DEPARTMENT OF HEALTH AND HUMAN SERVICES

FISCAL YEAR
2004

Agency for Healthcare Research and Quality

Justification of
Estimates for
Appropriations Committees

Organization of the Document

The following is a brief description of the organization and purpose of the components of the FY 2004 Agency for Healthcare Research and Quality (AHRQ) budget submission. The structure is based on AHRQ's three budget activities: Research on Health Care Costs, Quality and Outcomes; the Medical Expenditure Panel Survey; and Program Support.

Overview of the FY 2004 Request

This section describes AHRQ's mission and includes a short summary of the FY 2004 request, including a discussion of the Secretarial Initiatives, and information on how AHRQ's research helps people.

Research on Health Care Costs, Quality and Outcomes

This section serves two purposes:

- The first component, entitled "Purpose and Method of Operation," describes research already funded or about to be funded in fiscal years 2002 and 2003. The structure of this section is based on the three goals in AHRQ's strategic plan, with special sections added to describe our commitment to improving health for priority populations and to discuss dissemination and training activities that support all three strategic plan goals.
- The second component, entitled "Rationale for FY 2004 Request," describes research that AHRQ plans to fund at the FY 2004 request level.

Medical Expenditure Panel Survey (MEPS)

This section serves two purposes:

- The first component, entitled "Purpose and Method of Operation," provides some background information and describes MEPS activities in fiscal years 2002 and 2003. It also includes an outline of the surveys that comprise the total MEPS.
- The second component, entitled "Rationale for FY 2004 Request," describes activities that AHRQ plans to support at the FY 2004 request level.

Program Support

This section also includes two components, "Purpose and Method of Operation," which describes support activities in fiscal years 2002 and 2003, and "Rationale for FY 2004 Request" which describes activities that AHRQ plans to carry out at the FY 2004 request level.

Supporting Tables

Standardized tables are included containing financial and legislative information.

Government Performance and Results Act (GPRA)

Provided under a separate tab, this section provides AHRQ's GPRA annual plans and reports.

Overview of the FY 2004 Request

The Agency for Healthcare Research and Quality's mission is to improve the outcomes and quality of health care services, reduce its costs, address patient safety, and broaden access to effective services, through the establishment of a broad base of scientific research and through the promotion of improvements in clinical and health system practices, including the prevention of diseases and other health conditions.

The Agency promotes health care quality improvement by conducting and supporting health services research that develops and presents scientific evidence regarding all aspects of health care. Health services research addresses issues of "organization, delivery, financing, utilization, patient and provider behavior, quality, outcomes, effectiveness and cost. It evaluates both clinical services and the system in which these services are provided. It provides information about the cost of care, as well as its effectiveness, outcomes, efficiency, and quality. It includes studies of the structure, process, and effects of health services for individuals and populations. It addresses both basic and applied research questions, including fundamental aspects of both individual and system behavior and the application of interventions in practice settings."[1]

The strategic plan serves as the road map for AHRQ activities. AHRQ has identified three strategic goals, each of which will contribute to improving the quality of health care for all Americans.

AHRQ Goal 1. Support Improvements in Health Outcomes. AHRQ seeks to support research to understand and improve decision-making at all levels of the health care system, the outcomes of health care and, in particular, what works, for whom, when, and at what cost.

AHRQ Goal 2. Strengthen Quality Measurement and Improvement. AHRQ is interested in a broad array of research topics, including studies to develop valid and reliable measures of the process and outcomes of care, causation and prevention of errors in health care, strategies for incorporating measures of quality improvement into programs, and dissemination and implementation of validated quality improvement mechanisms.

AHRQ Goal 3. Identify Strategies to Improve Access, Foster Appropriate Use, and Reduce Unnecessary Expenditures. AHRQ will focus on whether particular approaches to health care delivery and financing, or characteristics of the health care market, alter behaviors in ways that improve access and promote cost-effective use of health care resources.

Summary of FY 2004 Request

The FY 2004 budget for AHRQ includes an increase of $29 million, for a total of $279 million. Within this amount, the request provides $84 million for a variety of patient safety activities, including $50 million to initiate a Patient Safety Hospital Information Technology (IT) initiative.

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[1] Eisenberg JM. Health Services Research in a Market-Oriented Health Care System. *Health Affairs*, Vol. 17, No. 1:98-108, 1998.

This initiative will support a variety of activities aimed at improving health care quality and patient safety by promoting and accelerating the development, adoption and diffusion of IT in health care, including an emphasis on small community and rural hospitals.

AHRQ is proud to have played a role in helping consumers of health care make informed choices when deciding what hospital would provide the highest quality of care for their particular health care needs. The U.S. hospital industry recently announced that it will establish a system that will help patients make decisions about where to seek care by allowing them to compare individual hospital's performance with others. Hospital performance will be based on nationally recognized performance indicators -- many that are based on research supported by AHRQ. AHRQ is currently working with experts in the health care industry to develop a standardized patient experience survey to allow for comparison of patient experiences at different hospitals.

For example, AHRQ is continuing to make significant strides in helping to improve the quality of health care that American's receive. For example, the American Academy of Pediatrics joined AHRQ in developing twenty tips for parents to avoid medical errors in their children's care. In 1999, the Institute of Medicine had estimated that as many as 98,000 Americans die each year as a result of a medical error. Research has also shown that one in six children will be the victim of a medical error. AHRQ's and AAP's promotion of the 20 Tips to Help Prevent Medical Errors in Children is just one step in AHRQ's larger investment to find ways to prevent medical errors. This partnership has put valuable information about preventing medical errors into the hands of pediatricians and parents across the country.

Despite these gains, however, the health care system is facing a number of critical challenges including a sharp rise in health care costs; an increase in the number of uninsured Americans; a need to be clinically and systematically prepared to respond to bioterroist attacks; and the need to integrate and improve our health care information technology infrastructure as a prerequisite to improving quality and safety.

The FY 2004 request enables AHRQ to support research initiatives that help health care providers, hospital and health care system leaders, and policymakers address these challenges and produce measurable quality improvement in the health care system. AHRQ's core mission is to ensure that the discoveries of health research are translated into practice to directly benefit people. In the FY 2004 request, the Agency has identified priority areas that deserve a fresh and prominent focus because of the substantial benefits such efforts will yield.

FY 2004 Budget Policy

The FY 2004 request of $279,000,000 reflects an increase of $29,000,000 from the FY 2003 President's budget level. This request allows AHRQ to support ongoing efforts to improve the quality, safety, outcomes, access to and cost and utilization of health care services. Specifically, this increase will support a new patient safety hospital information technology initiative; continue support of the Medical Expenditure Panel Survey (MEPS); provide performance-based improvements for the MEPS, Healthcare Costs and Utilization Project (HCUP), and Consumer Assessment of Health Plans (CAHPS®); and continue support for the Department of Commerce's Current Population Survey.

The $29,000,000 increase is arrayed on the following page by AHRQ's budget activities: Research on Health Care Costs, Quality and Outcomes (HCQO), the Medical Expenditure Panel Survey (MEPS), and Program Support (PS). Details of the FY 2004 request, by budget activity, begin on page 68.

Difference Between FY 2003 and FY 2004 Funding Levels for Selected Activities	HCQO	MEPS	Program Support	TOTAL
Research and Training Grants	+$13,424,000	$0	$0	+$13,424,000
(Noncompeting Grants)	(-$32,026,000)			(-$32,026,000)
(New Grants)				
(New Patient Safety Grants)	(+$46,886,000)			(+$46,886,000)
(New Non-Patient Safety Grants)	(+$0)			(+$0)
(Supplements)	(-$1,436,000)			(-$1,436,000)
Non-MEPS Research Contracts and IAAs	+$13,576,000	$0	$0	+$13,576,000
(Patient Safety Contracts)	(+$10,576,000)			(+$10,576,000)
(Non-Patient Safety Contracts)	(+$3,000,000)			(+$3,000,000)
MEPS	+$2,000,000	+$0	$0	+$2,000,000
Research Management	+$0	$0	$0	+$0
TOTAL CHANGE	**+$29,000,000**	**+$0**	**+$0**	**+$29,000,000**

Secretarial Initiatives

At the requested level, AHRQ's programs will make important contributions to the Secretarial and Presidential Initiatives on improving the quality and safety of health care, costs, use and access to health care. AHRQ has worked closely with the Department's Research Coordination Council, Data Council and the Assistant Secretary for Planning and Evaluation (ASPE) so that investments in FY 2004 can be leveraged with the investments of other OPDIVs to achieve maximum impact.

Patient Safety Hospital Information Technology --Improving patient care and safety through the use of technology ($49,886,000 in patient safety grants, an increase of $46,886,000 over the FY 2003 President's budget)

In FY 2004, AHRQ is requesting an additional $49,886,000 for a Patient Safety Hospital Information Technology (IT) program that will support a variety of activities aimed at improving health care quality and patient safety by promoting and accelerating the development, adoption and diffusion of IT in a variety of important health care settings. This initiative will include a special focus on small and rural hospitals, which will help assure that these hospitals can implement and use IT that can improve patient safety and quality of care. Funds will also be used to support innovative research and demonstration projects that will improve patient safety and quality of care in a wide variety of health care settings.

Realizing the possibilities of the 21st Century Health Care --Improving patient care and safety through the use of technology ($12,000,000 in patient safety contracts)

In FY 2004 AHRQ requests $12,000,000 to accelerate the adoption and use of information technology to support health care quality and patient safety. Specifically, funds will be used to provide support for data standards development, evaluation and adoption of information standards and technology to support patient safety in the U.S.

In addition, AHRQ will utilize its new Patient Safety Improvement Corps, experts working with State health departments to expand State and local capacity to use existing knowledge to identify and eliminate threats to patient safety, to specifically apply IT for patient safety improvement.

Mechanism Discussion

The FY 2004 research portfolio for AHRQ is as follows:

Research and Training Grants

The FY 2004 request provides an increase of $13,424,000 for research and training grants over the FY 2003 President's budget level of $83,796,000. At the FY 2004 request level, noncompeting patient safety research receive the remainder of their award. At the request level, a reduction of up to 15 percent to committed non-patient safety grants will be required.

In FY 2004, AHRQ's new grants will be used to fund the Patient Safety Hospital Information Technology Secretarial Initiative. No funds are available to renew research programs including small grants, conference grants, dissertation grants, Centers for Education and Research on Therapeutics (CERTs), Building Research Infrastructure and Capacity Program (BRIC), and the Minority Research Infrastructure Support Program.

Non-MEPS Research Contracts and IAAs

The FY 2004 request provides an increase of $10,576,000 for patient safety research contracts and IAAs from the FY 2003 President's budget level of $15,164,000. This increase, along with $1,424,000 in expiring patient safety contracts, will finance $12,000,000 in new patient safety activities. These new patient safety contracts will be directed to improving patient care and safety through the use of technology.

The FY 2004 request for non-patient safety contracts and IAAs is increased by $3,000,000 from the FY 2003 President's budget of $35,740,000. The $3,000,000 will be directed to performance-based improvements for HCUP and CAHPS®.

Medical Expenditure Panel Survey (MEPS)

The FY 2004 request provides a $2,000,000 increase over the FY 2003 President's budget level of $53,300,000. The additional funds will be used to improve the usability and timeliness of MEPS data. More details can be found on page 79.

Research Management

The FY 2004 request for research management is maintained at the FY 2003 President's budget level.

Information Technology

AHRQ's FY 2004 President's budget includes funding to support Departmental efforts to improve the HHS Information Technology Enterprise Infrastructure. The request includes funds to support an enterprise approach to investing in key information technology infrastructure such as security and network modernization. These investments will enable HHS programs to carry-out their missions more securely and at a lower cost. Agency funds will be combined with resources in the Information Technology Security and Innovation Fund to promote collaboration in planning and project management and to achieve common goals such as secure and reliable communication and lower costs for the purchase and maintenance of hardware and software. In addition, AHRQ is participating in the consolidation of Information Technology (IT) infrastructure support staff service across eight smaller DHHS Operating Divisions.

Unified Financial Management System (UFMS)

The Unified Financial Management System (UFMS) will be implemented to replace five legacy accounting systems currently used across the Operating Divisions. The UFMS will integrate the Department's financial management structure and provide HHS leaders with a more timely and coordinated view of critical financial management information. It will also promote the consolidation of accounting operations and thereby reduce substantially the cost of providing accounting service throughout HHS. Similarly, UFMS, by generating timely, reliable and consistent financial information, will enable Agencies and program administrators to make more timely and informed decisions regarding their operations. AHRQ requests $490,000 to support this effort in FY 2004.

President’s Management Agenda

AHRQ's FY 2004 budget supports the President's Management Agenda and includes efficiencies from consolidating administrative functions, organizational delayering to speed decision making processes, competitive sourcing, implementation of effective workforce planning and human capital management strategies, and adoption of other economies and efficiencies in administrative operations.

Research Coordination Council

AHRQ staff fully participated in the Research Coordination Council (RCC) workgroups which reviewed the FY 2004 research budget requests submitted by the agencies and assisted in the development of findings and recommendations for consideration by the Secretary’s budget Council. The purpose of these workgroups is to identify ways to increase the efficient use of existing resources by identifying opportunities to collaborate with other Agencies. The following are some examples of how AHRQ contributed to the RCC:

- Potential for overlapping/gaps in research activities
  - By working with the Centers for Medicare and Medicaid Services (CMS), and the Office of the Assistant Secretary for Planning and Evaluation (OASPE) AHRQ ensured that the FY 2004 investment in Nursing Home Automation complements activities currently underway in other areas of the Department.

- Collaboration and coordination with other DHHS Agencies
  - AHRQ, CDC, HRSA, HIS and AOA worked collaboratively to develop a proposal related to Prevention for the FY 2004 budget submission.

- RD&E program improvements or efficiencies related to the FY 2004 planning process
  - AHRQ, OASPE, CMS, NCHS, and NIA are working to improve the Department’s long-term care data systems.

  - AHRQ, CDC, HRSA, HIS and AOA will work collaboratively to implement the Prevention funding CDC receives for the FY 2004 budget submission.

AHRQ has a long history of developing partnerships and collaborations with a variety of HHS organizations, other components of the Federal government, State and local governments and private-sector organizations, all of whom help us to achieve our goals. AHRQ will continue to work with the RCC as we begin to implement the FY 2004 budget. In addition, AHRQ will strengthen and build upon these partnerships as it moves to implement its FY 2004 budget request.

Research, Demonstration and Evaluation Activities

The following table summarizes our FY 2004 Research, Demonstration and Evaluation (RD&E) activities. These activities align with the Secretary's and President's priority areas and were included in our RCC discussions.

Research Priority:	**FY 2004 Budget Request** ($ in 000s)
I. Working Toward Independence…………………………	$0
II. Rallying the Armies of Compassion..............................	$0
III. No Child Left Behind..	$0
IV. Promoting Active Aging and Improving Long-Term Care..	11,600*
V. Protecting and Empowering Specific Populations..........	3,900
VI. Helping the Uninsured and Increasing Access to Health Insurance...	51,400*
VII. Realizing the Possibilities of 21st Century Health Care...	127,600**
VIII. Ensuring Our Homeland is Prepared to Respond to Health Emergencies..	
IX. Understanding Health Differences and Disparities—Closing the Gaps...	29,000
X. Preventing Disease, Illness, and Injury..........................	20,700
XI. Agency-specific Priorities...	26,020
Total RD&E..	280,220

- *- includes Data Development – MEPS; HCUP
- ** - includes $84 M in Patient Safety

How AHRQ's Research Helps People

AHRQ's mission, health care improvement through research, means that the work of research is not completed with the publication of findings in a research journal. While an important measure of the quality and productivity of the research enterprise, the number of publications found in the leading research journals cannot solely measure the full value of research. To be successful in fulfilling AHRQ's mission, research must be used to improve the day-to-day functioning of the U.S. health care system, and more specifically, help people. The results of research must be placed in the hands of those who can put it to practical use and produce even safer and more effective, and cost-effective health care.

Across the Nation, policymakers, consumers, patients and providers of care are making better-informed, cost-effective health care decisions and are receiving higher quality care thanks to AHRQ-supported research. The following are just a few examples of the health services research AHRQ has sponsored and how the results of that research have been put into practice by policymakers and those who make purchasing decisions, patients and consumers and providers of care.

POLICYMAKERS AND HEALTHCARE SYSTEMS USE AHRQ RESEARCH TO PREPARE FOR BIOTERRORISM EVENTS

AHRQ is supporting a number of research projects that examine the clinical training and ability of front-line medical staff -- including primary care providers, emergency departments, and hospitals – to detect and respond to a bioterrorist threat. Other projects assess and improve linkages between the health system, local and state public health departments, and emergency preparedness units.

Public Health Systems And Hospitals Can Be Prepared For A Bioterrorism Event By Using Tools Developed By AHRQ.

AHRQ is providing support in a number of ways to assess and improve the U.S. health care system's capacity to respond to possible incidents of bioterrorism. For example, AHRQ supported research at the University of Maryland that developed a questionnaire that can help you to assess the current level of preparedness of your hospital or health system and your capacity to respond to bioterrorist attacks. This questionnaire has already been requested and shared with the Department of Defense. They intend to have Military Treatment Facilities use this questionnaire to assess their current bioterrorism response readiness.

In collaboration with the New York City Department of Health and the Mayor's Office of Emergency Management, AHRQ's Integrated Delivery System Research Network based at the Weill Medical College of Cornell University, have developed a computer simulation model for citywide response planning for bioterrorist attacks. This project will implement the New York Public Health System (NYPHS) surge capacity information system as a regional model for New York State. It will also examine the effect on a potential bioterrorist event on NYPHS cost outcomes, and staffing, and establish data systems and readiness measures. This model for mass prophylaxis in the event of a bioterrorist attack was validated by a live exercise, Operation Tripod, in May 2002, which was funded by the Department of Justice. The model continues to be expanded to address issues of mass small pox vaccination and has been incorporated into the national small pox vaccination plan.

Health care providers are better prepared to identify potentially dangerous biological agents because of training programs developed by AHRQ.

AHRQ supported research at the University of Alabama at Birmingham and Research Triangle Institute which developed training modules to teach health professionals how to address varied biological agents, including pathogens that are rarely seen in the United States. The biological agents covered on the Web site are anthrax, smallpox, botulism, tularemia, viral hemorrhagic fever, and plagues. The Web site also includes modules designed specifically for emergency room physicians, radiologists, pathologists, nurses and other health care professionals. To date, 1,232 doctors and nurses have completed bioterrorism training and earned continuing education credits through the Website.

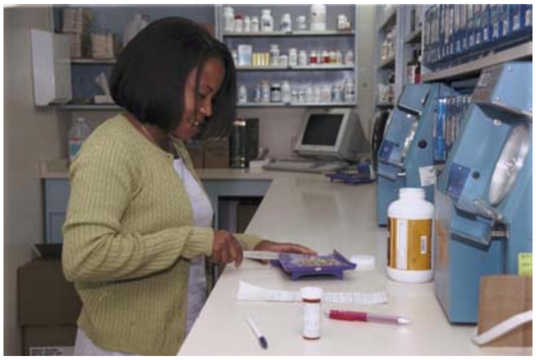
Patients Get Better and Safer Care Because of Research Sponsored By AHRQ.

AHRQ's research impacts many facets of the health care system. The Agency's goal is to translate its research into useful activities that can be used in everyday medical practice. The following is a simulated scenario of a patient utilizing health care services and how AHRQ's research plays a role in her care:

Katie, who is 7 years old, goes to her pediatrician's office because of severe congestion, which is giving her a headache and making it difficult for her to breathe. The pediatrician diagnoses her with acute sinusitis. The pediatrician decides to give her an antibiotic to treat the sinusitis. He bases his treatment decision, in part, on an American Academy of Pediatrics (AAP) clinical practice guideline on diagnosing and treating sinusitis in children, which is based on research supported by AHRQ.

Katie's mother takes the doctor's prescription and can't understand his writing. She asks if he could print the prescription so that she can understand what the drug is that Katie will be receiving. She also reminds the doctor that Katie is allergic to penicillin. She remembers to raise these issues with the doctor from reading *AHRQ's Twenty Tips to Help Prevent Medical Errors in Children,* which was available in the waiting room.

Katie and her mother go to the pharmacy to pick up Katie's prescription. When Katie's mother picks up the prescription she asks the pharmacists if this is the medicine that my child's doctor prescribed. A study by the Massachusetts College of Pharmacy and Allied Health Sciences found that 88 percent of medicine errors involved the wrong drug or the wrong dose. Katie's mother also asks the pharmacists for written information about possible side effects that the medicine could cause**.** Related research has shown that written information about medicines can help people recognize problem side effects - yet it is not routinely provided to patients and families.



The antibiotic that Katie is to receive is in liquid form. Katie's mother asks the pharmacists for the best device to measure the medicine. Research shows that many people do not understand the right way to measure liquid medicines. For example, many use household teaspoons, which often do not hold a true teaspoon of liquid. Special devices, like marked oral syringes, help people to measure the right dose. Being told how to use the devices helps even more.

These safety tips, which are all included in *AHRQ's Twenty Tips to Help Prevent Medical Errors in Children*, show that parents who are more involved with their child's care tend to get better results. In many instances, their involvement can prevent injury or death.

Helping Health Care Professionals Reduce Medical Mistakes. To date, AHRQ research has given information on about 73 proven patient safety practices to health care administrators, medical directors, health professionals, and others who are responsible for patient safety programs. Of those practices, AHRQ research identified 11 highly effective patient safety practices proven to work but not used routinely in the Nation's hospitals and nursing homes. Voluntary Hospitals of America, a nationwide network of 2,220 community-owned health care organizations and their affiliated physicians and Premier, Inc., affiliated with more than 1,800 hospital facilities in 50 states, use the information to guide their member hospitals in selecting projects to improve safety. Many chief executive officers, medical directors, and hospital safety officers have reported that they use the information to help them initiate projects to improve patient safety.

Helping the U.S. Army Improve Quality of Care: The U.S. Army is using the findings from AHRQ's research on depression as one of its sources for its VA/ DoD Depression Guideline Implementation Pilot Project. A number of Army military training facility sites from around the country were selected to participate in this Project. The Project sites include Walter Reed Army Medical Center, Tripler Army Medical Center, DeWitt Army Community Hospital, Fort Belvoir, Ireland Army Community Hospital, Fort Knox, and Madigan Army Center.

> ***"The use of the AHRQ [research] on depression and the provider and patient tools developed from the research have been very cost-effective for the Federal government, as the DoD does not have to reinvent the wheel."***
>
> **– Lieutenant Colonel Kathryn Dolter, U.S. Army**

The intent is to use the VA/DoD Depression Guideline Implementation Project Program to make improvements and eventually implement an Army system-wide program to help improve the quality of patient care for depression.

Helping Hospitals Reduce Costs. Findings from a randomized controlled trial funded by AHRQ that evaluated the effects of a computerized order entry system on reducing the costs of health care led to Wishard Memorial Hospital in Indiana adopting the system for use throughout its inpatient departments. The hospital also designated the system as the only acceptable means for writing orders in its emergency room, medical center's subspecialty clinics, and its affiliated outpatient primary care practice.

> ***"I am convinced that the main reason why the system has been so widely accepted by the administration is because research showed that it saved money and improved quality of care." --Lisa Harris, Medical Director of Indiana University Medical Group-Primary Care and Chief of Medicine at Wishard Hospital.***

The study found that patients of physicians using computer workstations to order tests and medications had 13 percent lower charges and substantially shorter lengths of stay. Findings also indicated that the time from admissions to nurse documentation of giving the first dose of a drug was 30 minutes among patients with computer orders, compared to 6 hours among patients with paper orders.

Research on Information Technology Funded Today will Improve the Health Care of Tomorrow:

In FY 2000 – 2002, AHRQ has funded a number of studies designed to improve the safety, quality and efficiency of health care through the use of information technology. As these projects are completed, AHRQ will work its vast network of public and private sector partners to widely disseminate and implement the findings to the benefit of all Americans. Examples of studies which will be completed shortly include:

Uses of Information Technology to Improve Care in Practice-based Research Networks. AHRQ is supporting research through its Practice-based Research Networks (PBRNs) on how automated electronic reminders affect compliance with recommended guidelines for the management of patients with diabetes. Another network is supporting research examining the use of automated computerized reminders that utilize CDC guidelines to improve screening and detection of patients at increased risk for tuberculosis.

