AHRQ Annual Highlights 2009

Table of Contents

DEPARTMENT OF HEALTH & HUMAN SERVICES • USA

AHRQ

Agency for Healthcare Research and Quality

Advancing Excellence in Health Care • www.ahrq.gov

Abbreviations - 2009 Annual Highlights

AHRQ – Agency for Healthcare Research and Quality

CDC – Centers for Disease Control and Prevention

CER – Comparative Effectiveness Review

CERT – Center for Education and Research on Therapeutics

CMS – Centers for Medicare & Medicaid Services

DEcIDE – Developing Evidence to Inform Decisions about Effectiveness

EHC – Effective Health Care

EHR – electronic health record

EMR – electronic medical record

EPC – Evidence-based Practice Center

ePSS – Electronic Preventive Services Selector

FY09 – fiscal year 2009

health IT – health information technology

HCUP – Healthcare Cost and Utilization Project

HHS – Health and Human Services

HRSA – Health Resources and Services Administration

IHS – Indian Health Service

MEPS – Medical Expenditure Panel Survey

NHDR – *National Healthcare Disparities Report*

NHQR – *National Healthcare Quality Report*

NRC – National Resource Center for Health Information Technology

USPSTF – U.S. Preventive Services Task Force

Introduction

Fiscal year 2009 (FY09) was an exciting year for the American health care system. An infusion of funding from the American Recovery and Reinvestment Act (Recovery Act) and the debate over health reform brought new attention to the opportunities and the challenges the system faces in improving the safety and quality of health care, ensuring access to care, increasing the value of health care, reducing disparities, and increasing the use of health information technology.

The Agency for Healthcare Research and Quality's (AHRQ) Effective Health Care (EHC) Program has successfully grown into a program that is collaborative, transparent, stakeholder-driven, relevant, and timely. Our goal is to develop evidence-based information that is both rigorous and relevant to clinical decisions and is available when decisions are made. We have learned that to achieve that goal, ongoing dialogue with public and private sector stakeholders is essential.

In order to gain and maintain the trust of all stakeholders, comparative effectiveness research (CER) must be fully transparent to all. Transparency has been a hallmark of the EHC Program. The transparency begins with an open process for setting research priorities, which the secretary of the Department of Health and Human Services (HHS) sets through discussion with and extensive input from stakeholders. Within the boundaries of those priorities, the public and other interested stakeholders have the opportunity to comment on the framing of specific research questions and to critique draft reports. In addition to the open invitation to comment, manufacturers are notified when a comparative effectiveness review begins on one of their products and are invited to submit relevant studies and data. Efforts to encourage outside input ensure that all stakeholders have equal and fair access to the process.

Comparative effectiveness research aims to improve health outcomes by developing and disseminating evidence-based information to patients, providers, and health care decision-makers about the effectiveness of treatments relative to other options. AHRQ's comparative effectiveness research considers the effectiveness of treatments in specific subpopulations and the clinical utility and validity of genetic tests. Additionally, AHRQ supports research on the way patients and physicians receive and access the latest health care information. This research, along with information about each individual patient, can be used to optimize care for the individual and can help us achieve the vision of personalized medicine.

As 1 of 12 agencies within HHS, the mission of AHRQ is to improve the quality, safety, efficiency, and effectiveness of health care for all Americans. The breadth of its mission puts AHRQ squarely in the middle of all efforts to meet these challenges and take advantage of these opportunities.

The Agency fulfills this mission by developing and working with the health care system to implement information that:

- Reduces the risk of harm from health care services by using evidence-based research and technology to promote the delivery of the best possible care.
- Transforms the practice of health care to achieve wider access to effective services and reduce unnecessary health care costs.
- Improves health care outcomes by encouraging providers, consumers, and patients to use evidence-based information to make informed treatment decisions.

Ultimately, the Agency achieves its goals by translating research into improved health care practice and policy. Health care providers, patients, policymakers, payers, administrators, and others use AHRQ research findings to improve health care quality, accessibility, and outcomes of care. Disseminating AHRQ's research findings helps support a Nation of healthier, more productive individuals and results in an enhanced return on the Nation's substantial investment in health care. This report presents key accomplishments, initiatives, and research findings from AHRQ's research Portfolios during FY09.

AHRQ 2009 Annual Conference

AHRQ's conference "*Research to Reform: Achieving Health System Change*," was held September 13-16, 2009, and covered topics on the health care infrastructure, the organization of health care services, health care quality and safety, improving Americans' health status, provider performance and payment reform, and increasing patient and consumer involvement in their care. Sessions included:

- The Role of Health IT in Measuring and Reducing Disparities
- Reducing Hospital-Associated Infections
- Shared Decision-Making: Helping Patients be Partners in Their Care
- Developing Research Infrastructure to Enhance Quality and Reduce Health Care Disparities
- The American Recovery and Reinvestment Act (ARRA): AHRQ's Role in Comparative Effectiveness Research
- Use of Outcome Measures in Payment Reform
- Children's Health Care Quality: Responding to a New National Focus
- Enhancing Patient Safety and Quality with Evidence-Based Health Care Design

The Agency's mission helps HHS achieve its strategic goals to improve the safety, quality, affordability, and accessibility of health care; promote public health, disease prevention, and emergency preparedness; contribute to the economic and social well-being of individuals, families, and communities; and advance scientific and biomedical research and development related to health and human services. The Agency has a broad research portfolio that touches on nearly every aspect of health care including:

- Clinical practice.
- Outcomes of care and effectiveness.
- Evidence-based medicine.
- Primary care and care for priority populations.
- Health care quality.
- Patient safety/medical errors.
- Organization and delivery of care and use of health care resources.
- Health care costs and financing.
- Health care system and public health preparedness.
- Health information technology.
- Knowledge transfer.

AHRQ's Customers

Clinicians use AHRQ's evidence-based tools and research to deliver high-quality health care and to work with their patients as partners. AHRQ also provides clinicians with clinical decision-support tools as well as access to guidelines, preventive care recommendations, and quality measures.

Policymakers, purchasers, health plans, and health systems use AHRQ research to make more informed decisions on health care services, insurance, costs, access, and quality. Public policymakers use the information produced by AHRQ to expand their capability to monitor and evaluate changes in the health care system and to devise policies designed to improve its performance. Purchasers use the products of AHRQ-sponsored research to obtain high-quality health care services. Health plan and delivery system administrators use the findings and tools developed through AHRQ sponsored research to make choices on how to improve the health care system's ability to provide access to and deliver high-quality, high-value care.

AHRQ research helps consumers get and use objective, evidence-based information on how to choose health plans, doctors, or hospitals. In addition, AHRQ helps consumers play an active

role in their health care and reduce the likelihood that they will be subject to a medical error. Personal health guides developed by AHRQ help people keep track of their preventive care and other health services they receive.

Portfolios of Research

Research at AHRQ is performed under Portfolios that encompass nearly every aspect of health care. These research Portfolios include: Comparative Effectiveness, Patient Safety, Health Information Technology, Prevention/Care Management, and Value Research.

Comparative Effectiveness

The goal of the Comparative Effectiveness Portfolio is to provide high-quality research to help patients, health care providers, and policymakers make the best decisions they can about the health care they receive and provide. The Comparative Effectiveness Portfolio is dedicated to fulfilling this need through high-quality research and conveying that information to those who need it to make health care decisions. Comparative effectiveness 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.

Patient Safety

The Patient Safety Portfolio helps identify risks and hazards that lead to medical errors and finds ways to prevent patient injury associated with delivery of health care. AHRQ supports research that provides information on the scope and impact of medical errors, identifies the root causes of threats to patient safety, and examines effective ways to make system-level changes to help prevent errors. Dissemination and translation of these research findings and methods to reduce errors is also critical to improving the safety and quality of health care. To make changes at the system level, there also must be an environment, or culture, within health care settings that encourages health professionals to share information about medical errors and ways to prevent them.

AHRQ Patient Safety Network (PSNet)

AHRQ PSNet (http://psnet.ahrq.gov/) is a national Web-based resource featuring the latest news and essential resources on patient safety. The site offers weekly updates of patient safety literature, news, tools, and meetings ("What's New"), and a vast set of carefully annotated links to important research and other information on patient safety ("The Collection"). Supported by a robust patient safety taxonomy and Web architecture, AHRQ PSNet provides powerful searching and browsing capability, as well as the ability for diverse users to customize the site around their interests (My PSNet). It also is tightly coupled with AHRQ WebM&M, the popular monthly journal that features user-submitted cases of medical errors, expert commentaries, and perspectives on patient safety.

Health Information Technology

The Health Information Technology (Health IT) Portfolio is a key element in the nation's 10-year strategy to bring health care into the 21st century by advancing the use of information technology. Through this research Portfolio, AHRQ and its partners identify challenges to health IT adoption and use, solutions and best practices for making health IT work, and tools that will help hospitals and clinicians successfully incorporate new information technology. In addition, the Health IT Portfolio 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.

Prevention/Care Management

The Prevention/Care Management Portfolio focuses on translating evidence-based knowledge into current recommendations for clinical preventive services that are implemented as part of routine clinical practice to improve the health of all Americans. It supports research to improve and reduce disparities of common chronic conditions like diabetes, asthma, and heart disease.

Value Research

The Value Research Portfolio aims to find a way to achieve greater value in health care – reducing unnecessary costs and waste while maintaining or improving quality – by producing the measures, data, tools, evidence and strategies that health care organizations, systems, insurers, purchasers, and policymakers need to improve the value and affordability of health care. The aim is to create a high-value system, in which providers produce greater value, consumers and payers choose value, and the payment system rewards value.

Comparative Effectiveness Portfolio

Comparative effectiveness research provides information that people and their doctors can use to work together to choose the most appropriate treatment for an illness or condition. AHRQ conducts comparative effectiveness research through its Effective Health Care (EHC) Program. In FY09, the EHC Program was allocated $300 million of Recovery Act funding for comparative effectiveness research. In addition, it also released 5 comparative effectiveness reviews, 16 research reports, and 13 user guides. Among these publications are a comparative effectiveness review on drugs to reduce the risk of primary breast cancer; a research report on beta-blockers for heart failure; and guides for consumers, clinicians, and policymakers on subjects such as osteoarthritis of the knee and gestational diabetes, as well as Spanish language consumer guides on prostate cancer and other subjects.

Comparisons of drugs, medical devices, tests, surgeries, or ways to deliver health care can help patients and their families understand what treatments work best and how their risks compare, while allowing for choices for each individual patient. The EHC Program, created by Congress in Section 1013 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, produces three primary products: research reviews, new research reports, and summary guides.

American Recovery and Reinvestment Act

The American Recovery and Reinvestment Act, signed into law by President Obama in February 2009, provided AHRQ with greater opportunities to build upon its existing collaborative and transparent EHC program and provide patients, clinicians, and others with evidence-based information to make informed decisions about health care. Of the $1.1 billion contained within the Recovery Act for comparative effectiveness research, $300 million was allocated to AHRQ, $400 million for the National Institutes of Health (NIH), and $400 million to the Office of the Secretary of HHS. In FY09, AHRQ began its efforts to issue funding opportunity announcements to spend this new funding, and worked with NIH and the Office of the Secretary on coordinating comparative effectiveness under the Recovery Act. For more information on the Recovery Act and AHRQ's funding opportunities, go to www.ahrq.gov/fund/cefarra.htm.

Research Reviews

These comprehensive reports are prepared by the Evidence-based Practice Centers (EPCs) and draw on scientific studies to make comparisons of treatments. They also show where more research is needed. Research reviews from the EHC Program are reported in several formats:

- Comparative Effectiveness Reviews (CERs) and Effectiveness Reviews evaluate which treatments work best while outlining treatments' side effects and other risks.
- Technical Briefs explain what is known – and what is not known – about new or emerging health care tests or treatments.
- Updates apply systematic methods to bring CERs and Evidence Reviews up to date by reviewing the current literature.

CERs and Effectiveness Reviews

CERs and Effectiveness Reviews systematically review and critically appraise existing research to synthesize knowledge on a particular topic. They

also identify research gaps and make recommendations for studies and approaches to fill those gaps. CERs draw on completed scientific studies to make head-to-head comparisons of different health care interventions. They also show where more research is needed. Effectiveness reviews are original research reports that are based on clinical research and studies that use health care databases and other scientific resources and approaches to explore practical questions about the effectiveness — or benefits and harms — of treatments. Three CERs published in FY09 are briefly summarized here:

- *Comparative Effectiveness of Drugs to Reduce the Risk of Primary Breast Cancer in Women.* Three drugs reduce a woman's chance of getting breast cancer, but each drug carries distinct potential harms of its own. The review found that three drugs — tamoxifen, raloxifene, and tibolone — significantly reduce invasive breast cancer in midlife and older women, but that benefits and adverse effects can vary depending on the drug and the patient. The report is the first to make a direct, comprehensive comparison of the drugs so that women and their health care providers can assess the medications' potential effectiveness and adverse effects.
- *Comparative Effectiveness of Lipid-Modifying Agents.* This systematic review compares the benefits and risks of increasing the dose of a statin or using a statin in combination with a lipid-modifying agent of another class in terms of clinical events (e.g., heart attack, stroke, or death), levels of LDL cholesterol, and other measures. The review found that the available clinical trial evidence supporting the use of combination therapies over higher dose statin therapy is insufficient to guide clinical decisions. The long-term clinical benefits and risks of combination therapies have yet to be demonstrated.
- *Comparative Effectiveness of Radiofrequency Catheter Ablation for Atrial Fibrillation.* This report examines the use of a procedure called radiofrequency catheter ablation to treat a type of irregular heartbeat known as atrial fibrillation. It found that the procedure has been shown to provide benefits in maintaining normal heart rhythm over short periods of time (up to 1 year). However, the report showed little evidence indicating whether the procedure reduces the chance that patients will experience atrial fibrillation over the long term.

Technical Briefs

A Technical Brief is a report on a topic involving an emerging clinical intervention. It provides an overview of key issues related to the intervention — for example, current indications for the intervention, relevant patient population and subgroups of interest, outcomes measured, and contextual factors that may affect decisions regarding the intervention. The emphasis of the Technical Briefs is to provide an early objective description of the state of science, a potential framework for assessing the applications and implications of the new interventions, a summary of ongoing research, and information on future research needs. Technical Briefs generally focus on interventions for which there are limited published data and too few completed protocol-driven studies to support definitive conclusions. The first published brief in this new series is summarized below.

- *Particle Beam Radiation Therapies for Cancer.* This technical brief found that it is not possible to draw conclusions about the comparative safety and effectiveness of particle beam radiation therapy (PBRT) at this time. The brief reviews the different types of PBRT, their

Navigating the Health Care System

AHRQ Director Carolyn Clancy, M.D., presents a series of brief, easy-to-understand advice columns for consumers on how to recognize high-quality health care, how to be an informed health care consumer, and how to choose a hospital, doctor, and health plan. In FY09, subjects included:

- What You Need to Know about Blood Thinner Pills
- How To Make an Emergency Department Visit a Safe One
- An Aspirin a Day? The Answer Is Different for Men and Women
- Talking About End-of-Life Treatment Decisions
- Keeping Track of Your Health Information
- Asking Questions To Get the Care You Need
- How To Complain—And Get Heard
- How Tired Is Your Doctor?
- How To Choose Long-Term Care Services
- New Hope for Chronic Disease Management
- Keeping Healthy When the Economy Is Not

The advice columns are on the AHRQ Web site at www.ahrq.gov/consumer/cc.htm.

potential advantages and disadvantages, and their current uses. At present, there is very limited evidence comparing the safety and effectiveness of PBRT with conventional radiation treatments for people with cancer.

Additional CERs and Technical Briefs will be published in FY 2010. Topics include *Comparative Effectiveness of Core Needle and Open Surgical Biopsy for the Diagnosis of Breast Lesions* and *Stereotactic Radiosurgery for Non-Brain Cancer and Maternal-Fetal Surgery.*

New Research Reports

These reports are based on clinical research and studies that use health care databases and other scientific resources and approaches to explore practical questions about the effectiveness and safety of treatments. They are produced by the Centers for Education & Research on Therapeutics (CERTs) and AHRQ's Developing Evidence to Inform Decisions about Effectiveness (DEcIDE) Network. The DEcIDE Network is a network of research centers that AHRQ created as part of its EHC Program in 2005 to generate new knowledge. The DEcIDE Network consists of research-based health organizations with access to electronic health information databases and the capacity to conduct research. It conducts practical studies about the outcomes, comparative clinical effectiveness, safety, and appropriateness of health care items and services.

