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Research
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Quality
Health Care



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Quality Research for Quality Health Care

A Report from AHRQ on Recent
Activities and Future Directions

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Department of Health and Human Services
Agency for Healthcare Research and Quality
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Message from the Director

I am very pleased to release this report on the goals, accomplishments, and future of the Agency for Healthcare Research and Quality. This report covers fiscal years 1999-2000. Our last year as the Agency for Health Care Policy and Research was 1999. The Agency was reauthorized in December 1999, a few days before its 10th anniversary and renamed as the Agency for Healthcare Research and Quality. While we fell a few days short of that milestone, we are celebrating the birth of a new Agency that builds on the strong foundation of high quality research laid by its predecessors—AHCPR and the National Center for Health Services Research and Health Care Technology Assessment.

With our reorganization comes an increased focus on quality and patient safety and ways to reduce medical errors. We are also emphasizing ways to accelerate and magnify the impact of research on clinical practice and patient outcomes.

AHCPR accomplished much during its decade. AHRQ will build on that success in the months and years to come and continue to make a difference in the quality of health care for Americans.

John M. Eisenberg, M.D.
Director
Agency for Healthcare Research and Quality

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Introduction

As we begin the 21st century, people in the United States are living longer, healthier lives. In 1998, life expectancy at birth increased to an all-time high of 76.7 years for men and women, and life expectancy for black males increased for the fifth year in a row. Death rates for heart disease, cancer, and stroke decreased.

Heart disease continues to be the leading cause of death for men and women of all races. The good news is that in 1998, the age-adjusted death rate for heart disease was about one-half of what it was in 1970. Deaths from cancer—the second leading cause of death—are also falling, continuing a trend that began in 1990. Between 1970 and 1990, age-adjusted cancer death rates had steadily increased. And finally, stroke deaths are continuing a steady decline that began in 1992.

Despite these encouraging gains in life expectancy and substantial progress on other health care fronts—such as increased use of early prenatal care and preventive services and rapid advances in new treatment regimens for HIV and AIDS—there are incredible challenges ahead for the U.S. health care system. These include rising health care costs, concerns about patient safety and medical errors, variations in clinical practice and patient outcomes, and barriers to care for our most vulnerable populations.

Disparities are substantial among racial and ethnic groups for many causes of death. Disparities also occur between men and women and among people with different education levels. Men and women with less than a high school education have death rates at least double those of people who have education beyond high school.

Research on these and other pressing issues forms the core mission of the Agency for Healthcare Research and Quality. Our goal at AHRQ is to work toward high quality, accessible, and affordable health care for all Americans. AHRQ conducts and supports health services research on clinical outcomes, quality, cost, use of resources, and access to care. Findings from

AHCPR/AHQ in FY 1999-2000

Budget: The agency's FY 1999 budget was \$171.055 million. AHRQ's budget in FY 2000 was \$203.8 million. Nearly two-thirds of the budget was awarded as grants and contracts to researchers across the country. AHRQ's budget for 2001 is \$269.9 million.

Staff: 270

Director: John M. Eisenberg, M.D.

Deputy Director: Lisa Simpson, M.B., B.Ch., M.P.H.

AHRQ-supported health services research are used by clinicians, patients, health system leaders, and others to help them make more informed health care decisions.

Making sure that AHRQ's research helps to improve the health and health care of the American people is a touchstone for the Agency that is evident in all aspects of our operations: from our strategic planning process, to the consideration of the research we fund, to our partnerships with other groups. We work closely with our sister agencies within the Department of Health and Human Services, with other Federal, State, and local agencies, and with private-sector organizations.

AHRQ supports and conducts research that evaluates the effectiveness, quality, and value of health care in everyday settings, uncovering the evidence and developing the knowledge and tools that yield measurable improvements in quality. A key to the success of this mission is the Agency's TRIP agenda, or "Translating Research Into Practice," which helps to ensure that the impact of AHRQ's research is felt by more people in a timely manner. Through the TRIP initiative, findings from AHRQ research are put directly to work to improve the quality and value of health care provided in the Nation. {Editor's Note: See page 17 for more information about our TRIP research agenda.}

This report presents information on the programs and activities undertaken by AHRQ in fiscal years 1999-2000 and provides some examples of accomplishments during that time. It also includes some of the research priorities that AHRQ will pursue in the coming months. To set the stage for this discussion, the report presents the organizational structure of the Agency and key responsibilities of its functional components, describes the Agency's National Advisory Council for Health Care Policy, Research, and Evaluation, and identifies the various audiences and customers who use the findings from Agency-supported research.

Organizational Structure

AHRQ has nine major components. They are:

- **Center for Practice and Technology Assessment.** CPTA directs the evidence-based practice program, consisting of: (1) the Evidence-based Practice Centers that develop evidence reports and technology assessments; (2) the Internet-based National Guideline Clearinghouse®; (3) the U.S. Preventive Services Task Force; and (4) intramural and extramural research and evaluation on translating evidence-based findings into clinical practice. CPTA also is responsible for research on the assessment of medical technologies, including conducting and sponsoring technology assessments to assist decisionmaking in other agencies. Director: Douglas B. Kamerow, M.D., M.P.H.
- **Center for Outcomes and Effectiveness Research.** COER conducts and supports studies of the outcomes and effectiveness of diagnostic, therapeutic, and preventive health care services and procedures. Director: Carolyn M. Clancy, M.D.
- **Center for Primary Care Research.** CPCR conducts and supports studies of primary care and clinical, preventive, and public health policies and systems, including the effective application of information technology in health care. Director: Helen Burstin, M.D.
- **Center for Organization and Delivery Studies.** CODS conducts and manages studies of the structure, financing, organization, behavior, and performance of the health care system and providers within it. Director: Irene Fraser, Ph.D.
- **Center for Cost and Financing Studies.** CCFS conducts and supports studies of the cost and financing of health care and develops data sets to support policy and behavioral research and analyses. Director: Steven B. Cohen, Ph.D.
- **Center for Quality Measurement and Improvement.** CQMI conducts and supports research on the measurement and improvement of health care quality, including surveys regarding people's experiences with health care services and systems and research related to patient safety and medical errors. Director: Gregg Meyer, M.D., M.Sc.
- **Office of Management.** OM directs and coordinates Agency-wide administrative activities, including human resources, financial management, information resources management, and other support services. Director: Willard B. Evans, Jr.
- **Office of Research Review, Education, and Policy.** ORREP directs the scientific peer review process for grants and Small Business Innovation Research (SBIR) contracts, assigns projects to Agency components, plans and manages Agency health services research training and career development programs, develops and implements Agency policies and procedures regarding extramural research programs, and evaluates the scientific contribution of proposed and ongoing research, demonstrations, and evaluations. Director: Francis D. Chesley, Jr., M.D.
- **Office of Health Care Information.** OHCI designs, develops, implements, and manages programs for disseminating the results of Agency activities, including public affairs, print and electronic publishing and dissemination, reference services, research translation and synthesis, and liaison activities with State and local health policy officials. Director: Christine G. Williams.

On page 4 you will find a chart that shows the agency's organizational structure during FY 1999 and FY 2000. We are including the chart on page 5 to reflect our organizational structure as it is today. The chart shows several changes to our organization that occurred in the first few months of FY 2001 (e.g., renaming of the Center for Quality Measurement and Improvement as the Center for Quality Improvement and Patient Safety to reflect new responsibilities).

National Advisory Council for Health Care Policy, Research, and Evaluation

The National Advisory Council for Healthcare Research and Quality provides advice and recommendations to AHRQ's Director and to the Secretary of the Department of Health and Human Services, on priorities for a national health services research agenda. The 24-member panel comprises 17 private-sector experts who contribute a varied perspective on the health care system and the most important questions that AHRQ's research should address in order to promote improvements in the quality, outcomes, and cost-effectiveness of clinical practice. The private-sector members represent health care plans, providers, purchasers, consumers, and researchers.

Also serving in an ex-officio capacity are principal representatives of seven Federal agencies that address health care issues: the National Institutes of Health (NIH); the Department of Defense (Health Affairs) (DoD); the Centers for Disease Control and Prevention (CDC); the Department of Veterans Affairs (VA); the Substance Abuse and Mental Health Services Administration (SAMHSA); the Food and Drug Administration (FDA); and the Health Care Financing Administration (HCFA).

AHRQ's Customers

AHRQ's customers are decisionmakers who need objective, evidence-based, and timely information to make informed decisions about the health care they provide, receive, and purchase. These customers include clinical decisionmakers,

health care system decisionmakers, policymakers, and patients.