A third network is testing the use of a computerized automated reminder system for improving lipid management (e.g., improving cholesterol). The system integrates a patient's clinical information with current research findings, calculates the risk of cardiovascular disease for an individual patient, and generates reminders to the clinician.

Using Technology to Help Improve the Care of the Elderly. This research project is studying whether preventable adverse outcomes for the frail elderly population in long-term care settings can be avoided by using computers that alert nursing and other staff to the likelihood of problems such as falls, pressure ulcers, and urinary tract infections.

Using Handheld Technology to Reduce Errors in ADHD Care. This project is using a real-time, point-of-care handheld computerized decision support module to reduce medical errors in the treatment of attention-deficit/hyperactivity disorder (ADHD) in children.

Research on Health Costs, Quality and Outcomes (HCQO)

	FY 2002 Actual	FY 2003 President's Budget	FY 2004 Request	Increase or Decrease
Total				
-- BA	$0	$0	$0	$0
-- PHS Eval	($247,645,000)	($194,000,000)	($221,000,000)	+($27,000,000)
FTE	272	272	272	0

Purpose

The purpose of the activities funded under the Research on Health Costs, Quality and Outcomes (HCQO) budget line is to support, conduct and disseminate research to improve the outcomes, quality, cost, use and accessibility of health care. Accordingly, the Agency has three main goals:

- Goal 1: supporting improvements in health outcomes.
- Goal 2: strengthening quality measurement and improvement.
- Goal 3: identifying strategies to improve access, foster appropriate use, and reduce unnecessary expenditures.

In addition to these goals, improving the health of priority populations is another focus of HCQO. The commitment to funding new research, translating research into practice and disseminating new knowledge underlies all HCQO activity.

Achievements

AHRQ has made important strides toward meeting its strategic goals. This report reviews achievements of the Agency's established programs as well as activities initiated under the Agency's FY 2003 budget.

The first section of this report, Supporting Improvements in Health Outcomes, reviews the Agency's progress in the following research areas:

- Highlights of Outcomes Research
- Patient-Centered Care
- Centers for Education and Research on Therapeutics (CERTs)
- Long-term Care
- Evidence-Based Practice Centers (EPCs)
- National Guideline Clearinghouse (NGC)
- Clinical preventive services
- Bioterrorism

The second section, Strengthening Quality Measurement and Improvement, provides updates on activities in the following areas:

- Calls for Research: Measuring and improving the quality of health care
- Patient safety and reducing errors in medicine

- National Health Care Quality Report
- Working conditions and the quality of health care
- Tools for patients and health care consumers
- Partnerships for Quality

The third section, Identifying Strategies to Improve Access, Foster Appropriate Use, and Reduce Unnecessary Expenditures, reports on AHRQ projects that address critical policy issues as well as develop data and information for policymakers:

- Impact of payment and organization on cost, quality and equity
- Health care markets and managed care
- Integrated Delivery System Research Network (IDSRNs)
- Primary Care Practice-based Research Networks (PBRNs)
- HIV Research Network
- Healthcare Cost and Utilization Project (HCUP)
- Medical Expenditure Panel Survey

The fourth section, Improving the Health of Priority Populations, outlines AHRQ's efforts and findings on the following issues:

- Women's health
- Children's health
- Minority health

The final section, Training and Dissemination, includes a discussion of AHRQ's efforts to maintain and nurture a cadre of well-trained and talented health services researchers and AHRQ's activities to put the knowledge gained through research into the hands of health care providers.

Goal 1: Supporting Improvements in Health Outcomes

Rapidly rising health care costs, questions about effective medical treatments, and the need for efficient delivery of health care services are the reasons why outcomes research has been one of AHRQ's core activities for over a decade. Patient outcomes research provides evidence about the benefits, risks, and results of treatments that take place in "real world" setting so clinicians and patients can make more informed health care choices. Outcomes research answers a number of very fundamental questions about health care services: What works and doesn't work? Is it having the desired effect? Does it provide value for the resources used? The answers to these questions form a solid foundation for efforts to improve health care quality and patient safety, enhance access to care, and improve the cost-effectiveness of care.

Outcomes research also looks at differences in care from one part of the country to another and from one population group to another. Repeatedly, studies have documented that therapies as commonplace as hysterectomy and hernia repair are performed much more frequently in some regions than in others, even when there is no difference in the rates of disease.

The results of AHRQ-funded outcomes research-- such as the effectiveness of given treatments or clinical intervention strategies--and patient health outcomes measures often serve as the evidences and foundations for the development of various quality indicators and other tools, which are increasingly are being integrated into "report cards" that purchasers and consumers can use to assess the quality of care provided in health plans. For public programs such as Medicaid and Medicare, outcomes research provides policymakers with the tools to evaluate, monitor, and improve the delivery of effective health care services in the most efficient manner. By linking the care people get to the outcomes they experience, outcomes research has become the key to developing cost-effective ways to improve the quality of care.

In 2002, AHRQ's outcomes research portfolio included more than 100 projects that addressed a wide range of topics; focused on disparities based on sex, ethnicity, age, socio-economic status, and geographic location; and encompassed a number of AHRQ's flagship programs such as the Centers for Education and Research on Therapeutics (CERTs), Evidence-based Practice Centers (EPCs), and the U.S. Preventive Services Task Force (USPSTF).

Below are examples of findings from recent AHRQ-supported outcomes studies and projects currently underway.

Women's Health. An AHRQ-sponsored study found that among women with mild to moderate pelvic inflammatory disease (PID), rates of pregnancy, recurrent PID, and chronic pelvic pain were no different for inpatient versus outpatient treatment. Inpatient treatment is 10 times as expensive as outpatient treatment.

Prescription Drugs. An AHRQ study published in the New England Journal of Medicine found that a carefully designed and implemented prescription drug reference-pricing policy reduced overall drug expenditures without any obvious adverse clinical outcomes for the beneficiaries. Reference drug pricing programs work on the principle that if several drugs work equally well for a certain condition, the program will fully fund the drug that costs the least. Patients may choose the more expensive drug but the program will only reimburse people for the cost of the lowest cost reference drug(s). This study, which examined data 2 years before and 1 year after implementation of reference-based pricing policy in the province of British Columbia, focused specifically on a large group of elderly Canadian Pharmacare beneficiaries who took drugs to treat hypertension. These findings are relevant to health care systems' and payors' efforts to use pharmaceuticals cost-effectively.

Heart Disease. AHRQ-supported research found that patients who take beta-blockers (drugs to slow the heart rate and reduce contractions of the heart muscle) prior to bypass surgery appear to have improved survival and fewer complications during and after the procedure. Researchers indicate that up to 1,000 lives potentially could be saved each year by giving patients beta-blockers before bypass surgery.

Diabetes. An AHRQ study found that patients with both adult-onset (type 2) diabetes and other chronic conditions can still achieve good blood sugar control if they receive intensive therapy at a specialty diabetes clinic. Therapy included adding or changing oral medications or adding insulin to the treatment regimen.

Hip Fracture. An AHRQ-supported study found that medical staff in hospital, rehabilitation facilities, and nursing homes could improve patient outcomes for the approximately 350,000 hip fractures that occur annually in the United States by focusing efforts on reducing the risk of complications that often leave patients unable to work or lead to death. Currently, 4 of every 10 patients are unable to walk without total assistance by 6 months after the fracture, and one-fourth of patients die within a year. In addition to pain and suffering, hip fracture and its consequences have a large economic impact, with hospital charges alone totaling roughly $6 billion a year.

Lower respiratory infection. Lower respiratory infection (LRI) is one of the most common causes of death and hospitalization among nursing home residents. Although hospitalization can be lifesaving for the sickest patients, for those who are less ill there is considerable risk of incurring avoidable expense and harm from needless hospitalization. AHRQ-sponsored research studied nursing home residents with LRI and developed a strategy to predict which patients are at highest risk of hospitalization and which could be more effectively treated in the nursing home. Their findings demonstrate that up to 52 percent of nursing home residents with lower respiratory infection are at low risk of mortality and may not require hospital admission (i.e., can be safely treated in the nursing home.)

Organ Donation. Prior to the 1980's, kidney transplants from living donors offered the only hope of recovery for end-stage renal disease patients. However, improved surgical techniques, organ matching, rejection treatment, and organ preservation made kidney transplants from cadaver donors possible in the late 1970's. Although organ donor rates have increased the last ten years, the supply of cadaver donors remains far short of the demand, and transplant centers are returning to living donations. The goal of this AHRQ-sponsored study is to design a model living-donor transplant program based on an evaluation of transplant center and individual barriers as well as facilitators of living donations.

Stroke. Based on AHRQ's research, Medicare's Peer Review Organizations (PROs) have implemented 73 projects in 42 states to increase anti-clotting therapy for Medicare beneficiaries who have suffered from a stroke. The percentage of Medicare patients discharged on this therapy has increased from 58.4 to 71.1 percent.

Patient Centered Care

It is widely acknowledged that patients should be active in decision-making regarding their care and research has shown that this approach yields better outcomes. To empower patients as decisionmakers, both technical care and interpersonal interactions must be centered on the needs and preferences of individual patients. As the recent Institute of Medicine (IOM) report, *Bridging the Quality Chasm*, stated, we must “modify the care to respond to the person, not the person to the care.”

In FY 2002, AHRQ requested applications that focus creating an ideal environment for and tools to promote patient-centered care. This program announcement (PA), cosponsored by the National Institute of Mental Health, focuses on design and evaluation of care processes that empower patients, improve patient-provider interaction, help patients and clinicians navigate through complicated health care systems, and improve access, quality, and outcomes. Below are two examples of research grants funded under this program announcement.

- “Medical Management of Children with Chronic Conditions” is important because little empirical information exists about what (or who) constitutes a medical home, and the extent to which children with chronic conditions actually have medical homes. This study will focus on caring of children with these health conditions. Medicaid claims data will be used to develop a measure of “medical home” and also to study the relationships between demographic factors, disease severity, and health plan features, and the use of medical homes by children with chronic conditions. Specific aims include developing operational definitions that can be used with claims data to identify a child’s “medical home.” Also, the kinds of providers that serve as medical homes and determine whether certain kinds of health insurance types promote establishment of a medical home will be examined.

- “Parent-Initiated Prevention Program” is a randomized controlled trial which tests a computer driven, patient-centered expert system to improve the receipt of evidence-based prevention for pediatric patients. The study will assess the effectiveness of a real time Patient Initiated Prevention Program in changing physicians’ delivery of preventive care as well as parental prevention behaviors. Study outcomes include parent-physician communication over preventive health care, parental preventive behaviors, and quality of pediatric care.”

Centers for Education and Research on Therapeutics (CERTs)

Patients and caregivers should not have to guess which therapies are best or fear treatment mistakes. This is the basis of AHRQ’s Centers for Education and Research on Therapeutics (CERTs) program, which conducts research and provides education to advance the optimal use of drugs, medical devices, and biological products such as vaccines. AHRQ was given authority to support the CERTs initiative under the Food and Drug Modernization Act of 1997. Between 1999 and 2000, AHRQ established seven CERTs centers, each of which focuses on therapies used in a particular population or therapeutic area. In FY 2001 AHRQ’s support of the seven CERTs was approximately $4.9 million. In FY 2002 support for CERTs is approximately $5.0 million.

What is the focus of each CERTs Center?

- Duke University: Approved drugs and therapeutic devices in cardiovascular medicine.
- University of Arizona: Reduction of drug interactions, particularly in women.
- University of North Carolina: Rational use of therapeutics in pediatric populations.
- Vanderbilt University: Prescription medication use in the Medicaid managed care population.
- HMO Research Network: Use of large managed care databases to study prescribing patterns, dosing outcomes, and policy input.
- University of Pennsylvania: Antibiotic drug resistance, drug use, and intervention studies.
- University of Alabama: Therapeutics for musculoskeletal disorders.

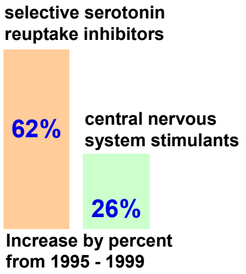
Although drugs, medical devices, and biological products improve health for thousands of people, side effects, misuse, and overuse of products can seriously impair the health of many others. The facts are:

- **Underuse.** Many patients could benefit from a therapy but do not receive it. This may be through lack of information, oversight, or in the mistaken belief that the therapy will do them harm.
- **Drug/treatment interactions.** Studies conducted prior to FDA approval may not test medical products in combination with other therapies often used by the same patients.
- **Off-label use.** Once approved, drugs and devices often are used for purposes other than those for which they were approved--sometimes these uses are supported by studies, but not always.
- **Unexpected side-effects.** Some side effects of medical products emerge only after they have been approved for sale, when large numbers of people begin to use them.

The CERTs program aims to fill these information gaps by answering important questions that have not been addressed and implementing effective educational interventions for caregivers. The program is also a critical complement to FDA's post-marketing studies. Participants in the CERTs--Federal government agencies, academic organizations, managed are organizations, drug and device companies, practitioners, commercial research groups, and consumer groups, among others--are committed to seeking answers together.

Since its inception in September 1999, the CERTs have developed a portfolio of more than 120 completed and ongoing studies, the results of which address important issues to advance the best use of therapies. Following are examples of how the CERTs seek to improve the Nation's health through the best use of medical therapies.

CERT: Use of Drugs to Treat ADHD and Depression in Youth



Drugs used to treat ADHD and depression in youth increased steadily between 1995 and 1999

D. Shatin, C. Drinkard, Ambulatory Use of Psychotropics by Employer-Insured Children and Adolescents in a National Managed Care Organization

Patients with certain types of heart disease are not taking medicines that may save their lives. Aspirin is inexpensive and available over-the-counter and it greatly reduces the risk of heart attack, stroke, and related death in people with coronary artery disease (CAD). Similarly, beta-blockers, have been shown to help people with congestive heart failure (CHF). Data collected by the Duke University CERT showed that 87 percent of cardiac patients were using aspirin. This reflects, in part, the adoption of the recommendations from the AHRQ-sponsored U.S. Preventive Services Task Force. However, data collected by the Duke University CERT also confirmed that 13 percent of people with CAD were not receiving adequate therapy. The people with CAD who were not taking aspirin were almost twice as likely to die within 1 year as those who were taking aspirin. The news was only slightly better for people with CHF who were not taking a beta-blocker; they had 1.5 times the risk of dying compared with people who were taking the medicine. The Duke CERT is now investigating ways to get life saving medicine to people who need it. Programs to overcome barriers and save lives can be designed once more is understood about why people are not taking these medicines.

Monitoring anti-HIV drug levels. The effectiveness of drugs for women and children with HIV depends on the way they take the drugs and how their bodies handle the medicine. The University of North Carolina CERT developed a screening test for kids to measure the levels of anti-HIV drugs called protease inhibitors in the bloodstream. The test will determine whether the level of drugs is too high or too low as a result of the way the drug was taken or absorbed. Research on the screening test had an unexpected, important finding: giving anti-HIV drugs with water to babies can speed the passage of the drugs through babies' systems before they have a chance to work. Giving drugs with infant formula greatly improves results. In another case, the test showed high levels of protease inhibitor in a child whose parent had readjusted the dose. Some patients were not getting their drugs at all. In one case, a child's mother was too ill herself to medicate her child, but the problem was only uncovered by the screening test. The test demonstrated that there might be a big difference between what a doctor prescribes and what is at work in the body. Providing this test to HIV-infected individuals can go a long way in ensuring that people are getting the level of drugs they need. The test also may help reduce the incidence of drug-resistant viruses and the cost of caring for patients with HIV.

Medicaid Populations. Collectively, the CERTs centers have access to more than 20 unique data sources, representing over 50 million people, which they use to conduct population-based studies. Many of these studies have been conducted within Medicaid populations, including drug effects and use, prior authorization for use of nonsteroidal anti-inflammatory drugs (NSAIDS), prevention of falls, reimbursement for community providers of long-term care, and evaluation of a nursing-home dispensing change. In addition, studies are underway to gather information that Medicaid programs can use to make coverage and other policy decisions such as drug utilization review, economic effects of beta-blocker therapy in heart failure, efficacy and toxicity of drugs used in pediatric AIDS, prevalence of type 2 diabetes mellitus in children, drug interactions, fractures from osteoporosis, and other topics. The Vanderbilt CERT, in particular, has a long history of providing technical assistance to the Tennessee Medicaid program under a contract that has been active since 1972.

Rethinking antibiotics before dental treatment. Many doctors prescribe antibiotics before dental treatment to reduce the risk of endocarditis (infection of the heart lining and valves). Because conventional wisdom suggests that patients with heart problems are at risk, this preventive measure has been recommended for more than 45 years. The University of Pennsylvania CERT conducted a study to evaluate and quantify the risk of such infection. They found that the incidence of infection remained the same even after the introduction of widespread antibiotic prophylaxis, and that neither dental work in general, nor any individual procedures, was associated with infective endocarditis, with the possible exception of tooth extraction. The study also determined that flossing daily slightly reduced the risk of infection. Efforts are under way to have these findings incorporated into American Heart Association guidelines. These findings will affect an important source of unnecessary antibiotic use.

Long-term Care (LTC)

AHRQ has a long-standing role in supporting and conducting research to improve the quality of long-term care for the elderly, chronically ill and disabled. In FY 2002 AHRQ committed approximately $7 million in grants for long term care projects. A majority of projects were funded under patient safety solicitations.

Findings from many of these studies will be of direct use to the Department of Health and Human Services and private sector providers as they seek to improve patient safety and quality of care. Some of the studies are described below.

- A University of Colorado study is investigating how well report cards and other information strategies help consumers make nursing home choices based on quality.

- A University of Massachusetts Medical Center study is exploring the capacity of a computer-based clinical decision support system to reduce adverse drug events in nursing homes.

- A new center on patient safety in long term care at Emory University in Atlanta, Georgia is studying how to prevent falls and pressure ulcers in nursing homes and assisted living facilities.

- A new center at the University of South Florida is exploring how to prevent falls in the community.

- Another study is developing quality indicators for comparing and tracking the quality of assisted living facilities.

- AHRQ's intramural program is conducting studies of nursing home acquired pneumonia, hospitalization of nursing home residents with pneumonia, inappropriate drug use, falls and fractures, incontinence, changing nursing home staffing, and changing home care expenditures.

- Other studies are focusing on the non-elderly disabled and include studies of factors affecting functional change across all settings of care.

- A research study in collaboration with CMS found that chronic conditions such as arthritis and urinary incontinence contribute significantly to poor physical function among women age 65 and older enrolled in Medicare+Choice. Low income and minority women had worse functional status, as a result of differences in chronic disease prevalence, suggesting that improved management of these common chronic conditions can improve functional health outcomes, and prevent disability for all older women while making progress toward eliminating health disparities.

Coordination across Federal agencies. AHRQ, working with NCHS, ASPE and CMS, and input from a meeting of residential and community-based long-term care experts, developed a plan to coordinate long-term care efforts across the Department and reached consensus on long-term care research needs. Based on this plan, the DHHS Data Council determined that LTC should be a high DHHS data priority. AHRQ is making several contributions to this data collection effort:

- AHRQ is working with NCHS and ASPE on a project to develop a data collection framework for assisted living facilities. This will allow for the expansion of the National Nursing Home Survey to include assisted living facilities. Although assisted living is the fastest growing segment of the long-term care market, no national information is currently available about this segment.
- Using the MEPS institutional component data from 1996, AHRQ developed a national prescription drug file, which can be used to assess drug prescribing in nursing homes. This file will enable studies of drug complications and outcomes to determine the benefits and negative impacts of prescribing practices in nursing homes.

- In collaboration with HRSA, AHRQ is housing a senior scholar to study urban and rural differences in home health use and expenditures using MEPS home care data.

Evidence-based Practice Centers (EPCs)

AHRQ's 13 Evidence-based Practice Centers (EPCs) produce evidence reports and technology assessments on clinical and behavioral therapies and technologies that are common, expensive, and significant for Medicare and Medicaid populations. The EPCs systematically review and analyze scientific evidence to develop the reports. During their reviews, the EPCs flag areas where the evidence base is sparse and suggest future research directions.

In 2002, AHRQ awarded 13 new 5-year contracts to continue and expand the work performed by the first group of EPCs initiated in 1997. During the past year AHRQ also formed a partnership with the Office of Medical Applications of Research (OMAR) at the National Institutes of Health, to include EPC systematic reviews on each clinical condition presented at a Consensus Development Conference. OMAR works closely with the NIH Institutes, Centers and Offices to assess, translate, and disseminate the results of biomedical research that can be used in the delivery of health services. The EPCs will present their topic-specific evidence-based reports to the NIH Consensus Development Conferences to ensure that they have the latest scientific evidence to support their deliberations. These conferences address complex issues of medical importance to health care providers, patients and the general public.

FY 2002 EPC Evidence Reports and Technology

- Islet Cell Transplantation for Diabetes
- Strategies to Improving Minority Healthcare Quality
- Treatment of Dementia
- Pharmacological Treatment of Obesity
- Community Based Participatory Research
- Health Literacy: Impact of Health Outcomes
- Effective Payment Strategies to Support Quality-based Purchasing
- Biventricular Pacing for Congestive Heart Failure
- Economic Incentives: Impact on Use/Outcomes of Preventive Health Services
- Crosscutting Quality Measures for Cancer Care
- Sexuality and Reproductive Health Following Spinal Cord Injury
- Training for Rate Public Health Events: Bioterrorism
- Distance Learning Program: Web-based Curriculum for Dentists
- Regional Models for Bioterrorism Preparedness
- Total Knee Replacement
- Efficacy of Behavioral Interventions to Modify Physical Activity

AHRQ funded 16 new evidence topics in 2002, of which 9 of the topics were nominated by private-sector professional societies and providers, and seven of the EPC reports were funded by other Federal agencies. In addition, AHRQ funded an EPC to continue to support the work of the U.S. Preventive Services Task Force, and several EPCs to continue to produce technology assessments requested by the Centers for Medicare and Medicaid Services (CMS).

Since the start of the program in 1997, the EPCs have conducted more than 90 systematic reviews and analyses of the literature on a wide spectrum of topics and published the results and conclusions as evidence reports and technology assessments. Some of these reviews are ongoing, and others have been published. Users include doctors, medical and professional associations, health system managers, researchers, consumer organizations, and policymakers. Public- and private-sector organizations employ the reports as the basis for developing their own clinical guidelines, performance measures, and other quality improvement tools and strategies. The reports and assessments often are used in formulating reimbursement and coverage policies. Examples include:

- Use of AHRQ evidence reports by the Social Security Administration to determine disability for various conditions, including: end-stage renal disease, infant and childhood impairments, repetitive motion disorders, speech/language disorders, chronic fatigue syndrome, treatment-resistant epilepsy, and multiple sclerosis.

- Use by the Veteran's Administration of the meta-analysis in *Testosterone Suppression: Treatment for Prostate Cancer* as part of its continuing medical education program.

- Development of a practice guideline by the American Academy of Pediatrics (AAP) based on the evidence report on *Diagnosis of Attention-Deficit/Hyperactivity Disorder*.

Nominations of topics are solicited routinely through notices in the Federal Register and are accepted on an ongoing basis. Professional organizations, health plans, providers, and others who nominate topics are considered partners and agree to use the evidence reports when they are completed. All EPCs collaborate with other medical and research organizations so that a broad range of experts are included in the development process. AHRQ invites comments from interested parties about the EPC program with respect to what has worked well, what has not worked well, and what changes and improvements could be made. We also are interested in suggestions about new opportunities, such as what steps the Agency can take to encourage more health care organizations and other relevant groups to translate EPC reports into clinical practice guidelines and related products.

EPC Technology Assessment: Actinic Keratoses

CMS revised its *Medicare Coverage Issues Manual* to include a national coverage policy permitting coverage for the treatment of actinic keratoses (AK), a common skin condition that is often the precursor of skin cancer. The decision to cover the treatment of AKs was based largely on the AHRQ Technology Assessment for Actinic Keratoses Treatment. This assessment suggests that the presence of AKs is associated with the development of squamous cell carcinoma (SCC) more than other factors. SCC has the potential to metastasize and accounts for a large percentage of all non-melanoma skin cancer deaths in the Medicare population.

National Guideline Clearinghouse (NGC™)

The National Guideline Clearinghouse™ (NGC), an Internet resource for evidence-based clinical practice guidelines at www.guideline.gov, has been operational for 5 years. The NGC was developed by AHRQ, in partnership with the American Medical Association (AMA) and the American Association of Health Plans (AAHP) to be a resource for physicians, nurses, educators, and other health care professionals.