In FY09, the DEcIDE Network released 16 new research reports, 2 of which are summarized below:

- *Use of Beta-Blockers in Elderly Patients.* One study found that patients who took metoprolol tartrate had a slightly higher risk of death than patients who took atenolol. The risk of death was not significantly different between patients who took atenolol or carvedilol. A second study compared 1-year survival rates of beta-blockers for which there is evidence (carvedilol, metoprolol succinate, and bisoprolol fumarate) and beta-blockers that have not been tested in heart failure. The study found similar survival rates but higher hospitalization rates among patients who took the evidence-based beta-blockers. Each study was based on an analysis of over 11,000 heart failure patients aged 65 and older.
- *Effectiveness of Tiotropium in Treating COPD.* In a study of patients with COPD (chronic obstructive pulmonary disease) in the Veterans Health Administration system, the regimen of tiotropium plus inhaled corticosteroids plus long-acting beta-agonists was associated with a 40 percent reduced risk of death compared to inhaled corticosteroids plus long-acting beta-agonists. This combination was also associated with reduced risks of COPD exacerbations and hospitalizations. However, tiotropium in combination with two other medications was associated with increased risk of mortality, exacerbations, and hospitalization.

Summary Guides

These short, plain-language guides — tailored to clinicians, consumers, or policymakers — summarize research reviews' findings on the effectiveness and risks of different treatment options. Consumer guides provide useful background on health conditions. Clinician and policymaker guides rate the strength of evidence behind a report's conclusions. The guides on medications also contain basic wholesale price information.

Among the new consumer and clinical guides released in FY09 are:

- *Osteoarthritis of the Knee*, a new consumer guide for adults who have osteoarthritis of the knee and need information about available treatments for this condition.
- *Three Treatments for Osteoarthritis of the Knee: Evidence Shows Lack of Benefit,* a clinician's guide for treatments for osteoarthritis of the knee.
- *Gestational Diabetes: A Guide for Pregnant Women*, a consumer guide, presents treatment options, including diet, insulin, or the oral diabetes medicines, glyburide or metformin, and gives women advice on what they should do after pregnancy.
- *Gestational Diabetes: Medications, Delivery, and Development of Type 2 Diabetes*, a clinician's guide covers these topics, provides an at-a-glance "clinical bottom line" for managing patients, along with ratings of the evidence for each treatment.

For more information on AHRQ's EHC Program, go to www.effectivehealthcare.ahrq.gov.

Evidence-Based Practice Centers

Under the Evidence-Based Practice Center (EPC) Program, institutions in the United States and Canada receive multi-year contracts to review all relevant scientific literature on clinical, behavioral, organizational and financing topics; methodology of systematic reviews; and other health care delivery issues; and produce evidence reports and technology assessments. The information in these reports is used by Federal and State agencies; private-sector professional societies; health delivery systems; providers; payers; and others committed to evidence-based health care for informing and developing coverage decisions, quality measures, educational materials and tools, guidelines, and research agendas.

Recent research findings from the EPC program

Some of the new evidence reports and technology assessments released by the 14 EPCs include:

- *Bariatric Surgery in Women of Reproductive Age: Special Concerns for Pregnancy.* This review found that women who undergo weight-loss surgery, known as bariatric surgery, and later become pregnant after losing weight may be at lower risk for pregnancy-related diabetes and high blood pressure—complications that can seriously affect the mother or her baby—than pregnant women who are obese. The review was based on findings from 75 studies, including 3 that compared pregnancies of non-obese women with those of obese women as well as to pregnancies of women who lost weight surgically.
- *Maternal and Neonatal Outcomes of Elective Induction of Labor.* Researchers found that that elective induction of labor at 41 weeks of gestation and beyond may be associated with a decrease in both the risk of cesarean delivery and of meconium-stained amniotic fluid. Despite the evidence from the prospective randomized, controlled trials reviewed, there are

New Spanish language consumer guides

AHRQ released six consumer guides in Spanish on the subjects of treating prostate cancer, comparing blood pressure pills, rheumatoid arthritis medicines, osteoporosis treatments, antidepressant medicines, and renal artery stenosis treatments:

- *Tratamiento para el cáncer de próstata - Guía para hombres con cáncer localizado de prostate.* This guide on prostate cancer treatment discusses four common prostate cancer treatments and their side effects.
- *Comparación de dos tipos de pastillas para la presión arterial alta: ACEI y ARB - Guía para adultos.* This guide to blood pressure medication discusses the benefits, costs, and side effects of two different kinds of pills, ACE inhibitors (ACEI) and ARBs.
- *Medicamentos para la artritis reumatoide - Guía para adultos.* This guide to rheumatoid arthritis medicines discusses how arthritis affects the joints and two kinds of medicine used to treat it: disease-modifying anti-rheumatic drugs and steroids such as prednisone, which help with joint pain and swelling.
- *Tratamientos para la osteoporosis que ayudan a prevenir fracturas de huesos - Guía para mujeres después de la menopausia.* This guide to osteoporosis treatments discusses the benefits, side effects, and costs of osteoporosis treatments that help prevent broken bones.
- *Medicamentos antidepresivos - Guía para adultos con depresion.* This guide to antidepressant medicines discusses the symptoms of depression and the benefits, side effects, and costs of numerous antidepressants.
- *Tratamientos para la estenosis de la arteria renal - Guía para el consumidor.* The guide to renal artery stenosis (RAS) treatments discusses the health problems caused by RAS and two kinds of treatment for the condition.

For copies of these guides, see http://effectivehealthcare.ahrq.gov/spanishInfo.cfm.

concerns about the translation of such findings into actual practice. The evidence regarding elective induction of labor prior to 41 weeks of gestation is insufficient to draw any conclusion.

- *Complementary and Alternative Medicine in Back Pain Utilization.* Researchers found few studies evaluating the relative utilization of various complementary and alternative medicine (CAM) therapies for back pain. For those studies evaluating utilization of individual CAM therapies, the specific characteristics of the therapy, providers who use it, and the clinical presentation of the back pain patients were not adequately detailed nor was the overlap with other CAM or conventional treatments.
- *Barriers and Drivers of Health Information Technology Use for the Elderly, Chronically Ill, and Underserved.* This review shows that there are distinct factors that influence the use and usability of interactive consumer health IT by the elderly, chronically ill, and underserved populations. Researchers found that health IT systems that allow physicians to assess their patients' current health status, treatment plan and goals, and provide new or adjusted treatment advice are most successfully used. Barriers to adoption of health IT systems can occur when patients do not see the benefit of using computer or other interactive technologies for self-managing their health problems. Other barriers include time constraints for the patient, lack of trust in the information received, technical problems, and physician unresponsiveness to questions.
- *Cost-Effectiveness of CT Colonography to Screen for Colorectal Cancer.* This technology assessment shows that the screening benefit for 5-yearly

computed tomography (CT) colonography, measured in terms of discounted life-years gained compared with no screening, was 2-7 life-years lower per 1,000 65-year-old individuals than colonoscopy screening every 10 years but comparable to that of 5-yearly flexible sigmoidoscopy plus an annual fecal occult blood test. At a per test cost of $488 the overall costs for the CT colonography strategy were higher than all of the other screening strategies.

The EPCs are currently working on the following topics:

- Exercise-Induced Bronchoconstriction and Asthma
- Enhancing Use and Quality of Colorectal Cancer Screening
- Diagnosis and Management of Ductal Carcinoma In Situ (DCIS)
- Lactose Intolerance and Health
- Management of Acute Otitis Media, Update

For more information about the EPC Program, go to www.ahrq.gov/clinic/epcix.htm.

Centers for Education and Research on Therapeutics

The Centers for Education and Research on Therapeutics (CERTs) is a national program that conducts research and provides education to advance the optimal use of drugs, biologicals, and medical devices. The CERTs program, which is administered by AHRQ in consultation with the Food and Drug Administration (FDA), was originally authorized by Congress in 1997 to examine the benefits, risks, and cost-effectiveness of therapeutic products; educate patients, consumers, doctors, pharmacists, and other clinical personnel; and improve quality of care while reducing unnecessary costs by increasing appropriate use of therapeutics and preventing adverse effects and their medical consequences.

Clinician-Consumer Health Advisory Information Network (CHAIN)

This new educational Web site offers expert perspectives, advice, and guidance on drugs, biological products, and medical devices. The Clinician-Consumer Health Advisory Information Network (CHAIN) links clinicians and consumers with information on therapeutics to assist in clinical practice and health care decisionmaking in areas where evidence is undergoing significant and rapid changes. The site also provides access to educational and informational resources developed from research conducted by CERTs. Its educational section includes materials to assist consumers with clinician-patient conversations and decisionmaking as well as an online medication record. Resources for clinicians include a slide library that can be adapted to educate clinical audiences and used for continuing medical education credit. For more information, see www.chainonline.org.

Recent research findings from the CERTs program

- *Atypical antipsychotic drugs and the risk of sudden cardiac death.* Patients ages 30 to 74 who took atypical antipsychotics such as risperidone (Risperdal®), quetiapine (Seroquel®), olanzapine (Zyprexa®), and clozapine (Clozaril®) had a significantly higher risk of sudden death from cardiac arrhythmias and other cardiac causes than patients who did not take these medications, according to researchers from the Vanderbilt University CERT. The risk of death increased with higher doses of the drugs taken. Atypical antipsychotics are commonly used to treat schizophrenia and bipolar disorders. They are also prescribed "off label" for symptoms such as agitation, anxiety, psychotic episodes, and obsessive behaviors. Atypical antipsychotics are less likely than typical antipsychotics to cause tremors and other serious movement disorders. (*New England Journal of Medicine*, January 2009)
- *Patterns of hospital use by elderly patients with psychiatric conditions.* A study by researchers from the Rutgers University CERT finds that 22 percent of elderly patients who were treated at and released from hospitals end up back in the hospital within 6 months. Hospital stays of 5 days or longer decreased the chances that patients with affective disorders (for example,

American College of Physicians uses AHRQ research in creating clinical practice guidelines

The American College of Physicians (ACP) relies primarily on two AHRQ programs — the EPC and the EHC program — in creating their guidelines. Douglas K. Owens, MD, MS, Chair of ACP's Clinical Efficacy Assessment Subcommittee, reports that nearly a dozen EPC reports have been used to create ACP guidelines. ACP also used AHRQ's EHC guide on depression medications.

According to Amir Qaseem, MD, PhD, MHA, FACP, Senior Medical Associate at the American College of Physicians, who is responsible for the ACP's clinical practice guidelines program, these guidelines have reached wide audiences via print, television, and the internet. He shares specific examples, as follows:

ACP Guideline	No. of Print/ Internet Stories	No. of TV Stories	No. of Downloads	Total Audience, 2007-08
Diagnosis & Management of Chronic Obstructive Pulmonary Disease	165	102	4,500	7,480,387
Screening for Osteoporosis	155		35,300	24,865,850
Treatment of Depression	114	89	14,000	21,608,408
Treatment of Osteoporosis	54		34,400	7,936,165
Treatment of Dementia	54		55,400	7,870,523
Palliative Care at the End of Life	140		42,000	7,028,522

Since January 2007, ACP guidelines have had an estimated reach of 340 million people. The individual guidelines have been downloaded tens, even hundreds of thousands of times. ACP is the largest medical specialty organization and second largest physician group in the United States. Its membership of 126,000 includes internists, internal medicine subspecialists, medical students, residents, and fellows.

depression or bipolar disorder) would be rehospitalized. The findings indicate that to prevent readmissions, patients should not be prematurely discharged, especially those with affective disorders. Patients could also benefit from tailored discharge plans and aftercare, suggest the authors, who used 2002 Medicare data for 41,839 patients for this study. (*Psychiatric Services*, September 2008)

- *Specimens from multiple body sites needed to accurately test for MRSA.* Researchers at the University of Pennsylvania School of Medicine CERT identified 56 individuals who had swab samples positive for MRSA. Swab specimens were taken from the nose, under the arm, throat, groin, and perineum. Immediately after these were taken, either the patient or the parent (for pediatric patients) took swab samples from the same body sites. For both provider- and patient-collected samples, the nose was the most common site where MRSA was present, followed by the throat. However, nearly a quarter of individuals would not have been identified as having MRSA if the nose had not been sampled. Likewise, 5 percent of cases would have been missed if samples were not obtained from the throat. Swab samples from the groin and perineum tested positive for probable community-acquired MRSA significantly more often (75 percent) than they did for hospital-acquired MRSA (33 percent). The researchers found strong agreement

between the findings for patient-collected samples and provider-collected samples. As such, patient-collected sampling may be a way to improve the efficiency of community-based surveillance and research. (*Infection Control and Hospital Epidemiology*, April 2009)

More information about the CERTs program can be found at http://certs.hhs.gov/

Patient Safety Portfolio

In support of its mission to improve the quality, safety, efficiency, and effectiveness of health care, AHRQ funds research and develops successful partnerships that help generate and implement the knowledge and tools required for long-term improvements in health care. Finding ways to eliminate medical errors and improve patient safety are an integral part of the Agency's research agenda. AHRQ-funded research projects and partnerships identify, develop, test, and implement patient safety and quality measures and solutions.

During FY09, AHRQ funded and developed several tools to help improve the quality and safety of health care. The Agency launched more than a dozen projects to help prevent health care-associated infections and created Patient Safety Organizations (PSOs) and Common Formats for the PSOs to report data. Common Formats are common definitions and reporting formats that health care providers can use to collect and track patient safety information. This information can then be used to learn more about trends and patterns in patient safety, to identify risks and hazards to patients, and improve health care quality and safety. AHRQ provided new patient education videos and consumer guides in English and Spanish on the safe use of blood thinner pills to help prevent and treat blood clots. New products also released in FY09 include a module on Rapid Response Systems for the TeamSTEPPS™ training module as well as two new patient safety culture surveys for nursing homes and medical offices. Additionally, the Institute of Medicine released an AHRQ-funded report on strategies to reduce fatigue-related errors among medical residents.

Finally, the Agency once again teamed with the Ad Council, undertaking an update to the successful "Questions are the Answer" campaign that was launched in 2007.

Projects To Prevent Health Care-Associated Infections

AHRQ received $17 million in FY09 to fund projects to help reduce and eliminate health care-associated infections (HAIs), the most common complications of hospital care. HAIs are both virulent and widespread in the United States. For example, there are an estimated 95,000 cases annually of methicillin-resistant *Staphylococcus aureus* (MRSA), 85 percent of which are health care-associated. Nineteen percent of these 95,000 infections result in death. Another HAI, *Clostridium difficile*, has been associated with an estimated 15,000 to 30,000 attributable deaths annually, based on recent mortality data from the Centers for Disease Control and Prevention (CDC).

Of the $17 million, $8 million funds a national expansion of the Keystone Project, which within 18 months successfully reduced the rate of central-line blood stream infections in more than 100 Michigan intensive care units (ICUs) and saved 1,500 lives and $200 million. The project was originally started by the Johns Hopkins University in Baltimore and the Michigan Health & Hospital Association to implement a comprehensive unit-based safety program. The program involves using a checklist of evidence-based safety practices; staff training and other tools for preventing infections that can be implemented in hospital units; standard

and consistent measurement of infection rates; and tools to improve teamwork among doctors, nurses, and hospital leaders.

In February 2009, AHRQ funded an expansion of the Keystone Project to 10 States. With additional funding from AHRQ and a private foundation, the project is now operating in all 50 States, Puerto Rico, and the District of Columbia. The FY09 funding will expand the effort to more hospitals, extend it to other settings in addition to ICUs, and broaden the focus to address other types of infections. Specifically, the new $8 million in funding will provide:

- $6 million to the Health Research & Educational Trust (HRET) for national efforts to expand the Comprehensive Unit-Based Patient Safety Program to Reduce Central Line-Associated Blood Stream Infections. The funding will allow more hospitals in all 50 States to participate in the program and expand the program's reach into hospital settings outside of the ICU. HRET also will use $1 million to support a demonstration project that will help fight catheter-associated urinary tract infections.
- $1 million to Yale University to support a comprehensive plan to prevent bloodstream infections in hemodialysis patients.