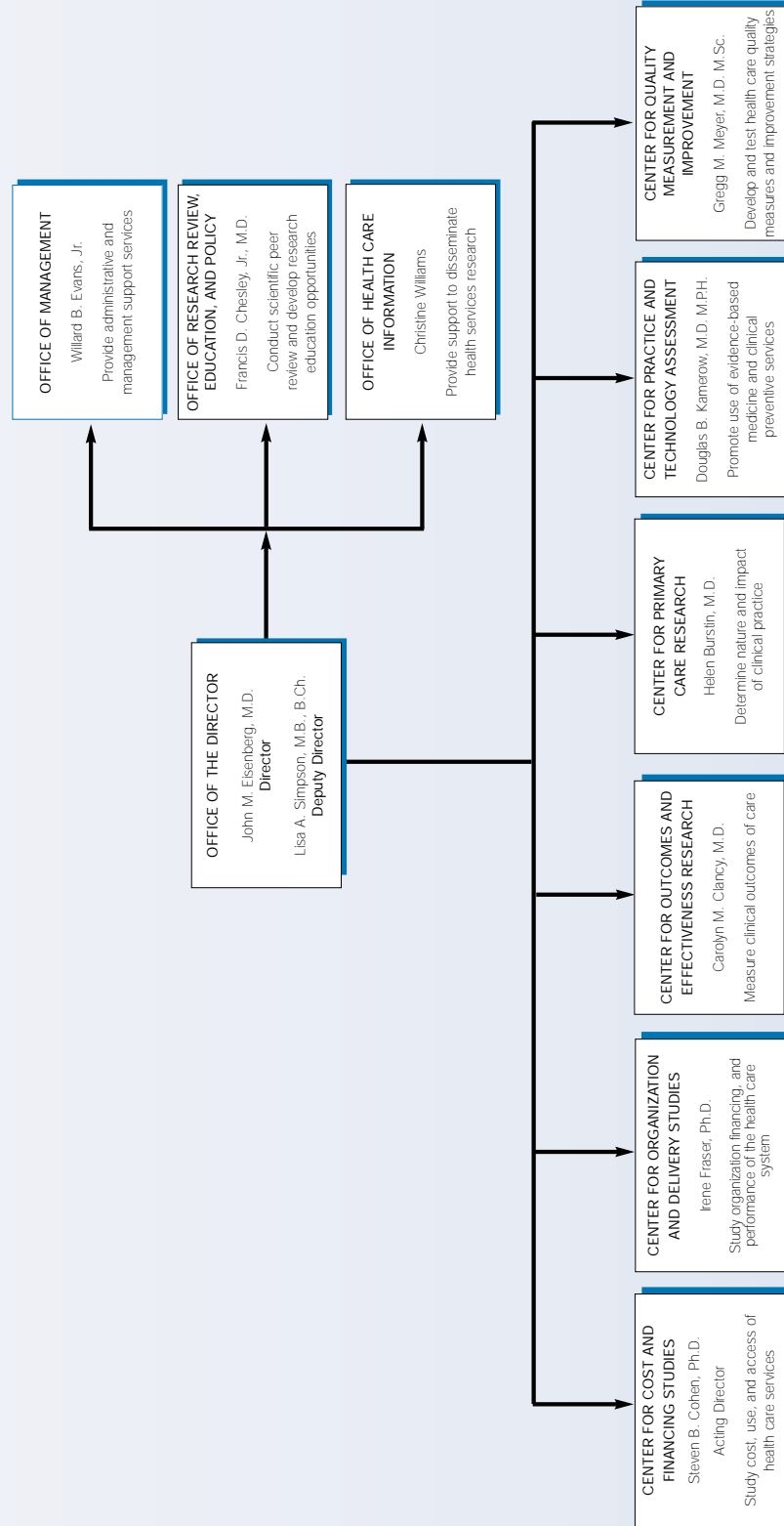
- **Clinical Decisionmakers.** The evidence uncovered through AHRQ-sponsored research and tools developed from those findings help clinicians, consumers, patients, and health care institutions make informed choices about which treatments work, for whom, when, and at what cost.
- **Health Care System Decisionmakers.** Health plan and health care system managers use the findings and tools developed through AHRQ-sponsored research to make choices on how to improve the health care system's ability to increase access to care and deliver high-quality, high-value care. Purchasers use the products of AHRQ-sponsored research to obtain high-quality health care services.
- **Policymakers.** Public-and private-sector policymakers use the information produced by AHRQ to expand their ability to monitor and evaluate the impact of system changes on outcomes, quality, access, cost, and use of health care and to devise policies designed to improve the performance of the system.

How AHRQ's Research Helps People

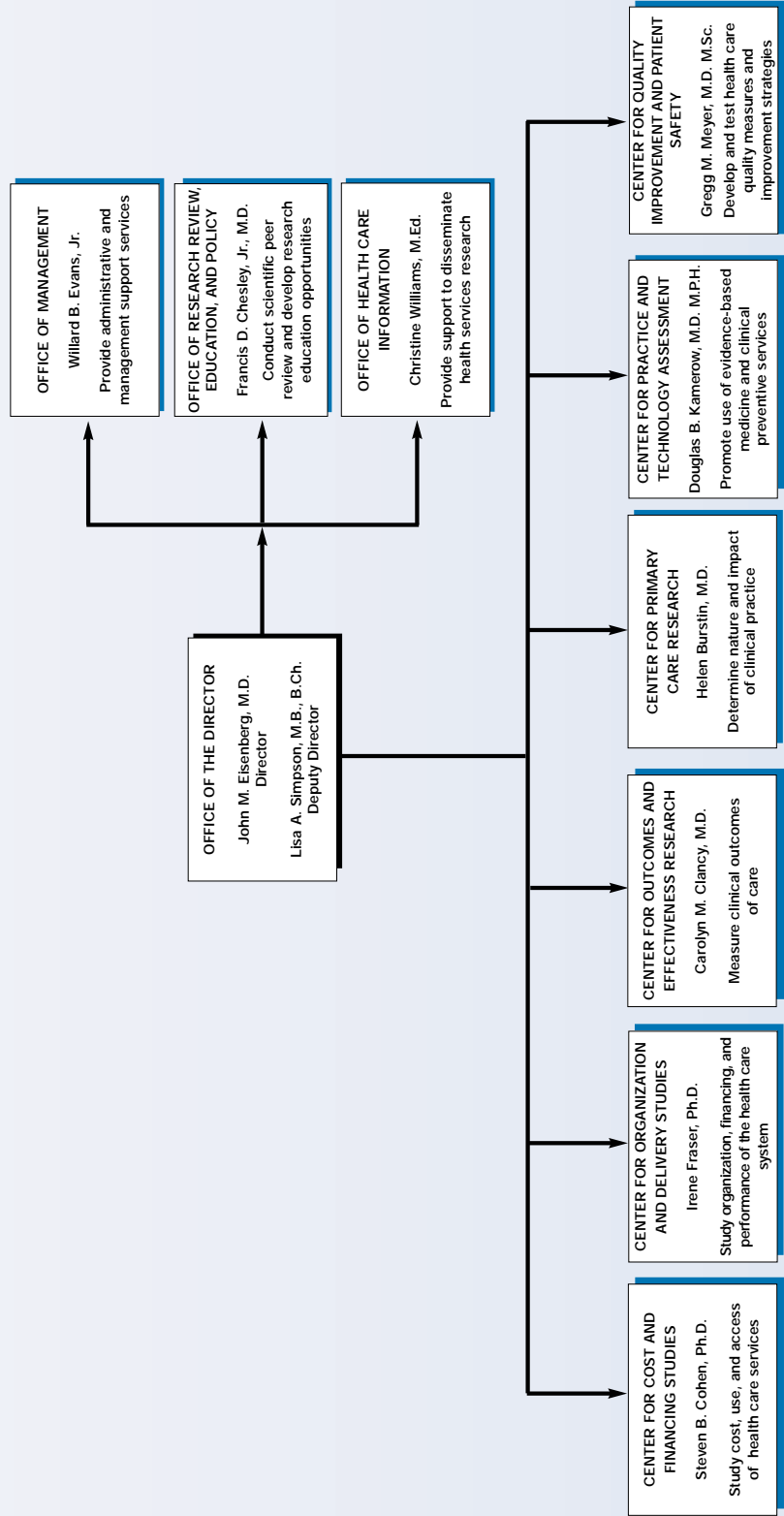
An important goal for AHRQ is that the Agency's research result in significant improvements in the health of the American people and in the delivery of health care services in the Nation. Following are examples of some of the ways AHRQ's research is making a difference.