The NGC is designed to promote quality health care by making the latest evidence-based clinical practice guidelines available, in one easy-to-access location. The NGC Web site is updated weekly with new and changed guidelines. In addition to its 24-

Management of Chronic Asthma

An estimated 14 to 15 million Americans have asthma. It is the most common chronic disease of childhood, affecting approximately 4.8 million children. More than 70,000 people are hospitalized each year for asthma-related conditions, and 5,000 people die annually of asthma.

In early FY 2002, AHRQ published an evidence report on the management of chronic asthma. Subsequently, the National Heart, Lung, and Blood Institute's National Asthma Education and Prevention Program used the AHRQ evidence report in formulating and updating NAEPP guidelines for managing the care of adults and children who have this condition. The NAEPP Web site features a link to the AHRQ guideline and summary on management of chronic asthma.

hour access on the Internet, the clearinghouse has many useful features such as standardized abstracts containing information about each guideline and how it was developed, the ability to make guideline comparisons, access to the full text of guidelines or ordering information, and the capability to browse for guideline titles by organization, disease/condition, or treatment/intervention.

Undoubtedly, the NGC's capacity to make vast amounts of information quickly accessible to clinicians is its biggest asset. Before the development of the NGC, clinicians and others who wanted to study or compare guidelines for any medical condition had to contact individual guideline developers to obtain a copy. Users then had to perform their own side-by-side analysis to determine which, if any, they wanted to follow. The usefulness of NGC is evidenced by the large number of visits every week by physicians and other health professionals.

Like all good tools, the NGC is designed to be used according to personal preference. For example, a cardiologist might check to see whether he or she should refer an arthritic patient to a rheumatologist by accessing the American College of Cardiology's guidelines to check compatibility with his or her own practice, or a nursing director of a large inner city clinic might check the childhood immunization guidelines so he or she can provide young mothers with more information about preventive care.

The NGC has more than 1,000 clinical practice guidelines submitted by over 180 health care organizations and other entities. New guidelines are added weekly. Over the past 5 years, NGC has had more than six million visitors, processed over 55 million requests, and received more than 120 million ”hits” or visits. NGC receives over 60,000 visits each week.

AHRQ does not require users of the NGC to register in order to use the site; however, the third customer satisfaction survey of NGC indicates who uses the site. Physicians were the largest portion of survey respondents (40.6 percent), followed by nurses and/or nurse practitioners (20.5 percent). More than 93 percent of respondents rated their overall satisfaction with NGC as either “fairly satisfied” or “very satisfied” compared with 89 percent for the first annual survey. Respondents also provided many useful comments on how they were using the site in their clinical work. For instance, a number of respondents reported using NGC to identify guidelines for adaptation in their health system or institution and to find the best approach to treating their patients. The results from the third customer satisfaction survey reinforced the high level of satisfaction registered on earlier surveys.

Clinical Preventive Services: Keeping People Healthy

AHRQ links prevention research with clinical practice by sponsoring the U.S. Preventive Services Task Force (USPSTF) and the Put Prevention Into Practice (PPIP) program. The Task Force synthesizes the evidence-base and the PPIP program promotes the application of the Task Force results.

The U.S. Preventive Services Task Force (USPSTF). General acceptance of preventive screening as a part of routine medical care didn’t occur until the 1960’s. Despite this acceptance, there was little evidence that screening tests and other preventive interventions actually improved patient outcomes. To address these issues, the U.S. Preventive Services Task Force (USPSTF) was established. The Task Force is a critical source of information on what does and does not work in the health care system specific to clinical prevention. First convened in 1984, the Task Force is an independent panel of health care experts who evaluate scientific evidence for the effectiveness of a range of clinical preventive services--including common screening tests, counseling for health behavior change, and chemoprevention (the use of drugs to reduce the risk of a disease)--and producing age- and risk-factor-specific recommendations for these services. The Task Force published its first set of recommendations in the *1989 Guide to Clinical Preventive Services*, which was revised in 1995.

The Task Force conducts impartial assessments of scientific evidence for a broad range of clinical conditions to produce recommendations for the regular provision of clinical preventive services. The Task Force grades the strength of evidence as follows: A (strongly recommends), B (recommends), C (makes no recommendation for or against), D (recommends against), and I (insufficient evidence to recommend for or against). The Task Force is updating the 70 chapters in its 1996 report, and AHRQ is releasing the revised recommendations incrementally, as they are completed, on the agency's Web site, through the National Clearinghouse, and in medical journals.

The third Task Force, convened in 1999, began work on 12 initial topics selected by Task Force members based on preliminary work by two of the AHRQ's Evidence-based Practice Centers: the Research Triangle Institute/University of North Carolina at Chapel Hill and the Oregon Health & Science University. The selection process included a preliminary literature search of new information on prevention and screening published since 1995; consultation with professional societies, health care organizations, and outside prevention experts; a review of current levels of controversy and variations in practice; and consideration of the potential for a change from the 1995 Task Force recommendations. A list of the topics selected by the third Task Force follows.

- Chemoprevention (heart disease and cancer).
- Vitamin supplementation to prevent cancer or coronary heart disease (vitamin E, folate, beta carotene, and vitamin C) (new topic).
- Screening for bacterial vaginosis in pregnancy (new topic).
- Developmental screening in children (new topic).
- Screening for diabetes mellitus (updated topic).
- Newborn hearing screening (updated topic).
- Screening for skin cancer (updated topic).
- Counseling to prevent unintended pregnancy (updated topic).
- Screening for high cholesterol (updated topic).
- Postmenopausal hormone therapy (updated topic).
- Screening for chlamydial infection (updated topic).
- Screening for depression (updated topic).

Also in 2002, the third Task Force issued the following recommendations covering colorectal cancer, osteoporosis, hormone replacement therapy, depression, chemoprevention, and breast cancer.

<u>Colorectal cancer:</u> The Task Force in its strongest ever recommendation for colorectal cancer screening urges that all adults age 50 and over get screened for the disease, the nation's second leading cause of cancer deaths. Various screening tests are available, making it possible for patients and their doctors to decide which test is most appropriate for each individual. Although each of these tests is effective in diagnosing colorectal cancer at an early stage when it is treatable, the Task Force noted that there is no single best test for all patients. Options include at-home fecal occult blood test (FOBS); flexible sigmoidoscopy; a combine of home FOBT and flexible sigmoidoscopy; colonoscopy; and double-contrast barium enema.

Screening can also lead to early detection of adenomatous polyps--precancerous growths that can be removed to prevent them from progressing to cancer.

Osteoporosis: The Task Force recommends that women aged 65 and older be screened routinely for osteoporosis, and that women at high risk for fractures begin screening at age 60. Women are at greater risk for osteoporosis than men because women's bones are less dense than mens' bones. The Task Force found good evidence that the risk for osteoporosis and fracture increases with age and other factors, that bone density measurements accurately predict the risk for fractures in the short-term, and that treating women with no symptoms of osteoporosis reduces their risk for fracture. Other risk factors cited include lower body weight and no current use of estrogen. The Task Force concludes that the benefits of screening and treatment are of at least moderate magnitude for women at increased risk by virtue of age or presence of other risk factors.

Hormone replacement therapy: The Task Force recommends against the use of combined estrogen and progestin therapy for preventing cardiovascular disease and other chronic conditions in postmenopausal women; they also recommend that women considering whether to start or continue hormone therapy to relieve menopausal symptoms discuss their individual risks for specific chronic conditions and personal preferences with their clinician. Although the Task Force found evidence for both benefits and harms of combined estrogen and progestin therapy-- one of the most commonly prescribed hormone regimens-- they conclude that harmful effects of the combined therapy are likely to exceed the chronic disease prevention benefits for most women. The Task Force concludes that combined hormone therapy could increase bone mineral density and reduce the risk of fractures, and may reduce the risk of colorectal cancer. They also found equally strong evidence, however, that this therapy increases the risk for breast cancer, blood clots, stroke, and gallbladder disease, and that this therapy does not reduce the risk of heart disease but actually increases the risk of heart attacks. An estimated 14 million American women take hormone therapy.

Depression: The Task Force indicates that clinicians can identify up to 90 percent of people who suffer from major depression by asking all patients they see two simple questions. The questions are: "Over the past two weeks, have you felt down, depressed or hopeless?" and "Over the past two weeks, have you felt little interest or pleasure in doing things?" This recommendation is the latest sign of the growing recognition that depression is one of the most common--and most commonly undiagnosed and untreated--chronic illnesses. About 19 million American adults suffer from depression, and estimates suggest that as many as two-thirds do not get treatment. This recommendation could bring many of these people into treatment and add millions to the numbers who are taking antidepressants such as Prozac. The Task Force adds that screening is only the first step--patients must have access to the right therapy and medicines, and health care systems must encourage patient followup care by clinicians.

Chemoprevention-heart disease: The Task Force strongly recommends that clinicians discuss aspirin chemoprevention with adults who are at increased risk for coronary heart disease. Discussion with patients should address both the potential benefits and harms of aspirin therapy.

Chemoprevention of breast cancer: The Task Force recommends that clinicians discuss the potential benefits and risks of taking prescription medicines such as tamoxifen to reduce the risk of breast cancer with their female patients who are at high risk for the disease. Women are considered at high risk if they are over 40 and have a family history of breast cancer in a mother, sister, or daughter, or have a history of abnormal cells on a breast biopsy. The Task

Force also recommends against the use of these drugs by women at low or average risk for breast cancer because the harmful side effects may outweigh the potential benefits. Those side effects can include hot flashes, increased risk for blood clots in the legs or lungs, and increased risk for endometrial cancer.

Breast cancer: The Task Force recommends that women aged 40 and older have a mammogram with or without clinical beast examination every 1-2 years. They found fair evidence that mammography screening every 1-2 years could reduce breast cancer mortality by approximately 20 percent to 25 percent over 10 years. The evidence is strongest for women between the ages of 50 and 69, but the Task Force concludes benefits were likely to extend to women 40-49 as well. The Task Force published two earlier breast cancer screening recommendations, in 1989 and 1996, that both endorsed mammography for women over age 50. The Task Force is now extending that recommendation to all women over age 40, even though the strongest evidence of benefit and reduced mortality from breast cancer is among women ages 50-69. This recommendation acknowledges that there are some risks associated with mammography (e.g., false-positive results that lead to unnecessary biopsies or surgery), but that these risks lessen as women get older.

Two of the Task Force's 2002 assessments yielded insufficient evidence to make a recommendation: does counseling in primary care settings to promote physical activity lead to sustained increases in physical activity among adult patients, and does routine screening of newborns for hearing loss and earlier treatment resulting from screening lead to long-term improvements in language skills.

Putting Prevention Into Practice. AHRQ's Put Prevention Into Practice (PPIP) program helps keep people healthy by translating the recommendations of the U.S. Preventive Services Task Force into practice. PPIP provides clinicians, office staff, and patients with various tools and resources to increase the delivery and use of recommended clinical preventive services. PPIP facilitates the delivery of services that can prevent some of the leading causes of death and disability, and it helps to combat barriers to the effective delivery of preventive care such as time constraints, lack of training, and patient anxiety about procedures and results.

The PPIP program emphasizes that clinical prevention works and is important, that different people need different services, and that an extensive system-wide team approach is necessary to ensure that prevention is a routine part of every patient experience. AHRQ works closely with public and private partners to disseminate PPIP tools and resources, which include information on preventive services recommendations, an implementation guide, as well as personal health guides for children,

Using PPIP Tools

PPIP tools are part of the STEP-UP (Study to Enhance Prevention by Understanding Practice) clinical trial. STEP-UP involves 80 family practices and clinics across Northeast Ohio in urban, rural, and suburban areas, including large Amish populations. The STEP-UP study evaluates a preventive related delivery intervention that is tailored to the unique characteristics of each practice. A nurse facilitator is assigned to each practice to identify special prevention-oriented needs of the practice population, such as immunizations, screenings, and counseling.

The STEP-up manual provides tools for clinicians to use as-is or modify. PPIP materials included in this manual are adult and child preventive care flow sheets, child immunization flow sheets, posters, and patient reminder postcards. The STEP-UP trial plans to continue using PPIP tools because they can easily be adapted to clinicians' needs as they work to enhance the delivery of preventive services to local patient populations.

adults, and people over 50.

In December 2001, AHRQ released *A Step-by-Step Guide to Delivering Clinical Preventive Services A System Approach* designed for use by physicians, nurses, health educators, and office staff. The guide, which has been found effective in many clinical settings, explains how to deliver routine preventive care to every patient, tells what services to provide, describes how to involve all staff, and explains how to evaluate and refine systems. The guide breaks the process into small, manageable tasks, and provides tools for tracking the delivery of preventive care, such as flow sheets (a simple form that gathers all the important data regarding a patient's condition) and health risk profiles. Other materials provided include questionnaires, presentation materials for use in introducing the system to administrators and office staff, and worksheets to identify staff interests and concerns.

Bioterrorism

Following the attacks of September 11, 2001, public attention has increasingly focused on the realization that the Nation's health care system is ill prepared to respond to mass casualty incidents. This concern was heightened by the anthrax cases that followed in October 2001, which drew attention to bioterrorism and the various aspects of preparedness planning as it relates to mass casualty care due to infectious disease outbreaks.

AHRQ's bioterrorism initiative, which started before the attacks in 2000, is a critical component of the larger U.S. Department of Health and Human Services initiative to develop public health programs to combat bioterrorism. The Agency recognizes the need for a strong health infrastructure to coordinate, prepare for and respond to acts of terrorism. To inform and assist primary care doctors and practices, community health centers, managed care organizations, emergency departments, and hospitals meet the health care needs of the U.S. population in the face of bioterrorist threats, AHRQ-supported research focuses on the following:

Physician Preparedness

A survey taken shortly after September 11, 2001, showed that on the eve of last years' anthrax attack, three-quarters of the 614 primary care physicians surveyed said they felt unprepared to recognize bioterrorism-related illnesses in their own patients. This survey, sponsored by AHRQ and the American Academy of Family Physicians, found that 38 percent of these physicians rate their knowledge of the diagnosis and management of bioterrorism-related illnesses as poor, and only about 18 percent said that they had prior bioterrorism training.

The survey also found that being familiar with the public health system did not prepare them for knowing what to do in case of a bioterrorist act—only 57 percent reported knowing who to call to report a suspected bioterrorism case.

These findings underscore the importance of preparedness for family physicians. Because the symptoms caused by many bioterrorism agents mimic those of common illnesses, patients may seek care first from their family physicians.

- Emergency preparedness of hospitals and health care systems for bioterrorism and other rare public health events.
- Technologies and methods to improve the links between the personal health care system, emergency response networks, and public health agencies.
- Training and information to prepare community clinicians to recognize the manifestations of bioterrorist agents and manage patients appropriately.

AHRQ's bioterrorism research is a natural outgrowth of the agency's ongoing efforts to develop evidence-based information to improve the quality of the health care in the United States. Examples of products and tools that are currently or soon will be available include the following:

- Web-based training modules to teach health professionals how to address varied biological agents. Separate modules exist for emergency room doctors, radiologists, pathologists, nurses and infection control specialists. Clinicians can obtain continuing medical education (CME) credit at http://www.bioterrorism.uab.edu.

- A Real-time Outbreak and Disease Surveillance (RODS) System for bioterrorist events. The purpose of RODS is to provide early warning of infectious disease outbreaks, possibly caused by an act of bioterrorism, so that treatment and control measures can be initiated to protect and save large numbers of people.

- Use of a city-wide electronic medical records system as a model for surveillance and detection of potential bioterrorism events across a wide range of health care facilities, including primary care practices, public health clinics, emergency rooms, and hospitals.

- A new on-line survey that hospitals can use to assess their capacity to handle potential victims of bioterrorism attacks or for evaluating existing emergency plans. The survey covers subjects such as biological weapons training for personnel, procedures to permit rapid recognition of credentialed staff from other facilities, on-call nursing policies, and designated areas of emergency overflow for patients.

In 2002, AHRQ received over $10 million from other agencies to assist them and to continue efforts to support the national preparedness for a bioterrorist event. AHRQ's current bioterrorism activities continue to support departmental initiatives in the 3 broad areas stated previously. Through various contract mechanisms, AHRQ-funded researchers are preparing tools and models that can be exported to States and interested entities for use in their bioterrorism preparedness planning initiatives. Examples of projects currently underway include:

- Development of national guidelines for dispensing medications and/or vaccinating large populations in the event of a bioterrorist event.

- A Web-based data tool and manual that facilitates health care systems' ability to monitor and track resources that would be needed to respond to a bioterrorist event. This work will be developed with rural hospitals as a model.

- A Regional Health Emergency Assistance Line and Triage Hub (HEALTH) Model addressing the integration and communication with public health agencies and other facilities for efficient management of patient care during and after a public health emergency such as a bioterrorist event.

- Development of a report that provides an overview of current knowledge on how disaster drills and training are conducted and evaluated for bioterrorism preparedness and a tool for evaluating disaster drills and training that can be disseminated to States and other interested groups.

- Development of information technologies available in practice-based settings for surveillance of signs and symptoms of diseases that suggest bioterrorism in pediatric and adult primary care practices.

- Convening of an AHRQ-sponsored conference focused on preparedness and disaster responses for pediatric patients.

Future research initiatives will address considerations relevant to rural preparedness, vulnerable populations, pediatric care issues, and public-private partnerships related to the use of information technology for surveillance, detection, notification alerts, and education of clinicians.

Goal 2: Strengthening Quality Measurement and Improvement

The United States has many of the world's finest health care professionals, academic health centers, and other research institutions. Every day, millions of Americans receive high-quality health care services that help to maintain or restore their health and ability to function. However, far too many do not. A shockingly high percentage of patients receive substandard care.

Quality problems may be reflected in a wide variation in the use of health care services, underuse of some services, overuse of other services, and even misuse of services, including an unacceptable level of errors. Sometimes patients receive more services than they need or they receive unnecessary services that undermine the quality of care and needlessly increase costs. At other times they do not receive needed services that have been proven to be effective.

The research that provided much of the basis for the 2001 report by the Institute of Medicine (IOM) report, *Crossing the Quality Chasm,* goes back several decades to early studies on quality of care, most of which were supported by AHRQ and its predecessor agencies. In its report, the IOM pointed out that quality problems occur across all types of cancer care and in all aspects of the process of care. For example, the IOM report described “underuse of mammography for early cancer detection, lack of adherence to standards for diagnosis, inadequate patient counseling regarding treatment options, and underuse of radiation therapy and adjuvant chemotherapy following surgery.”

Poor quality care leads to patients who are sicker, have more disabilities, incur higher costs, and have lower confidence in the Nation’s health care system. There is great potential to improve the quality of health care provided to Americans, and AHRQ is committed to this goal. We are working to maintain what is good about the existing health care system while focusing on the areas that need improvement.

Improving the quality of care and reducing medical errors are priority areas for the agency. AHRQ is working to develop and test measures of quality; identify the best ways to collect, compare, and communicate data on quality; and widely disseminate information about effective strategies to improve the quality of care.

The following are examples of AHRQ-sponsored research now in progress that focuses on improving health care quality as well as recent findings from AHRQ-supported research on improving health quality.

Benefits of regionalizing surgery for Medicare patients. In this ongoing study, researchers at Dartmouth Medical school are using Medicare data and data from AHRQ’s Nationwide Inpatient Sample (NIS) to investigate the potential benefits of regionalizing patients who have certain high-risk procedures. In a recent journal article, they reported a 12 percentage point difference in survival for patients being treated for cancer of the pancreas at high- and low-volume hospitals. Only 4 percent of patients treated at the highest volume hospital died, compared with 16 percent at the lowest volume hospitals. Indeed, they found that elderly patients undergoing treatment for any one of 14 high-risk cardiovascular or cancer operations were more likely to survive if they were treated in high-volume hospitals. Researchers are now testing the best methods to provide this information to beneficiaries.

Improving obesity and diabetes education in vulnerable populations. These researchers are examining the effectiveness of a multimedia, computer kiosk-based program to educate patients about prevention of obesity and diabetes and diabetes self-management. Programs have been designed to be culturally competent for Hispanic and black patients and are intended to improve their knowledge, self-care practices, and ultimately, glucose control for those with diabetes. The computer kiosks have been placed in clinics and churches in Chicago in order to reach patients both within and outside the health care system.

Bringing evidence-based medicine to the hospital bedside. Researchers at the University of Iowa are carrying out a 3-year randomized study at 12 hospitals in Iowa, Missouri, and Illinois to evaluate the effectiveness and cost-effectiveness of implementing and evidence-based acute pain management guideline for hospitalized elderly hip fracture patients. The intervention targets both nurses and prescribing physicians and includes training, computerized learning modules, the use of opinion leaders, the use of feedback and reminder cards, and system interventions for modifying chart forms and institutional policy. The goals are to determine whether a multidimensional organizational intervention alters nurse and physician behaviors and whether institutional barriers to change are reduced.

Effects of nurse staffing levels on postoperative outcomes. A study published in June, 2002, shows a relationship between fewer registered nurses in hospitals and an unusually high number of cases of postoperative pneumonia. AHRQ researchers linked discharge data from hospitals in 13 States with American Hospital Association data on hospital characteristics and nurse staffing. They used the data to examine the impact of nurse staffing on four postsurgical complications: venous thrombosis/pulmonary embolism, pulmonary compromise, urinary tract infection, and pneumonia among patients undergoing major surgery. After controlling for severity of illness and hospital characteristics, fewer RN hours per patient day were found to be significantly associated with more postsurgical pneumonia. This study used different data and different methods but reached the same conclusions as another recent AHRQ-funded study by researchers at the Harvard School of Public Health and Vanderbilt University, which was published in the May 30, 2002 issue of the *New England Journal of Medicine*.

Implementing evidence-based screening for chlamydia. Chlamydia infection is the most common sexually transmitted disease in the United States. These infections cause severe reproductive problems and account for billions of dollars in costs to the U.S. health care system. Nevertheless, only about 20 percent of eligible women aged 15-25 are screened for chlamydia infection. A team from the University of California, San Francisco, and Kaiser Permanente found that it was possible to dramatically increase chlamydia screening rates through a sustainable and reproducible intervention. By engaging leadership, identifying barriers and solutions, and monitoring progress, participating clinics were able to increase screening 13-fold and decrease the average infection rate compared with control sites. Successful treatment of chlamydia will decrease future infertility.

Calls for Research on Quality Measurement and Improvement

In FY 2002, AHRQ called for research to examine two aspects of quality. The first Program Announcement (PA) seeks to fund research to better understand the impact of payment and organization on quality. See page 42 for additional information on this program announcement.

The second PA was issued through Translating Research into Practice (TRIP). One priority under this PA is to compare the use of interventions to translate research into practice across different health care systems. A second priority is to measure the impact of translation activities, including the testing of interventions that foster measurable and sustainable quality and patient safety improvement or consistent quality and patient safety at a lower cost. By translating research into practice, this part of AHRQ's portfolio will complete the research pipeline and yield more immediate improvements in Americans' health care. The following page summarizes two examples of research grants funded under this program announcement.

- **Surgical Volume Matters: Helping Patients Pick Hospitals.** This grant will conduct a nationwide phone survey of Medicare patients who have undergone one of 14 high risk operations in the last two years to determine how they chose the hospital to have surgery. Among the factors that will be assessed are whether hospital volume influenced the choice, how involved the patient was in the decision process, and what resources were used to find out about hospitals. Also, the study will develop and field test formats for presenting information about hospital volume ratings to Medicare beneficiaries.

- **Evidence-Based 'Reminders' in Home Health Care.** This project stems from recognizing the great need for tested, efficacious, affordable strategies to translate evidence-based practice guidelines into home health practice. A parent grant tested the relative effectiveness and cost effectiveness of two alternative information-based strategies intended to improve provider performance and promote adherence to evidence-based practice guidelines among home health care nurses. A basic and an augmented intervention were used in heart failure patients. This study will extend data collection activities to cancer pain patients with malignant (as opposed to post operative) pain.

Patient Safety and Reducing Errors

The November, 1999, report of the Institute of Medicine (IOM), *To Err is Human: Building a Safer Health System*, galvanized attention on the unacceptable number of medical errors occurring in the United States every day. This report brought patient safety to the forefront of our attention and led to unprecedented efforts to find solutions. The report showed that a wide gap exists in the quality of care people receive and the quality of care that we as a Nation are capable of providing.