AHRQ, in collaboration with the CDC, also identified several high-priority areas to apply the remaining $9 million toward reducing MRSA and other types of HAIs. These projects will focus on:

- Reducing *Clostridium difficile* infections through a regional hospital collaborative.
- Reducing the overuse of antibiotics by primary care clinicians treating patients in ambulatory and long-term care settings.
- Evaluating two ways to eliminate MRSA in ICUs.
- Improving the measurement of the risk of infections after surgery.
- Identifying national-, regional- and State-level rates of HAIs that are acquired in the acute care setting.
- Reducing infections caused by *Klebsiella pneumoniae* carbapenemase-producing organisms by applying recently developed recommendations from CDC's Healthcare Infection Control Practices Advisory Committee.
- Standardizing antibiotic use in long-term care settings (two projects).
- Implementing teamwork principles for frontline health care providers.

For more information on AHRQ's projects to prevent HAIs, see www.ahrq.gov/qual/haify09.htm.

Patient Safety Organizations (PSOs)

Established by the Patient Safety and Quality Improvement Act of 2005 (the Patient Safety Act), PSOs collect and analyze patient safety events that health care providers report and can provide feedback to help clinicians and health care organizations improve health care quality. Under the Patient Safety Act, information that PSOs collect, create, or use for patient safety and quality improvement activities is protected from legal discovery. Thus, PSOs allow clinicians and health care organizations to voluntarily share data on patient safety events more freely and consistently within a protected environment. Strong confidentiality provisions are also key to voluntary reporting.

At the end of FY09, there were 68 listed PSOs. As outlined in the Patient Safety Act, AHRQ administers provisions governing PSO operations. To allow health care providers to collect and submit standardized information regarding patient safety events, AHRQ coordinates the development of Common Formats (i.e., common definitions and reporting formats) for reporting events to the PSOs. Common Formats optimize the opportunity for the public and private sectors to learn more about trends and patterns in patient safety, with the purpose of improving health care quality. AHRQ released the initial set of Common Formats for hospitals, and subsequent sets will be developed for nursing homes, ambulatory surgery centers, and

physician offices. For more information on the PSOs and Common Formats, go to www.pso.ahrq.gov.

Helping Patients Use Blood Thinners Safely

In FY09, AHRQ released a video and publication in both English and Spanish to help consumers take blood thinners safely. The Agency also combined the English and Spanish guides on preventing blood clots that were published in FY08. The video and both guides were developed based on research originally funded through AHRQ's Partnerships in Implementing Patient Safety grant program.

- *Staying Active and Healthy with Blood Thinners* (www.ahrq.gov/consumer/btpills.htm) is a new video that helps educate patients about how to safely use anticoagulant drugs, commonly called blood thinners. Designed to complement education that patients receive in their doctor's offices, clinics, pharmacies, or hospitals, the video helps patients better understand why they need a blood thinner, how they work, and how to manage them effectively. The video introduces a mnemonic called B-E-S-T to help patients remember four key actions they should take to safely use blood thinner pills. B-E-S-T stands for Be careful, Eat right, Stick to a routine, and Test regularly. The video, in DVD format, also features
  - The experiences of a patient on blood thinners to show how he manages his medication regimen safely at home and work.
  - Simplified medical terminology and easy-to-understand language.
  - Animated graphics showing how dangerous blood clots form and their consequences.
  - Menu selections that allow patients to replay and review specific segments.
- *Blood Thinner Pills: Your Guide to Using Them Safely* and *Pastillas que diluyen la sangre: Guía para su uso seguro* (www.ahrq.gov/consumer/btpills.htm#booklet) is the companion bilingual print brochure to the video *Staying Active and Healthy with Blood Thinners* that helps consumers understand the lifestyle changes that they may need to make when they take blood thinner pills. The publication includes information on medications and foods to avoid when taking blood thinner pills, tips for lifestyle modifications, information on potentially dangerous side effects, advice on when to call the doctor or go to the hospital, and tips on preventing injuries. The brochure also lists the common medical conditions that may cause a person to be at higher risk for developing blood clots.
- *Your Guide to Preventing and Treating Blood Clots* and *Su guía para evitar y tratar la formación de coágulos* (www.ahrq.gov/consumer/bloodclots.htm) were first published separately in FY08, and in FY09 AHRQ combined them to create one easy-to-read guide that helps English- and Spanish-speaking consumers identify the causes and risk factors for blood clots. It lists the symptoms of blood clots and offers ways to prevent blood clots. The treatment section tells consumers what they can expect and the possible side effects of blood thinners. Finally, the guide offers a list of commonly used terms and their definitions.

Patient Safety Is a Team Sport

TeamSTEPPS™

TeamSTEPPS is an evidence-based teamwork system designed for improving communication and other teamwork skills among health care professionals. In FY09, AHRQ released the TeamSTEPPS module on Rapid Response Systems designed for use by hospital teams. This new module applies TeamSTEPPS skills to the Rapid Response System and the role of the Rapid Response Team, which is composed of clinicians who bring critical care expertise to patients requiring immediate treatment while in the hospital. After implementing Rapid Response Systems, hospitals have experienced a decrease in

Healthcare 411

Healthcare 411 (http://healthcare411.ahrq.gov/) is a news series produced by AHRQ. Using the latest podcasting technology, these weekly audio and video programs feature AHRQ's latest research findings as news and informational stories on current health care topics such as cancer, heart disease, diabetes, patient safety, and quitting smoking. Healthcare 411 gives consumers information they can use to improve the quality of their health care and help them navigate the health care system. It also provides AHRQ researchers and grantees an opportunity to share their findings and be heard beyond the research community. In FY09, newscasts released included:

- Rising Health Care Costs Related to Obesity - AHRQ data shows an 80 percent increase in health care spending among American adults with obesity.
- Hospitalization of the Poor Much Higher for Asthma, Diabetes, Other Preventable Diseases – Low-income Americans are more likely than people in higher income groups to be hospitalized for chronic health conditions.
- Basic Health Tips for Men – The U.S. Preventive Services Task Force recommends three basic things that men should do to stay healthy.
- Making Hospital Discharges Safer for Seniors – Elderly patients just returning home from the hospital are prone to medication mishaps. Learn how information technology is making the transition from hospital to home easier.
- Consumer Guide Compares Type 2 Diabetes Treatments – AHRQ summarizes the evidence comparing the effectiveness and safety of premixed insulin analogues with other insulin preparations and oral drugs for type 2 diabetes.
- An EMR System that Helps Reduce Medication Errors – An Electronic Medical Record system can help prevent serious errors from happening when patients see multiple doctors in many different locations.
- Having Surgery: What You Need to Know – Every year, more than 15 million Americans have surgery. If you're considering surgery, you need to make an informed decision.

the number of cardiac arrests, deaths from cardiac arrest, the number of days in the intensive care unit and the hospital overall following heart attacks, and inpatient death rates. Featuring video vignettes and presentation slides, the Rapid Response System module can help hospitals implement team training principles to improve care delivery and patient safety. The module is available in CD format, and the curriculum slides can be customized to meet an institution's unique needs.

TeamSTEPPS was developed by the Department of Defense in collaboration with AHRQ. TeamSTEPPS includes a comprehensive set of ready-to-use materials and training curricula necessary to integrate teamwork principles successfully into a health care system. TeamSTEPPS is now a part of the Centers for Medicare & Medicaid Services (CMS) 9th Scope of Work for all Quality Improvement Organizations.

More information on TeamSTEPPS can be found at http://teamstepps.ahrq.gov/.

Patient Safety Culture Surveys

In its 1999 landmark report, *To Err Is Human*, the Institute of Medicine cited studies that found that at least 44,000 people and potentially as many as 98,000 people die in U.S. hospitals each year as a result of preventable medical errors with costs estimated to be between $17 billion and $29 billion. One of the main conclusions was that the majority of medical errors do not result from individual recklessness or the actions of a particular

AHRQ WebM&M

AHRQ WebM&M (Morbidity and Mortality Rounds on the Web) is an online journal and forum on patient safety and health care quality. The site features expert analysis of medical errors reported anonymously by our readers, interactive learning modules on patient safety ("Spotlight Cases"), and Perspectives on Safety. Continuing medical education and continuing education unit credits are available. WebM&M can be accessed at http://www.webmm.ahrq.gov/.

group but are caused by faulty systems, processes, and conditions that lead people to make mistakes or fail to prevent adverse events. To improve safety, the culture within health care systems must be redesigned in a way that breaks down legal and cultural barriers. A culture of safety includes open communication between staff and management, with strong leadership and clearly defined safety policies that empower staff to both report and correct safety problems. As part of its goal to support a culture of patient safety and quality improvement in the Nation's health care system, AHRQ sponsors the development of patient safety culture assessment tools for hospitals, nursing homes, and medical offices. Health care organizations can use these survey assessment tools to assess their patient safety culture, track changes in patient safety over time, and evaluate the impact of specific patient safety interventions. In FY09, AHRQ released two new surveys, the *Nursing Home Survey on Patient Safety Culture* and the *Medical Office Survey on Patient Safety Culture*. In addition, the annual collection of data from hospitals led to the publication of *Hospital Survey on Patient Safety Culture: 2009 Comparative Database Report.*

Nursing Home Survey on Patient Safety Culture

The *Nursing Home Survey on Patient Safety Culture* is designed specifically for nursing home providers and staff and asks for their opinions about the culture of patient safety in their nursing homes. Questions address respect and teamwork, training, communication, care plans for residents, and ways to keep residents safe from harm.

Medical Office Survey on Patient Safety Culture

The *Medical Office Survey on Patient Safety Culture* is an evidence-based tool for medical offices with at least three providers, such as physicians, physician assistants, or nurse practitioners, that can help organizations assess how their staff views different areas of patient safety. The survey captures opinions on important dimensions that relate to patient safety and quality issues, such as communication about errors, communication openness, information exchange among health care settings, office processes and standardization, organizational learning, staff training, teamwork, and work pressure and pace.

Both of the new surveys include survey forms and a user's guide that explains the survey process and discusses topics including overall project planning, data collection procedures and analysis, and report creation.

Hospital Patient Safety Culture Survey: 2009 Comparative Database Report

The *Hospital Survey on Patient Safety Culture: 2009 Comparative Database Report* summarizes the latest results from hospitals that have administered the *AHRQ Hospital Survey on Patient Safety Culture*. Based on data from more than 600 U.S. hospitals, the report provides initial results that hospitals can use as benchmarks in establishing a culture of safety. The 2009 report also presents results showing change over time for 204 hospitals that submitted data more than once. The report shows that one area of strength for most hospitals is teamwork within hospital units while non-punitive response to errors and handoffs continues to be a main area for improvement in patient safety. The report is available at www.ahrq.gov/qual/hospsurvey09/.

For more information on AHRQ's Patient Safety Culture Surveys, go to www.ahrq.gov/qual/patientsafetyculture/.

Report Recommends Ways To Reduce Errors Caused by Medical Residents

Medical residents need protected sleep periods and increased supervision of work-hour limits to improve patient safety and the training environment, according to *Resident Duty Hours: Enhancing Sleep, Supervision, and Safety,* an Institute of Medicine (IOM) report funded by AHRQ. An IOM committee reviewed the relationship between residents' work schedules, their performance, and the quality of care they provide. The study confirms scientific evidence that shows acute and chronically fatigued residents are more likely to make mistakes. As potential solutions, the report recommends several changes to the existing Accreditation Council for Graduate Medical Education's 80-hour-per-week limit on work hours, including protected sleep periods for residents and guaranteed days off to permit adequate recovery after working long shifts.

Ad Council Campaign Encourages Patients To Ask Questions

AHRQ joined with The Advertising Council in April FY09 to update the "Questions are the Answer" public service advertising campaign that was first launched in March 2007. Updates to the campaign, which encourages consumers to get more involved in their health care by knowing and asking appropriate questions when visiting their doctors or other clinicians, included new television, print, outdoor, and Web advertising, all of which were created pro bono by Grey New York. The ads feature people asking questions in everyday situations, such as ordering food at a restaurant and buying a cell phone, but clamming up when their doctor asks if they have questions. The ads direct audiences to visit a comprehensive Web site, www.ahrq.gov/questionsaretheanswer, to learn the 10 questions every patient should think about asking during medical appointments.

Medical Liability Reform and Patient Safety Initiative

In FY09, President Obama announced as one of his health care reform proposals that AHRQ would establish a new demonstration initiative to evaluate existing medical liability reform models and to test future initiatives in patient safety and medical liability reform initiatives. The new demonstration initiative is intended to help States and health care systems test models that:

- Put patient safety first and work to reduce preventable injuries.
- Foster better communication between doctors and their patients.
- Ensure that patients are compensated in a fair and timely manner for medical injuries while also reducing the incidence of frivolous lawsuits.
- Reduce liability premiums.

The new initiative will also support planning grants to State and health systems for future initiatives in patient safety and medical liability reform. Funding for these grants is expected in May 2010. For more information, go to www.ahrq.gov/qual/liability/.

Recent Research Findings on Quality and Patient Safety

- Patients who have a clear understanding of their after-hospital care instructions, including how to take their medicines and when to make follow-up appointments, are 30 percent less likely to be readmitted or visit the emergency department than patients who lack this information. In an AHRQ-funded study, patients in one hospital received a personalized after-hospital care plan from a nurse discharge advocate, who also provided the plan and discharge summary to the patient's primary care provider on discharge day. A pharmacist followed up with a phone call to the patient within 4 days after discharge to ensure the patient understood how to take any new medications. Further, patients who underwent this reengineered discharge process were more likely to identify their diagnosis, understand their medication, and visit their primary care physicians within 30 days of discharge compared with patients who received the hospital's regular discharge plan. (*Annals of Internal Medicine*, February 2009)

National Network of Libraries of Medicine uses *Questions Are the Answer* video in patient safety seminar

The National Network of Libraries of Medicine (NN/LM) has incorporated AHRQ's *Questions Are the Answer* video into its Patient Safety Resource Seminar, "Librarians on the Front Lines." The class has been taught in 15 States across the country and in Canada to more than 250 librarians, the majority of whom took the information back to their hospitals and health systems. The interactive seminar focuses on ways librarians can become more involved in patient safety processes and activities. This involvement can occur within their institutions and organizations, in addition to their role in providing patient safety resources for health professionals, administration, staff, patients, and families. Topics include: understanding the definitions and issues related to patient safety; locating where patient safety practices and contacts exist within an institution; identifying appropriate resources; and library advocacy in the area of patient safety. Four hours of lecture, discussion, and brainstorming help librarians in all fields become effective agents for improving patient safety. The course objectives include the ability to do the following:

- Describe definitions related to patient safety and detect systems of potential error within institutions.
- Identify patient safety issues and points of contact specific to individual institutions.
- Locate resources available for administrators, health professionals, patients, and families.
- Formulate methods for the library to participate effectively in improving patient safety.

This class has been approved by the Medical Library Association (MLA) for 2.5, 4, and 6 contact hours of MLA CE credit. The course is available online at: http://nnlm.gov/training/patientsafety/index.html.

