators can employ to improve patient safety, create a more resident-centered environment, and reduce the number of falls and fall-related injuries.

These new educational materials are intended for use in training front-line personnel in nursing homes and other long-term care facilities. The materials were developed for the Agency for Healthcare Research and Quality (AHRQ) under a contract to the RAND Corporation. They are organized into three modules:

- [Module 1: Detecting Change in a Resident's Condition.](#)
- [Module 2: Communicating Change in a Resident's Condition.](#)
- [Module 3: Falls Prevention and Management.](#)

Medications at Transitions and Clinical Handoffs (MATCH) Toolkit for medication reconciliation

This free toolkit helps acute care and post-acute care facilities evaluate and improve their current medication reconciliation process and can help facilities reduce patient harm due to adverse drug events or medication errors. MATCH offers the following advantages:

- Promotes compliance with The Joint Commission's National Patient Safety Goal for maintaining and communicating accurate patient medication information
- Can lead to better care transitions and fewer unnecessary readmissions by helping to ensure patients receive the right medication in the right dose at the right time
- Provides a framework to capture complete, accurate medication information through electronic health records (EHRs)
- Enables building a medication reconciliation process from scratch or redesigning an existing process

MATCH features a comprehensive work plan with procedural guidelines and flowcharts, modifiable templates, pilot-test recommendations, and other resources to help facilities improve their medication reconciliation process step by step. It was developed through grant support by AHRQ and collaboration between Northwestern University Feinberg School of Medicine and The Joint Commission and is available on AHRQ's Web site at <http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/match/>.

Free TeamSTEPPS® training opportunities

Free training opportunities are available using TeamSTEPPS® (Team Strategies and Tools to Enhance Performance and Patient Safety), a set of evidence-based, practical tools that helps hospitals and other health care providers strengthen teamwork with the goal of improving patient safety. AHRQ and the Department of Defense designed the TeamSTEPPS® program for health care providers for use in a variety of care settings.

New for FY2012 was the TeamSTEPPS Limited English Proficiency (LEP) module which is designed to help providers develop and deploy a customized plan to train their staff in teamwork skills and lead a medical teamwork improvement initiative in their organizations from initial concept development through to sustainment of positive changes. This evidence-based module provides insight into the core concepts of teamwork as they are applied to working with patients who have difficulty communicating in English. Comprehensive curricula and instructional guides include short case studies and videos illustrating teamwork opportunities and successes. The module, which includes slide presentations with videos, handouts, and train-the-trainer materials, can augment an existing TeamSTEPPS program or be implemented independently. The Hospital Guide focuses on how hospitals can better identify, report, monitor, and prevent medical errors in patients with LEP. Also available is [Improving Patient Safety Systems for Patients With Limited English Proficiency: A Guide for Hospitals](#), a guide that focuses on how hospitals can better identify, report, monitor, and prevent medical errors in patients with LEP.

Free TeamSTEPPS® master trainer courses were offered at six regional training centers starting in April 2012. The six regional training centers are NorthShore Long Island Jewish Health System (Roslyn Harbor, NY); Duke University (Durham, NC); Tulane University (New Orleans, LA); University of Minnesota (Minneapolis, MN); Presbyterian St. Luke's (Denver, CO); and University of Washington (Seattle, WA). Standard training is available, as well as specialized trainings on simulation, interprofessional education, and teaching TeamSTEPPS® to patients and families. Advanced trainings are designed for individuals who already have a strong background in TeamSTEPPS® and an interest in the special topic.

For more information on TeamSTEPPS®, go to <http://teamstepps.ahrq.gov/>.

Improving the medication reconciliation process with MATCH

The goal of the MATCH (Medications at Transitions and Clinical Handoffs) toolkit is to decrease the number of patients receiving potentially conflicting medications when they leave the hospital or transfer to different care settings. The toolkit provides clear instructions on creating flowcharts to avoid gaps in reconciling medication; identifying roles and responsibilities for medication reconciliation; collecting data to measure progress; and assisting in the design and implementation of a single, shared medication history called the "One Source of Truth." MATCH is designed to assist clinicians in all types of health care organizations—including hospitals and outpatient settings—and is compatible with both paper-based and electronic medical records. Many health care facilities in the United States have used MATCH with remarkable results. Here are a few examples:

Hughston Hospital in Columbus, Georgia: staff members consistently omitted medication route in home medication lists because the electronic form lacked enough space to enter the information. Once programmers made a minor change to the electronic form, compliance with collection of a complete medication list upon admission, to include medication route, increased from 0 to 100 percent.

Upson Regional Medical Center in Thomaston, Georgia, used MATCH tools to create a flowchart of the medication reconciliation process using colored magnets on the unit patient census to track the status of medication reconciliation: red indicates the process is not started; yellow indicates in process; and green indicates completed. As a result of these efforts, compliance with the collection of a complete medication list increased from 70 to 100 percent, with reconciliation of the medication list increasing from 60 to 90 percent over 6 months.