According to the IOM, as many as 44,000 to 98,000 people die in hospitals each year as a result of medical errors. Even using the lower estimate, this would make medical errors the eighth leading cause of death in this country. Medical errors cause more deaths annually than automobile accidents (43,458), breast cancer (42,297), or AIDS (16,516). It is estimated that about 7,000 people each year die from medication errors alone—about 16 percent more deaths than the number attributable to work-related injuries.

Research on medical errors and other patient safety issues is not new to AHRQ. We have recognized for some time that reducing medical errors is critically important for improving the quality of health care. In 1993, the agency published one of the first reports focused on medical errors. This landmark report noted that 78 percent of adverse drug reactions were due to system failures, such as the misreading of handwritten prescriptions. Subsequent studies sponsored by AHFQ have focused on the detection of medical errors, investigation of diagnostic inaccuracies, the relationship between nurse staffing and adverse events, computerized adverse drug event monitoring, and tools for computer-assisted decisionmaking that can reduce the potential for errors and improve safety.

In FY 2001, AHRQ invested $50 million in new research grants, contracts, and other projects to reduce medical errors and improve patient safety. These projects will address key unanswered questions about when and how errors occur and provide science-based information on what patients, clinicians, hospital leaders, policymakers, and others can do to make the health care system safer. The results of this research will identify improvement strategies that work in hospitals, doctors' offices, nursing homes, and other health care settings across the Nation.

The results of investment in patient safety research are now being incorporated into practice. Below are examples of how this research is being used:

- AHRQ's Center for Education and Research in Therapeutics (CERTs) in the University of Arizona Health Sciences Center developed a unique educational and research tool at www.qtdrugs.org. This Web site contains a list of 72 drugs that can cause life-threatening abnormalities in heartbeats, or arrhythmia (abnormal heartbeat). Caregivers around the world can use this online resource to research specific drugs that might pose a risk to their patients, and they can submit clinical cases of drug-induced arrhythmias to the registry. Researchers are using the information submitted to develop profiles of people most at risk for drug-induced arrhythmia and to develop a genetic test that can identify them in advance of treatment.

- Patients and their families can use a new consumer tip sheet, available in English and Spanish, to help them play a more active role in ensuring that they get the best health care possible. The tips also help consumers prevent medical errors.

- AHRQ research has given about 73 proven patient safety practices to health care administrators, medical directors, health professionals, and others who are responsible for patient safety programs. AHRQ research has also identified 11 other patient safety practices proven to work but not used routinely in the Nation's hospitals and nursing homes. Voluntary Hospitals of America and Premier, Inc. use the information to guide their member hospitals in selecting projects to improve safety. Many chief executive officers, medical directors, and hospital safety officers have reported that they use the information to help them initiate project to improve patient safety.

- To help patients assess the safety of their care, AHRQ, the Centers for Medicare & Medicaid Services (CMS), and other organizations supported the National Quality Forum (NQF), a not-for-profit membership organization created to develop and implement a national strategy for health care quality measurement and reporting. The NQF developed a list of serious, avoidable, adverse events that are so significant and so preventable that their occurrence should trigger an investigation of the organization in which they occurred. An example of such an event would be surgery on the wrong site. This list is now completed and available to the public. For information on how to obtain a copy of *Serious Reportable Events in Healthcare*, go to the NQF's Web site (www.qualityforum.org) and click on "Activities/Consensus Reports" to find a description of the report, an executive summary, and ordering information for the full report.

- AHRQ supported the NQF's effort to develop a list of safe practices proven to be effective in reducing harm to patients. The list, which soon will be available to the public, is a tool to identify and encourage practices to reduce errors and improve care. Hospitals will be encouraged to report on their use of these practices so that patients can determine what hospitals have done to improve safety of care.

AHRQ's $50 million dollar investment in patient safety research for FY 2001 went to fund a variety of projects, including many new research initiatives. Many of these new projects are expected to take three years to compete. For 2001, AHRQ funding went to the following categories of patient safety research:

Identifying methods for reporting medical errors data. This involves 24 demonstration projects to study different methods of collecting data on errors or analyzing data that are already collected to identify factors that put patients at risk for medical errors. Projects include determining how best to identify hazards to patients, by collecting and analyzing data, and identifying ways to use the data to reduce risk.

Using computers and information technology to prevent medical errors. This group of 22 projects will develop and test the use of computers and information technology to reduce medical errors, improve patient safety, and enhance quality of care. Projects include:

- Developing an Internet based training tool to help physicians and other providers learn from "close calls." A prototype Web site has been developed and will be fully functional in early 2003.
- Examining how to effectively use computers, personal digital assistants (PDAs), and other information technologies to support decision making and communication in health care to reduce harm to patients

Understanding the impact of working conditions on patient safety. These 8 projects will examine how staffing, fatigue, stress, sleep deprivation, and other factors can lead to errors. Projects include studying the impact of working conditions such as long work hours and noisy environments on patient safety.

Developing innovative approaches to improving patient safety. This involves 23 projects that will research and develop innovative approaches to improving patient safety at health care facilities and organizations in geographically diverse locations across the country. Projects include developing and supporting Centers of Excellence to conduct research on a variety of topics such as:

- methods of decreasing medication errors
- options for changing organizational cultures to increase support of patient safety improvement
- techniques for reducing harm to patients in nursing homes, home health care, physician offices, and hospitals.

Disseminating research results. This group of 7 projects will focus on educating clinicians and others about the results of patient safety research. This work will help develop, demonstrate, and evaluate new approaches to improving provider education in order to reduce errors, such as applying new knowledge on patient safety to curricula development, continuing education, simulation models, and other provider training strategies.

Additional patient safety research initiatives. AHRQ funded 10 additional projects covering other patient safety research activities, including supporting meetings of State and local officials to advance local patient safety initiatives and assessing the feasibility of implementing a patient safety improvement corps. Projects include developing methods for increasing the adoption of proven safety enhancing practices.

In addition, in FY 2001 and 2002 AHRQ funded research on implementation research in patient safety. This includes an implementation planning study for the AHRQ, CDC, CMS, FDA Patient Safety Task Force and development of a training program to provide on-site patient safety experts to State health departments and health care delivery systems. Funding for these projects is included in the FY 2003 President's budget request.

National Healthcare Quality Report

AHRQ is developing the first annual report on the quality of health care in the United States, as called for in the agency's reauthorization legislation, which became law in 1999. The goal of the report, now in development and due out in 2003, is to provide a clear, easily understandable picture of the quality of health care in America. The development of a national report on health care quality is an important step in improving the quality the Nation's health care system and addressing the health care needs of priority populations.

The report project is being led by AHRQ in collaboration from Center for Disease Control and Prevention's National Center for Health Statistics. An interagency work group is guiding the development of this landmark first report. Other members of the work group include the Department's Office of the Assistant Secretary for Planning and Evaluation, the Centers for Medicare and Medicaid Services, the Food and Drug Administration, the Indian Health Service, the National Institutes of Health, the Health Resources and Services Administration, and the Substance Abuse and Mental Health Services Administration.

Work on the NHQR has proceeded in five areas:

Developing a conceptual framework for reporting. AHRQ commissioned the Institute of Medicine (IOM) to develop the conceptual framework for the NHQR. The IOM formed a 14-member committee of leading experts in quality. They committee commissioned papers, held multiple meetings to discuss alternative conceptual recommended a conceptual framework that includes both dimensions of care (e.g., safety, effectiveness, timeliness, patient centeredness, equity) and patient needs (e.g., staying healthy, getting better, living with illness or disability, coping with the end of life). The quality measurement system for the NHQR is organized around this framework.

Identifying potential measures to populate the framework. AHRQ formed an interagency work group to identify candidate measures for the report. The work group developed a call for measures that was sent to all relevant Federal agencies, and the IOM issued a similar call to the private sector. About 600 measures were submitted for consideration in response to these calls. The interagency workgroup mapped the candidate measures into the conceptual framework. The measures within each conceptual category were then evaluated for inclusion. There were two parts to the evaluation. First, measures were selected to maintain consistency with existing consensus-based measure sets where possible. Second, the workgroup assessed candidate measures using criteria recommended by the IOM in the Envisioning report, which include: importance, scientific soundness, and feasibility. Based on these assessments the workgroup identified a preliminary set of about 140 measures for the first NHQR. We are currently seeking input on the preliminary measure set from potential stakeholders and other interested parties. We are seeking input on the individual measures and the overall balance, comprehensiveness, and robustness of the measure set. We held a public hearing through the National Committee for Vital and Health Statistics and made the measure set available for comment on AHRQ's web site for anyone who could not attend the hearing. We accepted public comments through the web site until mid-September, 2002.

Identifying data sources for potential measures. Existing data sources to support measurement for the first NHQR have been identified and include population-based data collection efforts, establishment/provider-based data collection efforts, administrative/regulatory data collection efforts, vital statistics, and surveillance activities. Measurement specifications have been completed, data processing support procurements have been completed, and data analysis has begun. Analyses are being conducted throughout the Department including

AHRQ, the National Center for Health Statistics, the Centers for Medicare and Medicaid Services, and the National Institutes of Health. Final decisions on which measures to include in the first report will be based on the results of these analyses, the public input we receive and guidance from the NHQR Interagency Workgroup, Department technical experts and AHRQ senior leadership.

Research on report design. AHRQ formed interagency workgroup to develop the design of the report. The workgroup has conducted research to identify the needs of potential audiences for the report and to develop a report design to meet those needs. There have been several rounds of audience research, including testing on general design, report organization, and presentation format. Another AHRQ project reviewed existing reporting systems and conducted a comprehensive literature search of information on quality reporting programs in the U.S. and internationally. The information was analyzed to identify common themes and best practices among other reporting entities. Based on these activities, the workgroup has developed a preliminary design for the report. When data analyses are completed and the final measures are selected, the design will be finalized and the report will be drafted. We anticipate sending the draft of the first report into clearance in early Spring, 2003.

Longer-term development. The development of an effort to monitor the nation's progress in health care quality is an evolutionary process. Measurement systems need to continue to improve to better capture the multidimensional nature of quality. As we are preparing the first report we are simultaneously initiating efforts to enhance the data and measurement infrastructure to support future reports. For example, AHRQ has enhanced the Medical Expenditure Panel Survey by increasing the size and geographic dispersion of the sample and adding quality-related content. A current research project is looking at the pros and cons of private sector data sources that may be appropriate for future reports. We are working with the National Association of Health Data Organizations to coordinate quality measurement and reporting at the national and state levels. We are working with international partners to identify a common set of indicators that can be used to facilitate international comparisons. We are also working to enhance our future reporting capabilities. Ultimately we want to develop a Web-based product that will allow users to drill down from national-level data to obtain detail on quality performance measures for population subgroups and smaller geographic areas. Users would then have the capability to link to evidence-based information and tools on how to improve quality in areas related to the measurements.

Working Conditions and the Quality of Health Care

Understanding how working conditions affect health care workers, the risks for errors, and the quality of services provided to patients is of major importance to the health care industry. Recent efforts to reduce costs and streamline the delivery of care have led to significant changes in the health care workplace. The experiences of other industries demonstrate that differences in the equipment and physical characteristics of the workspace, changes in work responsibility and process, and changes in staffing levels can affect the quality of the products or services provided. For example, research on working conditions in the aviation industry demonstrates the

AHRQ Research Study: Nursing Staff Levels and Patient Outcomes

- **Major Finding:** Direct link between nurse staffing levels and patient complications and deaths in hospitals
- Low RN staffing associated with rates of serious complications:
  - Pneumonia
  - Cardiac arrest
  - Shock
  - Gastrointestinal bleeding
- Ongoing partnership with AHRQ, HRSA, CMS, and National Institute for Nursing Research

J Needleman, P Buerhaus, et al., *NEJM*, May 30, 2002 relationship between aviation safety and work hours, including the effect of factors such as fatigue, lack of sleep, and shift work. Despite the importance of the issue, there has been scant research on the importance of quality of the workplace environment—not only for worker satisfaction, worker health, the avoidance of disability, but also for the quality and productivity of the work performed. Workplace factors, including the way work is organized and staffed, may pose a threat, not only t the health and well-being of workers, but also to the quality of care they provide to patients and the safety of patients.

Over the last two years, AHRQ has funded more than 30 projects to examine the effects of working conditions on health care workers' ability to provide safe, high-quality care in ambulatory, in-patient (both hospital and long-term care institutions), and home care settings. Examples of the critical issues now being addressed by these researchers include:

- Effects of extended work hours, sleep deprivation, fatigue, and stress on residents and nurses working in hospital-based settings.
- Relationship between working conditions—such as nurse-to-patient ratios, workload, and skill mix—and the occurrence or near occurrence of medical errors or adverse events.
- Impact of workplace characteristics, organizational culture, and teamwork on the safety, quality, and outcomes of care in inpatient settings, specifically intensive care units and surgical settings.
- Relationship between nursing home working conditions—such as staffing levels, job design, and job satisfaction—and worker outcomes, patient outcomes, and quality of care.
- Impact of financial incentives and the work environment on the quality of care in both ambulatory and inpatient settings.
- Effects of employee training, satisfaction, and understanding of patient safety on patient outcomes and quality of care.

Tools for Patients and Health Care Consumers

Americans are demanding greater value and quality in their health care. To achieve these goals in today's rapidly changing health care environment, consumers need reliable, evidence-based information to help them choose among health care plans, practitioners and facilities. They also need information to help them participate more actively and effectively in their personal health care decisions. AHRQ is committed to providing the information consumers need and want to get the best possible health care.

Consumer Assessment of Health Plans (CAHPS®): CAHPS® is an easy-to-use kit of survey and reporting tools that provides reliable information to help consumers and purchasers assess and choose among health plans. CAHPS® will also allow health plans and purchasers to assess and track areas for quality improvement. Information from CAHPS® surveys was available to help more than 120 million Americans with their 2002 health care benefits decisions.

The CAHPS® team and AHRQ work closely with the health care industry and consumers to ensure that the CAHPS® tools are useful to both individual consumers and to employers and other institutional purchasers of health plans. Collaborations include the following:

- Beneficiaries enrolled in 280 Medicare managed care plans assessed their plans and this information was made available to nearly 40 million Medicare beneficiaries. This information is also available on the Medicare.gov Web site.

- AHRQ and CMS collaborated with the CAHPS® consortium to develop a Medicare CAHPS® Disenrollee Survey. This survey of beneficiaries who had recently left a Medicare managed care plan was fielded by CMS in FY 2000. Approximately 80 percent of this survey related to quality. Survey data allows users to distinguish between disenrollment decisions that are unrelated to quality (e.g., enrollee moving out of the area that the plan serves) and disenrollment that is related to quality (e.g., limited access to specialists).

- A version of CAHPS® to assess care at the group practice level was developed in collaboration with the California Health Care Foundation and the Pacific Group on Health. The survey was developed in response to strong consumer interest in information on the ability of physicians in group practices to provide high-quality care. In CAHPS® II, the team will develop ways of reporting CAHPS® data to consumers as well as to group practices. An additional goal is to develop strategies for working with physicians to improve areas that consumers identified as troublesome.

Blue Cross of California and CAHPS

Shifting the focus from cost savings to improving quality, Blue Cross of California changed its method of rewarding HMO physicians. As of January 1, 2002, the health plan awards bonuses to its HMO physicians and medical groups based on quality of care and patient satisfaction. Satisfaction is determined through the use of Consumer Assessment of Satisfaction (CAS) survey data, derived from the HMO CAHPS survey.

- The CAHPS® consortium and the Foundation for Accountability, with support from the David and Lucille Packard Foundation, developed a CAHPS® survey to identify children with special health care needs and collect information on how well health plans are meeting those needs. This tool is used by numerous State Medicaid and other agencies involved in managing children’s health insurance programs to meet the requirements set forth in the 1997 Balanced budget Act. The National Committee for Quality Assurance has included this survey as a requirement in the HEDIS reporting set.

- AHRQ and CMS are collaborating in the development of a CAHPS® survey to obtain consumers’ assessments of health care and services received in nursing homes. Survey development and sampling and data collection procedures were completed in FY 2001. Additional testing was carried out in FY 2002. Data collected from nursing home residents and next of kin will be used to help people choose a nursing home.

In 2002, AHRQ funded three grants submitted under the CAHPS® II request for applications for $2.5 million. CAHPS® II will focus on development and testing of new and more effective ways to report quality data to consumers, patients, caregivers, and purchasers. It will also permit translation of the questionnaires and reports into Spanish and other languages. This initiative includes the development of assessment instruments for people with

CAHPS and Small Business Innovation Research Award

The State of Washington's Health Care Authority is using a decision support tool originally developed through an AHRQ SBIR grant that incorporates CAHPS to help State employees and retirees choose among health plans. The tool was developed as *Health Plan Select*, but, as customized by Washington State, is called *Compare-A-Plan*.

Because the volume of information about health plans can be confusing, the tool is designed to help consumers learn about their health plan choices, then compare and choose a plan. To accomplish this, the Web-based tool integrates price, benefits, physician choice and health plan performance measures such as CAHPS and HEDIS. *Compare-A-Plan* is on the Washington State government’s Web site.

mobility impairments and more refined questionnaire items for people who receive care through preferred provider organizations. The team will also work with caregivers and plans to use CAHPS® data for the purpose of quality improvement.

Partnerships for Quality (Translating Research into Practice)

Research and experience have taught us that new scientific knowledge does not automatically translate into practice and improve patient care. In order for research findings to make their way into everyday clinical practice, the new knowledge must be linked with supportive environments and incentives for change. Systematic approaches are required for change to take place and services to be implemented that have the potential to improve care.

To close the gap between the level of quality that is possible and that which is achieved, AHRQ is supporting a newly funded initiative called Partnerships for Quality. This initiative supports projects that are designed to accelerate the pace with which research findings can be translated into improved quality of care and improvements in the health care system's ability to deliver that care. In response to AHRQ's call for research proposals, in FY 2002 the agency funded 18 grants for a total of $1.8 million that are primarily focused on improvements in the delivery and outcomes of health care, with a focus on priority health conditions, such as diabetes and heart disease, and priority health issues, such as long-term care, bioterrorism, and children's mental health.

Although no specific matching requirements are included in this RFA, these grants are seen as partnerships and as furthering and facilitating efforts already underway or in advanced stages of planning. Therefore it is expected that grantee organizations and consortia will devote substantial amounts of their own resources to this effort. Examples of three Partnerships for Quality grants are provided below:

Partnership to Improve Children's Health Care Quality. The partners for this project are the National Initiative for Children's Healthcare Quality (NICHQ), the American Academy of Pediatrics (AAP), a certifying body (the American Board of Pediatrics, ABP), and Children and Adults with Attention Deficit Disorder (CHADD). The project will build on NICHQ's success in improving care for children with ADHD by engaging five State AAP chapters in sytems- and evidence-based collaborative learning sessions along with an interactive Web-based CME quality improvement tool (eQUIPP). ABP will collaborate by including eQUIPP as a vehicle for satisfaction of new certification requirements. Efforts in subsequent years will focus on supporting these local improvement networks, spreading these efforts to additional AAP chapters, and beginning work with pediatric residency training programs.

Partnership for Achieving Quality Home Care. This project, awarded to the Visiting Nurse Service of New York, will launch a national partnership among home health care providers to improve care for a priority population, elderly home care recipients, by creating a model and establishing an infrastructure through which collaborating organizations can identify and prioritize goals for improvement and gain access to methods, tools, and materials that will enable them to reach beyond what they could do as individual organizations to conduct more sophisticated, evidence-based quality improvement activities. A learning collaborative model, adapted from the successful Breakthrough Series approach developed by the Institute for Healthcare Improvement (IHI), will be created to serve as a central mechanism of the partnership. Activities will include 14 home health agencies, up to two national home health industry associations, two accrediting bodies, and the National Academy of Home Health Physicians.

Measurement of Quality and Bioterrorism Preparedness: An Impact Study. This project, which was awarded to the Joint Commission on Accreditation of Healthcare Organizations, consists of two distinct but complementary entities. The first element relates to performance measurement using an indicator-based approach to measuring quality of care that will demonstrate the impact of evidence-based measurement on health care quality across U.S. hospitals. Areas of focus will be congestive heart failure, acute myocardial infarction, community-acquired pneumonia, and pregnancy. The second element will address an essential element of overall preparedness of health care organizations for a bioterrorism event. The goal is to assess improvements in linkages between health care organizations, the public health infrastructure, and emergency response in the wake of multiple influences such as implementation of the revised Joint Commission emergency management standards, occurrence of national events, and availability of Federal funding for bioterrorism preparedness.

A PART assessment was conducted for this program and helped inform the FY 2004 budget policy. A summary of the PART for Translating Research into Practice is provided on page 78.

Goal 3: Identifying Strategies to Improve Access, Foster Appropriate Use, and Reduce Unnecessary Expenditures

Adequate access to health care services continues to be a challenge for many Americans. This is particularly true for the poor, the uninsured, members of minority groups, rural residents, and other priority populations. At the same time, examples of inappropriate care, including over utilization and misuse of services, continue to be documented. AHRQ addresses these critical policy issues through ongoing development of nationally representative and specialized databases, the production of public-use data products, and research and analyses conducted by AHRQ staff and outside researchers.

Impact of Payment and Organization on Cost, Quality and Equity

Health care in the United States is provided by large systems, with complex funding streams. Before we can improve the quality and efficiency of health care, providers, purchasers and policymakers need more information about how these systems operate and how different financial and organizational arrangements affect health care. AHRQ's FY 2002 research grant portfolio addressed these issues by asking questions such as:

1. How do different payment mechanisms and financial incentives affect quality, access and the cost of care?
2. How can payment arrangements be designed to provide appropriate incentives to both patients and providers and enhance patient knowledge of and compliance with treatment regimens?
3. How does consumer and patient decision making influence payment policies?
4. How do different patterns and levels of market competition affect the quality and cost of care?
5. What is the impact of employer and coalition efforts on the quality and cost-effectiveness of care in the marketplace, the impact of State efforts to monitor and improve access and quality, and the impact of public and private payment changes on the health care safety net?
6. What organizational structures and processes are most likely to sustain high-quality, efficient health care?

AHRQ developed a Program Announcement on the effects of payment and organizational structures and processes on the cost, quality, and equity of health care. Important areas to be addressed by this research include: the effects of different payment mechanisms and financial incentives on health care quality, costs, and access; the impact of purchaser and public-sector initiatives on quality, costs, and access to care and to health insurance; the organizational structures most likely to sustain high-quality, accessible health care; and the impact of different patterns and levels of market competition on health care quality and costs. Below are three examples of grants funded under this program announcement.

- **Hospital Finances and the Quality of Hospital Care.** This grant will look at the relationship between a hospital's financial condition, its operational and resource allocation decisions, and the quality of clinical care at that hospital. Since many hospitals and provider organizations in the United States are facing significant financial constraints, it is important to understand the impact of financial conditions on operational decisions.

- **Purchaser/Provider Evaluation: Hospital Quality Data.** This project will compare and contrast the perceptions of health care purchasers and hospital administrators regarding the relative importance of hospital quality measures. It will also determine how health care purchasers use the comparative reports of hospital performance among their employees and for negotiating health coverage. Thus, the study will address key public policy questions such as: the impact and utility of public disclosure of hospital patient safety measures on purchasers/employers and on hospital administrators, the possible pathways for improving hospital performance, and how to increase the impact of future hospital comparative reports.

- **Physician networks and children with chronic conditions.** The aim of this grant is to study the effect of offering out-of-network benefits for children with two chronic conditions: asthma and diabetes. The grant will determine the associations between the out-of-network benefits and cost-sharing of health plans and children's likelihood of seeing and out-of-network physician. The grant will also determine whether quality of care and expenditures are significantly different among children seeing in-network versus out-of-network physicians.

AHRQ Research to Improve Cost and Improve the Quality of Health Care

For at least the past 10 years, the Agency for Healthcare Research and Quality (AHRQ) has helped the health care system reduce cost and improve quality by answering critical questions regarding the delivery of health care services. Some examples of these questions and the AHRQ findings follow.

Medicaid Question: Is capping the number of prescriptions for Medicaid beneficiaries a useful cost-containment strategy?

Answer. No

Background. The New Hampshire legislature limited Medicaid reimbursement to three prescriptions per month for an 11-month period. AHRQ research evaluated the impact of this Medicaid cost-containment initiative.

AHRQ's finding. Investigators estimated that overall statewide increases in utilization costs were 17 times greater than the savings in drug expenditures (e.g., hospitalizations increased by 35 percent; nursing home admissions also increased in association with the prescription cap).