- Hospital stays that result in a patient safety event report are 17 percent more costly and 22 percent longer compared with stays with no events. The most expensive and most common events are medication and treatment errors, accounting for 77 percent of all event types and 77 percent of added costs. Over 2 years, patient safety events resulted in an estimated $8.3 million in additional costs with medication events accounting for an estimated $4 million and treatment events and falls accounting for $2.3 million of these extra costs. (*American Journal of Medical Quality*, January/February 2009)
- Hospitals with a better safety climate — interpersonal, work unit, and organizational safety attitudes and safeguards — have a lower incidence of patient safety problems such as bed sores, postoperative hemorrhage, and HAIs. Researchers analyzed survey responses from hospital personnel at 91 hospitals in 37 States about the safety climate at their hospitals. Higher levels of safety climate were associated with higher safety performance, defined as a lower incidence of patient safety indicators developed by AHRQ. (*HSR: Health Services Research*, April 2009)
- More than 94 percent of U.S. hospitals have centralized systems for collecting reports of adverse events, but only 21 percent fully distribute adverse event summary reports. The national survey of over 1,600 hospitals found that only 32 percent of hospitals have established "supportive environments" that allow anonymous reporting. Only 13 percent have broad staff involvement in reporting adverse events (96 percent of adverse events are submitted by nursing staff members). (*Quality and Safety in Health Care*, December 2008)

Health Information Technology Portfolio

Since its inception in 2004, AHRQ's Health IT Portfolio has invested over $300 million in developing and disseminating evidence and

evidence-based tools about health IT's impact on the quality, safety, efficiency, and effectiveness of health care. In FY09, the program invested $44.8 million in contracts and grants toward developing and disseminating evidence and evidence-based tools about the use of health IT in three main strategic focus areas:

- To improve health care decisionmaking.
- To improve the quality and safety of medication management.
- To support patient-centered care, the coordination of care across transitions, and the use of electronic exchange of health information.

With the enactment of the American Recovery and Reinvestment Act in 2009, the role of health IT in improving the quality of the Nation's health dramatically changed. As the provisions of the Health Information Technology for Economic and Clinical Health (HITECH) Act were developed and implemented, AHRQ's health IT initiative and research products have consistently anticipated the needs of the Nation to understand how health IT can improve quality:

- Since 2004, AHRQ has supported multiple State-wide health information exchange research projects and demonstrations, which have established the foundations for the HITECH State Health Information Exchange program.
- E-prescribing is a key component of meaningful use, and AHRQ's programmatic work as well as our extended collaboration with CMS have established new standards, best practices, and implementation tools that are being used to support this key requirement.
- A particularly thorny issue has been e-prescribing of controlled substances. An AHRQ-funded grant to the Massachusetts Department of Public Health has significantly contributed to a regulatory solution for this issue.
- AHRQ-funded work such as the reports of the National Quality Forum's Health IT Expert Panel and research projects at the American Medical Association's Physician Consortium for Performance Improvement, have helped improve the Nation's knowledge on how to better utilize health IT systems to measure quality health care in meaningful ways.
- Safety is a key component of healthcare quality, and AHRQ's initiative is helping make the Nation safer through tools such as the Computerized Provider Order Entry evaluation tool, currently used by the Leapfrog group to accredit the safest hospitals in America.
- AHRQ's National Resource Center for Health Information Technology in partnership with the Office of the National Coordinator for Health IT has begun implementation of the Health IT Research Center, a key component of the HITECH Extension program.
- AHRQ funded experts are abundantly represented in the growing staff of the Office of the National Coordinator, the Health IT Policy Committee, and the Health IT Standards Committee, emphasizing AHRQ's key role in preparing the field to address the challenges of HITECH implementation.

It has been highly rewarding to see the fruits of many years of investment and labor to support successful implementation, and the program now looks forward to meeting the challenges of answering the questions of the future that will be created by the significant investments of the HITECH Act.

In FY09, some key activities that the AHRQ Health IT Portfolio continued to support include:

- Research grants exploring the impact of health IT on quality in the ambulatory setting.
- Research grants focused on management of complex patients and the program's three strategic focus areas: improved decisionmaking, medication management, and patient-centered care.
- A contract to develop an electronic format for quality measurement and a draft quality data set to facilitate quality measurement.
- Contracts to demonstrate the translation and incorporation of care guidelines into

commercial electronic health record (EHR) systems.

- Development and dissemination of an EHR implementation toolkit and other "how to" resources to assist health care organizations.
- Contracts to demonstrate health information exchange (HIE) in six States.

Improving Health Care Decision-making, Medication Management, and Patient-Centered Care

In support of its strategic focus area on improving health care decisionmaking, medication management, and patient-centered care, the AHRQ Health IT Portfolio produced the following publications:

- The *Ambulatory Computerized Provider Order Entry* report summarizes key findings from researchers who have implemented ambulatory computerized provider order entry and clinical decision support (CDS) tools in outpatient practices. CDS capabilities integrated within ambulatory EHRs and order entry systems provide clinicians with real-time support on a range of information related to diagnosis and treatment. They also provide tools aimed at improving patient care and reducing medical errors and costs. In addition, decision support may add rules to check for drug-drug interactions, allergies, medication contraindications, and renal and weight-based dosing, further enhancing the ability to reduce medical errors. The new report features lessons learned from health IT grantees about leadership, implementation and training, clinician adoption, and post-implementation considerations.
- *Barcode Medication Administration: Emerging Lessons Learned* is a report focusing on technologies used to reduce medication dispensing errors and improve patient safety in hospital settings. It discusses grants in AHRQ's Health IT Portfolio that are implementing or evaluating barcoding technologies to improve care for patients, increase efficiency, and contain costs, as well as the challenges faced by grantees in developing, implementing, or evaluating barcoding interventions.
- *Barriers and Drivers of Health Information Technology Use for the Elderly, Chronically Ill, and Underserved* is an evidence review showing that there are distinct factors that influence the use and usability of interactive consumer health IT by the elderly, chronically ill, and underserved populations. The most common factor influencing the successful use of the interactive technology by these specific populations was that the consumers perceived a benefit from using the system
- *Chronic Disease Management* is a report that focuses on technologies that support better management of chronic illnesses, such as diabetes and heart failure. It presents a snapshot of activities and the challenges that researchers faced during the development, implementation, or evaluation of a health IT intervention.
- *Using Telehealth to Improve Quality and Safety*, a report based on AHRQ-funded implementation projects, provides an overview of technical and organizational challenges faced by AHRQ health IT researchers when developing, implementing, or evaluating telehealth interventions. The telehealth projects fall into the following four areas: provider-to-provider communication with patients present, provider-to-provider communication without patients present, telemonitoring, and health education.

In addition, the Health IT Portfolio produced an evidence-based tool, the *Pediatric Rules and Reminders*, that provides pediatricians and other clinicians with the information needed to develop and implement specific rules and reminders into an EHR system for pediatric patients. These rules and reminders are designed to help providers who use EHRs to improve adherence to clinical guidelines.

National Resource Center for Health Information Technology

As part of the health IT initiative, AHRQ created the AHRQ National Resource Center for Health Information Technology (NRC) to help the health care community make the leap into the

Accelerating Change and Transformation in Organizations and Networks (ACTION)

Accelerating Change and Transformation in Organizations and Networks (ACTION) was begun in 2006 as the successor to AHRQ's Integrated Delivery System Research Network. ACTION is a 5-year model of field-based research that fosters public-private collaboration in rapid-cycle, applied research. It links many of the Nation's largest health care systems with its top health services researchers. ACTION's 15 partnerships conduct 2- to 3-year implementation research projects, help disseminate resulting products and findings, and encourage uptake of innovation to improve the quality of health care delivery.

As a network, ACTION provides health services in a wide variety of organizational care settings to at least 100 million Americans. ACTION has over 160 collaborating organizations in all States. The partnerships provide access to large numbers of providers, major health plans, hospitals, long-term care facilities, ambulatory care settings, and other care sites. Each partnership includes health care systems with large, robust databases, clinical and research expertise, and the authority to implement health care interventions.

From 2006 through FY09, ACTION partnerships received close to 80 awards totaling more than $56 million. AHRQ funding has focused primarily on patient safety, health IT, and emergency preparedness. In FY09, ACTION partnerships also received funding to focus on the reduction of HAIs such as MRSA, *Clostridium difficile* and carbapenem-resistant enterobacteriaceae infections in persons receiving ambulatory care, long-term care, and hospital care. These studies are addressing strategies to test and spread practices to reduce catheter-associated bloodstream infections, central-line associated infections, surgical site infections, and other HAIs. Early and interim results are expected within 2 years.

Spreading TeamSTEPPS™

TeamSTEPPS is an evidence-based teamwork system aimed at optimizing patient outcomes by improving communication and teamwork skills among health care professionals. AHRQ and the Department of Defense teamed with the American Institutes for Research to build a national training and support network for TeamSTEPPS using ACTION task orders. The TeamSTEPPS National Implementation program is fully operational, with five regional Training Resource Centers across the nation. Seven hundred and fifty Master Trainers have been trained, who have in turn trained over 7,000 persons in TeamSTEPPS in over 200 organizations across the nation, including all CMS's QIOS. In addition, medical personnel in Taiwan, Japan, Australia, and Singapore have been trained.

Information on ACTION partnerships and projects can be found on the AHRQ Web site at www.ahrq.gov/research/action.htm.

Information Age. In addition to providing technical assistance to the health IT research community, the NRC shares new knowledge and findings that have the potential to transform everyday clinical practice. The AHRQ NRC is committed to advancing our national goal of modernizing health care through the best and most effective use of health IT by serving as the main vehicle for disseminating program information and findings to its key audiences. In FY09, the NRC reached record levels of use (both unique users and resource downloads) and the Office of the National Coordinator for Health IT joined the Health Resources and Services Administration (HRSA) as a new Federal "customer" leveraging the NRC Web infrastructure.

In FY09, the Health IT Portfolio, together with the NRC, added, updated, or continued support for a key set of products focused on applying lessons learned from AHRQ research activities to improve the successful adoption, evaluation, and meaningful

use of health IT and HIE activities. These products include:

- *The Health IT Adoption Toolbox* contains a range of resources relevant to the various stages of considering, planning, executing, and evaluating the implementation of health IT. The resources have been compiled from a number of public initiatives as well as resources explicitly created by HRSA. The toolbox is designed to meet the needs of a broad range of providers.
- *The Accessible Health Information Technology (IT) for Populations with Limited Literacy: A Guide for Developers and Purchasers of Health IT* (updated: June FY09) provides health IT developers with structure, strategies, and other resources for the development of health IT technologies for populations with limited literacy.
- *Health IT Survey Compendium* is a searchable resource containing a set of publicly available surveys to assist organizations in evaluating health IT. The surveys in the compendium cover a broad spectrum, including user satisfaction, usability, technology use, product functionality, and the impact of health IT on safety, quality, and efficiency.
- *Health IT Bibliography* puts expert-selected knowledge resources on health IT at the fingertips of those seeking to better understand how health IT can transform everyday care by improving its quality, safety, efficiency, and effectiveness.
- *Health IT Evaluation Toolkit* provides guidance on how to evaluate health IT. Examples of measures relevant to quality, safety, and efficiency are provided along with suggested data sources and the relative costs to collect the measures.
- *Health IT Costs & Benefits Database Project* is a searchable database containing the results of a literature search on the relative costs and benefits of health IT.
- The *Health Information Privacy and Security Collaboration Toolkit* provides guidance for conducting organization-level assessments of business practices, policies, and State laws that govern the privacy and security of health information exchange (HIE).
- *HIE Evaluation Toolkit* provides guidance on how to evaluate health information exchange.
- *The Time and Motion Database* enables organizations to measure the impact of health IT systems on clinical workflow through the collection of time-motion study data.

The initial contract for the NRC concluded at the end of the FY08. In FY09, the AHRQ Health IT Portfolio competed and awarded a series of master task orders, and a first round of tasks for the next generation of the NRC were assigned.

Health IT's First Annual Report

This inaugural report, *Summary of AHRQ Health Information Technology Portfolio-Funded Projects as of 2008*, features:

- A summary of activities in the Health IT Portfolio as of 2008.
- Details on how information generated through the Health IT Portfolio is disseminated.
- A description of the content of the project-specific summaries.
- Project summaries of 124 grant-specific and 26 contract-specific AHRQ-managed health projects.

For more information on AHRQ's Health IT Portfolio as well as its initiatives, reports, tools, and products, see http://healthit.ahrq.gov.

Recent Research Findings from the Health IT Portfolio

- A study of hospitals that care for children found that hospitals that became early adopters of computerized physician order entry (CPOE) had certain characteristics. Researchers analyzed hospital characteristics from 119 hospitals that care for children that used CPOE in 2003, including hospital type, bed size, ownership, health system affiliation, rural/urban location, and U.S. region. Dedicated children's hospitals

were six times more likely to be early adopters of CPOE compared with general hospitals with pediatric units. Private for-profit hospitals were 26.5 times more likely than public hospitals to use CPOE, and urban teaching hospitals were nearly four times more likely than rural hospitals to use CPOE. Hospitals located in the Northeast, Midwest, and the South were 11.2, 4.2, and 3.1 times respectively more likely to use CPOE than hospitals located out West. (*Clinical Pediatrics*, May 2009)

- When implementing a clinical information system (CIS), institutions often provide extra training to employees who then serve as trainers, provide technical support, and champion the use of the system. Such individuals are called "super users." A new study found that the attitudes and time spent by these super users go a long way toward increasing positive employee perceptions of the CIS. Researchers found that more hours devoted to carrying out the super user role was associated with positive employee perceptions about the CIS. They also found a positive correlation between super user attitudes toward the CIS and employee attitudes. How super users perceived their qualifications was also significantly associated with employee outcomes. These individuals enhanced the perceptions among employees about the usefulness and ease of use of the CIS. Super users also provided clinical staff members with supplementary development of informatics competencies in the form of just-in-time training at the point the staff are doing actual work. (*Medical Care Research and Review*, January 2009)
- Pharmacists working at 68 community chain pharmacies in 5 States reviewed 2,690 prescription orders. Intervention was required for 3.8 percent of the e-prescriptions reviewed. Most of these interventions (32 percent) were done to obtain missing information, usually medication instructions. Dosing errors were the second most frequent reason for intervention (18 percent). Prescribers were most often contacted (64 percent) to resolve problems. In the majority of cases (56 percent), the prescription order was changed and dispensed correctly. Only 10 percent of problem prescriptions were not dispensed, while 12 percent of cases remained unresolved despite the intervention. Each intervention took the community pharmacist an average of 6 minutes to complete at a cost of $4.74 per each problem prescription. (*Journal of the American Pharmacists Association* January/February 2009)

Health IT Implementation Stories

AHRQ-funded health IT projects are helping to revolutionize everyday clinical practice. Following are some stories and lessons learned from some of these pioneering projects.

- *Integrated reporting system*—With this system, doctors at Mt. Ascutney Hospital in Vermont can log onto a Web site and access a patient's electronic health record, including digitalized images of a recent CT scan. To implement this system, the hospital, along with its consortium partners, received a $685,000 grant from AHRQ. Previously, a doctor might have to search through a paper chart and multiple databases to gather lab results and other relevant information on a patient. The integrated reporting system should improve the quality of care provided to patients, particularly those with chronic diseases. The new system has been used to provide information on diabetes to the Vermont Department of Health's chronic care registry. More than 50 percent of people with chronic diseases such as diabetes and asthma fail to get adequate treatment, according to the Vermont Department of Health.
- *Health center electronic medical records*—With help from a $1.5 million grant from AHRQ, the Sarah Bush Lincoln Health Center in East Central Illinois has been able to extend its centralized EHR application to an expanding group of area clinics. This system is able to capture all patient health information resulting from hospital-based care. The hospital began by implementing a variety of technologies,

including an EHR system, CPOE, and e-prescribing in regional clinics and home health practices. To date, six clinics have implemented all of these electronic health systems. There are plans to implement EHR, CPOE, and e-prescribing systems in a total of 11 clinics, making it possible to share longitudinal electronic medical records for every patient that is treated in the hospital or these participating clinic locations.

Prevention/Care Management Portfolio

The mission of the Prevention/Care Management Portfolio is to improve the quality, safety, efficiency, and effectiveness of the delivery of evidence-based preventive services and chronic care management in ambulatory care settings. This mission is accomplished by:

- Supporting clinical decisionmaking for preventive services through the generation of new knowledge, the synthesis of evidence, and the dissemination and implementation of evidence-based recommendations.
- Supporting the evidence base for and implementation of activities to improve primary care and clinical outcomes through:
  - health care redesign
  - clinical-community linkages
  - self management support
  - integration of health information technology
  - care coordination.