- **Improved diagnosis for people with heart attack symptoms.** Three-fourths of the 7 million Americans who come to the hospital with symptoms of a heart attack turn out not to have one. Nonetheless, many of these people are admitted to the hospital because emergency room physicians are unable to determine with sufficient certainty that no heart attack occurred. New results from an AHRQ-sponsored clinical trial show that the use of a special imaging test on people who have a

Department of Health And Human Services
AGENCY FOR HEALTHCARE RESEARCH AND QUALITY
in FY 1999 and FY 2000



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AHRQ Research Findings at Work

In clinical practice:

- A new add-on to a standard electrocardiograph, originally developed with funding from AHRQ, helps hospitals reduce inappropriate admissions to cardiac care units while maintaining the quality of care for patients. This tool helps emergency room doctors decide on hospitalization or discharge and treatment options.

In health care systems:

- CAHPS® is a survey-based tool to evaluate people's experiences with their health plans. It was developed by AHRQ to provide purchasers and others with information they can use to judge health care quality. Members of the Central Florida Health Care Coalition (CFHCC), a 128-member nonprofit business health care group, have been using CAHPS® for 3 years to improve the quality of the health care plans that serve their employees. After CAHPS® surveys are completed and the results are analyzed, CFHCC members focus on areas with low scores in patient satisfaction to identify and improve areas that scored poorly with employees.

In health care policymaking:

- A new tool developed by AHRQ-supported researchers, the function-related groups (FRGs), can distinguish accurately between patients who need more complex and long-term services and those whose rehabilitation is likely to require less time.
- The Health Care Financing Administration has adopted a modified version of FRGs as the basis of Medicare payments to rehabilitation hospitals because FRGs can promote efficiency without giving hospitals an incentive to avoid or undertreat patients with complex needs.
- The Uniform Data System for Medical Rehabilitation (UDSMR) has incorporated FRGs into its data systems. Some 1,400 medical rehabilitation providers in the United States and other countries use this data system for continuous quality improvement, outcomes management, research, and other purposes.

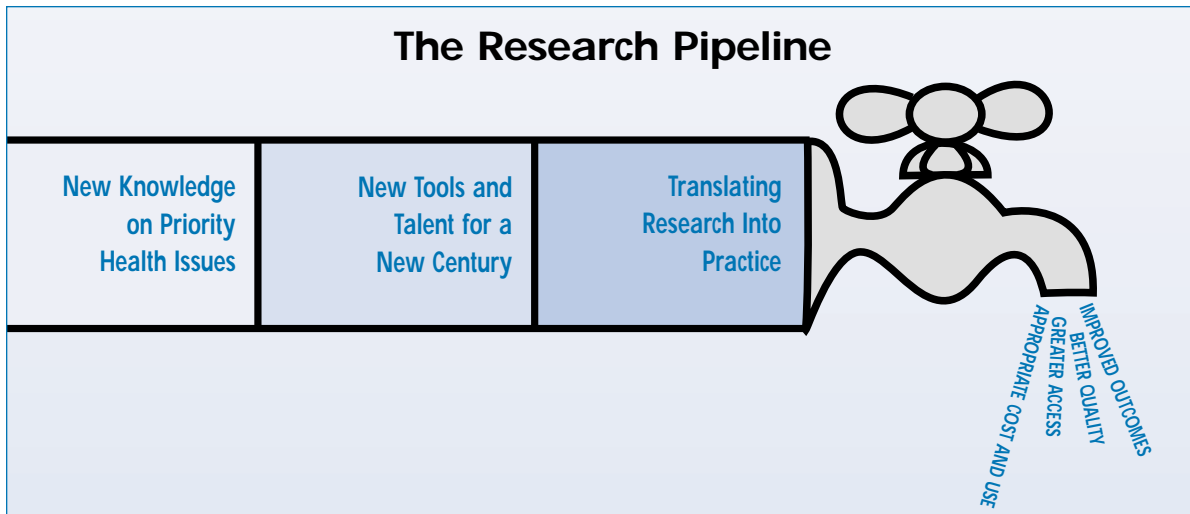
normal EKG reading and symptoms consistent with a heart attack can reduce by up to 20 percent the number of such people who must spend time in the hospital unnecessarily. If the data from this trial were applied nationally, savings from unnecessary admissions could be \$85 million per year.

- **Improved screening for pregnant women.** AHRQ-funded research demonstrating the cost-effectiveness of screening for group B streptococcal bacteria infection in pregnant women—a condition associated with illness and death in newborn infants—was the basis for CDC recommendations on screening and treatment for this disease. The CDC recommendations have had a major impact on maternal and infant health. Recent research shows that the incidence of early-onset strep infection in infants has decreased by 65 percent since implementation of the recommendations.

In addition, the excess incidence of disease in black infants compared with whites decreased by 75 percent, and the incidence of invasive group B strep infections in pregnant women decreased by 21 percent.

- **Improved quality in Federal health programs.** AHRQ research supports health care quality improvement and efficiency efforts in every Federal health agency, either directly or indirectly. For example:

The Department's QuIC (Quality Interagency Coordination) Task Force is a working group of representatives of Federal agencies with responsibility for health care programs. Through the QuIC, AHRQ research on the outcomes and effectiveness of diabetes care is contributing to quality improvement government wide. As one of its initiatives, QuIC member agencies are using a uniform set



of diabetes measures, some of which are based on research on diabetes outcomes produced by AHRQ's Diabetes Patient Outcomes Research Team.

A "Patient Pointer" guide developed by the Memphis Veterans Affairs Medical Center, which outlines the pros and cons of prostate-specific antigen (PSA) testing for prostate cancer, is based on the findings of AHRQ research on the outcomes of treatment for prostate diseases.

AHRQ research provides data that Federal agencies use to make estimates of health care use and expenditures for many purposes. Data from AHRQ's Medical Expenditure Panel Survey (MEPS) and Healthcare Cost and Utilization Project (HCUP) are used by agencies ranging from the Congressional Budget Office and the Council of Economic Advisors to the Health Care Financing Administration and the Department of the Treasury. AHRQ analyses (based on MEPS data) of the number of children who potentially are eligible for public insurance programs but are not yet enrolled have catalyzed Federal efforts to encourage more effective State outreach to uninsured, low-income families with children.

AHRQ's Research Portfolio: A Pipeline of Investment

The key to the success of AHRQ's program is that the research is driven by the needs of its customers. AHRQ seeks input from its customers in a variety of ways, including: the National Advisory Council, meetings with stakeholder groups, *Federal Register* notices, and through comments submitted by the public via the Agency's Web site (www.ahrq.gov).

AHRQ's research agenda is reflected in a "pipeline" of activities that together build the infrastructure, tools, and knowledge for measurable improvements in America's health care system. This pipeline builds on the foundation laid by biomedical science in determining which interventions can work under ideal circumstances. But knowing that these interventions work is only a first step. More work is needed to ensure that these treatments are used correctly to improve patients' health and that they are effective in everyday practice. AHRQ's pipeline has the following segments that provide the steps needed to achieve these goals.

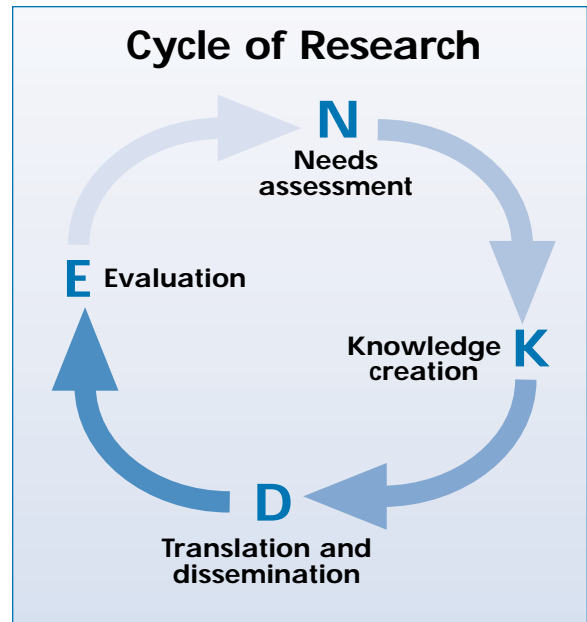
- 1. New research on priority health issues.** The first segment of the pipeline supports new research to answer important questions about what works in health care. The effort helps build the essential knowledge base that enables us to understand the determinants of the

outcomes, quality, accessibility, and costs of care, as well as identify instances when care falls short of achieving its intended outcomes.