Result: New Hampshire abolished the prescription cap, and another nine States have also changed their policies based on this research.

AIDS/HIV Question: Can we reduce the cost and improve the quality of care for AIDS patients?

Answer. Yes

Background. Pneumocystis carinii pneumonia is an opportunistic infection most often occurring in patients with AIDS. The research examined whether the administration of inexpensive prophylactic antibiotics prevented the development of this infection, and whether the treatment was cost effective.

AHRQ finding. AHRQ-funded investigators at Johns Hopkins University School of Medicine found that patients admitted to hospitals with pneumocystis pneumonia who did not receive prophylactic antibiotics accounted for 85 percent of the hospital days, 100 percent of the intensive care unit days, and 89 percent of the inpatient hospital charges.

Result: Extrapolating the findings to all of Maryland, they estimated failure to receive prophylaxis resulted in 62 patient deaths and a cost of $4.7 million to the State.

Carve-Out Programs Question: Are carve-out programs for special health conditions, such as mental health/substance abuse (MHSA) problems, cost-effective?

Answer. Yes, they can be.

Background. Health plans and insurers increasingly cover services, such as MHSA, through a separate contract (known as a "carve-out" program) with a specialty vendor. The vendor manages these services and is at partial or full risk for providing the services. The Massachusetts Group Insurance Commission adopted a carve-out program to cover MHSA services. The contract exposed the vendor to a limited amount of financial risk to avoid providing strong incentives to skimp on service provision but still gave the vendor the incentive to perform well and save the GIC a substantial amount of money.

AHRQ Finding. Findings from a study supported in part by AHRQ indicate that this carve-out resulted in a 54% decrease in total episode costs for individuals with unipolar depression and a 33% decrease for those with substance dependence. But the researcher noted the importance of two benefit design features—the addition of partial hospitalization services for MHSA conditions, which previously had not been covered, and the expansion of the outpatient MHSA benefit, which reduced copayments and removed the annual limits on use of outpatient services—that helped maintain quality care.

Health Care Markets and Managed Care

From a growing body of social science evidence we are learning that market dynamics and delivery system organization are critical determinants of patients' access, quality of care, outcomes and health care costs. Over the last several years, AHRQ's research portfolio has emphasized two areas of inquiry, each focusing on particular patient populations:

1. What managed care features improve the quality of care given to patients with chronic conditions?
2. What public insurance program policies and practices improve access to and the quality of health care for low-income children?

These areas of inquiry were selected in direct response to the need for information about key market and delivery system determinants. Decisionmakers need to know how deliberate or unintended changes in system determinants affect care provided to low-income children and people with chronic conditions. In addition to these two priority areas, AHRQ has supported a broader portfolio related to marketplace complexities and delivery system organization.

To gather evidence on how best to provide care to the millions of patients with chronic conditions, AHRQ teamed with the American Association of Health Plans Foundation and AHRQ's sister agency, the Health Resources and Services Administration (HRSA) in 1998. Findings from this initiative are now emerging, including:

- The choice of compensation method used by independent practice associations (IPAs) and health maintenance organizations (HMOs) to pay physicians has an impact on quality of care. In a study of over 50 group practices, IPA/HMO payment formulas that capitated ophthalmology group practices and provided bonuses to individual physicians were associated with lower satisfaction ratings among patients with diabetic retinopathy and open-angle glaucoma—two leading causes of blindness—than fee-for-service payment formulas.

- IPA networks consistently had worse process and outcome quality indicators for patients with chronic heart and lung diseases than more tightly managed medical groups.

Integrated Delivery System Research Network (IDSRN)

The Integrated Delivery System Research Network (IDSRN) is a creative agency-private-sector partnership that links AHRQ with the Nation's top researchers and some of the largest health care systems in the country. The network is being tapped for research by a number of AHRQ's sister agencies, including CMS, the Office of Minority Health/Office of the Secretary of Health and Human Services, and the Office of Public Health Preparedness.

The IDSRN includes nine practice-based research consortia and their collaborators, who provide care to more than 55 million Americans across the United States. Many of those who receive care in participating facilities represent hard to reach populations, such as those covered by Medicare or Medicaid, those who are

IDSRN Statistics

As a group, the IDSRN provides health services to over 55 million Americans including:

- Medicare patients (3 million)
- Medicaid patients (2 million)
- uninsured patients (0.6 million)
- ethnic and racial minorities (5.8 million)
- rural patients (6.3 million)
- children (14.4 million)

uninsured, racial and ethnic minorities, and rural and urban residents.
With access to linked private-sector data about care in ambulatory and inpatient settings, the IDSRN is uniquely situated to develop, disseminate, and implement scientific evidence about what works in a variety of health care settings. The partners and collaborators collect and maintain administrative, claims, encounter, and other health care data on large populations that are clinically, demographically, and geographically diverse. The IDSRN represents a real-world laboratory for organization and system level demonstrations, and serves as a dissemination medium for putting evidence-based findings into practice.

Network Partners

The IDSRN includes the following nine practice-based research consortia and their collaborators:

- HMO Research Network
- Abt Associates, Incorporated
- Center for Health Care Policy and Evaluation (UnitedHealth Group)
- Research Triangle Institute-UNC Network
- Emory Center on Health Outcomes and Quality
- Denver Health
- University of Minnesota Consortium
- Marshfield Medical Research and Education Foundation
- Weill Medical College of Cornell University

Research Accomplishments. Accomplishments in the past year include the development of a simulation model of mass antibiotic prophylaxis for bioterrorism response developed by Weill Medical College of Cornell University in conjunction with New York City health and emergency preparedness agencies. The model was used in May 2002 in a large-scale live exercise that evaluated the city's ability to respond to a large bioterrorist attack. Called Operation TriPOD, for "Trial Point of Dispensing," it involved tracking simulated patients using bar-code technology that allowed the organizers to measure both the time required to process each patient and the accuracy with which the correct antibiotic was given to the right "patient." National, regional and municipal officials are using the results of this exercise to develop a template for bioterrorism response that can be adapted by other cities in the United States and around the world. In another IDSRN project, Marshfield Health Clinic assessed the impact of its Coumadin Clinic on health care utilization, including urgent care, emergency department and inpatient events. While the estimates are still preliminary, testimony by Marshfield Clinic before the Way and Means Committee's Subcommittee on Health strongly suggests that disease state management initiatives like Marshfield's Coumadin Clinic offer potential for significant cost reductions by averting hospital inpatient and emergency department visits. Medicare, for example, would save an estimated $235,943 per 100 person years.

Primary Care Practice-based Research Networks (PBRNs)

In FY 2002, AHRQ funded 33 PBRNs for $2.9 million under a new initiative that doubles the number of funded networks and greatly increases the number of providers (about 10,000) and patients (about 10 million) who will be affected by AHRQ’s efforts.

PBRNs are groups of practices devoted principally to patient care that work together with academic researchers and/or professional organizations to study and improve the delivery and quality of primary care. Through cooperative agreements, AHRQ supported network efforts to define the practice base of each BPRN and to improve network methods of managing data and translating research into practice.

Several of the networks are made up entirely of rural practices. Others, especially those made up of mostly inner-city practices or community health centers, serve large minority and low-income patient populations. In addition to several regional networks, the group included two national networks managed by major primary care professional organizations: the American Academy of Family Physicians and the American Academy of Pediatrics.

In particular, AHRQ wanted to improve in-office systems designed to assure that the primary care delivered in practice is consistent with current medial evidence. In addition to collecting survey data about their provider and patient populations, the networks have tested the use by practitioners of various electronic information technologies, including handheld devices, notebook computers, and Web-based applications. Two networks conducted qualitative studies on patient and provider concerns about the privacy and confidentiality of patient-related data collected in primary care practices.

AHRQ has partnered with the Robert Wood Johnson Foundation in the development of a new PBRN-targeted initiative that will focus on identifying successful methods of promoting healthy behaviors (smoking cessation, avoidance of risky drinking, increased activity, and healthy diets) in primary care practices. The agency also partnered in FY 2002 with the National Cancer Institute in issuing a program announcement supporting research by PBRNs aimed at improving rates of screening for colorectal cancer in primary care practice. We expect the initial awards to PBRNs from both the AHRQ/Robert Wood Johnson Foundation and the AHRQ/National Cancer Institute initiatives will be made in early 2003.

HIV Research Network

The HIV Research Network (HIVRN) is a network of HIV providers who pool data and collaborate on research to provide policymakers and investigators with timely information about access to and the cost, quality, and safety of HIV care; and to share information and best practices among those participating in the Network.

Scientific advances in recommended treatment regimens for HIV disease have the potential to profoundly improve care provided to people with HIV. Medicaid, Medicare, the Department of Veterans Affairs, and the Ryan White CARE Act programs spent nearly $9 billion in FY 2002 to treat people with HIV disease. To address the need for real time data on the treatment of persons with HIV disease. New drugs are being developed so rapidly that data collected as recently as 3 years ago do not reflect the current situation and cannot be used reliably for tracking the resources expended or the quality of care provided to people with HIV; reliable information on these topics is critical in informing policy and clinical practice. Policymakers, service providers, and patients need to know how often people with HIV infection receive specific services and what factors are related to receiving more or fewer services. The goal of the HIVRN is to disseminate this information widely, using the most recent data that are available.

To address the need for data on the treatment of people with HIV disease, AHRQ joined with the Department's Assistant Secretary for Policy and Evaluation (ASPE), the Substance Abuse and Mental Health Services Administration (SAMHSA), and the Health Resources and Services Administration (HRSA) in 1999 to establish a pilot HIV data center at the Johns Hopkins School of Medicine. Researchers at the data center tested on a small scale the feasibility of transmitting data from HIV caregivers. These included data on patient characteristics, payer data, clinical data, and data on the number of visits and admissions. In the initial phase of the this project, the researchers succeeded in enrolling a set of HIV care providers in different regions of the United States and in establishing procedures for transferring data on HIV-related resource use and relevant clinical parameters to the HIVRN. Data on over 10,000 HIV-infected patients for calendar year 1999 were transferred to the HIVRN.

In 2000, the pilot was deemed successful, NIH's Office of AIDS Research joined the collaboration, and efforts were expanded to collect data from 18 providers who treated at least 14,000 people with HIV disease. This unique dataset permits analyses looking at patient characteristics, payer variation, drug therapy regimens, number of visits and admissions.

Research Accomplishments. Accomplishments in the past year include findings that provide an evidence base about care nationwide for persons with HIV, such as:

- Monthly inpatient care averaged $423 per patient, and monthly outpatient care averaged $168 per patient.
- The cost of highly active antiretroviral therapy (HAART) was partially offset by cost reductions associated with lower hospital inpatient utilization; HAART was associated with monthly inpatient costs of $389 compared with $470 among non-HAART users.
- White HIV-infected patients (55 percent) are more likely than blacks (48 percent) or Hispanics (44 percent) to receive new and expensive drug therapies.
- Men (70 percent) are more likely than women (56 percent) to receive new and expensive drug therapies.
- Privately insured patients (61percent) are more likely than Medicaid (43 percent) and uninsured (38 percent) patients to receive new and expensive drug therapies.

Starting in 2002, health officials and others can now access HIV health care use data online through AHRQ's HIVnet, which draws from HIVRN data. This interactive service, found at http://www.ahrq.gov/data/HIVnet.htm, provides statistical answers in real time to questions about HIV patients' use of outpatient and inpatient care by age, sex, race/ethnicity, HIV risk group, insurance status and type, protease inhibitor use, and other variables. HIVnet now has data for 1999 and 2000, and half of the data for 2001 have been added.

The HIVRN provides an ongoing means to collect timely information on resource use associated with HIV disease. It is a cost-effective way to obtain reasonably complete medical and financial information on a large number of HIV-infected patients, thus facilitating research on HIV care among different types of patients.

Healthcare Cost and Utilization Project (HCUP)

HCUP is a Federal-State-industry partnership to build a standardized, multi-State health data system. This long-standing collaborative endeavor has built and continues to develop and expand a family of databases and powerful, user-friendly software to enhance the use of administrative data.

The HCUP family of databases currently includes:

- State Inpatient Databases (SID)
- Nationwide Inpatient Sample (NIS)
- State Ambulatory Surgery Databases (SASD)
- State Emergency Department Databases (SEDD)
- Kids' Inpatient Database (KID).

HCUP includes data on hospital discharges from participating States, as well as a nationwide sample of discharges from community hospitals. AHRQ has expanded HCUP beyond inpatient hospital settings to include hospital-based ambulatory surgical facilities, and a pilot effort is underway to capture information from emergency department databases.

Data from HCUP have been used to produce reports that answer questions on reasons Americans are hospitalized, how long they stay in the hospital, the procedures they undergo, how specific conditions are treated in hospitals, charges incurred for hospital stays, and resulting outcomes.

Nationwide Inpatient Sample (NIS) is the largest all-payer inpatient database in the United States. It provides information on about 7 million inpatient discharges from about 1,000 hospitals, including data from 1988-2000. According to NIS data:

- About 135,000 hospital stays a year for treatment of depression, and alcohol- and substance-related mental disorders are not covered by either private insurance or public insurance programs such as Medicare and Medicaid
- Childbirth is the leading type of hospital care not covered by private or public insurance. About 5 percent of all hospitalizations for childbirth—roughly 191,000 hospital stays a year—are uninsured.
- Two chronic diseases, which if appropriately treated in primary care practices do not ordinarily result in hospitalization, also are among the top 10 types of uninsured inpatient care–asthma and diabetes. Together they account for 65,000 hospital admissions a year.

AHRQ has made available the Kids' Inpatient Database (KID), the Nation's first comprehensive database on hospital use, charges, and outcomes focused exclusively on children and adolescents. The KID contains 1.9 million pediatric discharges representing 6.7 million pediatric discharges nationwide and data on various hospital characteristics such as region, location (urban/rural), bed size, ownership, teaching status, and children's hospital status.

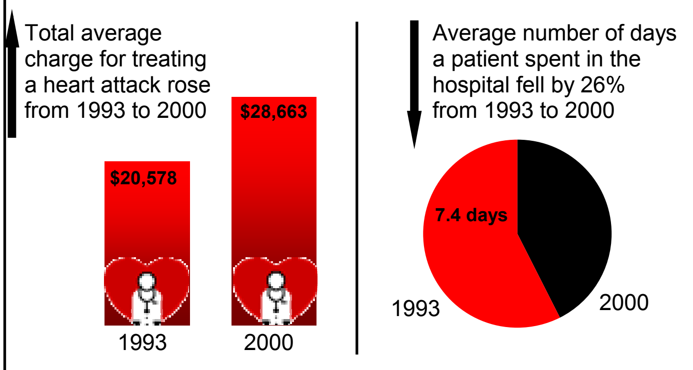
Accomplishments. FY 2002 accomplishments include increasing the number of States participating in HCUP; 29 States are HCUP partners. Four new State partners joined HCUP in FY 2002: Kentucky, South Carolina, Texas, and West Virginia. They were selected based on the diversity—in terms of geographic representation and population ethnicity—they bring to the project, along with data quality performance and their ability to facilitate timely processing of data.

The number of States now participating in the State Ambulatory Surgery Databases (SASD), a second group of HCUP databases, increased from 9 in FY 2000 and 13 in FY 2001 to 15 in FY 2002.

During the past year AHRQ implemented a multifaceted effort to make HCUP data more accessible to researchers and other interested users. HCUP tools include:

- **HCUPnet at http://www.ahcpr.gov/data/hcup/hcupnet.htm.** HCUPnet is a free, interactive, menu-driven online service that allows easy access to national statistics and trends and selected State statistics about hospital stays. HCUPnet answers questions about conditions treated and procedures performed in hospitals for the population as a whole, as well as for subsets of the population such as children and the elderly. In addition, six new States for a total of 16 States have agreed to include their data in HCUPnet. At 5,000 plus visits a month, HCUPnet is consistently within the Top 10 resources accessed from the AHRQ Web site.

AHRQ Quick Stats: Hospital Statistics



Total average charge for treating a heart attack rose from 1993 to 2000

Average number of days a patient spent in the hospital fell by 26% from 1993 to 2000

HCUPnet, September 18, 2002

- **HCUP Central Distributor.** Researchers' access to HCUP data has been facilitated by the creation of a central distribution center for the State-level databases. Now researchers can go one-stop shopping instead of contacting each State on an individual basis. We have increased the number of States providing data to the Central Distributor to 17.

- **HCUP fact books.** Data from HCUP have been used to produce reports that answer questions on reasons Americans are hospitalized, how long they stay in the hospital, the procedures they undergo, how specific conditions are treated in hospitals, and the resulting outcomes. In FY 2002, a fact book on care of women in the U.S. hospitals was produced. The fact book answers questions about hospital care for women such as: What are the most common reasons for hospitalizations? In what ways do hospitalized women differ from men? Who is billed for various types of hospital stays?

Care of Women in U.S. Hospitals, 2000

- For women, 6 out of the top 10 conditions for non-obstetric hospital stays are related to the circulatory system. These conditions make up 18% of all hospital stays for women and 23% of all stays for men.

- For two cardiac conditions – heart attack and hardening of the arteries of the heart – about 1 in 3 hospitalizations for women include no procedure. But for men, only 1 in 4 receives no procedure for heart attack and only 1 in 5 receives no procedure for hardening of the arteries of the heart. Men are more likely than women to receive cardiac catherization, percutaneous transluminal coronary angioplasty (PTCA), and coronary artery bypass graft (CABG).

Medical Expenditure Panel Survey (MEPS)

MEPS is an annual nationally representative survey of health care use, expenditures, sources of payment, and insurance coverage for the U.S. civilian non-institutionalized population. The first MEPS survey, in 1996, also included a national survey of nursing homes and their residents. Through MEPS, AHRQ collects and examines comprehensive data that estimate the level and distribution of health care use and expenditures, monitor the dynamics of the health care delivery and insurance systems, and assess health care policy implications. Additional details regarding MEPS can be found on page 79.

Improving the Health of Priority Populations

The agency's research emphasizes the needs of priority populations who generally are underserved by the health care system and underrepresented in research. Disparities in health care have been well-documented in recent decades across a broad range of medical conditions and for a wide range of populations, including racial and ethnic minorities, women, and children.

Disparities persist in health and health care for these groups, even though health care for the Nation as a whole has improved. For example:

- Cancer mortality rates are 35 percent higher in blacks than whites.
- Before age 75, women are more likely than men to die in the hospital after a heart attack, and women typically receive fewer high-technology cardiac procedures than men.
- Among diabetes patients, blacks are seven times more likely than whites to have amputations and develop kidney failure.
- Cervical cancer occurs five times as often in Vietnamese women in the United States as in white women.
- Infant mortality is nearly 2 and one-half times higher among blacks than among whites.
- Among preschool children hospitalized for asthma, only 7 percent of black and 2 percent of Hispanic children, compared with 21 percent of white children, are prescribed routine medication to prevent future asthma-related hospitalizations.

AHRQ has established the Office for Priority Populations to coordinate, support, manage, and conduct health services research on priority populations. AHRQ has a long history of conducting and supporting research on health status and health care for priority populations. AHRQ also is developing the first-ever report on prevailing disparities in health care delivery in the United States. Recent reauthorization legislation directed AHRQ to prepare and publish this report annually, beginning in 2003. This effort will be carried out in partnership with other agencies to ensure compatibility with other existing projects, including AHRQ's National Healthcare Quality Report, Health People 2010, and the Department's survey integration priorities. The National Healthcare Disparities Report (NHDR) will begin to provide comprehensive answers to critical questions about disparities in health care, such as:

1. Are death rates for some inpatient procedures higher for members of certain racial/ethnic groups than for others?

2. Are blacks or Hispanics less likely than whites to receive necessary services?

3. Are uninsured patients more likely to receive surgery in hospitals with higher rates of medical errors?

For more information on the NHDR, see page 58.

Women's Health

AHRQ supports research focused on improving quality, achieving better outcomes, and enhancing access to effective health care for women. One specific focus of AHRQ's women's health agenda is research that enhances active life expectancy for older women. Although women in the Unites States are living longer than ever before, on average they experience 3.1 years of disability at the end of life. Today, heart disease, cancer, and stroke account for more than 60 percent of deaths among American women; more than one-third of deaths among women are due to heart disease.

Although we have made progress in early diagnosis and treatment of breast cancer, this disease continues to take a heavy toll on American women, particularly older women. Approximately 185,000 new cases of breast cancer are diagnosed among U.S. women each year, and nearly 45,000 women die from the disease.

AHRQ conducts and supports research on all aspects of health care provided to women, including studies that examine the differences in patterns of care between men and women. AHRQ is collaborating with the NIH's Office of Research on Women's Health in the Building Interdisciplinary Research Careers in Women's Health program to include a health services research component in support of the interdisciplinary focus of the program to be developed.

AHRQ's women's health research agenda support studies that are designed to :

- Enhance care for women with chronic illnesses and disabilities.
- Identify and reduce disparities in the health care of minority women.
- Address the health needs of women living in rural areas.

Examples of AHRQ-funded women's health research currently underway include:

Evidence-based Decision Aids to Improve Women's Health. This researcher is developing and testing a Web-based decision support tool that will help pregnant women weigh the benefits, risks, and consequences associated with various childbirth options. The goal is to improve shared decisionmaking, increase patient satisfaction, and reduce postpartum depression.

Variability in Interpretation of Mammograms. In this project underway at the University of Washington, researchers are evaluating data on more than 500,000 mammograms from 91 facilities and 279 radiologists. Three geographically distinct breast cancer surveillance programs in the States of Washington, New Hampshire, and Colorado are collaborating in the study. The goal is to determine the reasons for variability among radiologists and mammography facilities in the interpretation of mammograms.

Treatment of Noncancerous Uterine Conditions. Researchers at the University of Maryland and the University of California, San Francisco, are conducting 5-year projects focused on the effectiveness of different treatments, such as medication and endometrial ablation, for noncancerous uterine conditions (for example, dysfunctional uterine bleeding, fibroid tumors, and endometriosis).

Women's Experiences of Postpartum Care. Researchers from Brandeis University are investigating how social support, social class, and race/ethnicity affect women's experiences of postpartum services provided in the hospital and at home during the first week after an uncomplicated labor and delivery. They will interview women who have given birth, physicians, midwives, and nurses on postpartum units in two hospitals, one in Toronto and one in Boston.

Recent Women's Health Findings from AHRQ research on breast and cervical cancer include:

Outpatient mastectomy. Outpatient mastectomies increased dramatically in five States between 1990 and 1996: Colorado, Maryland, New Jersey, New York, and Connecticut. AHRQ researchers uncovered two key factors that influence whether a women gets a complete mastectomy in the hospital or in an outpatient setting: the State where she lives and who is paying for it. Women in New York were more than twice as likely, and in Colorado nearly nine times as likely, as women in New Jersey to have outpatient surgery. Nearly all women covered by Medicaid or Medicare were kept in the hospital after surgery, as were 89 percent of women who had HMO coverage.

Breast and cervical cancer screening in disabled women. Researchers from Harvard Medical School found that disabled women who have difficultly waling are less likely than other women to receive Pap smears and mammograms. Contributing factors include inaccessible examination tables and mammography equipment, physician concerns about positioning the women on exam tables, inadequate or biased attitudes of clinicians regarding the women's sexuality, and time pressures on physicians in busy practices.

Breast cancer in older women. More than 50 percent of all breast cancers are diagnosed in women 65 years of age or older. Yet elderly women are less inclined than younger women to get mammograms. In this study of 718 elderly breast cancer patients with newly diagnosed stage I or stage II disease at 29 hospitals in 5 regions, use of mammography was associated with earlier detection and a higher likelihood of receiving breast conserving surgery with radiation than other therapies.

Breast cancer screening in hard-to-reach populations. Researchers have documented that poor and minority women receive fewer mammograms than other women. In this study, AHRQ-supported researchers used less than traditional approaches—such as providing information through churches and community-based organizations—to increase mammography screenings. Over the past two decades, AHRQ has co-sponsored research that supported mobile mammography screening vans, an intervention that has increased access to mammography for poor and minority women.

Use of telecolposcopy in rural areas. Women who have abnormal Pap smears usually are referred for followup evaluation by traditional colposcopy (use of a magnifying instrument to examine vaginal and cervical tissue). Rural women may have to travel long distances to receive this standard care. AHRQ-supported research demonstrated the accuracy and efficacy of telecolposcopy—in which local doctors confer with distant experts by electronically transmitting an image of the colposcopy—in rural areas. This technology may solve the travel problem for rural women and thereby enhance their access to early diagnosis and treatment of cervical cancer.