The programmatic work of the Portfolio is carried out through grants and contracts to generate new knowledge, to synthesize and disseminate evidence, and to facilitate implementation of evidence-based primary care. The Portfolio fulfills AHRQ's congressionally mandated role to convene and provide ongoing administrative, scientific and dissemination support to the United States Preventive Services Task Force (USPSTF)

AHRQ Support of the United States Preventive Services Task Force (USPSTF)

The USPSTF is an independent panel of nationally renowned, non-federal experts in prevention and evidence-based medicine comprising primary care clinicians (e.g., internists, pediatricians, family physicians, gynecologists/obstetricians, nurses, and health behavior specialists) with strong science backgrounds. In FY09, the USPSTF continued to provide "gold standard" recommendations that are the evidence base for clinical preventive services provided in this Nation.

The USPSTF was first convened by the U.S. Public Health Service in 1984 and in 1995 programmatic responsibility for the USPSTF was transferred to AHRQ. Since its inception, the USPSTF has worked to fulfill its mission of:

1. Assessing the benefits and harms of preventive services in people asymptomatic for the target condition, based on age, gender, and risk factors for diseases.
2. Making recommendations about which preventive services should be incorporated routinely into primary care practice.

USPSTF recommendations are intended to improve clinical practice and promote public health. The USPSTF's scope is specific: its recommendations address primary or secondary preventive services targeting conditions that represent a substantial burden in the United States and are provided in primary care settings or available through a primary care referral.

During FY09, the USPSTF released the following new or updated recommendations in the areas of screening, counseling, and preventive medications:

Screening

- *Colorectal Cancer* – In a change from its previous recommendation, the USPSTF now recommends that adults age 50 to 75 be screened for colorectal cancer using annual high-sensitivity fecal occult blood testing, sigmoidoscopy every 5 years with fecal occult

testing between sigmoidoscopic exams, or colonoscopy every 10 years.

- *Depression in Children and Adolescents* – The USPSTF recommends screening adolescents for clinical depression only when appropriate systems are in place to ensure accurate diagnosis, treatment, and follow-up care. This applies to all adolescents 12 to 18 years of age. In a separate recommendation, the USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening children 7 to 11 years of age for clinical depression.
- *Hepatitis B Infection in Pregnant Women* – The USPSTF recommends that clinicians screen all pregnant women for hepatitis infection at their first prenatal visit. This recommendation reaffirms the USPSTF's 2004 recommendation on screening for Hepatitis B infection with respect to pregnant women.
- *Hyperbilirubinemia* – The USPSTF concludes that the current evidence is insufficient to recommend screening infants for hyperbilirubinemia to prevent chronic bilirubin encephalopathy.
- *Skin Cancer* – The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of using a whole-body skin examination by a primary care clinician or patient skin self-examination for the early detection of cutaneous melanoma, basal cell cancer, or squamous cell skin cancer in adults.
- *Syphilis in Pregnant Women* – The USPSTF recommends that clinicians screen all pregnant women for syphilis infection. This recommendation reaffirms the USPSTF's 2004 recommendation on screening for syphilis infection with respect to pregnant women.
- *Impaired Visual Acuity in Older Adults* – The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for visual acuity for the improvement of outcomes in older adults.

Counseling

- *Primary Care Interventions to Promote Breastfeeding* – The USPSTF recommends primary care interventions during pregnancy and after child birth to encourage and support breastfeeding.
- *Counseling and Interventions to Prevent Tobacco Use and Tobacco-Caused Disease in Adults and Pregnant Women* – The USPSTF recommends that clinicians ask all adults about tobacco use and provide tobacco cessation interventions for those who use tobacco products. The USPSTF also recommends that clinicians ask all pregnant women about tobacco use and provide augmented, pregnancy-tailored counseling for those who smoke.
- *Behavioral Counseling to Prevent Sexually Transmitted Infections* – The USPSTF recommends high-intensity behavioral counseling to prevent sexually transmitted infections (STIs) for all sexually active adolescents and for adults at increased risk for STIs. The USPSTF also concluded that the current evidence is insufficient to assess the balance of benefits and harms of behavioral counseling to prevent STIs in non-sexually-active adolescents and in adults not at increased risk for STIs.

Preventive medications

- *Aspirin for the Prevention of Cardiovascular Disease* – The USPSTF recommends that men between the ages of 45 and 79 use aspirin to reduce their risk for heart attacks when the benefits outweigh the harms for potential gastrointestinal bleeding. The USPSTF recommends that women between the ages of 55 and 79 should use aspirin to reduce their risk for ischemic stroke when the benefits outweigh the harms for potential gastrointestinal bleeding. The USPSTF recommends against using aspirin to prevent heart attacks in men younger than 45 or strokes in women younger than 55.
- *Folic Acid To Prevent Neural Tube Defects* – The USPSTF recommends that all women planning

or capable of pregnancy take a daily supplement containing 0.4 mg to 0.8 mg (400 to 800 µg) of folic acid. The USPSTF found convincing evidence that taking supplements containing 0.4 to 0.8 mg (400 to 800 µg) of folic acid in the periconceptional period reduces the risk for neural tube defects.

Publications based on USPSTF recommendations

AHRQ has made available the following publications based on USPSTF recommendations:

- The annually updated *Guide to Clinical Preventive Services* includes USPSTF recommendations on screening, counseling, and preventive medication topics and includes clinical considerations for each topic. The 2009 *Guide* offers recommendations on clinical preventive services made by the USPSTF from 2001 to March 2009. It is available both in published form as a pocket guide and on the AHRQ Web site.
- *Men: Stay Healthy at Any Age, Your Checklist for Health* and *Women: Stay Healthy at Any Age, Your Checklist for Health* show at a glance what the USPSTF recommends regarding screening tests and preventive medicine. Healthy lifestyle behaviors are also addressed. (Available in English and Spanish.)
- *Men: Stay Healthy at 50+, Checklist for Your Health* and *Women: Stay Healthy at 50+, Checklist for Your Health* show at a glance what the USPSTF recommends regarding screening tests and preventive medicine. Healthy lifestyle behaviors are also addressed. (Available in English and Spanish.)
- *Adult Preventive Care Timeline* and *Staying Healthy at 50+ Timeline* posters show at a glance what the USPSTF recommends regarding screening tests.

USPSTF: Focus on Children & Adolescents
USPSTF: Focus on Children & Adolescents describes how the USPSTF develops new methods and procedures to make recommendations for children and adolescents, striving for the goal of improving

the health of America's children and adolescents. For example, the Child Health Work Group has developed an analytic framework that is specific to child and adolescent health topics and that considers developmental pathways and trends. The USPSTF uses the framework to guide the search for and evaluation of evidence on child and adolescent health topics. For more information, see www.ahrq.gov/clinic/tfchfocus.htm.

Cardiovascular Diseases: Patient Brochures and Clinician Fact Sheets
Cardiovascular Diseases: Patient Brochures and Clinician Fact Sheets were developed in partnership with the Department of Veterans Affairs to inform both patients and health care providers about the USPSTF recommendations for cardiovascular disease screening tests, preventive medicine, and other healthy lifestyle behaviors. For further information, see www.ahrq.gov/clinic/cvd/.

For more information on the USPSTF and prevention resources visit www.ahrq.gov/clinic/prevenix.htm.

Electronic Preventive Services Selector (ePSS)

The Electronic Preventive Services Selector (ePSS) is a tool that is both Web-based and downloadable to a PDA allowing clinicians to access USPSTF recommendations, clinical considerations, and selected practice tools at the point of care. It is designed to help primary care clinicians identify and offer the screening, counseling, and preventive medication services that are appropriate for their patients. The ePSS offers the current, evidence-based recommendations of the USPSTF and can be

searched by specific patient characteristics, such as age, sex, and selected behavioral risk factors. In FY09, the ePSS became an official application for iPhones. Further information is available at http://epss.ahrq.gov/.

The ePSS and San Francisco General Hospital
AHRQ's ePSS is being used by primary care physicians and nurse practitioners at San Francisco General Hospital to provide evidence-based support to primary care providers on recommended preventive health services. The fact that the ePSS tool is evidence-based and that it is automatically updated as new recommendations are released from the USPSTF is important to the hospital. Providers who have a question regarding what screening tests should be offered for a given patient can quickly access the tool for guidance and, thus, it improves patient care by standardizing care. By implementing the tool, the hospital no longer needed to devote resources to continually updating their internal recommendations. The ePSS link was easily added to the hospital's existing electronic medical record system, and can be found in each patient's health maintenance screen.

Primary Care Practice-Based Research Networks

The Agency supports research networks that rapidly develop and assess methods and tools to assure that new scientific evidence is incorporated into clinical care in real-world practice settings. These networks include a group of ten primary care practice-based research networks (PBRNs) comprised of over 2000 community-based practices that are located across the country and provide primary care services for 12 million Americans. Since 2000, AHRQ has funded over 52 PBRNs through targeted grant programs and it has provided technical and networking assistance for many others. Currently, 101 networks from across the country are registered with AHRQ's PBRN Resource Center and are thus eligible to recieve technical and other support from the PBRN Resource Center.

Practice-Based Research Network Resource Center

Since 2002, AHRQ has supported the Practice-Based Research Network Resource Center. The Center manages a national registry of active primary care PBRNs across the country, and provides resources and assistance to registered PBRNs engaged in clinical and health services research. In addition, AHRQ provides PBRNs with grant funding and supports PBRNs through an annual conference, an electronic PBRN search repository, public and private listservs, and a dedicated private community extranet.

Understanding the Costs of Collecting and Reporting Quality Measurement Data in Primary Care Practice
In 2008-2009 AHRQ funded two PBRNs—the State Network of Colorado Ambulatory Practices and Partners (SNOCAP-USA), based in Denver, and the North Carolina Network Consortium (NCNC), based in Chapel Hill, NC—to study the direct and indirect costs of implementing and maintaining quality measurement data collection and reporting in small to medium-sized primary care practices. The two networks recruited a diverse group of practices that had implemented systems for collecting and reporting quality measures, including practices with and without EHRs or membership in and support from health plans. Both networks concluded that the associated costs to practices are quantifiable and significant and that most practices lack both the resources and incentives for doing this work. While practices indicated that they were largely dependent upon external resources to implement and maintain a quality improvement initiative, the investigators concluded that practices realized major benefits on multiple levels through performing quality data collection and using the data in quality improvement activities. The results of these projects were presented at the September 2009 AHRQ annual meeting, and papers reporting the results of the work are currently under consideration by peer-reviewed journals.

PBRN research in progress

AHRQ has awarded master contracts to 10 PBRNs or PBRN consortia and the participating networks have received funding for 12 task orders. Two examples of projects carried out under PBRN task orders are:

- Three PBRNs supported by AHRQ are examining the best methods and procedures for primary care practices to follow in managing patients suspected of having infections caused by MRSA. The three networks, based in North Carolina, Colorado, and Iowa, are testing various clinical strategies in the assessment and treatment of patients who present to their primary care clinician with a soft tissue infection. It is expected that evaluations of these strategies will be completed by 2010, after which time a summary of the best practices will be disseminated widely.
- The NCNC is being funded to develop the AHRQ Health Literacy Universal Precautions Toolkit. Given the numerous and serious effects of limited health literacy on patient safety, medication adherence, and disease management, and the inability of clinicians to tell from visual inspection whether a person has low health literacy, health experts have advocated for the adoption of universal precautions. Such precautions require a re-structuring of the practice to reduce the health literacy demands made upon all patients. Through this task order, NCNC will evaluate a number of health literacy strategies currently being used and compile a toolkit consisting of tools that have been assessed as being useful to practices and can be made available in the public domain. The toolkit will also contain instructions on how to use each tool.

For more information on the PBRNs and their research projects, go to http://pbrn.ahrq.gov.

Preparing for Public Health Emergencies

AHRQ has supported research and the development of models, tools, and reports to assess, plan, and improve the ability of the U.S. health care system to respond to public health emergencies that result from natural, biological, chemical, nuclear, and infectious disease events. These initiatives focus on an array of issues related to clinicians, hospitals, and health care systems, including the need to establish linkages among these providers with local and State public health departments, emergency management personnel, and others preparing to respond to events that have the potential to cause mass casualties. Over the past 10 years, AHRQ has funded more than 60 emergency preparedness-related studies, workshops, and conferences to help hospitals and health care systems prepare for public health emergencies. AHRQ's Public Health Emergency Preparedness (PHEP) Research Program has been a primary collaborating science partner with the Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response (ASPR) since the office's inception. Many of the emergency preparedness planning tools developed by PHEP have been made possible through funding from ASPR. More information about these projects can be found online at www.ahrq.gov/prep/.

New AHRQ tool estimates transportation needs in emergency situations

In December 2008, AHRQ released a model to help Federal, State, and local emergency planners estimate the number of vehicles and drivers, road capacity, and other resources necessary to evacuate patients and others from health care facilities in disaster areas. Emergency planners can enter into the model any number of evacuating and receiving

facilities and specific conditions that could affect transportation plans. The model will estimate the resources and hours needed to move patients from evacuating facilities to receiving facilities, based on assumptions that the planner specifies. The Web-based *Mass Evacuation Transportation Planning Model* was developed by AHRQ and the Department of Defense with funding from the Department of Homeland Security's Federal Emergency Management Agency and the HHS Office of the Assistant Secretary for Preparedness and Response.

Hospital Surge Model estimates resources needed to handle major disasters

Released in March 2009, the Web-based Hospital Surge Model estimates the resources needed in a hospital to treat casualties resulting from specific scenarios, including biological, chemical, nuclear, or radiological attacks. The Hospital Surge Model estimates:

- The number of casualties arriving at the hospital by arrival condition (e.g., mild or severe symptoms) and day.
- The number of casualties in the hospital by unit (emergency department, intensive care unit, or floor) and day.
- The cumulative number of dead or discharged casualties by day.
- The required hospital resources (e.g., personnel, equipment, and supplies) to treat casualties by unit and day.

Recommendations for caring for children in schools and hospitals during public health emergencies

AHRQ released two new tools designed to protect and care for children who are in a hospital or a school during a public health emergency. The first tool, *Pediatric Hospital Surge Capacity in Public Health Emergencies*, consists of guidelines to assist pediatric hospitals in converting from standard operating capacity to surge capacity and help community hospital emergency departments provide care for large numbers of critically ill children. The tool addresses needs such as communications, staff responsibilities, triaging, stress management, and security concerns when handling large numbers of children with either communicable respiratory diseases or communicable foodborne or waterborne illnesses.

The second tool, *School-Based Emergency Preparedness: A National Analysis and Recommended Protocol*, is a national model for school-based emergency response planning. It provides guidance on the recommended steps for both creating and implementing a school-based emergency response plan. Steps outlined include performing needs assessments, conducting site surveys, developing training modules for school staff, and informing parents of the plan, as well as steps relating to building security and safety, preparation for large-scale emergencies, sheltering-in-place and lockdown, evacuation, relocation, and communications.

Value Portfolio and Related Activities

AHRQ's Value Portfolio and related activities aim to find a way to achieve greater value in health care — reducing unnecessary costs and waste while maintaining or improving quality — by producing the measures, data, tools, evidence, and strategies that health care organizations, systems, insurers, purchasers, and policymakers need to improve the value and affordability of health care. The goal is to create a high-value system, in which providers produce greater value, consumers and payers choose value, and the payment system rewards value.

Community Quality Collaboratives

In FY09, AHRQ continued its partnership with a set of 24 Community Quality Collaboratives (formerly known as Chartered Value Exchanges). As vehicles for community-wide improvement, these are regional and State collaboratives, consisting of representatives of at least four stakeholder groups (public and private purchasers, providers, health plans, and consumers), and in some cases State data organizations, Quality Improvement Organizations, and health

information exchanges. These organizations work in tandem to improve community-wide quality and value through public reporting, payment incentives, and quality improvement initiatives.

AHRQ recompeted a contract for a Learning Network to provide the collaboratives with technical assistance and new evidence-based tools for quality/efficiency measurement, public reporting, and quality improvement. This Learning Network gives all the collaboratives access to organized peer learning, Web conferences, one-on-one consulting, and other support by top researchers and consultants.

Medical Expenditure Panel Survey

In FY09, the Medical Expenditure Panel Survey (MEPS) posted employer-based health insurance tables for private-sector establishments for the year 2008. Without major improvements in the data collection process, these data would have not been released until July 2010. Also, projected household expenditure data are now available aligning the 2002 MEPS Household Component (HC) file with the 2002 National Health Expenditure Accounts. In addition, three new files drawn from the 2007 MEPS have been released for public use: HC-110H 2007 Home Health; HC-110C 2007 Other Medical Expenses; and, HC-110B 2007 Dental Visits.