2. **New tools and talent for a new century.** The second segment of the pipeline is the development of tools to apply the knowledge gained through the investment in new research. Here, the work of researchers is applied, and the effort begins to translate this new knowledge into instruments for measurement, databases, informatics, and other applications that can be used to assess and improve care. In addition, the individuals who conduct this research and those who use it are educated to build an effective workforce of doers and users of health care research.
3. **Translating Research into Practice.** The final segment of the pipeline is where all the previous investment comes together. Research from the first segment of the pipeline and the tools developed in the second segment are translated into resources to close the gap between what we know and what we can do to improve health care quality. In this third segment of the pipeline, AHRQ funds research and demonstrations to translate the knowledge and tools into measurable improvements in the care Americans receive. The Agency also develops partnerships with public- and private-sector organizations to disseminate the knowledge and tools for use throughout the health care system. This third segment of the pipeline is a central focus of the Agency through its Translating Research Into Practice (TRIP) initiative aimed at implementing evidence-based tools and information in diverse health care settings among practitioners caring for diverse populations. The theme of translating research into practice is woven throughout all the initiatives undertaken by AHRQ in FY 1999-2000.

AHRQ Cycle of Research

In order to produce meaningful contributions to health care, AHRQ must set and monitor priorities, develop research initiatives based on those priorities, and keep a close watch on the



processes and products that result from agency-supported research. Four processes are involved in the AHRQ research cycle: needs assessment, knowledge creation, translation and dissemination, and evaluation.

Needs assessment. AHRQ's activities begin and end with the end-users of its research. Our research agenda is based on an assessment of gaps in the knowledge base and the needs of patients, clinicians, health care managers, institutions, plans, purchasers, and State and Federal policymakers for evidence-based information. Needs assessment helps us shape the research initiatives undertaken by the agency.

Knowledge creation. AHRQ continues to support and conduct research to produce the knowledge needed to improve the health care system in the coming years.

Translation and dissemination. Simply producing knowledge is not enough. Findings must be presented in ways that are useful and made widely available to clinicians, patients, health care managers, and other decisionmakers. AHRQ synthesizes and translates knowledge into products and tools that help our customers solve problems and make decisions. We are proactive in our dissemination of the knowledge, products, and tools to appropriate audiences, and we form

partnerships with other organizations to leverage our resources.

Evaluation. To assess the ultimate outcomes of AHRQ research, we evaluate the impact and usefulness of agency-supported work in health care settings and policymaking. This involves a variety of evaluation activities, including smaller, short-term projects that assess processes, outputs, and interim outcomes to larger, retrospective projects that assess the ultimate outcomes and impact of AHRQ activities on the health care system.

Opportunities for Research

The mission of AHRQ could not be achieved without talented health services researchers who are dedicated to excellence in research. They understand the importance of evidence to inform decisionmaking and improve health care quality. In addition to the researchers on AHRQ's staff, nearly two-thirds of the Agency's budget is awarded as grants and contracts to support the work of researchers at universities and research institutions around the country.

AHRQ's research funds are awarded either through targeted announcements that address specific research questions or in response to ideas generated by researchers on significant issues in the health care system. Both of these mechanisms—targeted research requests and unsolicited investigator-initiated research proposals—are important and complementary. The Agency's targeted research initiatives respond to the specific needs of individual customers or the needs of the health care system as a whole, although researchers have latitude to design their own projects within the scope of a targeted request.

Investigator-Initiated Research

The topics addressed by unsolicited investigator-initiated research proposals reflect cutting-edge issues and ideas from the top researchers in the field of health services research. About half of the grants and cooperative agreements funded by AHRQ in FY 2000 were in response to program announcements and initiated by individual investigators who developed research proposals within an area of interest to the agency.

These are some examples of recent AHRQ-supported investigator-initiated research. Examples from other investigator-initiated projects are scattered throughout this report.

- Researchers at the University of Alabama at Birmingham have found that one-third of all patients suffering a heart attack don't have chest pain and thus may delay seeking life-saving treatment. In this study, patients who were suffering a heart attack but did not have chest pain arrived at the hospital 3 hours later than patients with chest pain. They also were less likely to be diagnosed with a heart attack at hospital admission and were twice as likely to die while in the hospital.
- The same Alabama researchers have found that on average only 57 percent of all patients who are eligible for reperfusion therapy to reopen a clogged artery—either thrombolytic drugs or angioplasty—actually receive this lifesaving treatment. And, the likelihood of receiving reperfusion therapy varies substantially according to the patient's race. Black patients—particularly black women—are significantly less likely to receive reperfusion therapy than white men (44 percent vs. 59 percent, respectively).
- A recent study by researchers at the University of Colorado found that monthly recertification of Medicaid eligibility leads to frequent shifts on and off the program and may undermine delivery of quality health care for children. About one in five U.S. children is enrolled in a State Medicaid program. These researchers used children's access to care and treatment for middle ear infection to examine the effects of Medicaid recertification on quality of care. They found that children who are continuously enrolled in Medicaid throughout the year are much more likely to have an assigned primary care physician and receive better care for middle ear infections, less likely to visit a hospital emergency department for the condition, more likely to fill antibiotic prescriptions, and more likely to be referred for needed ear surgery, such as tube placement or adenoidectomy.

- Many studies have pointed to the link between nurse staffing levels and nursing home quality of care. However, researchers at the University of California, San Francisco, have found that nursing home characteristics and geographic location are more predictive of nursing home care deficiencies than staffing hours or resident characteristics. They examined the data reporting system for all U.S. certified nursing homes and found that fewer RN hours and nursing assistant hours were associated with total deficiencies and quality of care deficiencies. However, staffing hours alone predicted less than 1 percent of the total variance in deficiencies. Staffing and resident characteristics together explained 3 percent of the variance. Adding facility characteristics and region to the mix increased the proportion of variance explained to 21 percent. Facilities that were smaller and nonprofit or government-owned had fewer deficiencies, and facilities with a higher percentage of Medicaid residents had more deficiencies.
- In half of the cases of out-of-hospital cardiac arrest that occurred in Seattle over the past few decades and were witnessed by bystanders, the victims did not receive bystander-initiated CPR. In this study, the researchers randomly assigned 241 out-of-hospital cardiac arrest patients to receive chest compression alone and 279 to receive chest compression plus mouth-to-mouth ventilation. Emergency medical dispatchers gave bystanders instructions during 62 percent of episodes for chest compression plus mouth-to-mouth ventilation (about 2.4 minutes for instruction) and in 81 percent of episodes for chest compression alone (only 1 minute of instruction). The outcomes for people who were administered CPR according to instructions given by the emergency medical dispatcher were virtually the same after chest compression alone as after chest compression with mouth-to-mouth ventilation.

Targeted Research Requests

In FY 1999, AHRQ announced six Requests for Applications (RFAs) on questions critical to the

health care system. Another six RFAs were announced in FY 2000.

FY 1999 RFAs

1. **Health Care Access, Quality, and Insurance for Low-Income Children.** AHRQ teamed with the David and Lucile Packard Foundation and the Health Resources and Services Administration to fund studies that will help public health insurance programs and delivery systems improve the quality of and access to care for low-income children. Researchers funded under this RFA are focusing on minority children and those with special needs.
2. **Development of Quality of Care Measures for Vulnerable Populations.** This RFA focused on the development and testing of measures that can be used in the purchase or improvement of health care services for populations identified as vulnerable under the definition outlined by the President's Advisory Commission on Consumer Protection and Quality in the Health Care Industry. According to this definition, a person may be vulnerable because of financial status or place of residence, health, age, functional or development status, ability to communicate effectively, chronic or terminal illness, disability, or personal characteristics.
3. **Translating Research into Practice.** This RFA supported projects that explore strategies for implementing research findings and evidence-based tools in everyday clinical practice. Evidence-based tools include clinical practice guidelines, practice parameters, quality indicators, and continuous quality improvement initiatives developed using a systematic approach to evidence synthesis.
4. **Quality Improvement.** The goal of this initiative was to strengthen the evidence base underlying the choice of strategies to improve the quality of health care, particularly in areas where the greatest improvement in health and functional status can occur. Studies funded under this RFA are evaluating strategies for improving health care quality that currently are

being used widely by organized quality improvement systems.

5. **Centers for Education and Research in Therapeutics.** This RFA announced the Agency's intention to establish Centers for Education and Research in Therapeutics (CERTs) to develop, translate, and disseminate objective information on therapeutics to health care providers and other decisionmakers to improve practice. These Centers are conducting state-of-the-art research to increase awareness of new uses of drugs, biological products, and devices; identify ways to improve their effective use; and examine the risks associated with new uses and combinations of drugs and biological products. The Centers also will help improve health care quality while reducing costs by increasing the appropriate use of drugs, biological products, and devices and identifying ways to prevent potential adverse effects. [Editor's note: See pages 16 and 17 for a listing of CERTs funded under this RFA.]
6. **Market Forces.** Through this RFA, AHRQ provided support for Centers of Excellence that conduct research on how health care market forces are affecting the quality of health care, access to health care services, and the cost of care. Findings from studies conducted by these centers will help public policymakers understand, monitor, and anticipate changes in the Nation's market-driven health care system. The projects include special emphasis on market effects on rural and minority populations and the influence of purchasers in local markets.