Clinch Memorial Hospital in Homerville, Georgia, emergency department staff used MATCH tools and concepts, to develop a "One Source of Truth" within its electronic medical record system. The hospital also reached out to community pharmacies to clarify medication histories, partnered with emergency medical services to collect medication information, and educated the community on the importance of creating and maintaining a medication list. Over 7 months, compliance with the collection of a complete medication list increased from 12 to 77 percent, and reconciliation of medication lists increased from 25 to 95 percent.

NexCare Health Systems—Holt Senior Care & Rehabilitation Center in Holt, Michigan, created a medication reconciliation policy to clearly define responsibilities for medication reconciliation and developed a "One Source of Truth" for documenting home medications. The skilled nursing facility also conducts ongoing audits and monthly measurements of the process and discusses results with the quality assurance department for recommendations and followup. Over 5 months, compliance with collection of a complete home medication list increased from 0 to 100 percent, with all medications reconciled within 72 hours of admission to the facility increasing from 0 to 78 percent.

To read about these and other patient safety case studies, go to <http://www.ahrq.gov/research/findings/case-studies/patient-safety/index.html>.

Crosscutting Activities

AHRQ's Crosscutting Activities support all of the Agency's research portfolios. These activities include investigator-initiated and targeted research that focus on health services research in the areas of quality, effectiveness, and efficiency.

Reports find cardiac care is improving but quality and access still lag for many Americans



Cardiac care is showing significant improvement in the United States, according to AHRQ's 2011 *National Healthcare Quality Report* and *National Healthcare Disparities Report*. Gains were seen in reduced hospital admissions for congestive heart failure, fewer hospital deaths due to heart attack, and improved timeliness by hospitals to

provide angioplasty to heart attack patients.

The reports, mandated by Congress since 2003, show that racial and ethnic disparities in cardiovascular care were less common than disparities in care for other conditions. However, overall health care quality continues to improve at a slow rate (2.5 percent), and quality and access to care are lacking for many Americans because of disparities based on race and ethnicity, socioeconomic status and other factors. New features in the 2011 reports include data on the adoption of electronic health record systems in hospitals as well as home health and hospice agencies. The reports show that only 12 percent of hospitals had fully implemented an electronic system that supports clinical documentation including patient demographics, physician and nursing notes, medication and problem lists, advance directives and discharge summaries. Both reports can be found at <http://www.ahrq.gov/research/findings/nhqrdr/nhqr11/index.html>.

AHRQ also offers an online query system that allows access to national and State data on health care quality at <http://nhqrnet.ahrq.gov/nhqrdr/jsp/nhqrdr.jsp#sn>.

New *Closing the Quality Gap* evidence reports are available

AHRQ released the first five of eight evidence reports in its new series, *Closing the Quality Gap: Revisiting the State of the Science*. The series is a follow-up to [*Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies*](#), a collection of seven evidence reports published between 2004 and 2007. The new *Closing the Quality Gap* series broadens the areas of investigation of the series with regard to settings, interventions, and clinical conditions, while continuing the focus on improving the quality of health care through critical assessment of relevant evidence. Targeting multiple audiences and uses, the new series assembles evidence about strategies aimed at closing the difference between what is expected to work well for patients based on known evidence and what actually happens in

day-to-day clinical practice across populations of patients. The available reports in this new series are:

- [*The Patient-Centered Medical Home*](#): Duke University Evidence-based Practice Center researchers found that studies of the Patient-Centered Medical Home (PCMH) often had similar elements, but the precise components of care varied widely. While the studies suggest that the PCMH is promising for improving the experiences of patients and staff, there is insufficient evidence to date that shows these interventions improve patient clinical outcomes or reduce total costs. Studies now taking place have the potential to greatly expand our knowledge of the PCMH.
- [*Public Reporting as a Quality Improvement Strategy*](#): Oregon Evidence-based Practice Center researchers found that public reporting of health care quality information is more likely to change behaviors in health care providers than it does consumers' choice of providers. The researchers also found that quality measures that are publicly reported tend to improve over time. In addition, the number of studies on potential harms from public reporting was limited and those that did examine the issue do not confirm potential harms.
- [*Quality Improvement Interventions to Address Health Disparities*](#): Vanderbilt University Evidence-based Practice Center found that the ability of QI interventions to reduce disparities remains unclear. QI has not been shown specifically to reduce known disparities in health care or health outcomes. In a few instances, some increased effect is seen in disadvantaged populations.
- [*Bundled Payment: Effects on Health Care Spending and Quality*](#): RAND Evidence-based Practice Center found there is weak but consistent evidence that bundled payment programs have been effective in cost containment without major effects on quality. Reductions in spending and utilization relative to usual payment were less than 10 percent in many cases. Bundled payment is a promising strategy for reducing health spending. However, effects may not be the same in future programs that differ from those included in this review.
- [*Medication Adherence Interventions: Comparative Effectiveness*](#): RTI International–University of North Carolina Evidence-based Practice Center found that diverse interventions offer promising approaches to improving medication adherence for chronic conditions, particularly for the short term. Evidence on whether these approaches have broad applicability for clinical conditions and populations is limited, as is evidence regarding long-term medication adherence or health outcomes.