MEPS is the only national source of annual data on the specific health services that Americans use, how frequently the services are used, the cost of the services, and the methods of paying for those services. MEPS is designed to help the health care system understand how the growth of managed care, changes in private health insurance, and other dynamics of today's market-driven health care delivery system have affected health care in America. MEPS provides the foundation for estimating the impact of health policy changes on different economic groups or special populations such as the poor, elderly, veterans, the uninsured, or racial/ethnic groups.

MEPS consists of a family of surveys, which gather information about families and individuals, their medical providers, and employers across the United States. The MEPS-HC collects data on demographic characteristics, health conditions, health status, use of medical care services, charges and payments, access to care, satisfaction with care, health insurance coverage, income, and employment. MEPS-HC public use data files released in FY09 cover the calendar year 2007. These data files included full-year population characteristics, job information, home health, other medical expenses, dental visits, emergency room visits, office-based provider, and outpatient visits.

The MEPS Insurance Component (MEPS-IC) collects data from a sample of private- and public-sector employers on the health insurance plans they offer their employees. The collected data include the number and types of private insurance plans offered (if any), premiums, contributions by employers and employees, eligibility requirements, benefits associated with these plans, and employer characteristics. In FY09, MEPS-IC data released included 2008 MEPS-IC Health Insurance Tables — National Estimates as well as State and Metro Area Estimates. These data were released a full-year earlier than previously possible due to major improvements in the data collection process.

MEPS publications

MEPS publishes various reports including statistical briefs, research findings, methodology reports, and chartbooks. These analytic publications are based on data collected through MEPS. Findings in these publications include:

- Expenditures for outpatient prescription medicines that treat pain increased from $4.2 billion in 1996 to $13.2 billion in 2006. These medications include narcotic analgesics, non-steroidal anti-inflammatory drugs, and Cox-2 inhibitors, among others. Between 1996 and 2006, the average annual expenditure jumped from $83 to $232 for people who purchased one or more prescription pain killers. The total number of prescription purchases increased from about 164 million to 231 million.
- Private-sector employers and their employees have seen their health insurance premium costs go up by more than 100 percent since 1996. By

contrast, employee compensation (wages and benefits) experienced an average increase of 42.2 percent. The data also show that for employment-based health insurance between 1996 and 2006, the average premium cost of a single plan rose from $1,992 to $4,118 with employers paying for most of the increases for single coverage (from $1,650 to $3,330 a year). Costs for a family plan increased even more. (Figure 1).

- In 2005, 1 percent of the population accounted for 23.3 percent of total health care expenditures, and 18.1 percent of the population in the top 1 percent retained this ranking in 2006.
- While 14.3 percent of people under age 65 were uninsured for all of 2006, the full-year uninsured comprised 22.1 percent of those in the bottom half of spenders for both 2005 and 2006.
- U.S. adult consumers spent about $38 billion for prescription drugs to lower blood sugar, reduce cholesterol, or help with other metabolic problems in 2006. The four other classes of drugs that topped spending among adults were:
  - Cardiovascular drugs, for reducing high blood pressure and treating heart conditions ($33 billion).
  - Central nervous system drugs, which include pain killers, sleep aid medications, and medications for attention deficit disorder ($28 billion).
  - Antidepressants and antipsychotic drugs ($17.5 billion).
  - Hormones that are used for osteoporosis, menopausal symptoms, cancer treatment, and other medical problems: ($14 billion).

Requests for assistance on health initiatives

MEPS is as an important data source to inform health care policy at the State and national level. In FY09, MEPS data were provided to the Office of Health Reform, HHS, House Ways and Means Committee, House Committee on Veteran's Affairs, Joint Taxation Committee, Congressional Budget Office, Congressional Research Service, and the General Accountability Office. A summary of how AHRQ responded to these requests can be found at www.ahrq.gov/data/mreqahi.htm. MEPS data were also used extensively by State governments.

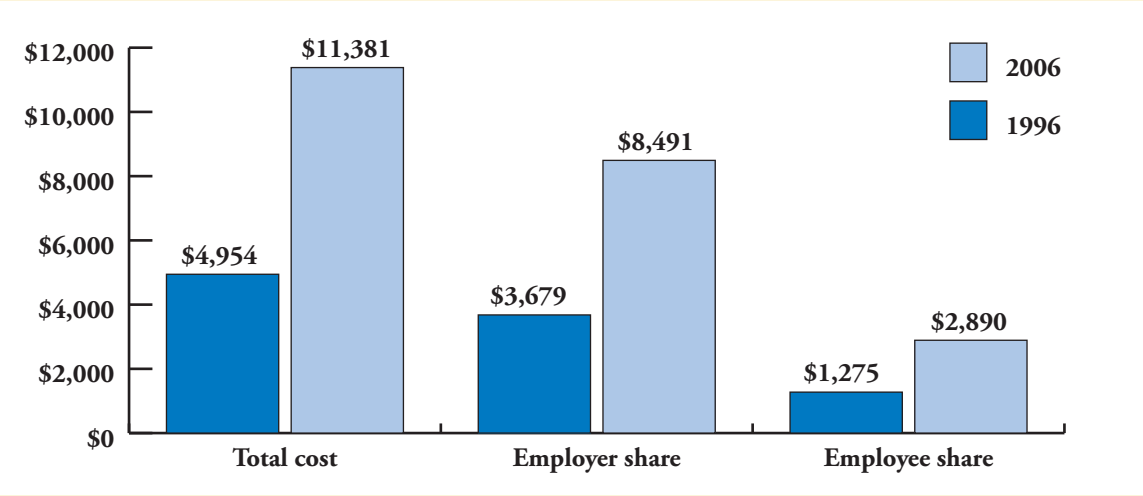
Reports, data files, and additional information on MEPS are available online at www.meps.ahrq.gov.

Healthcare Cost and Utilization Project

In FY09, the Healthcare Cost and Utilization Project (HCUP) added a number of exciting tools that will help the health care system improve the quality of and access to hospital care. These include outpatient data initiatives such as the newest HCUP database, the National Emergency Department Sample (NEDS), which is the largest all-payer emergency department database in the United States. Also expected for release in early 2010 is MONAHRQ (My Own Network, powered by AHRQ), a Web-based application enabling State and local data organizations, regional health improvement collaboratives, hospitals, health plans, and providers to input their own hospital administrative data and generate a data-driven Web site.

HCUP is a family of health care databases and related software tools and products developed through a Federal-State-industry partnership and sponsored by AHRQ. HCUP databases bring together the data collection efforts of 41 State data organizations, hospital associations, private data organizations, and the Federal Government to create a national information resource of patient-level health care data. HCUP includes the largest collection of all-payer encounter-level longitudinal hospital care data in the United States, beginning in 1988. These databases enable research on a broad range of health policy issues, including cost and quality of health services, medical practice patterns, access to health care programs, and outcomes of treatments at the national, State, and local market levels.

Figure 1. Changes in health insurance premium costs for employer-sponsored family plans (1996-2006)



Sources: *Premiums, Employer Costs, and Employee Contributions for Private Sector Employer-Sponsored Health Insurance, Family Coverage by Firm Size, 1996-2006, MEPS Statistical Brief #230. Premiums, Employer Costs, and Employee Contributions for Private Sector Employer-Sponsored Health Insurance, Single Coverage by Firm Size, 1996-2006*, MEPS Statistical Brief #231.

Nationwide Emergency Department Sample (NEDS)

In July 2009, the National Emergency Department Sample (NEDS), the newest HCUP database, was released. It is the largest all-payer emergency department database in the United States, and is constructed using records from both the State Emergency Department Database (SEDD) and State Inpatient Databases (SID) to capture information both from emergency department visits where the patient was treated and released and ones that resulted in an admission to the same hospital. The NEDS contains more than 25 million records for emergency department visits at about 1,000 U.S. community hospitals and approximates a 20-percent stratified sample of U.S. hospital-based emergency departments. It contains information on hospital characteristics, patient characteristics, geographic region, and the nature of the emergency department visits (e.g., common reasons for visits, including injuries).

The database includes information on all emergency visits, regardless of payer — including persons covered by Medicare, Medicaid, private insurance, and the uninsured. For example, according to recently released NEDS data, more than 40 percent of the 120 million visits that Americans made to hospital emergency departments in 2006 were billed to public insurance. Files are available beginning with data year 2006. Further information is available at: http://www.ahrq.gov/data/hcup/.

MONAHRQ—Input your data—Output your Web site

MONAHRQ (My Own Network, powered by AHRQ) is a Web-based application that AHRQ is developing to enable State and local data organizations, regional health improvement collaboratives, hospitals, health plans, and providers — to input their own hospital administrative data and generate a data-driven Web site. MONAHRQ is built on the Windows version of AHRQ's Quality Indicators but expands its capability to analyze, summarize, and present information on health care utilization, rates of conditions and procedures, and quality of care in a format ready for use by consumers and other decisionmakers. MONAHRQ will be available in early 2010.

New data added to HCUP

In FY09, AHRQ added new 2007 data to its HCUP State databases. The new data reflects updates in the State Ambulatory Surgery Databases (SASD), the SID, and the SEDD databases of selected States. Researchers and policymakers can use these State-specific HCUP databases to investigate questions unique to one State, compare data from two or more States, conduct market area research or small area variation analyses, and identify State-specific trends in utilization, access, quality, charges, and outcomes.

- SID data for the 2007 data year are now available for 20 of the HCUP partner States. SASD 2007 data for 12 of the HCUP partner states, and AHRQ has also added 2007 data files for 9 States. The updated data are available through the HCUP Central Distributor at www.hcup-us.ahrq.gov/tech_assist/centdist.jsp.
- In FY09, AHRQ also added new 2007 data to its HCUP national database. For example, the 2007 NIS contains data from over 8 million hospital stays. Data from NIS are available from 1988 to 2007, allowing analysis of trends over time. The NIS is nationally representative of all short-term, non-Federal hospitals in the United States. It approximates a 20-percent stratified sample of hospitals in the United States and is drawn from the HCUP SID, which include 90 percent of all discharges in the United States. The NIS includes all patients from each sampled hospital, regardless of payer—including persons covered by Medicare, Medicaid, private insurance, and the uninsured. It encompasses all discharge data from more than 1,000 hospitals in 40 States.

HCUP Statistical Briefs

In FY09, AHRQ continued to issue HCUP Statistical Briefs, a series of Web-based publications containing information from HCUP. These publications provide concise, easy-to-read information on hospital care, costs, quality, utilization, access, and trends for all payers (including Medicare, Medicaid, private insurance, and the uninsured). Each Statistical Brief covers an

important health care issue. For example:

- The number of hospital stays that ended with patients leaving against the advice of medical staff increased from 264,000 cases to 368,000—about 39 percent—between 1997 and 2007. For cases in which patients left against medical advice in 2007:
  - The top five reasons were chest pain with no determined cause (25,600); alcohol-related disorders (25,300); substance-related disorders (21,000); depression or other mood disorders (13,900); and diabetes with complications (12,500).
  - Medicaid and Medicare patients each accounted for about 27 percent, and privately insured patients accounted for 19 percent. About 22 percent of the cases in 2007 involved uninsured patients.
  - In the Northeast, patients left hospitals against medical advice at twice the rate of that of the rest of the country—2 per 1,000 population versus an average of 1 per 1,000 population in all other regions.

  (See: *Hospitalizations in which Patients Leave the Hospital against Medical Advice (AMA)*, 2007 www.hcup-us.ahrq.gov/reports/statbriefs/sb78.jsp.)
- U.S. hospitals spent roughly $56 billion in 2007—16 percent of their overall patient care costs—treating people ages 55 to 64. Further analysis found that in 2007:
  - Hospitals' costs to treat people ages 55 to 64 were nearly equal to the older generation of 65- to 74 year-olds, $56 billion and $59 billion, respectively. In contrast, those ages

55 to 64 cost hospitals $10 billion more than the younger generation of patients 45 to 54 years old.

- The average hospital cost for a 55- to 64-year-old patient was $11,900 compared with $10,400 for 45- to 54-year-olds.
- People age 55 to 64 were 2 to 3 times more likely than 45- to 54-year-olds to be hospitalized for osteoarthritis, stroke, respiratory failure, irregular heartbeat, chronic obstructive pulmonary disorder, blood infections, and congestive heart failure as well as undergo knee and hip replacements and have heart bypass surgery.
- About 37 percent of patients ages 55 to 64 were covered by public insurance, mainly Medicaid, 52 percent had private insurance, and 6 percent were uninsured.

(See: *Hospital Utilization among Near-Elderly Adults, Ages 55 to 64 Years, 2007* www.hcup-us.ahrq.gov/reports/statbriefs/sb79.jsp.)

For more information about HCUP, go to www.ahrq.gov/data/hcup/.

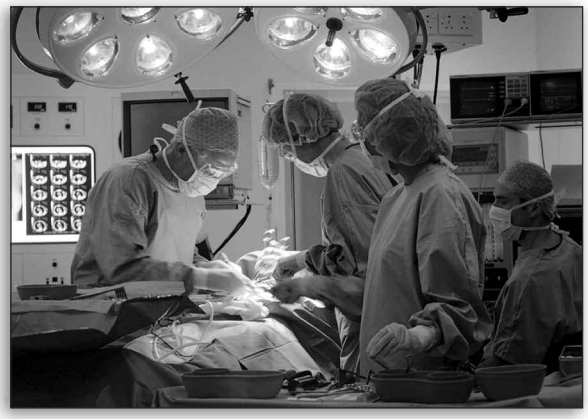
AHRQ Quality Indicators

In FY09, AHRQ released the beta version of its Quality Indicators (QIs) software 4.0a (QI SAS®). The AHRQ QIs are used to highlight potential quality concerns, identify areas that need further study and investigation, and track changes over time. They are also used in comparative hospital reporting and basing payment on quality. The AHRQ QIs are organized into four modules, each of which measures quality associated with the delivery of care occurring in either an outpatient or an inpatient setting:

- Prevention Quality Indicators (PQIs) are ambulatory care-sensitive conditions that identify adult hospital admissions that evidence suggests could have been avoided, at least in part, through high-quality outpatient care.
- Inpatient Quality Indicators (IQIs) reflect quality of care for adults inside hospitals and include: inpatient mortality for medical conditions; inpatient mortality for surgical procedures; utilization of procedures for which there are questions of overuse, underuse, or misuse; and volume of procedures for which there is evidence that a higher volume of procedures may be associated with lower mortality.
- Patient Safety Indicators (PSIs) also reflect quality of care for adults inside hospitals, but focus on potentially avoidable complications and patient safety events.
- Pediatric Quality Indicators (PedQIs) are indicators of children's health care that can be used with inpatient discharge data. They are designed to examine both the quality of inpatient care and the quality of outpatient care that can be inferred from inpatient data, such as potentially preventable hospitalizations.

Currently, 45 AHRQ QIs are endorsed by the National Quality Forum as well as 4 AHRQ composites of AHRQ QIs.

Also in FY09, AHRQ released a new report, *Guidance on Using the AHRQ Quality Indicators for Comparative-Level Hospital Reporting*. AHRQ plans to release the final 4.0a version of the AHRQ QIs by December, FY09. For more information, see www.qualityindicators.ahrq.gov/.



The National Healthcare Quality and Disparities Reports

In May 2009, AHRQ released the *2008 National Healthcare Quality Report* (NHQR) and the *2008 National Healthcare Disparities Report* (NHDR). This represents the sixth consecutive annual editions of these congressionally mandated reports. The reports found that patient safety measures have

worsened and that a substantial number of Americans do not receive recommended care.

National Healthcare Quality Report (NHQR)

The NHQR shows that health care quality continues to improve at a slow pace. For example, during the first half of this decade:

- Care delivered in hospitals improved at an annual rate of nearly 3 percent, the highest among care settings.
- Care provided in doctors' offices and other outpatient settings improved at a rate slightly above 1 percent.
- Patient safety rates (protecting patients from injury due to medical care or medical errors) declined by nearly 1 percent.