FY 2000 RFAs

1. **Quality information for consumers and patients.** This RFA was issued jointly by AHRQ and the National Cancer Institute. It announced support for demonstration projects to (1) identify and test methods and models for developing information on quality for use by consumers and patients in making health care decisions and (2) evaluate the impact of providing consumers and patients with quality information. Special emphasis was placed on populations made vulnerable by personal characteristics (e.g., race or sex), low income, place of residence (i.e., rural), poor health status, age, problems in communicating, or functional status.
2. **Minority health disparities.** This RFA announced AHRQ's interest in funding projects to analyze the causes and contributing factors associated with racial/ethnic disparities in burden of illness, death, and health care access, use, quality, and outcomes. The projects also will identify and implement strategies to eliminate such disparities in six clinical areas: infant mortality, cancer screening and management, cardiovascular disease, diabetes, HIV, and immunizations for children and adults.
3. **Primary care practice-based research networks.** This RFA announced funding for a series of 1-year exploratory grants to assist new or established practice-based research networks. The goal is to help them enhance their capacity to conduct research in primary care settings and translate research findings into practice.
4. **Violence against women.** This initiative called for research on the outcomes, effectiveness, and cost-effectiveness of programs for early identification and treatment of domestic violence against women. Goals are to develop new knowledge on the prevention of domestic violence, find better ways to identify female patients at risk, and evaluate outcomes and effectiveness of health care interventions to treat violence victims.
5. **Improving patient safety.** This RFA announced AHRQ's interest in funding cooperative agreements to test the effectiveness of "best practices" to improve patient safety by reducing preventable, systems-related medical errors that have a high prevalence and severe consequences.
6. **Translating research into practice II.** This RFA invited applications for cooperative agreement demonstration projects to evaluate

strategies for translating research into practice through the development of partnerships between researchers and health care systems and organizations. Such systems and organizations include purchaser groups, integrated health service delivery systems, academic health systems, HMOs and other managed care programs, practice networks, and worksite clinics. The goal is to accelerate and magnify the impact of research on clinical practice and patient outcomes in applied settings.

Nurturing Research Career Development

AHRQ contributes to excellence in health care delivery through research conducted by a cadre of well-trained and talented health services researchers. To maintain and nurture this vital resource, the Agency supports a variety of training and career development opportunities through individual and institutional grant programs. These include:

- Dissertation research support.
- Predoctoral fellowships for minority students.
- National Research Service Awards (pre- and postdoctoral fellowships).
- Independent Scientist Awards (K awards).
- Innovative Incentive Awards.

In FY 1999 and FY 2000, AHRQ:

- Supported 167 pre- and postdoctoral students through institutional and individual National Research Service Awards and dissertation grants.
- Increased support by about 25 percent for pre- and postdoctoral trainees and fellows.
- Provided support for 218 scholars in FY 2000.
- Launched two new career development programs: the Independent Scientist Award and the Mentored Clinical Scientist Development Award, which supported 16 additional scholars.
- Initiated a variety of activities to increase cohesiveness and build an infrastructure among

AHRQ training programs, including annual meetings of students and faculty and enhanced Web-based information and links.

- Instituted the Kerr White Visiting Scholar program through which health services researchers work in residence at AHRQ and collaborate with Agency research staff.

Additional information on all of the Agency's funding opportunities—including an ongoing program announcement that describes the priorities for investigator-initiated research, targeted initiatives, and career-related grant programs—is available at www.ahrq.gov/fund.

Partnerships and Coordination

AHRQ works in partnership with many other agencies and organizations. These include the various HHS agencies, other components of the Federal Government, State and local governments, and private-sector organizations, all of whom help the agency achieve its goals.

Most of the agency's partnerships are related to the development of new knowledge, development of tools and other decision-support mechanisms, and/or the translation of research findings into practice. Examples of this collaboration include efforts to:

1. Develop new knowledge through research.
 - AHRQ co-funds individual research projects and sponsors joint research solicitations with other HHS agencies.
 - AHRQ recently co-funded research with the David and Lucile Packard Foundation and HRSA on the impact of public insurance programs and delivery systems on access to care and quality of care for low-income children.
2. Develop tools, measures, and decision-support mechanisms.
 - The Health Resources and Services Administration (HRSA) and AARP worked in partnership with AHRQ to develop *Staying Healthy at 50+*, the newest resource in the *Put Prevention into Practice* program.

- Many agencies (e.g., the National Institutes of Health, the Health Care Financing Administration, and the Department of Veterans Affairs) are working closely with AHRQ’s evidence-based practice centers (EPCs) to develop assessments of existing scientific evidence to guide their work.
 - Evidence reports prepared by AHRQ-supported EPCs are being used in the development of clinical practice guidelines by a number of organizations, including the American Psychiatric Association, the American Academy of Pediatrics, the American Heart Association, and many others.
 - The Healthcare Cost and Utilization Project (HCUP) is a long-standing partnership between AHRQ and 22 States to build a multi-State data system.
3. Translate research into practice.
- AHRQ has joined with 14 companies and organizations to disseminate a tool to help individuals apply research findings on quality measures and make major decisions about health plans, doctors, treatments, hospitals, and long-term care. Some of AHRQ’s partners in this endeavor are IBM, United Parcel Service, and the Midwest Business Group on Health.
 - A number of companies and organizations have joined AHRQ in disseminating smoking cessation materials. These include the American Cancer Society, the American Academy of Pediatrics, and the Michigan Department of Community Health.
4. Update the Public Health Service smoking cessation guideline.
- In FY 2000, a consortium of seven Federal Government and nonprofit organizations, including AHRQ, joined together to sponsor the development and release of a clinical practice guideline and related materials on smoking cessation. *Treating Tobacco Use and Dependence* presents

evidence about new, effective clinical treatments for tobacco dependence, including cigarettes, cigars, and other forms of tobacco. It includes recommendations for health care providers with brief supporting information, tables and figures, and pertinent references. In addition to the Public Health Service guideline itself, a quick reference guide presents summary information for day-to-day use by clinicians, and a consumer guide provides information for the general public.

Strategic Plan and Goals

For the last several years, the Agency has been engaged in a comprehensive process which culminated in the development of a strategic plan that will serve as a road map as we carry out our mission. This process involved an extensive review of AHRQ’s activities and input from major stakeholders in the health care system: AHRQ’s customers, the agency’s National Advisory Council, Congress, and the Department of Health and Human Services. AHRQ staff members were heavily invested in the planning process from developing personal strategic and performance plans to contributing to the development of the strategic plan for their Offices and Centers.

As part of this process, each year—during annual planning and budget development activities—AHRQ assesses the progress the Agency has made toward achieving each of the goals. To do this, measurable Agency-level evaluation parameters have been developed to determine whether AHRQ has achieved its objectives in knowledge development, translation, dissemination, and evaluation. These parameters are an integral part of AHRQ’s compliance with the Government Performance and Results Act of 1993 (GPRA) and are detailed in the annual GPRA performance plans submitted with each annual budget request.

AHRQ’s strategic plan supports the achievement of three goals, which together meet

the challenge laid out by the Agency's mission. Activities supported under each goal meet the criteria of one or more segments of the research pipeline. The goals are:

1. Support improvements in health outcomes.
2. Strengthen quality measurement and improvement.
3. Identify strategies to improve access, foster appropriate use, and reduce unnecessary expenditures.

Goal 1: Support Improvements in Health Outcomes

AHRQ has a 10-year tradition of supporting research that builds the fundamental evidence base on the outcomes and effectiveness of health care. A high priority for the Agency's outcomes research portfolio is the study of clinical conditions that are common, expensive, and/or for which there are significant variations in practice or opportunities for improvement. AHRQ also supports outcomes research on major organizational changes or innovations to the health care system and the processes by which health care services are delivered. An important component of this goal is that research supported must incorporate the patient's perspective in the assessment of effectiveness.

Outcomes research answers a number of very basic questions for the health care system: What works and doesn't work? Is it having the desired impact? Does it provide value for the money spent? The answers to these questions are the building blocks for the health care system's effort to improve access to health care and its cost, use, and quality.

Outcomes Research Portfolio

In FY 1999, AHRQ focused its outcomes portfolio on health care for the chronically ill and elderly by publishing a special emphasis notice and by encouraging health services researchers to submit proposals in this area. Examples of funded projects include the following studies:

- **Improving the quality of initial pneumonia care.** This study is examining strategies guiding

clinical decisions regarding which patients with community-acquired pneumonia require hospitalization and which can be safely treated at home. For patients who do require hospital admission, the researchers will evaluate and implement strategies to improve the quality of hospital care. (University of Pittsburgh, in collaboration with quality-improvement organizations in Pennsylvania and Connecticut).