2011 State Snapshots feature analyses, summaries, and best practices

AHRQ's *2011 State Snapshots* offer an in-depth analysis of the quality of care provided in each State, by type of condition, level of care, treatment setting, race and income, and insurance status. This resource also includes strengths, weaknesses, and opportunities for improvement

in each State and in the District of Columbia. *2011 State Snapshots* feature easy-to-read charts and individual State performance summaries based on 150 quality measures, such as preventing pressure sores, screening for diabetes-related foot problems, and giving recommended care to pneumonia patients. Also included is a State Resource Directory that provides best practices and innovations highlighted on AHRQ's Health Care Innovations Exchange to help States learn about what others have used to improve the quality and safety of health care services. To access the *2011 State Snapshots*, go to <http://statesnapshots.ahrq.gov/snaps11/>.

Tool aims to guide formulary role in drug prescribing

A new AHRQ-funded tool is designed to help decision-making by drug formulary committees at hospitals, health systems, and insurance companies based on an evaluation of drug evidence, efficacy, and therapeutic alternatives. Researchers from AHRQ's University of Illinois Center for Education and Research on Therapeutics (CERTs) program note that while formularies have received much attention regarding cost containment, their role in guiding rational drug use could be enhanced by a more standardized critical evaluation of drugs proposed for formulary placement. The new tool, used at two U.S. teaching hospitals, consists of a six-domain checklist of 48 questions for evaluating drugs. The domains are: evidence of need (7 questions), efficacy (6), medication safety (6), misuse potential (7), cost issues (10), and decision-making process (12). CERTs researchers who applied the tool in the formulary of several hospitals and systems, say the checklist can facilitate more standardized and critical scrutiny of the evidence and therapeutic alternatives. Potential uses for the tool include: educating of new Pharmacy & Therapeutics committee members about new drug applications, guiding committee discussions of drugs proposed for formulary addition, and evaluating quality of committee decision-making to assess whether key questions were raised and addressed. (See "A Prescription for Improving Drug Formulary Decision-Making," by G.D. Schiff, W. L. Galanter, J. Duhig, and others, in the May 22, 2012, *PLoS Medicine* 9(5): pp. 1-7.)



HCUP 2010 Nationwide Inpatient Sample Database

AHRQ's Healthcare Cost and Utilization Project (HCUP) [Nationwide Inpatient Sample](#) (NIS) 2010 data was released in FY12. The NIS is the largest all-payer inpatient care database and is nationally representative of all short-term, non-Federal hospitals in the U.S. It is drawn from the HCUP [State Inpatient Databases](#) and includes more than 8 million hospital stays. The NIS includes all patients from each sampled hospital, including persons covered by Medicare, Medicaid, private insurance, or without insurance. Researchers and policymakers use the NIS to identify, track, and analyze national trends in

health care utilization, access, charges, quality, and outcomes. NIS' size enables analyses of infrequent conditions, uncommon treatments, and special patient populations. The 2010 NIS can be purchased through the [HCUP Central Distributor](#) and data can be accessed via [HCUPnet](#), a free online query system. Additional information about the NIS and other products is located on the [HCUP-US Web site](#).



HCUP Facts and Figures Report with 2009 Hospital Inpatient Data

AHRQ released the fifth annual edition of the *HCUP Facts and Figures* report. [HCUP Facts and Figures: Statistics on Hospital-Based Care in the United States, 2009](#) presents information on inpatient hospital care in 2009 and contains comparisons and trends since 1997. The report is organized around high-interest topics, such as hospital and discharge characteristics, diagnoses, procedures, costs and payers. This year's report features a special section on women's health, detailing differences by gender and over time.

New podcast series about the AHRQ Quality Indicators™ Toolkit for Hospitals

A new series of seven 10-minute audio interviews features hospital experts explaining how to use the quality improvement tools in the *AHRQ Quality Indicators™ Toolkit for Hospitals*. The toolkit is a free resource to guide hospitals through the process of using the AHRQ Inpatient Quality Indicators and Patient Safety Indicators to improve care.

To listen to any of the interviews, go to <http://www.ahrq.gov/professionals/systems/hospital/qitoolkit/qitoolkitinterviews/index.html>.