Receipt of needed services varied widely. For example:

- Forty percent of recommended care was not received by patients.
- Heart attack patients received 95 percent of recommended services, but only 15 percent of dialysis patients were on a transplant waiting list.
- Seven out of 10 adults with mood, anxiety, or impulse disorders received inadequate or no treatment.
- Only 40 percent of patients with diabetes received the three recommended preventive exams: the hemoglobin A1c test, a dilated eye exam, and a foot exam.

National Healthcare Disparities Report (NHDR)

Findings from the NHDR show that most of the largest disparities have not changed significantly, and many racial, ethnic, and income-based disparities persist in American health care. For example:

- The proportion of new AIDS cases was 9.4 times as high for blacks and more than three times as high for Hispanics as for whites.
- American Indian and Alaska Native women were twice as likely to lack prenatal care as white women.
- At least 60 percent of quality measures have not improved for minorities compared with whites in the past 6 years.
- Among people with less than a high school education, blacks were more likely than whites to report communication problems with their doctors (18.6 percent vs. 12.5 percent).
- Just 43 percent of blacks and 38 percent of Mexican-Americans with diabetes had their blood sugar levels under control, compared with 61 percent of non-Hispanic whites with diabetes.

However, increases in preventive services, chronic care, and access to care have led to decreases in disparities for various populations, such as:

- Rates of mammography in Asian, American Indian, and Alaska Native women.
- Smoking cessation counseling in low-income adults.
- Appropriate timing of antibiotics to prevent surgery-related infections among American Indians and Alaska Natives.
- Hispanic long-stay nursing home residents with physical restraints.

Data from the NHQR and NHDR are available on the AHRQ Web site at http://www.ahrq.gov/qual/qrdr08.htm. The Web site also includes an online Data Query System—NHQRDRNet—that provides access to data from both reports: http://nhqrnet.ahrq.gov/nhqrdr/.

State Snapshots

AHRQ's annual *State Snapshots* provide State-specific health care quality information, including strengths, weaknesses, and opportunities for improvement. The State-level information used to create the *State Snapshots* is drawn from the 2008 NHQR.

For FY09, there are new or revised features on this Web site that provide more ways to analyze the quality of health care in a State compared with all States and with States in the same region. These include:

- Focus on Disparities – shows differences in hospital-based quality indicators related to race and income for a number of States. These analyses show the large variation in the size of disparities across States and that some States with overall high-quality care have large disparities.
- Focus on Asthma – summarizes quality of care for asthma and includes estimates of cost savings that could be realized by States that achieve better control of asthma as well as links to the *Asthma Care Quality Improvement: A Resource Guide for State Action* and asthma-related best practices in the AHRQ Innovations Exchange.
- The revised State Dashboard – summarizes information such as types of care, settings of care, and care by clinical areas on one page for each State and includes a link to other report cards available for a given State.

As in previous years, AHRQ's 2008 *State Snapshots* show that no State does well or poorly on all quality measures. For example:

- Kansas ranked 3rd among all 50 States and the District of Columbia for its low rate of HIV-related deaths, but 48th for its high numbers of patients with heart failure who did not receive recommended care while in the hospital.
- Oregon ranked 1st for its large numbers of adults age 65 and over who received a pneumonia vaccine, but 46th for the low number of home health patients who got better at walking or moving around.

- The District of Columbia ranked 1st for its low suicide rate but 51st for the highest colorectal cancer death rate.

To access this year's *State Snapshots* tool, go to http://statesnapshots.ahrq.gov/snaps08/index.jsp.

Recent research findings on disparities and minority health

In addition to its work on the NHDR, AHRQ is leading Federal research efforts to develop knowledge and tools to help eliminate health care disparities in the United States. AHRQ supports and conducts research and evaluations of health care with emphasis on disparities related to race, ethnicity, socioeconomic status, and geographic variation. The Agency focuses on priority populations: minorities, women, children, elderly adults, low-income individuals, and people with special health care needs such as people with disabilities or those who need chronic or end-of-life care. Several studies, published during FY09, are summarized below.

- Hispanics with limited English proficiency (LEP) were 2.4 times more likely to suffer an asthma episode requiring outpatient treatment and 4.4 times more likely to suffer an episode requiring an emergency department visit or hospitalization compared with non-Hispanic patients. LEP was also associated with more worries about side effects or becoming addicted to inhaled corticosteroids (ICS), beliefs that asthma is an acute (rather than chronic) disease, decreased self-efficacy in ability to control asthma and use (ICS), and lower adherence to controller medications. (*Medical Care*, February 2009)

- In treating nonsmall cell lung cancer, blacks were less likely to receive surgery and chemotherapy when compared with whites. Researchers at the University of Texas in Houston analyzed 83,101 Medicare patients aged 65 and older, who were diagnosed with stages I to IV nonsmall cell lung cancer. The researchers placed the patients into one of two groups: early disease (stages I and II) and late disease (stages III and IV). They then looked at who received surgery, chemotherapy, and radiation therapy. In the early disease group, blacks were 37 percent less likely to receive surgery compared with whites. They were also 42 percent less likely to undergo chemotherapy for their cancer. This disparity was even greater for late disease patients. Blacks in this group were 57 percent less likely to receive chemotherapy compared with whites. Patient characteristics associated with greater treatment disparities included being older, female, and having a lower socioeconomic status. (*Cancer*, May 2009)
- Blacks report far more difficulty in affording prescription medications than whites, even after accounting for income, education, health insurance status, and coexisting medical conditions. Blacks were twice as likely as whites to not fill a medication prescription (50 percent vs. 25 percent) and were far more likely to report inadequate income to meet basic needs (61 percent vs. 17 percent). Most of the differences attributed to race/ethnicity were mediated by perceived income inadequacy. Furthermore, the inability of blacks to afford prescription medications may be better predicted by perceived income inadequacy than more traditional measures of socioeconomic status such as income, education, and insurance status. (*American Journal of Health-System Pharmacy*, November 2008)

Consumer Assessment of Healthcare Providers and Systems (CAHPS®)

AHRQ has been the lead Federal agency in developing and distributing standardized, evidence-based surveys and related tools for assessing patients' experiences with the U.S. health care system. The Agency's Consumer Assessment of Healthcare Providers and Systems (CAHPS®) program has become the focal point of a national effort to measure, report on, and improve the quality of health care from the perspective of consumers and patients. CAHPS develops and supports the use of a comprehensive and evolving family of standardized surveys that ask consumers and patients to report on and evaluate their experiences with different aspects of the health care system

Initiation of an online reporting system for CAHPS survey results

In FY09, AHRQ initiated a new online interactive system for viewing CAHPS survey results (www.cahps.ahrq.gov/cahpsidb/). The CAHPS Database will be the comprehensive repository for aggregated data from the CAHPS Health Plan, Hospital and Clinician & Group surveys. This site currently contains data for the CAHPS Health Plan and Hospital Surveys and summary level results from the CAHPS Clinician & Group Survey will also be added to the site in the near future. This site cannot be used to make comparisons and decisions about individual health plans, hospitals, and clinicians.

For more information about CAHPS, go to www.cahps.ahrq.gov.

National Guideline Clearinghouse™

This is the second year in which AHRQ's National Guideline Clearinghouse™ (NGC), in conjunction with the AHRQ's National Quality Measures Clearinghouse™ (NQMC), has published a series called Expert Commentary. Together, the two resources published six new Expert Commentaries. The topics of the commentaries ranged from guidelines on using second-generation antidepressant medications to treat depressive disorders to the evidence on endocarditis prophylaxis. Also covered were such topics as multiple sclerosis guidelines and uniform evidence-based guideline development in relation

to the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach. These commentaries were authored either by members of the NGC/NQMC Editorial Board or by experts working in conjunction with the board.

A new feature to NGC and NQMC is "Recommended Readings" – brief annotations of articles of interest to the guideline and measure development communities that provide a brief overview of the main points of each article and why it would be of interest to NQMC/NGC users. The editorial and publication process are similar to those for the expert commentaries and the annotations are authored by the Senior Physician Reviewer. NGC and NQMC published 11 "Recommended Readings."

The NGC is a Web-based resource for information on over 2,300 evidence-based clinical practice guidelines. Since becoming fully operational in 1999, the NGC has had over 56 million visits and receives approximately 700,000 visits each month. The NGC helps health care providers, health plans, integrated delivery systems, purchasers, and others obtain objective, detailed information on clinical practice guidelines.
For more information about the NGC, go to www.guideline.gov.

The Children's Health Insurance Program Reauthorization Act

The Children's Health Insurance Program Reauthorization Act (CHIPRA), signed into law in January FY09, promised a new day for children's health care quality, especially for the 36 million children covered by Medicaid and the Children's Health Insurance Program (CHIP). The Agency worked with the Centers for Medicare & Medicaid Services (CMS) to implement the quality provisions of CHIPRA. The first task around quality measures was the identification of an initial core quality measurement set for voluntary use by Medicaid and CHIP. The initial core quality measurement set is to be posted for general comment by January 1, 2010. To help us identify and prioritize the core quality measurement set, sought the advice of AHRQ's National Advisory Council on Healthcare Research and Quality (NAC). The NAC has created the Subcommittee on Quality Measures for Children's Healthcare in Medicaid and CHIP.

For more information on AHRQ's work on CHIPRA, go to www.ahrq.gov/chip/chipraact.htm.

Knowledge Transfer and Implementation Program

Translating research into practice as quickly as possible is a high priority for AHRQ. As part of its mission to develop programs for disseminating and implementing the results of Agency activities, the Office of Communications and Knowledge Transfer (OCKT) directs a Knowledge Transfer and Implementation Program to promote the use of AHRQ tools, products, and initiatives by various stakeholders. Working with contractors, Knowledge Transfer activities consist of a series of projects that disseminate and implement AHRQ products, tools, and research to a specific target audience. The goals are to:

- Enhance awareness about AHRQ's tools, research, and products.
- Increase knowledge about the suite of AHRQ tools available.
- Assist target audiences in the actual implementation of AHRQ tools, research, and products.
- Gain feedback regarding the successes and barriers that organizations are experiencing in implementing AHRQ initiatives.

- Develop case studies showing how target audiences have actually disseminated and implemented specific AHRQ products.

Pharmacy Suite of Tools

By developing partnerships with key organizations and associations, this project disseminated and promoted products and tools developed from AHRQ's Effective Health Care Program, which supports the Comparative Effectiveness Portfolio. In FY09, this project established collaborative relationships with six pharmacy-related specialty societies to help disseminate Comparative Effectiveness reports and articles to the pharmacy community including the American Pharmacists Association, American Society of Health-System Pharmacists, American College of Clinical Pharmacy, Academy of Managed Care Pharmacy, American Association of Colleges of Pharmacy, and American Society of Consultant Pharmacists. In addition, in partnership with the American Pharmacy Association, the project produced three Web conferences based on Comparative Effectiveness reports and articles. Over 600 people attended the Web conferences, which included certified continuing pharmacy credits for participants:

- *Comparative Effectiveness, Safety, and Indications of Insulin Analogues in Premixed Formulations for Adults with Type 2 Diabetes*—discussed the effectiveness and safety of premixed insulin analogues as well as practical and effective therapy options for patients with diabetes.
- *Atypical Antipsychotic Drugs and the Risk of Sudden Cardiac Death*—described AHRQ's Comparative Effectiveness program and the scientific resources it provides to inform health care decisions and evidence-based practice, compared the risk of sudden cardiac death associated with the use of the two classes of antipsychotic drugs.
- *Comparative Effectiveness Research: Relevance and Applications to Pharmacy*—explains comparative effectiveness research, differentiates pharmaceutical comparative effectiveness studies from traditional efficacy studies, and describes how to apply comparative effectiveness research to pharmacy practice.

Purchasers Suite of Tools

This project promoted selected AHRQ products to purchasers of health care in the private sector in support of the Value Research, Comparative Effectiveness, Patient Safety, and Prevention Care Management Portfolios. Three Web conferences were developed and conducted as part of a series of events targeted to the purchaser and employer audience. Over 200 people participated in the Web conferences.

- *Setting the Quality Agenda*—focused on AHRQ tools designed to help users assess the quality of care in their communities and identify gaps or variations in the quality of care provided. Tools that were featured included HCUPnet, EQUIPS (now known as MONAHRQ), Prevention Quality Indicators Mapping Tools, and CAHPS®.
- *Promoting a Healthy Workforce*—employers, employer coalitions, other purchasers, and consumers were invited to join experts from AHRQ to discuss how patient-focused guides, videos, and other tools such as recommendations from the U.S. Preventive Services Task Force and the Comparative Effectiveness Research Guides for Consumers can support employees who want to be more active and involved in their health care.
- *Principles of Effective Public Reporting*—experts discussed the principles of effective public reporting and talked about tools and resources developed by AHRQ to promote effective public reporting and an increased understanding around quality data in health care. Two of the featured AHRQ tools were the Health Topics Model Report and the Composite Model Report.

Electronic Preventive Services Selector (ePSS)

The AHRQ Electronic Preventive Services Selector (ePSS) project supported the Prevention/Care Management Portfolio. The ePSS is an interactive

tool, initially designed for use on PDAs or desktop computers, to help primary care clinicians incorporate the screening, counseling, and preventive services recommendations of the USPSTF that are appropriate for their patients. In FY09, AHRQ spnsored a project to examine the feasibility of and potential approaches to integrating the ePSS tool in electronic formats, such as reminder systems and electronic medical records (EMR). AHRQ worked with organizations and tested specific approaches, as follows:

- Prosocial Applications, Inc. provides a personal health record system services called SmartPHR™, which provides health care planning and communication tools for patients with chronic conditions. ePSS access was presented to SmartPHR™ customers as an informational and education resource to assist patients to make more informed decisions with their care providers. The intent was to also provide the ePSS via Web services application programming interface in a later version of the SmartPHR™.
- The Indian Health Service (IHS) is the Federal agency responsible for providing medical and public health services to members of federally recognized tribes and Alaska Natives. The electronic medical record used by the IHS is the Resource and Patient Management System (RPMS). A gap analysis was conducted to determine the logic and data elements utilized by AHRQ's ePSS for identifying preventive services and those used by the IHS system. It was determined that the RPMS contains sufficient data elements so that the USPSTF recommendations can easily be built into the Best Practice and Health Maintenance sections of the existing RPMS Health Summary.
- Michigan State University/Clinical Content Consultants conducted a proof of concept for the ePSS using a commercial EMR that focused on demonstrating the viability of utilizing the ePSS tool. The proof of concept successfully demonstrated a Web service call and the use of a PDF file digital library to access recommendations of the Task Force.
- The State of Oregon's Division of Medical Assistance Programs (DMAP) oversees the Oregon Health Plan (OHP), which is a public and private partnership that ensures universal access to a basic level of health care for Oregonians. DMAP's approach was to utilize the ePSS from a population perspective using the OHP. Clients are covered from DMAP's Prioritized List of Health Services, which uses Task Force recommendations as the baseline for this list and the ePSS as a means of monitoring and administrating services in the OHP. DMAP plans to fully integrate the ePSS with its information system.

Hospital Product Line

This project supported the Patient Safety Portfolio. Its purpose was to increase awareness of AHRQ among hospitals and health systems and help hospitals enhance their quality and safety by implementing AHRQ products and tools. Technical assistance was provided to individual hospitals as well as groups of hospitals in the form of in-person meetings, Web conferences, and conference calls. As a result of this project:

- Critical access hospitals in Nebraska and North Dakota hospitals were trained to use TeamSTEPPS to improve the safety culture in their respective hospitals. A subset of the Nebraska hospitals conducted the AHRQ Hospital Culture Survey pre- and post-training to document the impact of the training.
- Hospitals in New York, Illinois, and Iowa were trained on the Preventing Hospital-Acquired Venous Thromboembolism (VTE): A Guide for Effective Quality Improvement toolkit. Many of these hospitals have implemented new VTE prophylaxis protocols, and have changed how they measure prophylaxis rates as a result.
- Several hospitals implemented the Improving Patient Flow in the Emergency Department (ED) Toolkit and as a result decreased the amount of time it took a patient to see a clinician as well as the number of patients leaving the ED without being seen.