- **Identification of clinically relevant changes in health-related quality of life.** This project is evaluating patient-reported outcome measures for three common chronic conditions (heart failure, chronic lung disease, and asthma) to determine their value for clinicians and patients. (St. Louis University).
- **Automated assessments and the quality of diabetes care.** This study is evaluating the variation in outcomes for patients with diabetes using an automated telephone disease-management system. Half of the patients primarily speak Spanish; the other half, primarily English. A rich array of information will be collected and assessed to predict adverse outcomes. (Palo Alto Institute for Research, Palo Alto, CA).
- **Inguinal hernia management: Watchful waiting vs. operation.** Inguinal hernia is one of the most common conditions affecting men around the world; approximately 700,000 herniorrhaphies are performed in the United States each year. The indications for surgical repair of a minimally symptomatic hernia are vague, and it is not known whether patients with inguinal hernias can safely delay surgical treatment. This study is testing the safety and outcomes of watchful waiting, which could change the management of many men with minimally symptomatic hernias. (American College of Surgeons, Northwestern University, and the VA Cooperative Studies).

In FY 1999, AHRQ released an extensive evaluation of its past decade of outcomes research. This evaluation, *The Outcomes of Outcomes Research*, was developed with input from

researchers and the users of outcomes research. It includes an evaluation of past projects funded by the Agency and a preliminary examination of their impact on the Nation's health care system. According to the report, outcomes research supported by the Agency has provided descriptive information that has challenged prevailing clinical ideas about the management of specific clinical conditions. In addition, AHRQ's outcomes research has resulted in tools, guidelines, and strategies that improve the treatment of common, costly medical conditions.

U.S. Preventive Services Task Force

The U.S. Preventive Services Task Force (USPSTF) is another critical source of information on what does and does not work in the health care system specific to prevention. First convened in 1984, the USPSTF is an independent panel of preventive health experts. The Task Force is charged with evaluating the scientific evidence for the effectiveness of a range of clinical preventive services—including common screening tests, immunizations, and counseling for health behavior change—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 subsequently revised in 1995.

The third USPSTF was convened in early FY 1999 and has begun work on 12 initial topics selected by Task Force members based on preliminary work by two of AHRQ's Evidence-based Practice Centers: the Research Triangle Institute/University of North Carolina at Chapel Hill and the Oregon Health Sciences 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 variation in practice; and consideration of the potential for a change from the 1995 USPSTF recommendations.

The 12 topics are:

- Chemoprophylaxis (for example, tamoxifen and related drugs) to prevent breast cancer (new topic).
- 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).

Put Prevention Into Practice

AHRQ's Put Prevention Into Practice (PPIP) program helps translate the evidence-based recommendations of the U.S. Preventive Services Task Force into practice through the development and dissemination of resources for providers, patients, and office systems. PPIP emphasizes the importance of a comprehensive, system-wide, team approach to delivering effective preventive interventions. AHRQ works closely with public and private partners to disseminate PPIP resources. PPIP materials include information on preventive services recommendations, ideas for implementation, flowsheets, posters, and personal health guides.

During FY 2000, work was completed on *Staying Healthy at 50+*. This new guide is available in English and Spanish. It contains tips and

recommendations on health habits, screening tests, and immunizations to help people age 50 and older stay healthy. *Staying Healthy at 50+* was developed by AHRQ in partnership with AARP and the Health Resources and Services Administration. Print copies of the guide are available from the AHRQ Clearinghouse (800-258-9295), and it is available online at AHRQ's Web site. Go to www.ahrq.gov and click on "consumers and patients" and then "prevention and wellness" to access the file.

Evidence-based Practice Centers

AHRQ's 12 Evidence-based Practice Centers (EPCs) develop evidence reports and technology assessments on conditions and technologies that are costly, common, and/or significant for the Medicare and Medicaid populations. These reports and technology assessments are based on rigorous, comprehensive reviews of relevant scientific literature, and they emphasize explicit and detailed documentation of methods, rationale, and assumptions. The goal of these reports is to provide the scientific foundation that public and private organizations can use to develop their own clinical practice guidelines, quality measures, review criteria, and other tools to improve the quality and delivery of health care services. Professional organizations, health plans, providers, and others who nominate topics are considered partners, and they agree to use the evidence reports when they are completed. Eleven evidence reports were released in FY 1999:

- Diagnosis of Sleep Apnea.
- Traumatic Brain Injury.
- Traumatic Brain Injury in Children and Adolescents.
- Pharmacotherapy for Alcohol Dependence.
- Advanced Prostate Cancer.
- Cervical Cytology.
- Urinary Tract Infections in Paralyzed Persons.
- Depression—New Pharmacotherapies.
- Swallowing Disorders in Stroke Patients.
- Acute Bacterial Rhinosinusitis.

Nineteen new evidence topics were announced in FY 1999. For the first time, the EPCs began tackling some nonclinical topics in addition to high priority clinical questions. Examples of reports currently in development or in press include:

- Refinement of AHRQ's HCUP Clinical Quality Indicators, University of California, San Francisco (UCSF)-Stanford University, Palo Alto, CA.
- Medical Informatics and Telemedicine Coverage under Medicare, Oregon Health Sciences University, Portland OR.
- Complementary and Alternative Medicine, University of Texas Health Science Center, San Antonio, TX.
- Criteria for Referral of Patients with Epilepsy, Metaworks, Boston MA.
- Diagnosis and Management of Osteoporosis, Oregon Health Sciences University, Portland OR.
- Treatment of Pulmonary Disease Following Spinal Cord Injury, Duke University, Durham, NC.
- Management of Acute Chronic Obstructive Pulmonary Disease, Duke University, Durham, NC.
- Criteria for Determining Disability in Patients with End-Stage Renal Disease, ECRI, Plymouth Meeting, PA.
- Treatment of Acne, Johns Hopkins University, Baltimore, MD.
- Anesthesia Management During Cataract Surgery, Johns Hopkins University, Baltimore, MD.
- Management of Acute Otitis Media, Southern California EPC/RAND, Santa Monica, CA.

Centers for Education and Research on Therapeutics

In FY 1999, AHRQ announced funding of four Centers for Education and Research on Therapeutics (CERTs). As described earlier, the CERTs will disseminate information on

therapeutics to health care providers and other decisionmakers. The Agency was given initial authority to support the CERTS initiative under the Food and Drug Modernization Act of 1997. In FY 2000, AHRQ added three additional centers to expand the program and help researchers tackle the complicated and difficult issues involved in the safe and effective use of medical products.

The CERTs and their principal investigators are:

- **Duke University Clinical Research Institute Cardiovascular CERT.** This center focuses on currently approved therapies in cardiovascular medicine, including special surveillance programs for cardiovascular devices, revascularization, new prosthetic valves, and coronary stents. In addition, the center conducts demonstration projects involving the treatment of congestive heart failure, chest pain, and abnormal heart rhythms.
- **University of North Carolina CERT on Rational Therapeutics for the Pediatric Population.** Improvement in child health is the focus of this center. Activities include innovative education and research on new drugs and devices used in pediatric care and new uses of existing drugs and devices. Potential study topics include therapeutic drug monitoring in HIV-infected children, drug metabolism, vitamin D deficiency (rickets), asthma care, attention deficit/hyperactivity disorder, and adverse drug reactions in children.
- **Vanderbilt University CERT.** The goal of this center is to improve use of prescription medicines in Medicaid managed care by addressing three specific threats to rational pharmacotherapy: inadequate knowledge of medications and their benefits and risks, inappropriate provider and patient behavior, and policies that lead to poor patient outcomes. A major focus of this project is the treatment of arthritis.
- **Georgetown University CERT.** This CERT focuses on reducing drug interactions, particularly in women, by improving prescribing practices. Objectives include identifying potential candidates for investigations of drug interactions and designing and implementing a comprehensive educational program on specific drug interactions aimed at physicians, pharmacists, and patients.
- **Harvard Pilgrim Health Care CERT.** This CERT is developing and testing the usefulness of large databases for studying the effectiveness and safety of antibiotic use in children, drugs for preventing congestive heart failure, and hypoglycemic medications in people with diabetes.
- **University of Pennsylvania CERT.** Principal investigator Brian Strom, M.D. Total projected funding \$1,391,164. Project period 9/1/00 - 8/31/03. This CERT is studying ways to reduce resistance to antimicrobial drugs and carrying out other research, such as studies on drug use and subsequent intervention, research on medication safety, efficacy and effectiveness research, and methodology studies.
- **University of Alabama at Birmingham CERT.** This CERT is studying therapeutics used for rheumatoid arthritis, osteoporosis, and other musculoskeletal diseases, including their cost effectiveness and effects on health-related quality of life, as well as ways to minimize any adverse effects associated with their use.