Children's Health

Children and adolescents are growing and developing, and their health care needs, use of services, and outcomes are very different form those of adults. Unlike adults, children and adolescents usually are dependent on parents and others for access to care and evaluations of the quality of that care. Furthermore, adolescents differ from younger children. They are moving from childhood to adulthood and have their own unique health care needs, preferences, and patterns of use.

Improving outcomes, quality, and access to health care for America's 70 million children and adolescents is a continuing priority for AHRQ. This special research focus is necessary if we are to realize improvements in the health care provided to young people of all ages.

AHRQ's work helps to fill the major gap that exists in evidence-based information on the health care needs of children and adolescents. Such information is essential to appropriately guide clinical and policy decisions. A special urgency was created with implementation of the State Child Health Insurance Program (SCHIP) and our need to have better information about children's health status, their needs, and their outcomes.

To address the scarcity of quality measures for children, AHRQ is supporting the development, testing, and implementation of the new Pediatric Quality of Life Measure. Also, the National Committee for Quality Assurance adopted the children's component of AHRQ's CAHPS® survey for HEDIS. CAHPS® is the first health-plan-oriented survey of children to be administered nationwide. The CAHPS® measure now permits users to distinguish quality of care for children with chronic illnesses and disabilities.

In FY 2002, AHRQ is supporting child-relevant studies focused on outcomes, quality and patient safety, the use and cost of care, and access to care. Researchers involved in these studies are working to:

- Develop the first comprehensive analysis of the management of suspected child abuse in primary care practices.
- Develop and evaluate a computerized laptop system for use in the examining room of primary care practices as an extension of an existing in-house prescribing system to improve the care of children with attention-deficit/hyperactivity disorder.
- Establish a Developmental Center for Education and Research in Patient Safety in neonatal intensive care to reduce medical errors and enhance patient safety for high-risk newborns.
- Determine whether the skills acquired within a simulated environment can be put into practice in the delivery room and whether practicing these skills results in improved patient safety.
- Investigate the impact of having a child with asthma and the burden this condition causes on the family's resources (e.g., finances, the parents' time and availability for care, and access and barriers to health care).

Recent Findings on Children's Health Issues

Care for children with asthma. National asthma care guidelines stress the importance of reducing indoor allergens and irritants that worsen childhood asthma. However, few parents in this study had adopted such environmental control measures. Researchers at Northwestern University studies 638 children (ages 3 to 15 years) with asthma; 30 percent lived in households that included a smoker, 18 percent had household pests (cockroaches or mice), and 59 percent had furry pets. Other exposures included bedroom carpeting (78 percent), increasing exposure to dust mites. Most children did not have appropriate mattress covers (65 percent) or pillow covers (84 percent) to reduce exposure to dust miters. Receipt of instructions about how to reduce environmental triggers was not associated with efforts to do so –45 percent of parents had received written instructions about avoiding asthma triggers, and 42 percent had discussed household asthma triggers with a clinician in the past 6 months. The researchers note that some household asthma triggers closely linked to housing problems (e.g., cockroaches and mold due to unrepaired leaks) may be difficult for families living in multi-unit buildings to change.

Lack of health insurance among adolescents. A study of the health insurance status of a nationally representative sample of 17,670 middle and high school students found that adolescents who live outside of two-parent families are significantly more likely to be uninsured than adolescents in two-parent families are significantly more likely to be uninsured than adolescents in two-parent families. Adolescents living in households headed by grandparents are the most likely to be uninsured, according to researchers in AHRQ's Center for Cost and Financing Studies.

Triage of pediatric trauma victims. AHRQ-supported researchers at Harbor-UCLA Medical Center have identified three critical factors that will help emergency medical personnel quickly and appropriately triage children involved in car crashes. The three factors are: evaluating the child's degree of consciousness (coma score), determining the extent of passenger space intrusion from the other car or object, and identifying appropriate use of seatbelt or other restraint. According to the researchers, this triage approach could potentially prevent 80 fatalities per year in children younger than 16 years involved in car crashes. These findings are from the largest pediatric trauma triage study of motor vehicle creases ever conducted. It involved 8,394 children up to 15 years of age who were involved in motor vehicle crashes from 19903 to 1999.

Minority Health

AHRQ has been investigating minority health issues for more than three decades. AHRQ's investments in minority health services research have resulted in numerous findings that are helping us to understand the disparities experienced by racial and ethnic minorities, uncover the reasons for the disparities, and identify effective strategies for overcoming and eliminating racial/ethnic disparities.

In FY 2002, AHRQ funded approximately $55 million in research with a major emphasis on minority health. This effort includes continued funding of the Excellence Centers to Eliminate Ethnic/Racial Disparities (EXCEED) grants, a research effort to improve the factors underlying ethnic and racial inequities in health care.

Other current AHRQ research projects focused on ways to eliminate racial disparities in health care include:

- A randomized controlled trail underway at Meharry Medical College is assessing a new method for translating prevention research into practice. A nurse-mediated, single standard of practice model is being compared with physician reminders, a more traditional approach to improving adherence to recommended prevention services. Pilot testing found the single standard of practice model to be associated with substantial, sustained improvements in preventive services delivery. Physicians within the Meharry Medical Practice Plan are following nearly 900 patients from primary care clinics serving low-income, largely Medicaid-eligible populations for 2 years to measure the frequency with which preventive services are delivered and track demographic and clinical information, as well as information on physical and social functioning. The project is addressing five priority areas for reducing disparities: infant mortality, cardiovascular disease, cancer screening, HIV/AIDS, and adult and child immunizations. The project includes a partnership between researchers at two Historically Black Colleges and Universities (Meharry Medical College and Tennessee State University) and a health care practice. The objective is to magnify and accelerate the impact of the findings on clinical practice in settings that serve Medicaid populations.

- AHRQ and the Health Resources and Services Administration are working in partnership to facilitate an assessment of the Health Disparities Collaboratives, which have been used in hundreds of HRSA's community health centers to improve the quality of care they provide for a number of chronic conditions such as asthma, diabetes, and cardiovascular disease. The results of this evaluation will be very useful to HRSA and the health care organizations around the country that are looking for ways to improve care for chronic conditions, especially in settings with large numbers of vulnerable patients.

Examples of recent findings from AHRQ-supported research in this areas include:

- An AHRQ state-of-the-art assessment of patients' experiences with care demonstrated that minorities consistently rate all aspects of their health care more negatively than whites.

- Recently reported data from the Medical Expenditure Panel Survey (MEPS) found that slightly more than half of Americans age 18 and older (53.8 percent) always received urgent medical care as soon as they wanted it in calendar year 2000. Although there was very little difference between blacks and whites aged 18 to 64 in their reports of timeliness of receiving urgent care (51.5 percent and 52.9 percent, respectively), significantly fewer Hispanics (41.2 percent) reported always receiving urgent care when they wanted it.

- Data from the Healthcare Cost and Utilization Project (HCUP) demonstrated that Hispanics were significantly less likely to undergo numerous major therapeutic procedures than whites.

- Patients of various ethnic and racial groups have different attitudes toward primary care physicians. Among different Asian ethnic subgroups, Chinese and Filipino patients appeared less likely to be satisfied with their physicians, while Japanese patients were least likely to say they would recommend their doctor. Hispanic patients rated physicians' accessibility and technical skills less favorably than did white patients. Black patients gave physicians' use of the latest technology, promotion of healthy lifestyles, and psychosocial techniques a higher rating than did white patients.

National Healthcare Disparities Report **(NHDR).** AHRQ is developing the first-ever report on prevailing disparities in health care delivery in the United States. A large and consistent body of research, much of it funded by AHRQ, has demonstrated persistent disparities in health care quality and access associated with race, ethnicity, socioeconomic position, sex, age, functional disability, and place of residence.

The agency's reauthorization legislation enacted in late 1999 directed AHRQ to develop a report, beginning in 2003, on prevailing disparities in health care delivery as they relate to racial factors and socioeconomic factors in priority populations. The National Healthcare Disparities Report (NHDR) will serve as a companion document to the National Healthcare Quality Report, providing grater depth and insights into differences in health care quality for priority populations.

This report will be an unprecedented effort to present a comprehensive picture of prevailing disparities in health care in the United States, and it will identify opportunities for improving care for priority populations. The report also will provide a benchmark for

Disparities and HIV

A nationwide study sponsored by AHRQ, shows that black and Hispanic HIV patients are only about half as likely as non-Hispanic whites to participate in clinical trials of new medications designed to slow the progression of the disease.

Together, blacks and Hispanics comprise roughly 48 percent of the HIV patient population—33 percent and 15 percent, respectively. The study also found that women, regardless of race or ethnicity, are no less likely than men to participate in HIV drug studies.

About 10 percent of black patients and 11 percent of Hispanic patients participated in a clinical trial, compared with 18 percent of non-Hispanic white patients. Black patient participation in trials did not increase during the study period, and these patients were more likely to drop out of the research.

These findings underscore the need to increase the diversity of patients in research. The findings suggest that to boost minority participation in trials, we must look critically at structural barriers such as research-entry criteria, enrollment and tracking procedures, and study center operations, as well as clinical researchers' attitudes and practices.

Other factors contributing to a reduced likelihood of participation in a clinical trial were having less than a high school education, being in a commercial HMO, and receiving primary care 8 miles or more from where the clinical trial was held.

evaluating the success of programs to reduce disparities in health care.

The project is being led by AHRQ and will involve collaboration with multiple components of the Department of Health and Human Services. The report is scheduled for publication in September, 2003. As of FY 2002, work on the NHDR is proceeding as follows:

Conceptual framework. The NHDR will build on the conceptual framework developed for the NHQR. This framework includes dimensions of health care quality, along with access to care, use of services, and costs of services.

NHDR measures and data sources. AHRQ has sought input from a wide range of stakeholders who helped to identify additional datasets and develop the final set of measures. The data group, which includes AHRQ staff with special expertise in data analysis has focused on defining racial and socioeconomic factors and priority populations, identifying data sources, and developing preliminary access, use, and cost measures relevant to studying disparities. A deparment-wide NHDR Interagency Work Group has provided valuable advice and comments on draft definitions and measures and identified new data sources for the report. AHRQ staff have also collaborated with external data experts from multiple organizations to obtain input on measures and data sources.

NHDR audience research. AHRQ is currently conducting research to identify the needs of potential audiences for the report in an effort to develop a final product that is both useful and responsive to the needs of users.

Training and Dissemination

We continue to benefit from the efforts of a national cadre of well-trained, talented, and energetic health services researchers. One way that AHRQ contributes to excellence in health care delivery is by providing support to maintain and nurture this vital resource. Training of new investigators is fundamental to producing the next generation of health services researchers. These investments also return a more immediate payoff in the form of high-quality research findings that accrue naturally as a result of the training process. The products and lessons learned from such research are useful to regional, State, and national decisionmakers in assessing the effectiveness of current programs and planning for future policies that address the costs and financing of health care, the use of health care services, and access to care across diverse regions and populations.

The agency supports a variety of training and career development opportunities though individual and institutional grant programs including:

National Research Service Awards (NRSA) for predoctoral and postdoctoral training. AHRQ awards individual predoctoral and postdoctoral NRSA fellowships as well as NRSA training grants to institutions for predoctoral and postdoctoral training (the AHRQ Institutional Training Awards).

Dissertation Research Grants. Funding is available for students conducting doctoral-level research on some aspect of the health care system. These grant awards are often the first step in a health services research career. In FY 2002, AHRQ funded 10 dissertations for $308,000.

Research Career Awards. In FY 2000 AHRQ began to grant Research Career Awards. These awards allow individuals time and resources to gain experience in carrying out actual research. The intent is to provide transitional support for newly trained investigators in order to launch them on research careers. This program will nurture the next generation of health services researchers. In FY 2002, AHRQ funded 6 non-patient safety Research Career Awards for $810,000 and 5 patient safety Research Career Awards for $573,000. AHRQ supports two types of career awards:

- **Independent Scientist Award (K02)** in Health Services Research. The K02 provides support for newly independent investigators with a clinical or research doctoral degree to enable them to develop their research careers.

- **Mentored Clinical Scientist Development Award (K08)** in Health Services Research. The K08 provides support for the development of outstanding clinician research scientists who are committed to a career in health services research, with a focus on development as an independent scientist.

Building Research Infrastructure & Capacity Program (BRIC)

The Building Research Infrastructure & Capacity Program (BRIC) was launched by AHRQ in FY 2001 to build research capacity in States that have not traditionally been involved in health service research. Geographic regions that have received lesser amounts of AHRQ funding and have demonstrated a commitment to develop their research infrastructure are eligible for these grants.

AHRQ funded six 2-year grants for over $1.7 million in FY 2001. No new grants were funded in FY 2002. These grants will stimulate sustainable improvements in capacity and/or multidisciplinary centers supporting investigators and multiple research projects with a thematic focus. Examples of the types of BRIC research being conducted is provided in the box below.

BRIC Projects

Effects of sleep loss and night work on patient safety. This project is focused on the impact of sleep deprivation and night work on patient safety. Using comprehensive error-detection methods for the measurement of sleep, the researchers are quantifying the roles of time of day, time on duty, and sleep inertia in the occurrence of medical errors.

Doctor-patient communication and antibiotic over-prescribing. The focus of this project is the role of doctor-patient communication as a determinant of both inappropriate antibiotic prescribing for respiratory infections in children and parents' satisfaction with care. Data have been collected from 38 pediatricians working in 27 clinical sites and from parents whose children have experienced an upper respiratory illness.

Quality of diabetes care in the primary care setting. These researchers are building on previously completed projects that focus on barriers to diabetes care in family physicians' offices to examine the processes and quality of diabetes care within primary care practice.

Cost-effectiveness of domestic violence interventions. This project is focused on domestic violence intervention in primary care practice, including the effectiveness of domestic violence intervention components, cost-benefit analysis, and monitoring of outcomes with a longitudinal cohort study.

Minority Research Infrastructure Support Program (M-RISP). The Agency is committed to the Department's initiative to eliminate racial and ethnic disparities in health and the complementary Healthy People 2010 goal to eliminate disparities in health. A critical component in achieving these goals is to expand the Nation's health workforce to be more diverse and representative of the racial and ethnic populations in America. This includes bringing needed diversity to the health services research workforce.

In FY 2001, AHRQ launched the Minority Research Infrastructure Support Program (M-RISP). The goals of the M-RISP program are to increase the number of minority health services researchers and to build capacity for institutions to conduct health services research intended to improve health for racial and ethnic minorities. This support will enable three institutions with relatively small research programs to develop into significantly stronger health services research centers. AHRQ funded 3 grants for $1.2 million. In FY 2002, three more institutions received support for a total of $1.4 million. The grants are described in the box on the following page.

Minority Research Infrastructure Support Program (M-RISP)

Health Services Research in Underserved Populations (University of Texas Medical Branch): The goal is to increase this institution's ability to conduct health services research with a focus on medically underserved populations. The program will allow the university to increase the number of faculty who conduct health services research, recruit additional expert faculty, and strengthen its research capabilities.

Hawaii Minority Research Infrastructure Support Program (University of Hawaii at Manoa): The objective is to build a program at the University of Hawaii Medical School that will evaluate ethnic health disparities in the State's Asian American and Pacific Islander populations. The program also will provide mentoring and training to inexperienced researchers, facilitate collaboration between Hawaii's health care organizations, and establish a nationally recognized mentoring group to assist in the implementation of research projects.

Collaborative Minority Health Care and Quality Research (Tennessee State University): The objectives are to increase minority health care research programs at Tennessee State University and Meharry Medical College, establish collaborations with senior health services researchers at other universities, and conduct research to address racial and ethnic health care disparities.

MSM Clinical Faculty Research Training Program (Morehouse School of Medicine, Atlanta, Georgia): The goal of this program is to strengthen the Morehouse School of Medicine infrastructure to enhance the capacity of individual faculty members to conduct health services research aimed at improving the quality of health services for African Americans and vulnerable populations and eliminating racial and ethnic health disparities.

M-RISP Minority Elderly Research Center (Shaw University, Raleigh, North Carolina): The goal of this project is to establish infrastructure support to junior level faculty to conduct health services research on racial disparities among various minority populations by providing training, resources and mentorship opportunities through collaborative linkages with senior researchers at other universities.

Center for Minority Health Services Research (Howard University, Washington, D.C.): The purpose of this project to extensively expand the research of Howard University, College of Pharmacy, Nursing and Allied Health Sciences, in the area of health services research and outcomes research through the formation of the Center of Minority Health Services Research. This expansion will particularly relate to investigations of health services in minority populations, increase the numbers and competence of the faculty conducting this research and actively engage graduate level students.

Dissemination Activities

AHRQ promotes widespread distribution and implementation of its information and research products through a variety of methods: publication in professional journals; development of provider and consumer materials, media events and outreach; interviews and story placement with medical/trade press and organizations' newsletters; and articles in the popular press. AHRQ also employs public-private partnerships, direct mail, and the World Wide Web to distribute its information.

Publishing. AHRQ publishes the results of its research in numerous forms. All AHRQ research findings are highlighted monthly in AHRQ's flagship publication, *Research Activities*. This is distributed to over 50,000 researchers, libraries and other organizations monthly. In addition, AHRQ develops tools and products for a variety of audiences to promote the adoption and implementation of activities that improve the quality of health care. All materials are developed in print and are posted to the AHRQ Web site. Examples of tools include materials that can be used by health systems to implement prevention programs, materials for consumers and patients to assist them in making informed decisions and in tracking their personal decisions regarding health care. All consumer materials are translated into Spanish and other languages as appropriate. For providers, AHRQ develops and publishes rating and severity scales, and tools for health systems, such as quality indicators. AHRQ also publishes complete scientific reports sponsored through contracts and the results of other deliverables from contract research, such as evidence-based practice reports. AHRQ provides outreach to professional organizations through its exhibit program. In FY 02, AHRQ exhibited at over 50 professional/scientific meetings and distributed thousands of publications through this channel.

Media Outreach. AHRQ employs a wide-range of activities to encourage the media to cover its programs. Stories in the media build awareness of the Agency and its activities, as well as serving an intermediary vehicle for AHRQ's messages and information. To reach the media, AHRQ employs a broad range of techniques including press releases; in 2002, AHRQ issued 57 press releases. The Agency also sent out 58 "pitches" -- targeted information to selected reporters – on a variety of broad range of topics, including smoking, prevention, hospital quality, and patient safety. AHRQ also set up interviews in major general, trade and broadcast media with experts on AHRQ's staff and grantees.

As part of this outreach, AHRQ also worked to reach Hispanic and African American media. To that end, the Agency developed targeted materials appropriate for the audience and set up interviews and media tours with Hispanic and African American print and broadcast media outlets.

Partnership Activities. AHRQ also worked extensively with public and private sector organizations in partnership to promote AHRQ resources and information. For example, AHRQ worked with the American Association of Pediatrics to develop and promote a new fact sheet titled 20 Tips to Help Prevent Medical Errors in Children. AHRQ also developed dissemination partnerships with a wide-range of organizations, such as the Association of Clinicians for the Underserved and Partners in Corporate Health, to promote its Put Prevention Into Practice materials.

AHRQ also has created a weekly Electronic Newsletter which provides AHRQ news and information to more than 15,000 subscribers.

AHRQ's Web Site. Use of AHRQ's Web site continued to increase in FY 2002, with more than 30.5 million hits, compared with 22.6 million hits the previous year. User sessions also rose by a million visits – 3.4 million, up from 2.4 million in FY 2001. Page views increased to more than 13.2 million, compared with 8.9 million the previous year. Overall workload increased some with 5,314 files and documents uploaded to the Web site, compared with 5,068 for FY 2001.

AHRQ handled 2,890 electronic inquiries during FY 2002 through its Web site mailbox. These inquiries included requests for Agency information products, funded research, consumer health issues and concerns, technical assistance, referrals to other resources, and requests to use AHRQ electronic content on other Web sites or in electronic or print products.

The AHRQ Web site provided access to the summaries of reports issued by the Evidence-based Practice Centers and U.S. Preventive Services Task Force recommendations. The full text of these reports can be obtained at the National Library of Medicine, accessible through the AHRQ Web site. The Agency continued to work with the National Library of Medicine to upload evidence reports, technology assessments, and preventive services materials for clinicians on the full-text retrieval system HSTAT.

The Web site provided content on health services research issues for policymakers at the State and local level, including online workshop briefs, interactive sessions, and a learning module relating to quality performance measures in child health programs.

A popular feature on the Web site is the Spanish button, Información en español, which provides translations of AHRQ consumer health and patient information materials. These materials are accessed by the Spanish-speaking public as well as clinicians with large Hispanic patient populations for use in patient education.

Nearly 16,700 external Web sites link to the AHRQ Web site home page or content within the site, up from 10,900 the previous year. Three government portals prominently featured on the AHRQ site provide referrals to the Agency's online consumer health and patient information materials: Firstgov, developed by the General Services Administration; the healthfinder® gateway site, developed and maintained by the Department of Health and Human Services; and MEDLINEplus®, developed and maintained by the National Library of Medicine.

Based on user feedback, various audience groups came to the AHRQ site for:

- Clinical research resources to improve practice and health outcomes.
- Summaries of evidence-based information for medical practice.
- Consumer and patient decision-making materials.
- New funding opportunities and subsequent award announcements.
- Press releases with contact information on key staff involved.
- Informative electronic newsletters on research activities.
- Strategic planning to establish priorities and directions for State health programs.
- Support of health services research at the university level.
- Capacity building within the nursing research community.
- Preventive services recommendations and clinical practice support.
- Research information related to treatment of specific health conditions.
- Recommendations on improving the quality of health care.
- Updates on medical errors and patient safety initiatives.
- Explanations of quality measurement issues and tools.
- Up-to-date information on the changing health care system.
- Best practices for reducing the cost of providing health insurance.

- Data and statistics on health care costs and use.

Requests from outside organizations for use of electronic content from the AHRQ Web site included:

- Consumer materials on specific conditions and the health care system for numerous consumer health Web sites as well as corporate intranets for employees.
- Clinical materials for medical Web sites for clinicians, hospitals, and health plan systems.
- Clinical and research materials for course packs in medical education and graduate training in public health issues.
- Information on reducing medical errors for managed care organizations' Web sites and newsletters.
- Information on preventive services for adults and children to be distributed by health plans and employers.

User Liaison Program. AHRQ's User Liaison Program (ULP) synthesizes and distributes research findings to local and State policymakers so they can use it to make evidence-based decisions about health care. ULP holds small workshops, sponsors telephone and Web-supported audio conferences, and distributes other information to provide recent research findings to policymakers on the critical issues confronting them in today's changing health care marketplace. Topics are chosen with input from legislators, executive agency staff, and local officials.

- In FY 2002, ULP sponsored 20 different activities: 10 National workshops, 6 State-based workshops, and 4 Web-assisted audio conferences. The activities were attended by 2,534 health care policymakers from all 50 States, the District of Columbia, Puerto Rico, Palau and Guam.

- In FY 2001, ULP sponsored 23 different activities: 12 National workshops, 7 State-based workshops, one telephone conference, and one Web-assisted audio conference. The activities were attended by 2,376 health care policymakers from all 50 States, the District of Columbia, American Samoa, the Virgin Islands, and Guam.

- In FY 2000, ULP sponsored 17 training events for 1145 attendees from 50 States and the District of Columbia.

In addition to providing information and tools to make informed health policy decisions, the ULP serves as a bridge between State and local health policymakers and the health services research community by bringing back to the Agency the research questions being asked by key policymakers. ULP workshops are user-driven, user-designed, and highly interactive, with an emphasis on information sharing between participants and presenters.

AHRQ often receives feedback from workshop and audioconference participants on how they used the information shared at these events. For example, the director of the Office of Community Health Services, Mississippi State Department of Health, shared materials and information for a ULP workshop on managed care with the State's Office of Regulation. The materials were used, along with materials from other sources, to initiate a meeting with the State Insurance Commissioner to explore how the State can carry out similar activities with its fledgling HMO industry.

Outcomes of a ULP Conference. The October 2000 ULP State-specific conference, Strengthening the Safety Net: A Financial Analysis of New Hampshire Community Health Centers (CHCs), sponsored by AHRQ, resulted in the State of New Hampshire undertaking a number of follow-up activities designed to strengthen and stabilize its CHCs. The conference was co-sponsored by the New Hampshire Department of Health and Human Services, AHRQ's User Liaison Program, and the Robert Wood Johnson Foundation State Initiatives in Health Care Reform and Access Projects.