Public Health Emergency Preparedness: Tools for States

This project supported the Prevention/Care Management Portfolio. It assisted communities in identifying and using AHRQ products in the development of their emergency response plans and to facilitate the broad dissemination and uptake of AHRQ emergency preparedness products by local emergency preparedness planners, community partners, national associations, and other Federal agencies. Mono/Inyo Counties in California, and Howard County, Maryland, were selected for implementation of AHRQ products. As a result:

- Both Mono/Inyo and Howard counties implemented AHRQ resources in their emergency preparedness plans. AHRQ staff and project consultants helped to assess sites' organizational structures, population needs, gaps in preparedness plans, and opportunities for engagement.
- AHRQ products that were used and/or disseminated include:
  - Alternate Care Site Selection Tool/Disaster Alternate Care Facilities: Selection and Operation (DACF)
  - Emergency Preparedness Resource Inventory (EPRI)
  - Adapting Community Call Centers for Crisis Support (Call Centers)
  - Community-Based Mass Prophylaxis: A Planning Guide
  - BERM 2.0 (Computer Staffing Model for Bioterrorism Response)
  - Hospital Surge Model
  - Mass Evacuation Transportation Model
  - Home Health Care During an Influenza Pandemic: Issues and Resources Report

Public Health Emergency Preparedness: Web Conferences

The four national Web conferences on public health emergency preparedness supported the Prevention/Care Management Portfolio and allowed wide dissemination of AHRQ's public health emergency preparedness products to a broad field of stakeholders. Audiences ranged in size from 700-1,300 participants that included Federal, State, and local public health agencies, health care facilities, and policymakers.

- *Lessons Learned from the Field of Emergency Preparedness*—focused on supporting community emergency preparedness planning in the event of a natural or man-made disaster that could overwhelm health care facilities with a surge of patients with diverse medical needs.
- *Planning and Practicing for a Disaster*—engaged developers of selected AHRQ preparedness tools, as well as planners who have used the tools, to demonstrate and give insights on managing mass medical care, resource allocation, and patient evacuation.
- *Planning and Preparedness for Children's Needs in Public Health Emergencies*—highlighted the crucial differences between adults and children and responding to these with research to help address the needs of children in emergencies. In addition to the resources for protecting and caring for children who are in a hospital or a school during a public health emergency, speakers shared perspectives on both clinical preparedness and school-based preparedness from the National Commission on Children and Disasters, the Assistant Secretary for Preparedness and Response's Hospital Preparedness Program, and the U.S. Department of Education.
- *Planning for an Influenza Pandemic in the Home Health Care Sector*—speakers addressed concerns that a pandemic influenza outbreak could exceed the industry's current capacity to respond if hospital patients who are well enough to be discharged but who still need care are added to the half-million patients currently receiving home health care services.
- AHRQ products that were used and/or disseminated through national Web conferences:

- Mass Medical Care with Scarce Resources
- Rocky Mountain Regional Care Model for Bioterrorist Events
- Emergency Preparedness Resource Inventory (EPRI)
- Mass Evacuation Transportation Model
- Hospital Surge Model
- National Mass Patient and Evacuee Movement, Regulating, and Tracking System: Recommendations
- Tool for Evaluating Core Elements of Hospital Disaster Drills
- School-Based Emergency Preparedness: A National Analysis and Recommended Protocol
- Pediatric Hospital Surge Capacity in Public Health Emergencies
- Home Health Care During an Influenza Pandemic: Issues and Resources
- Mass Casualty Events Models and Tools To Support Planning and Response for Pandemic and All Hazards Preparedness

Medicaid Medical Directors Learning Network

The Medicaid Medical Directors Learning Network (MMDLN) provided a forum for clinical leaders of State Medicaid programs to discuss their most pressing needs as policymakers, use relevant AHRQ products and related evidence to address their concerns, and determine their needs for future research. Through this project, they connected with other organizations interested in using evidence-based medicine to make policy decisions that impact Medicaid programs. The MMDLN supported the Comparative Effectiveness and Value Research Portfolios in FY09 through the following activities:

- For the first time, the Medicaid Medical Directors were asked to develop several clinical tracks at the annual National Association for State Medicaid Directors Fall 2008 meeting. Two of these tracks featured AHRQ products. One focused on pediatric obesity and featured the EPC report, *Effectiveness of Weight Management Programs in Children and Adolescents*. The other session discussed the Atypical Antipsychotic Use in Children project,

Using AHRQ technology assessments to inform coverage decisions

As a result of AHRQ's Knowledge Transfer Program, several State Medicaid policymakers have used the AHRQ Technology Assessment, *Non-Invasive Imaging for Coronary Artery Disease*, to help inform coverage decisions in their States. The technology assessment, which examined the scientific evidence on direct non-invasive imaging tests for evaluating coronary artery disease, has proven useful to the Medicaid Medical Directors' Learning Network.

One of the imaging tests examined in the technology assessment is computed tomographic angiography (CTA), a specialized x-ray that examines blood flow in arteries when they are filled with a contrast material. The report concluded that the evidence base for CTA's ability to identify, quantify, or characterize coronary artery disease was limited.

James J. Figge, MD, MBA, Medical Director, Office of Health Insurance Programs, New York State Department of Health, notes that the AHRQ technology assessment was "the single most important item we considered" in making an initial coverage decision for CTA. Robert Moon, Medical Director, Office of Health Policy, Alabama Medicaid Agency, used the report findings to analyze whether the State agency should conduct in-house prior authorizations for CTA or use a prior authorization contractor. Alabama officials used the technology assessment findings to support Medicaid's decision not to cover this procedure unless a unique medical justification was supplied.

which is a collaboration between 14 Medicaid Medical Directors and the Rutgers CERT to develop a workbook for other States interested in conducting their own data analyses on trends in atypical antipsychotic prescribing.

- The MMDLN held its 9th meeting with 34 members representing 31 States and the District of Columbia attending. Session topics included quality improvement opportunities for hospital readmissions, efforts to create a comprehensive quality measurement system for children's health care, an update on CMS's quality framework and other Medicaid quality-related initiatives, an interactive topic refinement exercise to gain feedback on two topics under review to become AHRQ EHC Program reports, and an opportunity to review and discuss how AHRQ resources are being used to make decisions. Overall, the MMDLN has nominated 28 topics to the EHC Program, and 19 of those topics are moving forward for comparative effective research either as a review, an update, a technical brief, or as potential new research.
- *Chronic Disease Cost Calculator*—a Web conference on the tool developed by the CDC and based on AHRQ's MEPS database for 74 State policymakers representing 28 States and the District of Columbia. Experts provided an overview of the calculator and a live demonstration on how to use the tool using the State of Kansas as an example.
- *Integration of Mental Health/Substance Abuse and Primary Care*—a Web conference on the EPC report, an expert from the Minnesota EPC gave an overview of the report to 17 Medicaid officials. Wyoming Medicaid presented their State's program to integrate primary care and mental health. During the questions and answer session, participants were particularly interested in how to incorporate the research findings and promising State practices into their respective Medicaid programs.
- EQUIPS (now MONAHRQ)—this Web conference provided an overview of the design and functionality of the EQUIPS tool and outlined current data considerations in the alpha testing phase to 39 participants from 24 States. The discussion included performance measures, customization of the Web output, and public reporting. Following the call, several participants responded that they would share this application with colleagues and begin discussions on future implementation. Four organizations also expressed interest in becoming beta testers.
- 2008 *State Snapshots*—this Web conference provided a live demonstration on how to use the *Snapshots* for 35 participants. New York's Medicaid Medical Director and the Utah Department of Health shared how they have used the Snapshots to improve quality in their respective States.

Hispanic Elders Learning Network

The Hispanic Elders Learning Network (HELN) supported the Prevention/Care Management Portfolio through the development of local, evidence-based intervention plans for reducing health disparities and improving the delivery of health care and related aging and social services for Hispanic elders. It fostered the development of interdisciplinary teams/coalitions in eight communities with large populations of Hispanic elders (Chicago; Houston; Los Angeles; McAllen; Miami; New York; San Antonio; and San Diego). In addition, it linked them together in a learning network with a team of national experts in the areas of health disparities measurement, evidence-based programs, community health, and organization. Some of the significant activities included:

- A total of 109 members participated on the HELN listserv throughout the project period.
- The AHRQ-sponsored/supported products that were disseminated through the listerv included:
  - AHRQ *National Healthcare Disparities Report* and *National Healthcare Quality Report*
  - AHRQ Registries for Evaluating Patient Outcomes: A User's Guide-Final Research

AHRQ *State Snapshots* support changes in legislation to improve primary and preventive care

The New York State Department of Health used the AHRQ *State Snapshots* to support legislation to improve primary and preventive care that provides patient self-management programs to Medicaid recipients.

Foster Gesten, MD, Medical Director of the Office of Health Insurance Programs in the New York State Department of Health, learned about the *Snapshots* through his participation in the AHRQ-sponsored Medicaid Medical Directors Learning Network. Compared with other States, New York is in the "weak" range for overall health care quality, as reported in the 2007 *State Snapshots*. New York's weakest measures include relatively high rates of hospital admissions for children with asthma, relatively high rates of hospital admissions for adults with diabetes having long-term complications, and relatively high rates of hospital admissions for adults with uncontrolled diabetes without complications.

New York's strongest measures include a relatively high rate for the percentage of short-stay nursing home residents who were assessed and given pneumococcal vaccination and a relatively low rate for the percentage of deaths among infants without low birth weight. The 2007 *State Snapshots*' composite measures of clinical care further indicate that New York State has room to improve in diabetes and asthma care, both having scored within the weak range. Gesten says that he used New York's *State Snapshot* as "a general clarion call that all is not well in the State."

In particular, the *State Snapshot* information, as well as AHRQ's Prevention Quality Indicator scores using Healthcare Cost and Utilization Project data, were used to make a case, "that the data supports our need to make an investment to improve primary care and preventive care in the ambulatory setting." According to Gesten, such educational efforts resulted in legislative reforms that will provide self-management education for Medicaid patients with diabetes and asthma.

Report and AHRQ Registries for Evaluating Patient Outcomes: A User's Guide-Summary
  - AHRQ Superheroes Advertising Campaign
  - AHRQ Spanish-Language Consumer Guide on Osteoarthritis Drugs
  - AHRQ Pastillas para la Diabetes Tipo 2: Guía para Adultos
- The project promoted the Chronic Disease Self-Management Program (CDSMP) and its Spanish version Tomando Control de Su Salud (Tomando) in support of community teams' development of local, evidence-based intervention plans. Six of the eight community teams want to use Tomando, or a modified version of it, as part of their intervention. The CDSMP was developed at the Stanford University Patient Education Research Center, in part with AHRQ funding.
- The success of this project was influential in establishing the Diabetes Self-Management Training (DSMT) Initiative, which builds upon the work and community teams of the HELN, and other teams to develop and implement a DSMT program in their community and expand the target population to all minorities.

Evidence-Based Disability and Disease Prevention for Elders Learning Network

The purpose of this project was to establish effective links between local aging services and clinical providers to provide more integrated approaches to serving elders. Many States and local communities have traditionally lacked an organized system of programs and services, which is a barrier to promoting health among older adults. To address the issues of fragmented services, the Area Agency on Aging, AHRQ, and CDC began Phase

II of the Elders Learning Network (ELN), an action-based, shared learning network. This project sought to enhance collaboration and shared learning among ELN teams in Maine, Maryland, Massachusetts, Illinois, New Jersey, and Ohio through consistent communication and to promote relevant AHRQ and other related materials and products to help ELN teams work and activities. Its goals were to ensure access to community- and evidence-based programs; advance health care quality and contain health care costs; promote healthy communities and individual wellness addressing chronic conditions; connect health systems and community service network providers; build credibility and trust with elders and caregivers as a model for self-management; and build disability and disease prevention action plans by State teams. The major accomplishments of this project included:

- Integration of CDSMP training and the Tomando Control (Spanish translated version) programs into Area Agencies on Aging sponsoring evidence-based disease prevention and health programs
- Senior care organizations working with primary care practice to disseminate program information
- Increased credibility with health care and medical community (including recruiting physician champions), which enhanced partnerships
- Convened a final meeting of Federal partners and ELN State teams where each reported on the benefits of collaboration, challenges, and lessons learned.
- The Illinois Team will be piloting four training workshops connecting CDSMP with care coordination/care management in a clinical setting.
- Massachusetts currently has three evidence-based CDSMPs and is now focused on building programs in the North Shore area. The State team ensures provider capacity meets the needs of the growing Latino population in the area.
- New Jersey is now actively coordinating provider connection to the State's previously existing CDSMP.
- Maine is developing partners in Central and Southern Maine to implement CDSMP.

Effective Health Care Outreach to Clinicians

The purpose of this project was to develop relationships with key clinician organizations and work with those organizations to keep their members informed of comparative effectiveness research findings from the Effective Health Care (EHC) Program. As a result, 30 clinician groups committed to promoting this research through membership distribution channels. Over time, each group has been updated about new product releases and encouraged to become increasingly engaged in the EHC Program by submitting topic nominations, serving as product reviewers, or other means.

These medical specialty and academic societies have used numerous mechanisms to both disseminate and increase the uptake of EHC products, including: using EHC evidence reviews and clinician summary guides to create online continuing educational opportunities; providing free advertising space to promote EHC research in professional publications; and co-sponsoring a direct mail campaign to encourage large orders of clinician summary guides for use in CME courses.

The following summaries provide specific examples of organizations that actively promoted the EHC Program research findings to members:

- **American Academy of Nurse Practitioners (AANP):** Announced the release of the oral diabetes medications and osteoarthritis clinician guides in the *AANP SmartBriefs* daily e-mail in April 2009 and placed an announcement about the gestational diabetes clinician guide in the *AANP SmartBriefs* in August 2009. SmartBriefs reach over 125,000 nurse practitioners. AANP also offered two online continuing education programs designed around EHC clinician guides and full comparative effectiveness reports. A continuing education program on the *Comparative Effectiveness, Safety and Indications of Premixed Insulin Analogues for Adults with Type 2 Diabetes* report was launched with 122 nurse practitioners completing the post-test and 108 receiving credit through the end of July 2009. In August 2009, they launched a new program on the *Comparative Effectiveness of ACEIs and ARBs for Treating Essential Hypertension*.
- **American Osteopathic Association (AOA):** Announced the release of the type 2 diabetes and osteoarthritis clinician guides in the *Touchpoints* monthly newsletter in June 2009. The item offered clinicians up to 200 free copies of clinician or consumer guides. A half-page public service ad also appeared in the *Journal of the American Osteopathic Association* in April and May 2009. The AOA has a membership base of 65,000 practicing doctors of osteopathic medicine.
- **Johns Hopkins University School of Medicine:** Announced the release of the osteoarthritis of the knee clinician guide in the "Resources" section of its Web site. In March 2009, the University also sent an e-mail blast announcement to its listserv of 150,000 clinicians promoting AHRQ type 2 diabetes and osteoarthritis clinician and consumer guides.
- **Society for Academic Continuing Medical Education (SACME):** In February 2009, SACME placed an article on the EHC Program in its quarterly online journal, *INTERCOM*. Following its annual meeting, SACME distributed to members via e-mail an offer of up to 500 free copies of the insulin analogues and treatments for osteoarthritis clinician summary guides; 25 members ordered 11,036 copies of EHC guides in April 2009. In November, SACME sent out mailings to 265 members encouraging orders of up to 500 free copies each of clinician guides. The mailings, in envelopes co-branded with both AHRQ and SACME logos, included cover letters, sample guides, and publication order forms specially designed for SACME members. SACME members are individuals from medical schools, academic medical centers, medical specialty societies, teaching hospitals, schools of public health, and other organizations that promote development of continuing medical education.

Conclusion

In FY 2010, 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 health care–associated infections, promote health IT, and provide data and information for decisionmaking, as of December 2009, the Agency had announced six new funding opportunities for comparative effectiveness research under the Recovery Act as well as two new funding opportunities to reform the medical liability system and improve patient safety. 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 and value gained for what we spend.

AHRQ Pub. No. 09(10)-0017
April 2010

www.ahrq.gov