Translating Research into Practice (TRIP)

There have been significant advances in science in the last few years, yet not enough of this knowledge has been put to work in daily clinical practice. There is a gap between what we know and what we do. One consequence of this gap is the wide variation in the quality of care from one clinician to another and from one area of the country to another. Variations in health care can contribute to a higher mortality rate and billions of dollars in wasted spending.

As a nation, we need to step up our efforts to address this variation, particularly since it takes between 6 and 10 years for clinical practice to adopt new knowledge for most patients. AHRQ-supported research is working toward this goal. We have a growing agenda to accelerate the translation of research into clinical practice. AHRQ is committed to informing practitioners, patients, consumers, and other decisionmakers about needed changes in health care as revealed through research. A key challenge is to identify more effective strategies for change and facilitate the adoption and use of research findings.

In FY 2000, AHRQ published a solicitation, known as TRIP II, to help accelerate the impact of research on practice. The goal was to stimulate research to improve our understanding of which quality improvement efforts work and in which situations, in what kind of systems, for which types of patients, and under which circumstances. The agency funded 13 new TRIP II grants in FY 2000. Examples of funded projects include:

- **An Internet intervention to increase chlamydia screening.** This is a randomized trial in the offices of 220 primary care physicians to test Internet-based learning modules for physicians that are designed to increase screening of at-risk patients and decrease the incidence of pelvic inflammatory disease.
- **Better use of ischemic stroke research.** These researchers are assessing the use of evidence-based treatment guidelines for acute ischemic stroke in 24 urban and rural hospitals in Minnesota.
- **Better pediatric outcomes through improved chronic care.** The goal is to reduce costs by using affordable technology to improve asthma care for poor, inner city, minority children aged 5-18 who are enrolled in a community health center-based Medicaid managed care organization.
- **Use of multimedia for educating vulnerable populations about diabetes.** The researchers are comparing usual care with patient education

through the use of an interactive, multimedia computer program to improve diabetes-related knowledge, attitudes, and compliance with self-care recommendations.

- **Improved pain management in nursing homes.** The goal is to develop educational materials, improve quality of pain assessment and management procedures, improve knowledge and attitudes toward pain, and assess the cost-effectiveness of the intervention to nursing homes.
- **Improved quality with outpatient decision support.** The researchers will test physician compliance with paper-based and electronic guidelines, reminders, and alerts for outpatient settings. The reminders and alerts will focus on disease and medication management and test ordering.

Integrated Delivery System Research Network

The Integrated Delivery System Research Network (IDSRN) is a new model of field-based research developed by AHRQ in FY 2000 to link the Nation's top researchers with some of the largest health care systems to conduct fast-track research on cutting-edge issues in health care. The goal is to determine what works in terms of data and measurement systems, and identify organizational 'best practices' related to care delivery and research diffusion. The IDSRN comprises a cadre of delivery-based researchers and sites to test ways to adapt and apply existing knowledge in real world settings.

Together, the members of the IDSRN provide health services in a wide variety of organizational care settings to over 34 million Americans. The populations served include privately insured individuals, Medicare and Medicaid patients, the uninsured, ethnic and racial minorities, and rural and inner-city residents. Each of the nine IDSRN partners has the following three attributes:

- **Data availability.** IDSRN partners collect and maintain administrative, claims, encounter, and other data on large populations that are

clinically, demographically, and geographically diverse.

- Research expertise. IDSRN partners include some of the country's leading health services researchers, with proficiency in quantitative and qualitative research and expertise in emerging areas that have critical policy or managerial implications.
- Authority to implement a health care intervention. IDSRN partners are responsible for managing delivery systems and are in a position to implement financial and organizational strategies.

Ten research projects are underway, with total funding of approximately \$2.4 million. Project timelines range from 9 to 30 months. IDSRN projects can be divided into two categories—data and measurement capacity and care delivery.

Three of the IDSRN projects involve data and measurement capacity and will:

1. Build capacity to study racial/ethnic disparities in access, use, and outcomes.
2. Validate the Agency's HCUP Quality Indicators, a software tool that can be used with hospital administrative data for hospital self-assessment.
3. Evaluate the potential of private-sector data to augment public data for use in assessing the state of health care quality in the United States.

Seven IDSRN projects will collect, test, and apply evidence about how to structure health care delivery, as follows:

1. Assess variations in quality of care for the management of cardiovascular disease and its risk factors, including those related to race, sex, or socioeconomic status.
2. Assess the impact of organizational interventions on quality of care and efficiency.
3. Advance understanding of which hospital policies and practices underlie the volume-outcomes association for certain complex procedures.

4. Determine how and to what extent health plans include quality-related provisions in their contracts with hospitals and other providers.
5. Track and evaluate how a clinical practice guideline is implemented by a health plan.
6. Identify barriers to the use of information technology within delivery systems.
7. Examine the delivery system's capacity for responding to public health threats, including those related to bioterrorism.

National Guideline Clearinghouse

While developing the evidence-based foundation for improved health care is an important first step, a critical next step is to make the information available to the people who need it promptly and in an appropriate format. In January 1999, AHRQ debuted the National Guideline Clearinghouse® (NGC), a comprehensive, publicly available online repository of evidence-based clinical practice guidelines and related materials. The NGC, developed in partnership with the American Medical Association and the American Association of Health Plans, includes standardized abstracts, full text (or links to full text) of guidelines, and comparisons between guidelines on similar topics. The guidelines included in the NGC must meet rigorous criteria. By the end of FY 2000, the NGC included more than 850 hundred evidence-based guidelines.

Primary Care Research

AHRQ's Center for Primary Care Research (CPCR) is the only research entity in the Federal Government devoted to the study of primary care. CPCR conducts and supports studies of primary care and clinical, preventive, and public health policies and systems. Findings from this research shed light on the most common interaction patients have in the health care system—with their primary care physicians, nurses and other first-line providers. CPCR's research also provides the information and tools that help primary care clinicians provide high quality health care services. For example, primary care research supported by

AHRQ has found:

- Recognizing and treating depression in primary care can prevent unnecessary hospitalizations and save money. More than 25 percent of primary care patients have a diagnosable mental health disorder (most often anxiety or depression), and in many cases, these conditions go undetected and untreated. Researchers at the University of Rochester School of Medicine found that patients of primary care physicians who diagnosed the greatest number of mental health disorders among their patients had 9 percent lower overall health care expenditures and 20 percent lower inpatient expenditures than patients of physicians who diagnosed the smallest number of such disorders. Primary care physicians who diagnose more mental health disorders in their patients may recognize when unexplained medical symptoms are due to emotional distress or a mental health problem. Thus, they are less likely to order unnecessary diagnostic tests, inappropriately refer patients to specialists, or admit them to the hospital when it is not necessary.
- Nine of every ten California patients in managed care plans say that they value having a primary care doctor provide their everyday care, and 89 percent say that they value having a primary care doctor coordinate their specialty care. But nearly a quarter of the patients studied had difficulty getting referrals to specialty care, which, according to the researchers, is a reason why some patients may lose trust and confidence in their primary care doctors.

Goal 2: Strengthen Quality Measurement and Improvement

AHRQ's second research goal is the centerpiece of the Agency's effort to develop the strategies and tools that will lead to improvements in the quality of health care. Under this goal, the Agency is developing and testing measures of quality and supporting research on the best ways to collect, compare, and communicate these data to the appropriate audiences.

To help ensure that this information is used in everyday health care practice, AHRQ will also focus on research that identifies the most effective ways to improve health care quality, including promoting the use of information on quality through a variety of strategies, such as information dissemination and assessing the impact on health care organization and financing.

The Agency funded 24 grants in FY 1999 totaling over \$8.8 million to develop new quality measures and identify strategies for measuring and improving the quality of health care. These grants included responses to three RFAs mentioned earlier: Translating Research into Practice (TRIP); Quality Measurement for Vulnerable Populations; and Assessment of Quality Improvement Strategies in Health Care.

CAHPS®

In FY 1999, more than 90 million Americans began using AHRQ's CAHPS® to help them decide which health plan would best meet their health care needs. CAHPS® is an easy-to-use kit of survey and reporting tools that provides accurate and useful information to help consumers and purchasers assess and choose a health plan.

CAHPS® was used by more than 20 States in FY 1999 and by corporations such as Daimler Chrysler, Ford, and GM; health plans; and employer groups around the country. The Health Care Financing Administration also began using CAHPS® to survey Medicare managed care enrollees. The U.S. Office of Personnel Management also fielded its first CAHPS® survey to report consumer assessments of their health plans to Federal employees for the FY 2000 open season for choosing health benefits.