The toolkit is available at <http://www.ahrq.gov/professionals/systems/hospital/qitoolkit/>. Slide presentations and an audio recording from an introductory Web conference about the toolkit are also available at <http://www.ahrq.gov/professionals/systems/hospital/qitoolkit/webinar0215/index.html>

More information on the AHRQ Quality Indicators can be found at www.qualityindicators.ahrq.gov/.



New toolkit supports hospital efforts to improve quality and safety

AHRQ released a free toolkit designed to guide hospitals that use its Inpatient Quality Indicators (IQIs) and Patient Safety Indicators (PSIs) to improve care.

The *AHRQ Quality Indicators™ Toolkit for Hospitals* (<http://www.ahrq.gov/professionals/systems/hospital/qitoolkit/>) is designed and tested to meet the needs of a variety of hospital-based users, including senior leaders, quality staff, and improvement teams. The toolkit's "Introduction and Roadmap" helps users identify the resources that are best suited to their specific needs at any given point in the improvement process. It is organized into seven sections:

- Determining Readiness To Change.
- Applying QIs to the Hospital Data.
- Identifying Priorities for Quality Improvement.
- Implementing Improvements.
- Monitoring Progress for Sustainable Improvements.
- Analyzing Return on Investment.
- Using Other Resources.



2.0 Version of CAHPS® Clinician and Group Surveys

AHRQ's CAHPS® Consortium has updated the CAHPS Clinician & Group Surveys, which are used to assess patients' experiences with care from primary and specialty care providers. As part of the updates, two new supplemental item sets for the surveys are now available. The *CAHPS Health Information Technology (HIT) Item Set* focuses on patients' experiences with the use of health IT in physicians' offices. The *CAHPS Patient-Centered Medical Home (PCMH) Item Set* enables users to ask patients about their experiences with the domains of primary care that define a medical home. For more information, go to https://cahps.ahrq.gov/clinician_group/.

Working to reduce health disparities

AHRQ worked with Hispanic-serving organizations to promote the Agency's Spanish-language resources and to encourage consumers to become more active partners in their health care. AHRQ's easy-to-read resources help consumers understand the benefits and risks of treatment options and encourage shared decisionmaking between patients and their health care teams.

To date, 10 organizations have signed a pledge of commitment to promote AHRQ's Spanish-language, evidence-based resources, including the National Hispanic Medical Association, Latino Student Medical Association, National Association of Hispanic Elderly, District of Columbia Office on Latino Affairs, National Latina Health Network, Telemundo and the National Center for Farmworkers Health.

To assist in this effort, AHRQ is launching the "*Toma las riendas*" ("Take the reins") campaign, a nationwide effort to encourage Hispanics to take control of their health and explore treatment options. The *Toma las riendas* campaign addresses the need for high-quality health information in Spanish. It promotes a wide variety of resources produced by AHRQ's Effective Health Care Program. These tools, which include consumer-friendly publications that summarize treatment options for common health conditions, help Hispanics work with their health care teams to select the best possible treatment option. The tools do not tell patients and doctors what to do but offer factual, unbiased information to help answer questions such as: What are the benefits and risks of different medical treatment? How strong is the science behind each option? Which treatment is most likely to work best for me?

Hispanics, who account for 15 percent of the U.S. population, are often more likely than whites to experience poor health outcomes. For example, Hispanics have significantly higher rates of hospital admissions for short-term complications due to diabetes, according to AHRQ's [2010 National Healthcare Disparities Report](#). Hispanics are also less likely to take prescription medications to control asthma. For many Hispanics, seeking treatment means using a new language to navigate a complex health care system. AHRQ's Spanish-language publications provide opportunities for Hispanics to easily compare treatments for many common conditions.

To encourage use of the materials and engage Hispanics in the discussion, AHRQ has also launched a Facebook Page, <http://www.facebook.com/AHRQehc.espanol>. AHRQ's Spanish-language Effective Health Care Program patient guides are available online at <http://effectivehealthcare.ahrq.gov/index.cfm/informacion-en-espanol/>.

For other AHRQ Spanish-language consumer tools, go to <http://www.ahrq.gov/health-care-information/informacion-en-espanol/index.html>.

Conclusion

In FY13, AHRQ is continuing to further its mission to improve the quality, safety, efficiency and effectiveness of health care for all Americans, in addition to its work to eliminate healthcare-associated infections, promote health IT, and provide data and information for decisionmaking. The evidence developed through AHRQ-sponsored research and analyses helps everyone involved in patient care make more informed decisions about what treatments work for whom, when and, at what point in their care. AHRQ will continue to invest in successful programs that develop and translate into evidence, knowledge and tools that can be used to make measurable improvements in health care in America through improved quality of care and patient outcomes.