Since the October 2000 conference, a number of activities have taken place:

- A second conference held in December 2000, "The Health of New Hampshire's Community Hospital System: A Financial and Economic Analysis." The successful event emphasized the theme of community support and collaboration in strengthening CHCs and New Hampshire's health care safety net. The State is working with its Rural Health/Primary Care program to broadly disseminate the CHC information shared at the conference to other States.

- Joint efforts with private-sector foundations and financial officers to identify long-term capital needs, secure access to long-term sources of funding, and identify and guarantee short-term lines of credit.

- Enrollment of eligible patients in Medicaid and the State Children's Health Insurance Program, and ongoing efforts to expand private health insurance coverage to people who cannot afford insurance coverage.

- Development of new and expansion of existing partnerships between New Hampshire's community hospitals, businesses, charities, and foundations to provide direct and in-kind support to CHCs.

Funding History

Funding for the Research on Health Costs, Quality and Outcomes program during the last five-years has been as follows:

	Amount	FTEs
1999……………………………	$139,314,000	212
2000 ....……………..	$165,293,000	243
2001 …………………………...	$226,385,000	262
2002 Enacted …………………	$247,645,000	272
2003 President's budget……..	$194,000,000	272
2004 Request …………………	$221,000,000	272

Sources of Research on Health Cost, Quality and Outcomes funding follow:

	Budget Authority	1 Percent Evaluation	Total
1999	97,967,000	41,347,000	$139,314,000
2000	107,717,000	57,576,000	$165,315,000
2001 ……	102,255,000	124,130,000	$226,385,000
2002	-0-	247,645,000	$247,645,000
2003 PB	-0-	194,000,000	$194,000,000
2004 Request	-0-	221,000,000	$221,000,000

Rationale for AHRQ's FY 2004 Request

The FY 2004 request provides an increase of +$27,000,000 for the Research on Health Costs, Quality and Outcomes budget activity. These components are:

I	**Research and Training Grants**	**+ $13,424,000**
	(Non-Competing Patient Safety Grants)	(-$32,026,000)
	(New Patient Safety/Hospital IT Grants)	(+$46,886,000)
	(New Non-Patient Safety Research and Training Grants)	No Change
	(Patient Safety Supplements)	(-$ 1,436,000)
II	**Non-MEPS Research Contracts and IAAs**	**+ $ 13,576,000**
	(Patient Safety Contracts and IAAs)	(+$10,576,000)
	(Protected Non-Patient Safety Contracts and IAAs)	(+$ 3,000,000)
	(Unprotected Non-Patient Safety Contracts and IAAs)	No Change
III	**Research Management**	**No Change**

I – Research and Training Grants (+$13,424,000)

The FY 2004 request provides an increase of $13,424,000 for research and training grants over the FY 2003 President's budget level of $83,796,000. This includes: $49,886,000 for a new patient safety hospital program ($25,886,000 of this total comes from expiring patient safety grants and $24,000,000 in new funds); a redirection of $10,576,000 in expiring patient safety grants and supplements into patient safety contracts; and a reduction of $10,820,000 to non-patient safety non-competing research and training grants commitment base.

No funds are requested for new competitive research and training grants in other areas.

Non-Competing Research and Training Grants (-$32,036,000)

Patient Safety

The FY 2004 portion of existing non-competing patient safety research and training grants are fully funded at $8,374,000. The $32,026,000 in expiring patient safety grants was redirected within the total patient safety budget as follows:

- $25,886,000 to Patient Safety Hospital Information Technology Initiative.
- $9,140,000 to patient safety contracts to fund the initiative to improving patient care and safety through the use of technology. (An additional $1,436,000 in expiring patient safety grant supplements increase the amount available for patient safety contracts to $10,576,000).

Non-Patient Safety

The FY 2004 request maintains the non-patient safety non-competing research and training grants at the FY 2003 President's budget level of $38,960,000. At this level, a reduction of up to 15 percent of committed non-patient safety grants will be required.

New Research and Training Grants ($49,886,000)

New Patient Safety Research Grants – Patient Safety Hospital Information Technology Initiative ($49,886,000 in total, an increase of $46,886,000 over the FY 2003 President's budget)

In FY 2004, all of AHRQ's new grants will be used to fund the Patient Safety Hospital Information Technology Initiative. In FY 2004, AHRQ's programs will make important contributions to the Secretarial and Presidential Initiatives on improving the quality and safety of health care, costs, use and access to health care.

In March 2001, an Institute of Medicine (IOM) study, *Crossing the Quality Chasm: A New Health System for the 21st Century,* addressed the issue of quality in the U.S. health care system. In this report, they assessed the quality of health care in the U.S. and concluded that there were serious problems that needed to be fixed. Many of these problems stem from an outmoded health care delivery system that does not provide high-quality care on a consistent basis. The IOM committee concluded, "In its current form, habits, and environment, American health care is incapable of providing the public with the quality health care it expects and deserves." Just as important, however, the committee stressed that "these problems come from poorly designed systems ... not bad people." If Americans want safe, dependable, and high-quality health care, then a significant redesign of the U.S health care delivery system will have to take place, which will require changes in four critical forces:

- Payments
- Clinical Knowledge
- Professional Workforce
- Information Technology

The IOM committee also recommended a national commitment to building an information infrastructure to support:

- Health care delivery
- Consumer health
- Quality measurement and improvement
- Public accountability
- Clinical and health services research
- Clinical education

Evidence has shown that computerized information systems with decision support can improve patient safety and quality of care. These systems range from computerized reminders about preventive services to alerts about drug-drug interactions to systems that improve self-management of chronic diseases.

Health care has lagged far behind many other industries in harnessing the capabilities of IT to improve knowledge, communication, services, outcomes, quality, and efficiency. However, given the complexity of modern medicine, it is inevitable that IT will need to play an ever increasing role if we are to achieve improvements in health care quality as envisioned by the

IOM. As noted by the IOM's Committee on Quality Health Care in America, the widespread adoption of IT has the power to transform the provision of health care. A major re-engineering of the health care delivery system will be needed if significant progress is to be made, which will require changes in technical, sociological, cultural, educational, financial, and other important factors.

In FY 2004, AHRQ is requesting $49,886,000 for a Patient Safety Hospital Information Technology (IT) Initiative that will support a variety of activities aimed at improving health care quality and patient safety by promoting and accelerating the development, adoption and diffusion of IT in a variety of important health care settings. Specifically, AHRQ will set-aside $25,886,000 for small and rural hospitals. The funds set-aside will help assure that these hospitals can implement and use IT to improve patient safety and quality of care. Funds will also be used to support innovative research and demonstration projects that will improve patient safety and quality of care in a wide variety of practice settings.

Improving IT in the Clinical Setting

This program will provide planning and demonstration grants, as well as assistance for hospitals and other health care entities to acquire and improve IT systems that support quality improvement and patient safety. This program will support the implementation and evaluation of established and emerging IT systems. In an effort to support the National Committee on Vital and Health Statistic's vision of creating an interconnected national health information infrastructure, these systems would have to comply with national clinical data standards and be interoperable with other clinical and public health information systems. To further support the diffusion of IT, projects would also address barriers to successful adoption of proven IT solutions, assess the impact of IT on important clinical and patient-centered outcomes, document the costs and resources associated with adopting and maintaining proven IT applications, generate solutions to help eliminate the digital divide, and evaluate transferability to other health care settings. This work will require collaboration with other federal agencies, state and local governments, provider organizations, private sector partners, clinicians, researchers, and IT developers and vendors. Support for these projects will help to inform provider, payer, and policy decisions regarding the impact of IT in health care, facilitate more rapid implementation of proven technologies, promote development and evaluation of emerging technologies, and inform commercial developers/vendors about the unmet needs of consumers, providers and payers.

In order to be eligible for funding under this program, small and rural hospitals would have to commit to an extensive evaluation of the impact of the IT tools on outcomes and costs, as well as an assessment of the barriers to implementation and practical methods to help overcome these barriers. Rural health care entities would be asked to track and demonstrate significant improvements in safety and quality of care. This rural initiative will focus on clinical IT systems with a proven evidence base regarding improvements in patient safety and quality of care, such as the use of computerized physician order entry (CPOE) with decision support. It is anticipated that many of these rural systems will not have the expertise to carry out these projects on their own. Therefore, extensive technical assistance will be made available all grantees.

In general, the proposed Patient Safety Hospital IT investment program would include demonstrations that will focus on established and emerging information technologies that improve patient safety and quality of care. Based on AHRQ's evidence report entitled, "Making Health Care Safer: A Critical Analysis of Patient Safety Practices," numerous information technologies have been effective at improving patient safety such as: computer monitoring for potential adverse drug events; CPOE with clinical decision support; computer-generated reminders to discuss advanced directives; simulator-based training; automated medication dispensing devices; medication bar-coding; unit-dose distribution systems for medications; and patient self-management using home monitoring devices.

Many of the proven patient safety practices that do not currently rely on IT could also be significantly enhanced through the use of IT. Some examples where IT could make these practices more effective and efficient include:

- Use of IT could allow rapid, accurate, and complete transfer of important patient information to pharmacies nationwide;
- Appropriate prophylaxis for venous thromboembolism could be improved through evidence-based, computerized decision-support programs that recommend therapy, calculate the appropriate dose of medication, and provide monitoring recommendations;
- Protocols for notification of test results to patients could be improved through automated electronic reporting of test results, with explanations of abnormal results, to all patients within a certain time frame after a visit (e.g., 3 days). In a manner similar to how consumers are able to receive financial information from their investment companies, patients could be notified that their test results are available, and then they could log on to the data source (using their log-on and password information) to access their results at their convenience;
- Limitations on inappropriate antibiotic use could be improved through clinical decision support tools that provide recommendations on antibiotic use when clinicians are ordering medications. This has been achieved very successfully at LDS hospital in Salt Lake City, Utah, resulting in improved quality of care and cost savings of approximately $100,000 per year.
- Protocols for the use of high-risk drugs could be improved through clinical decision support tools that provide recommendations on when medications should be used, the correct medication dosage, and appropriate monitoring.
- Standardized, structured sign-outs for physicians could be improved by capturing important patient information on a handheld computer, which can be automatically downloaded to the on-call physician from any location that has access to the network. The sign-out can also incorporate reminders and other decision support tools to help the on-call physician (who does not know the other clinicians' patients), manage them more effectively. Some medical residency programs have already begun supplying their residents with Palm Pilots and are using them for this purpose. To date, there has been no evaluation of their impact on patient safety and other important outcomes.

There are also emerging technologies with an evolving evidence base, including projects funded through AHRQ's Clinical Informatics to Promote Patient Safety (CLIPS) initiative, Small Business Innovative Research (SBIR) program, Integrated Delivery Service Research Networks (IDSRNs), and Primary Care Practice-Based Research Networks (PBRNs). Some of these technologies include: handheld computers with clinical decision support; electronic medication prescribing; computer simulation training; remote monitoring devices with wireless technology and decision support capabilities; computerized disease management programs; and electronic communication between patients and providers. By the end of this year, we will be able to provide further detail on the additional evidence for newer, emerging technologies that are currently under way. AHRQ would also propose research and demonstration projects that will enhance the connectivity and interface between the clinical health, consumer health, and public health systems to improve bioterrorism preparedness using tools that facilitate automated data capture, analysis, and decision support.

Measuring Success in Improving IT
There are many performance measures that HHS could use to gauge the effectives of the IT investment program, including:

- Increasing the number of hospitals using Computerized Physician Order Entry (CPOE) systems by 10 percent within five years, and by 25 percent over 10 years.
- In hospitals receiving demonstration funds for CPOE systems, increase the use of providers using the system from none to over 50 percent within five years.
- In hospitals receiving demonstration funds for CPOE systems, increase the rate of detection of significant medication errors by at least 100 percent within the first year. (The national baseline error rate in U.S. hospitals is 3.13 medication errors per 1000 orders written and 1.81 significant medication errors per 1000 orders written – however, because most errors in health care remain undetected, a successful program will initially result in a substantial increase in the number or errors detected.)
- In hospitals receiving demonstration funds for CPOE systems, once a true baseline error rate is established through improved detection, reduce the rate of significant medication errors per 1000 orders written by 50 percent within two years and maintain this lowered error rate in years 3 to 5.
- In hospitals receiving demonstration funds, once a true baseline rate of adverse drug events (ADEs) is established through improved detection, reduce the rate of adverse drug events per 100 admissions by 20 percent within two years and by 50 percent within five years. (The national baseline rate is 6.5 ADEs per 100 admissions - however, because most adverse drug events related to preventable errors in health care remain undetected, a successful program will initially result in a substantial increase in the number of adverse events detected.)
- Improve the rate of specific, pre-defined preventive measures (e.g., recommended immunizations, lipid profile measurement, aspirin use in at-risk patients, use of venous thromboembolism prophylaxis) by 50 percent within two years.
- Decrease the rate of redundant lab tests by 10 percent within two years.

New Non-Patient Safety Research and Training Grants
No new funds are requested for non-patient safety research and training grants.

II – Non-MEPS Research Contracts and IAAs (+$13,576,000)

The FY 2004 request provides an increase of $10,576,000 for patient safety research contracts and IAAs over the FY 2003 President's budget level of $15,164,000. In the FY 2004 request, expiring patient safety grant commitments of $9,140,000, expiring patient safety supplements of $1,436,000, and $1,424,000 in expiring patient safety contracts will finance $12,000,000 in new patient safety activities. These new patient safety contracts will be directed to improving patient care and safety through the use of technology.

The FY 2004 request for non-patient safety contracts and IAAs is increased by $3,000,000 from the FY 2003 President's budget of $35,740,000. The $3,000,000 will be directed to performance-based improvements for HCUP and CAHPS®. For other contracts, the FY 2004 request is maintained at the FY 2003 President's budget level.

Patient Safety Contracts and IAAs: Realizing the Possibilities of the 21st Century Health Care -- Improving patient care and safety through the use of technology (+$12,000,000)

This initiative will focus on the following 2 areas:

I. Accelerate the Adoption and Use of Information Standards and Technology to Support Health Care Quality and Patient Safety
II. Demonstrating Health Information Technology to Improve Patient Safety Across Settings

Accelerate the Adoption and Use of Information Standards and Technology to Support Health Care Quality and Patient Safety
A consensus has emerged that a major obstacle to the development and use of health information systems to support quality improvements and patient safety is the lack of clinical messaging and terminology standards that support interoperability. Progress is occurring as a result of several efforts, including the recommendations of the National Committee on Vital and Health Statistics, federal inter-agency efforts such as the CHI Working Group, and the activities of voluntary industry standards development organizations, but significant advances on a broad scale are unlikely without dedicated federal resources, leadership and coordination.

Under the leadership auspices of the Office of the Secretary, this initiative will be coordinated with related, ongoing data policy efforts in HHS and will involve a variety of priority projects and activities designed to accelerate the adoption and use of information standards and technology to support health care quality and patient safety, including support for 1) the development, evaluation, adoption and maintenance of voluntary industry clinical messaging and terminology standards in the U.S., 2) the development, refinement, maintenance and evaluation of a national standard nomenclature for drugs and biological products, 3) the acquisition or development and maintenance of a comprehensive clinical terminology and nomenclature standard, and 4) related research, development and evaluation activities to advance and accelerate the adoption of interoperable information technology in health care.

Demonstrating and Applying Health Information Technology to Improve Patient Safety Across Settings
AHRQ will also utilize its new Patient Safety Improvement Corps, experts working with State health departments to expand State and local capacity to use existing knowledge to identify and eliminate threats to patient safety, to specifically apply IT for patient safety improvement.

Non-Patient Safety Contracts and IAAs
The FY 2004 request for non-patient safety contracts and IAAs is increased by $3,000,000 from the FY 2003 President's budget of $35,740,000. The $3,000,000 will be directed to performance-based improvements for HCUP and CAHPS®. Funds will be directed to improve weaknesses cited in the Office of Management and Budget's (OMB) Performance Assessment and Review and to help achieve the ambitious outcome goals developed for the PART reviews of data collection and dissemination efforts. A summary of the PART assessment is provided on page 77. For other contracts, the FY 2004 request is maintained at the FY 2003 President's budget level.

CAHPS®
AHRQ requests $1,000,000 to address two areas OMB has suggested need attention: a program impact evaluation and technical assistance.

Program Impact Evaluation
Since its inception in l997, the CAHPS® project has consistently used public comment and

outside expert review to shape the program's development, develop, test, and revise products, and make recommendations regarding the program's direction. There is a need to assess the impact of the program from the perspective of a variety of audiences: consumers, health care providers, and purchasers. Award funds would be used to conduct such an evaluation via a contract with an outside organization experienced in the area of impact evaluation. The final analysis of the evaluation data will be useful in identifying areas of strength, as well as those project components that might need to be revised and/or terminated. Maintenance of this impact evaluation effort could be built into the scope of work for the Survey User Network (SUN) contract, a five year contract, currently held by Westat, which provides support and technical assistance to CAHPS® users, including the CAHPS® II grantees.

Technical Assistance
Funds would also be used to enhance the services currently provided by the Survey Users Network (SUN), including the work that will be necessary to formalize the program impact evaluation. Technical assistance needs are expected to increase substantially in FY 2004 due to a new Hospital CAHPS® initiative and will require the development and dissemination of new products for new sets of audiences, including hospitals and ambulatory care services. These functions will have substantial resource and staffing implications for the support contractor.

HCUP
By 2010, AHRQ has committed to achieving five outcomes goals for its HCUP and HCUP Quality Indicators (QI) programs. Specifically, at least 5 organizations will use HCUP databases, products, or tools to improve health care quality for their constituencies by 5 percent as defined by the AHRQ Quality Indicators (e.g., 5 percent reduction in preventable hospitalizations, complication rates, or mortality rates; 5 percent increase in use of superior technology). To help us achieve this ambitious goal, we request $2 million in FY 2004 investments to improve availability of the data itself, make it more usable, and facilitate effective use.

Expand and Improve Outpatient Data
Standardized, sophisticated emergency department and other outpatient data collections are precursors to assessing, benchmarking and ultimately improving the quality of health care in these settings. Fewer than half of the states collect statewide emergency department data, and collection of data from most other outpatient data sites is very rare. In FY 2004, the HCUP program will expand and improve this data through several strategies such as organizing workshops for state data organizations, providing technical assistance, and developing and disseminating best practice models for states to use in standardizing, expanding and improving these data.

Make HCUP Data and Quality Indicators (QI) More Usable
Hospitals, states, employers, community groups and others who seek to make quality improvement efforts generally do not have the research staff or analytic capacity to work with raw data and measures. Under this initiative, in 2004, we will make both the data and the quality measures more usable:

- For the HCUP data, we will create user-friendly software programs, templates, and analytic tools that states, employers, community groups and others can use to translate HCUP data into meaningful, actionable information. For example, we will develop software and templates for briefs analyzing HCUP data by clinical diagnosis, by geographic area, by special population, by race, etc.

- For the QIs, we will act on suggestions from the early wave of QI users, and incorporate technical enhancements to make the QI software more user-friendly. For example, AHRQ will provide benchmarks for different categories of hospital user groups and payer groups so that key user groups more readily can see how their own performance compares to that of their relevant peer group. AHRQ also will develop hospital report card templates to guide how the QIs are communicated to the public at large as well as to special populations such as the elderly. In addition, AHRQ will develop user friendly software as a companion to the set of QI indicators to facilitate increased use of QIs so that users will no longer be required to purchase SPSS or SAS software as currently is the case.

Facilitate Effective Use through Technical Assistance and Outreach
To achieve our quality improvement goals, stakeholders must not only use the HCUP data and Quality Indicators, but use them well and effectively. To this end, the QI program will increase technical assistance to a targeted group of critical QI users, particularly hospitals, state health departments and activist employers. AHRQ will convene series of national and regional workshops for QI users and potential QI users to identify and address implementation issues, instruct on QI use, and take first steps in setting the stage for the 2010 impacts.

III – Research Management (No Change)

The FY 2004 request for research management is maintained at the FY 2003 President's budget level.

PART SUMMARIES

Medical Expenditure Panel Survey (MEPS)

	FY 2002 Actual	FY 2003 President's Budget	FY 2004 Request	Increase or Decrease
Total				
-- BA	$0	$0	$0	
-- PHS Eval	($48,500,000)	($53,300,000)	($55,300,000)	($2,000,000)
FTE	NA	NA	NA	NA

Purpose and Method of Operation

The objectives of AHRQ's Medical Expenditure Panel Survey are to provide public and private sector decisionmakers with the ability to:

- Obtain timely national estimates of health care use and expenditures, private and public health insurance coverage, and the availability, costs and scope of private health insurance benefits among the U.S. population
- Analyze changes in behavior as a result of market forces or policy changes (and the interaction of both) on health care use, expenditures, and insurance coverage
- Obtain information on access to medical care, quality and satisfaction for the US population and for those with specific conditions, and for important sub-populations and related to health care disparities
- Develop cost and savings estimates of proposed changes in policy
- Identify the impact of changes in policy for key subgroups of the population (i.e., who benefits and who pays more)

These objectives are accomplished through the fielding of the Medical Expenditure Panel Survey (MEPS). MEPS is an interrelated series of surveys that replaces the National Medical Expenditure Survey (NMES). MEPS not only updates information that was last collected more than a decade ago in FY 1987, but also provides more timely health care expenditure data and new information on the quality of care received, at a lower cost per year of data, through the move to an ongoing data collection effort.

Overview

AHRQ's Medical Expenditure Panel Survey collects detailed information regarding the use and payment for health care services from a nationally representative sample of Americans. Since 1977, AHRQ's expenditure surveys have been an important and unique resource for public and private sector decisionmakers. No other surveys supported by the Federal government or the private sector provide this level of detail regarding: the health care services used by Americans at the household level and their associated expenditures (for families and individuals); the cost, scope, and breadth of private health insurance coverage held by and available to the U.S. population; and the specific services purchased through out-of-pocket and/or third-party payments.

AHRQ fields a new MEPS panel each year. Two calendar years of information are collected from each household in a series of five rounds of data collection over a 2½-year period. These data are then linked with additional information collected from the respondents' medical providers and employers. This series of data collection activities is repeated each year on a new sample of households, resulting in overlapping panels of survey data.

The data from earlier surveys (1977 and 1987) have quickly become a linchpin for the nation's economic models and their projections of health care expenditures and utilization. This level of detail enables public and private sector economic models to develop national and regional estimates of the impact of changes in financing, coverage, and reimbursement policy, as well as estimates of who benefits and who bears the cost of a change in policy. No other surveys provide the foundation for estimating the impact of changes on different economic groups or special populations of interest, such as the poor, elderly, veterans, the uninsured, or racial/ethnic groups. The public sector [e.g., Office of Management and Budget (OMB), Congressional Budget Office (CBO), Medicare Payment Advisory Commission (MedPAC), and Treasury Department], relies upon these data to evaluate health reform policies, the effect of tax code changes on health expenditures and tax revenue, and proposed changes in government health programs such as Medicare. In the private sector (e.g., RAND, Heritage Foundation, Lewin-VHI, and the Urban Institute), these data are used by many private businesses, foundations and academic institutions to develop economic projections. These data represent a major resource for the health services research community at large. Since 2000, data on premium costs from the MEPS Insurance Component have been used by the Bureau of Economic Analysis to produce estimates of the GDP for the nation. In addition, the MEPS establishment surveys have been coordinated with the National Compensation Survey conducted by the Bureau of Labor Statistics through participation in the Inter-Departmental Work Group on Establishment Health Insurance Surveys.

Based on the Department's Survey Integration Plan, MEPS linked its household survey and NCHS' National Health Interview Survey (NHIS), achieving savings in sample frame development and enhancements in analytic capacity. MEPS has also moved from a survey every ten years to following a cohort of families on an ongoing basis. Doing so has four primary benefits: it decreases the cost per year of data collected; it provides more timely data on a continuous basis; it creates for the first time the ability to assess changes over time; and it permits the correlation of these data with the National Health Accounts.

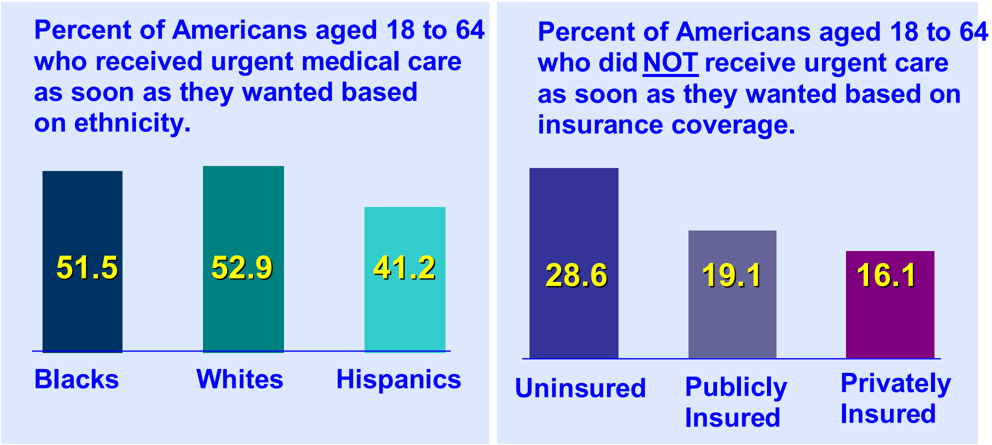
Achievements

The first MEPS data (from 1996) became available in April 1997, and key findings are summarized in the table provided on page 84. This rich data source has become not only more comprehensive and timely, but MEPS' new design has enhanced analytic capacities, allowed for longitudinal analyses, and developed greater statistical power and efficiency.

New MEPS Supplements Detail Americans' Experiences with Health Care Services

A new questionnaire incorporated into AHRQ's Medical Expenditure Panel Survey (MEPS), beginning in 2000, indicates that among those aged 18 to 64, people without insurance were more likely than those with coverage to report sometimes or never receiving urgent care as soon as they wanted (28.6 percent, uninsured; 19.1 percent, publicly insured; and 16.1 percent, privately insured). MEPS collects information yearly on health care use, access, health status and quality from a nationally representative sample of the U.S. civilian non-institutionalized population (2000: 24,000 individuals and 10,000 households; 2002: 39,000 Individuals and 15,000 households).

National Survey Details Americans Experience
With Health Care Services Year 2000



Data from AHRQ's Medical Expenditure Panel Survey

The questions were taken from the AHRQ's CAHPS®, a research-based, validated survey tool that assesses people's experiences with their own health plans. Respondents were asked about the timeliness in which they received urgent and routine medical care and they also were asked about their experiences during care. These measures will be included in the National Quality Report, first due out in 2003, which will provide information to policymakers, providers and consumers to monitor the nation's progress toward improved health care quality.

In addition, slightly more than half of Americans age 18 and older (53.8 percent) who do not live in institutions or serve in the military always received urgent medical care as soon as they wanted it in calendar year 2000. While there was very little difference between blacks and whites aged 18 to 64 in their reports of timeliness of receiving urgent care, 51.5 percent and 52.9 percent respectively, only 41.2 percent of Hispanics reported always receiving urgent care when they wanted it. The detailed findings include:

- In 2000, 72.3 percent (145.4 million) of the U.S. population aged 18 and older visited a doctor or medical clinic in the 12 months prior to the survey. Of that total, 82.6 percent reported no problems receiving the care they or their doctor believed was necessary; 89.8 percent said their health care providers always or usually listened carefully to them; and 84 percent said their health providers always or usually spent enough time with them.

- Among those receiving care, blacks (64.4 percent) were more likely than whites (58.6 percent) or Hispanics (53.1 percent) to say their providers always explained things so they understood.

- Fewer than half of all those surveyed (43 percent) said they always received an appointment at a clinic or doctor's office as soon as they wanted. But people age 65 and older (54.7 percent) were more likely to say they always obtained an appointment as soon as they wanted.

- A majority of patients who visited a doctor's office at least one time in the previous 12 months reported that health providers always treated them with respect (58.4 percent, always; 31.8 percent, usually; and 9.8 percent sometimes or never). People aged 65 and older were more likely than adults under 65 to report being treated with respect.

- Among those age 18-64, those with private insurance (84.5 percent) were more likely to say it was no problem getting needed care than were those with only public coverage (71.5 percent) and the uninsured (72.9 percent).

A new questionnaire incorporated into AHRQ's Medical Expenditure Panel Survey (MEPS) beginning in 2000, covering children's experiences with health care access, indicates that parents of publicly insured and uninsured children under age 18 (20.4 percent and 15.8 percent, respectively) were more likely to report having a problem receiving necessary care during a doctor's office or clinic visit than were parents of privately insured (7.9 percent) children. The questions also were taken from the AHRQ's CAHPS® and will be included in the National Quality Report.

Funding History

Funding for the MEPS program during the last five years has been as follows:

	Budget Authority	PHS Evaluation Funds	Total
1999 Actual............	—	$29,300,000	$29,300,000
2000 Actual............	—	$36,000,000	$36,000,000
2001 Actual………..	—	$40,850,000	$40,850,000
2002 Actual………..	—	$48,500,000	$48,500,000
2003 Pres. Budget..	—	$53,300,000	$53,300,000
2004 Request……..	—	$55,300,000	$55,300,000

Rationale for the FY 2004 Request

The FY 2004 request for the Medical Expenditure Panel Surveys (MEPS) totals $55,300,000 in PHS evaluation funds, an increase of $2,000,000 over the FY 2003 President's budget. The $2.0 million in additional funds for MEPS in FY 2004 will be used to improve the usability and timeliness of MEPS data through several activities. Work would begin on re-CAPIing the MEPS

Household instrument to support improvements in the timeliness and quality of data, especially those data elements that are required for the NQR and NDR. Improvements in the timeliness of data development activities associated with the production of MEPS public use tapes will be implemented. Funds will also be allocated to the MEPS Insurance Component to improve the availability of data to the States. Each year, estimates on employer sponsored health insurance are available for 40 states (all states over a 3 year period) and these funds would be used to enhance the tabulations we provide to the States to support their analysis of private, employer sponsored health insurance.

The FY 2004 request for MEPS will maintain enhancements to the sample size and content of the MEPS Household and Medical Provider Surveys necessary to satisfy the congressional mandate to submit an annual report on national trends in health care quality and to prepare an annual report on health care disparities. The MEPS Household Component sample size increase was maintained at 15,000 households in 2004 with full calendar year information. The funding in FY 2004 reflects the second full calendar year of data collection at the 15,000 household level. The funding in FY 2004 also maintains the increase in the sample size of the MEPS Medical Provider Survey that is associated with MEPS Household Sample.

This sample size specification for the MEPS implemented in 2002 permits more focused analyses of the quality of care received by special populations due to significant improvements in the precision of survey estimates. This modification in concert with the sample enhancements initiated in 2001 significantly enhances AHRQ's capacity to report on the quality of care Americans receive at the national and regional level, in terms of clinical quality, patient satisfaction, access, and health status both in managed care and fee-for-service settings. These funds will permit the continuation of an oversample in MEPS of Asian and Pacific Islanders and individuals with incomes <200% of the poverty level in MEPS. These enhancements, in concert with the existing MEPS capacity to examine differences in the cost, quality and access to care for minorities, ethnic groups and low income individuals, will provide critical data for the National Healthcare Quality Report and the National Healthcare Disparities Report

In FY 2004, data collection will be ongoing for the MEPS Household Survey, the MEPS Medical Provider Survey, and the MEPS Insurance Component, which consists of a sample of establishments linked to the MEPS Household sample and a separate national employer health insurance survey. More specifically, in-person interviews will be conducted with 15,000 families to obtain calendar year 2004 health care data. The Medical Provider Survey will consist of interviews with more than 4,000 facilities, 22,000 office-based providers, 11,000 hospital-identified physicians, 800 home health providers and 9,000 pharmacies. In addition, the MEPS Insurance Component will consist of interviews with more than 40,000 employers.

The request also maintains enhancements made to the MEPS Insurance Component both in terms of sample size and improvements in the collection of information from employers about health insurance offerings and costs for their employees. It will also maintain adopted enhancements for the subset of the MEPS IC associated with the MEPS household sample to permit more detailed analyses for population subgroups that include Asian and Pacific Islanders and individuals with incomes <200% of the poverty level.

A PART assessment was conducted for this program (along with HCUP and CAHPS®) and helped inform the FY 2004 budget policy. A summary of the PART assessment is provided on page 89.

MEPS Products

Product	Significance
MEPS Household Component	Full year household component has been released for 1996 –1999 Partial data has been released for 2000-2001 ***Key Findings: 2001*** • In the first half of 2001, 16.7 percent of the U.S. civilian noninstitutionalized population were uninsured. • Among the U.S. civilian noninstitutionalized population under 65, more than a third of Hispanics (37.7 percent) and 20.2 percent of black non-Hispanics were uninsured during the first half of 2001, compared with 14.9 percent of white non-Hispanics. • Among people under 65, Hispanics accounted for one-fourth (26.3 percent) of the uninsured civilian noninstitutionalized population even though they represented only 13.1 percent of the overall population this age. • Young adults ages 19-24 were the age group at the greatest risk of being uninsured, with one-third (33.9 percent) of this group lacking health insurance. ***Key Findings: 2000*** • In the first half of 2000, 16.1 percent of the U.S. civilian noninstitutionalized population were uninsured. • Among the U.S. civilian noninstitutionalized population under 65, more than a third of Hispanics (35.2 percent) and 23.2 percent of black non-Hispanics were uninsured during the first half of 2000, compared to only 14.2 percent of white non-Hispanics. • Among people under 65, Hispanics accounted for one fourth (24.9 percent) of the uninsured civilian noninstitutionalized population even though they represented only 12.9 percent of the overall population for this age. • Young adults aged 19-24 were the age group at the greatest risk of being uninsured, one-third (33.1 percent) of this group were lacking health insurance. ***Key Findings: 1999*** • In the first half of 1999, 15.8 percent of all Americans were uninsured. • Among Americans under 65, 36 percent of Hispanics and 21 percent of blacks were uninsured during the first half of 1999, compared with only 14 percent of whites. • Even though Hispanics represented only 13 percent of the non-elderly U.S. population, they accounted for a fourth (25 percent) of the entire uninsured population. • Young adults ages 19-24 were more at risk of being uninsured than any other age group. Almost a third (32 percent) of young adults were uninsured. • During the first half of 1999, among people under age 65, those who were separated from their spouse were more likely to be uninsured (33 percent)

Product	Significance
	than people of any other marital status. ***Key Findings: 1998*** • About 84% of the U.S. community population had medical expenses, and the mean expense per person with expenses was $2,444 • Among those under 65, 82.1 percent of Americans had public or private insurance coverage • Among adults under 65, married persons were more likely to have health insurance • Over one half of elderly Americans were covered by private insurance; more than 4 in 10 held only public coverage (Medicare with or without Medicaid). This represents a decline in private coverage from 1997 and an increase in public coverage • Less than half of all Hispanic Americans and about half of black Americans were covered by private health insurance, compared to three quarters of whites. • Close to a third (31.8%) of Hispanics and a fifth of blacks were uninsured. In contrast only 12 percent of whites were without insurance. ***Key Findings: 1997*** • During the first half of 1997, nearly 30% of children under age 4, one in four children ages 4-6, and close to one in five children ages 7-12 had public health insurance coverage. • Young adults (19-24) were most likely to lack health insurance. Over a third of young adults (34.6%) were uninsured. • 78.7% of workers were covered by private health insurance, compared to half of individuals who were not employed. • Among all racial/ethnic groups, Hispanic males were the most likely to be uninsured; 36.9% lacked coverage. ***Key Findings 1996*** • Inpatient hospital care accounts for nearly 4 of 10 dollars spent on health care; Prescribed medications account for about 13 % of total expenditures. • About 86% of the US civilian population had health care expenses. While the average expense was $2,398 per capita, half of all people had expenses under $559. • 19.6% of privately insured children in single-parent families get health insurance coverage from a policyholder not residing in their household. • Almost 53% of children covered by Medicaid have at least one parent that works. • A greater percentage of workers are being offered health insurance by their employers in 1996 than in 1987; however, a smaller proportion is accepting insurance. • Nearly 18% of the population had no usual source of health care in 1996 and about 12% of families reported barriers to receiving needed health services. • In 1996, 77.5% of children with a usual source of health care had at least one ambulatory visit, compared to 43.3% of those without a usual source of care.

Product	Significance
	• Indicative of higher health care utilization rates during the last months of life, the average number of ambulatory visits for persons who died is about 2.5 higher than the rest of the population. • Only 43.2% of the population received dental care in 1996.
MEPS Insurance Component	Tables of estimates are available for 1996 through 2000 MEPS-IC data are used in the calculation of Gross Domestic Product. ***Key Findings: 2000 Private-sector*** • The average health insurance premiums in 2000 were $2,655 (for single coverage) and $6,772 (for family coverage). Premiums increased 14.2% and 11.8% respectively over 1999, continuing a trend of increasing premiums each year since 1996. • The average employee contributions to the health insurance premiums in 2000 were $450 (for single coverage) and $1,614 (for family coverage). Employee contributions increased 7.1% and 12.2% respectively over 1999, continuing the trend from previous years. • The percent of the premiums paid by employees for health insurance coverage in 2000 changed slightly from prior years. (Single contributions went down 1.2 percentage points, family contributions did not significantly change.) It appears that employers in 2000 continue to share the premium increases with their employees at approximately the same ratio as they did in 1996 through 1999. • While premiums increased for all types of health insurance plans, those plans that allow enrollees to go to any provider (i.e. a conventional indemnity plan) continue to have the highest premiums and the largest percentage increase over the previous year. Exclusive-provider plans continue to have the lowest premiums and smallest percentage increases over the previous year. • Conventional indemnity plans continue to disappear at a significant rate each year. Now only 15% of establishments offer such a plan. Plans that offer a mixture of providers (i.e. PPO types) are still growing in popularity and are the primary type of plan now being offered by most employers. The percent of establishments offering exclusive-provider plans remained constant for another year. • The percent of establishments offering health insurance in 2000 was 59.3%, up from 52.9% in 1996. • From 1996 to 1998, the percentage of establishments offering health insurance increased from 21.5% to 32.4%. From 1998 to 2000, this percentage dropped to 29.1%. • Employers continue to drop offerings of health insurance to their retirees (both under and over 65 years old). In each year since we started measuring this in 1997, there has been a significant decline. Offerings to retirees under age 65 have dropped from 21.6% of establishments in 1997 to only 12.0% in 2000. Offerings to retirees 65 and older have dropped from 19.5% to 10.7% over the same period.

Product	Significance
	• Premiums for single coverage were significantly higher than the national average in Connecticut ($3,057), New York ($2,956), and New Jersey ($2,911). Single coverage premiums were below the national average in North Dakota ($2,293), California ($2,365), Colorado ($2,450), Oregon ($2,467), and Pennsylvania ($2,467). • Family premiums were significantly higher than the national average in New Jersey ($7,592), New Hampshire ($7,525), Massachusetts ($7,341), Connecticut ($7,292), Maryland ($7,287) and Illinois ($7,220). They were significantly below the national average in Mississippi ($5,983), North Dakota ($6,124), New Mexico ($6,222), and California ($6,227). ***Key Findings: 2000 State and local governments*** • The average health insurance premiums for State and local government employees in 2000 were $2,855 (for single coverage) and $6,657 (for family coverage). Premiums increased 10.4% and 10.0% respectively over 1999, continuing a trend of increasing premiums each year since 1996. • The average contributions made by State and local government employees to their health insurance premiums in 2000 were $251 (for single coverage) and $1,267 (for family coverage). Employee contributions increased 19.0% and 11.6% respectively over 1999. • The largest average health insurance premiums were in New England ($3,441 single / $8,676 family) and the lowest were in the West South Central for single coverage ($2,531) and in the Pacific for family coverage ($6,065). • The largest employee contributions paid by government employees for single plans were also in New England ($399). However, the largest employee contributions for family plans were in the West South Central Census division ($2,700). This was unchanged from the findings in 1999. • There are strong regional differences in the way that State and local governments subsidize single versus family employee contributions to health insurance. In four of the Census divisions, (New England, Middle Atlantic, East North Central, and Pacific), the <u>percentage</u> of the premium paid by employees for both single and family coverage are similar, or slightly higher for family coverage. In the other five Census divisions (West North Central, South Atlantic, East South Central, West South Central and Mountain), employees pay a much higher percentage of the cost for family coverage. This trend has consistently appeared in all five years of the MEPS-IC survey. Similar regional trends occur in the private-sector, but are much more pronounced in the public-sector estimates. • The percent of governments offering a choice of plans dropped from 34.7% in 1999 to 27.3% in 2000. This follows an upward trend in plan choice from 1996 through 1998 and a year of no change in 1999.

Product	Significance
	• The types of health insurance coverage offered by State and local governments remained consistent from 1999 to 2000, with one significant change. Managed care is still well entrenched in the government workplace - with 85.8% of governments offering some type of managed care plan. Preferred provider plans (offered by 67.7% of the governments) are more common than exclusive provider plans (offered by 29.0% of the governments). The percent of governments offering exclusive provider plans dropped significantly from 1999, when 34.2% were offering this type of plan. • Led primarily by smaller State and local governments, the percentage of governments offering health insurance to their retirees under age 65 continues to drop rapidly - from 39.1% in 1999 to 29.9% in 2000. Likewise, offerings to retirees 65 and older also dropped - from 31.6% in 1999 to 21.6% in 2000.
MEPS Resource Center	Beginning in 2000, MEPS Household Survey data not available for broad public distribution are available to researchers and others with approved projects on site at AHRQ. Data are used in a tightly controlled, supervised environment. Permits more use of the data by a broad range of users.
MEPS Workshops	Since 1999, MEPS staff have provided training in how to use this data to nearly 650 researchers and policy makers. These sessions have ranged from 3 hour seminar style presentations to 2 day hands-on practical learning situations. While most of these seminars have been in the Washington DC metro area, we have also conducted workshops in Georgia, Massachusetts, California and Illinois.

Program Support

	FY 2002 Actual	FY 2003 President's Budget	FY 2004 Request	Increase or Decrease
Proposed Law				
-- BA	$2,585,000	$0	$0	$0
--PHS Eval	($0)	($2,700,000)	($2,700,000)	($0)
FTE	22	22	22	0

Purpose and Method of Operation

This activity supports the overall direction and management of the AHRQ. This includes the formulation of policies and program objectives; and administrative management and services activities.

Funding History

Funding for the Program Support during the last five years has been as follows:

	Budget Authority	PHS Evaluation Funds	FTEs
1999........................	2,341,000	---	21
2000........................	2,484,000	---	22
2001Actual …………	2,585,000	---	22
2002 Actual…………	2,585,000	---	22
2003 Pres. Budget…	__	2,700,000	22
2004 Request………	__	2,700,000	22

Rationale for FY 2004 Request

The FY 2004 request for Program Support is maintained at the FY 2003 President's budget.

Program: *Data Collection and Dissemination*

Agency: *Department of Health and Human Services*
Bureau: *Agency for Healthcare Research and Quality*

☐ Results Achieved
☐ Results Not Demonstrated
☑ Measures Adequate
☐ New Measures Needed

Key Performance Measures	***Year***	***Target***	***Actual***
Long-term Measure: Number of months after the date of completion of the Medical Expenditure Panel Survey data will be available (New measure)	1997		19-27
	2008	12	
Long-term Measure: Number of organizations that will use Healthcare Cost and Utilization Project databases, products or tools to improve statewide health care quality for their constituencies (New measure, baseline under development)	2010	5	
Annual Measure: The strategy for achieving the long-term goal on Healthcare Cost and Utilization Project databases, products or tools (New measure, baseline and targets under development)			

Rating: *Moderately Effective*

Program Type: *Research and Development*

Program Summary:

These programs collect data on the cost (Medical Expenditure Panel Survey), use (Healthcare Cost and Utilization Project), and quality of health care in the United States and develop and survey beneficiaries regarding their health care plans (Consumer Assessment of Health Plans).

The assessment found:
1. The Agency for Healthcare Research and Quality (AHRQ) recently developed new long-term and annual performance measures and goals. Program partners have committed to achieving the stated goals and these programs undergo regular evaluations.
2. The programs do not yet have data available to measure their new targets.
3. Program managers acknowledged difficulties tracking budgetary expenditures and their impacts on actual program performance. AHRQ will begin to connect budget and planning systems to identify more easily those activities not meeting their goals.
4. The purpose of these programs is clear--to have a unique impact on the need for and availability of national level health care cost, utilization, and health plan data. These programs do not effectively articulate their public benefits.
5. AHRQ regularly collects timely and credible performance data and uses these data to manage the program. There are some management deficiencies including an inability to determine the full annual costs of these programs.

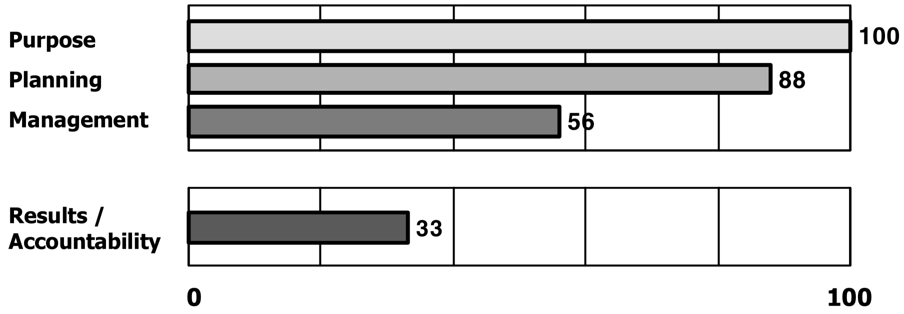
In response to these findings, the Administration will:
1. Collect performance data on the new measures.
2. Propose an increase of $5 million above the 2003 Budget to support AHRQ's efforts to ensure continued collection and availability of national health care cost, use, and quality data.
3. AHRQ has begun to address management deficiencies by adopting performance-based contracts that require superior performance toward achieving established goals.

Program Funding Level (in millions of dollars)

2002 Actual	**2003 Estimate**	**2004 Estimate**
55	60	65

Program: *Translating Research into Practice*

Agency: *Department of Health and Human Services*
Bureau: *Agency for Healthcare Research and Quality*



☐ Results Achieved
☐ Results Not Demonstrated
☑ Measures Adequate
☐ New Measures Needed

Key Performance Measures	*Year*	*Target*	*Actual*
Long-term Measure: Rate of hospitalizations for pediatric asthma in persons under age 18 (Modified existing measure)	1999		178,901
	2000		150,876
	2010	105,613	
Long-term Measure: Number of immunization-preventable pneumonia hospital admissions of persons aged 65 and older (Modified existing measure)	1999		792,264
	2000		743,487
	2010	520,441	
Long-term Measure: Number of immunization-preventable influenza hospital admissions of persons aged 65 and older (Modified existing measure)	1999		17,508
	2000		16,529
	2010	11,570	

Rating: *Adequate*

Program Type: *Research and Development*

Program Summary:

Translating Research Into Practice (TRIP) grants are provided to public or private entities, universities, and clinics, to address common health conditions, including: infant mortality, cancer screening, cardiovascular disease, diabetes, HIV/AIDS, child and adult immunizations, and mental health and pediatric asthma. Grantees assess the effectiveness of promising new interventions; determine if the new interventions are replicable; compare their benefits, costs, and effects on existing approaches; and focus on the day-to-day provider behavior changes that could improve health outcomes.

The assessment found:
1. There is general consensus that the program purpose of TRIP is clear.
2. The program developed new long-term goals in September 2001 and modified them for the 2004 Budget. The 2004 national measures will allow TRIP grantees to assess how the use of new interventions in health care settings could help improve health outcomes/reduce the number of unnecessary hospitalizations for those with pediatric asthma and those receiving adult immunizations. The program recognizes the difficulty of linking expenditures to actual program performance, but plans to better integrate its existing planning and budget databases to easily identify those programs that are not meeting their GPRA goals.
3. The program does not use performance information to manage the program and does not measure efficiencies and/or cost savings.
4. There is a lack of long-term and annual performance goals. As a result, it is difficult to measure the success of the program or the achievements/contributions it may be making to changes in provider behavior.

In response to these findings the Administration will:
1. Maintain funding at the 2003 Budget level to ensure continued efforts to go beyond collecting data to actually changing provider behavior and thus improving health outcomes.
2. The program is addressing its management deficiencies and will begin better integrating its planning and budget decision-making processes.

Program Funding Level (in millions of dollars)

2002 Actual	**2003 Estimate**	**2004 Estimate**
14	7	7