CONQUEST

In FY 1999, AHRQ released CONQUEST 2.0 (Computerized Needs-Oriented Quality Measurement Evaluation System). CONQUEST is a database that helps health care and quality improvement professionals quickly identify, understand, compare, evaluate, and select measures to assess and improve clinical performance in acute, ambulatory, long-term, and home health

care settings. The measures cover children and adults and include many different common and costly diagnoses and conditions that are, in turn, linked with evidence-based treatment guidelines. The new 2.0 version includes more clinical performance measures and medical conditions than the previous version, as well as new information on how to select and apply the measures.

Research on Quality Improvement

In FY 1999-2000, AHRQ-supported studies provided insight into the critical issues of health care quality. Examples of pertinent findings include:

- Quality reports, or physician profiles, for diabetes were unable to detect reliably true practice differences among doctors at three medical practices—a large, West Coast staff-model health maintenance organization, an urban medical school teaching clinic located in the Midwest, and a group of private-practice physicians in New England. Differences in how the physicians managed their patients' diabetes contributed only 4 percent at most to the overall variance in hospitalization rates, office visits, laboratory use, and blood glucose control rates. The difficulty in using these outcomes to evaluate physician performance was due, in large part, to the relatively small number of patients with diabetes managed by each doctor.
- According to five nursing home “stakeholder” groups—nursing home advocates, administrators, regulators, ombudsmen, and nursing service directors—quality of care is the most important yardstick for assessing nursing home quality, followed closely by the residents' quality of life, and then by residents' rights. Although the stakeholders agreed on the three most important categories for measuring quality, they differed in how they thought each should be ranked. Nursing home advocates and nursing directors tended to give quality of care the highest ranking, while administrators and State licensing and certification survey agency training coordinators were more likely to pick quality of life as the most important category.

State nursing home ombudsmen generally chose residents' rights as the most important. The stakeholders saw the remaining 14 categories considered in this study as being much less important.

- Heart bypass surgery patients insured by private HMOs may get higher quality hospital care in some areas of the country, while patients in other areas of the country may get poorer quality care. HMO patients in California who underwent heart bypass surgery in 1994 were more likely to be directed to hospitals with lower-than-expected death rates for the operation than non-HMO patients undergoing the same surgery. California has long-established managed care markets that are dominated by large HMOs. But in Florida, a State in which managed care arrived more recently and where market areas tend to be smaller and not dominated by large HMOs, the researchers found that privately insured HMO patients were no less likely to use hospitals with average and high heart bypass surgery rates than non-HMO patients (those insured through indemnity and preferred provider organization [PPO] plans).

Healthcare Cost and Utilization Project (HCUP) Quality Indicators (QIs)

In FY 1999, AHRQ released a powerful software tool that can be applied to routinely available administrative data from hospitals. The QIs are an outgrowth of the Agency's Healthcare Cost and Utilization Project (HCUP), a standardized multi-State database of hospital information developed by AHRQ in partnership with States and private-sector organizations. See page 18 for more information about HCUP.

The QIs can provide initial insight into quality of care, not only within the hospital but also in other health care sectors such as ambulatory care. QIs can be used to derive national and regional benchmarks against which individual providers, localities, and States can compare themselves. Also, with an understanding of the limitations of administrative data and with appropriate

precautions, the QIs can form a preliminary basis for a quality improvement program.

For example, the Healthcare Association of New York State applied HCUP QIs to discharge data from over 200 of its member hospitals throughout the State. The association provided each hospital with a customized report on the quality of care in that facility, including an analysis of how it compared with other hospitals. The customized hospital analyses resulted in a number of quality initiatives, such as promoting a large health system to create a regional center of excellence for the care of patients with diabetes and a collaboration between the association and its partners to work to improve adult immunization rates.

The next generation of QIs is being developed and enhanced by the UCSF-Stanford Evidence-based Practice Center as follows:

- Add QIs to cover populations and conditions that are not well represented in the initial version, specifically pediatric conditions, chronic illnesses, and technological innovations.
- Provide for population-based denominators when appropriate.
- Develop a risk-adjustment method for the QIs to account for differences in case mix across institutions and communities.

AHRQ's Leadership in the QuIC

In FY 1999-2000, AHRQ continued its work in coordinating the activities of the Federal Quality Interagency Coordination Task Force (QuIC). The QuIC was established in 1998 in response to the final report of the President's Advisory Commission on Consumer Protection and Quality in the Health Care Industry. The QuIC's goal is to ensure that all Federal agencies involved in purchasing, providing, researching, or regulating health care services are working in a coordinated way toward the common goal of improving quality of care.

The QuIC is co-chaired by the Secretary of Health and Human Services (HHS) and the Secretary of Labor (DoL). AHRQ Director John M. Eisenberg, M.D., serves as operating chair of the QuIC. In addition to HHS and DoL, the other Federal members of the QuIC are the Departments of Defense, Veterans Affairs, and Commerce; the Office of Personnel Management; the Office of Management and Budget; the U.S. Coast Guard, the Federal Bureau of Prisons; the National Highway Transportation Safety Administration; and the Federal Trade Commission.

Research on Patient Safety and Medical Errors

According to the Institute of Medicine, as many as 44,000 to 98,000 people die in hospitals each year as the result of medical errors. Even at the lower number, medical errors would be the eighth leading cause of death in this country, bypassing motor vehicle accidents, breast cancer, and AIDS. About 7,000 people each year die from medication errors alone, which is about 16 percent more deaths than can be attributed to work-related injuries.

Clearly, medical errors represent a serious problem. The good news is that medical errors can be prevented. Previous agency-supported research has demonstrated that errors result from system failures, which can be identified and prevented. In FY 2000, AHRQ supported research designed to improve patient safety by identifying and preventing avoidable system errors. We consider this a down payment on our future investment in patient safety research—one that will have a measurable impact on the quality of care received by people in this country.

Examples of agency-sponsored patient safety research now in progress include:

- A study focused on the prevention of medical errors in emergency department triage and treatment of acute cardiac ischemia by assessing the probability that a patient has the condition.

- A project addressing the impact of electronic medical records and computerized medication prescribing on adverse drug events in outpatient clinics.
- A study looking at ways to improve detection of adverse drug events through the use of an automated monitor.
- A project that involves in-depth interviews with primary care patients and their providers to elicit their definitions of medical errors and their experiences with and opinions about such errors.
- A study using video and audio recordings to evaluate the procedure used in chest tube insertion and demonstrate how medical errors can occur through deviations in process. The goal is to produce a “best practices” training guideline to reduce complications from this procedure.

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

AHRQ’s third research goal is to support studies of access, health care utilization, and expenditures to identify whether particular approaches to health care delivery and payment alter behaviors in ways that promote access to care and/or more economic use of health care resources. This information is critical because adequate access and appropriate use of health care services continue to be problematic for many Americans, particularly the poor, the uninsured, members of minority groups, rural and inner city residents, and other underserved populations. In addition, changes in the organization and financing of care have raised new questions about access to a range of health services, including emergency and specialty care.

Research on Priority Populations

AHRQ has always taken steps to ensure that the Agency’s research emphasizes the needs of priority populations who generally are underserved

by the health care system and underrepresented in research. For several years, the Agency has had cross-cut teams to address three priority populations: children and adolescents, women, and minorities. These teams work with all of AHRQ’s Offices and Centers to ensure that the needs of these populations are addressed in all of the Agency’s activities.

In FY 2000, AHRQ began assembling an office dedicated to research on priority populations. These include women, children, minorities, the elderly and aging population, people with disabilities and/or chronic diseases, people who are terminally ill, people living in the inner city, rural residents, and low-income individuals and families. AHRQ is focusing special attention on health care disparities.

Health Care Disparities. Disparities in health have been documented repeatedly over the last few decades across a broad range of medical conditions and affecting many racial and ethnic groups. Differences have been noted in health outcomes such as quality of life and mortality, processes of care such as rates of use of certain services and procedures, quality and appropriateness of care, and the prevalence of various conditions and diseases.

Disparities persist despite improvements in health for the Nation as a whole. Between 1987 and 1995, deaths from ischemic heart disease decreased 20 percent overall for the U.S. population but only 13 percent for blacks.

Minority children and chronically ill elderly minority men and women may be especially vulnerable to many of the inequities that lead to disparities, and they may be unable to adequately safeguard their own health and advocate for themselves. Some recent AHRQ efforts in this area include:

- In FY 1999, AHRQ announced funding of \$8.84 million over 3 years for 12 new research projects to develop measures of quality of care for vulnerable populations, such as people with low literacy and high-risk infants.

- In FY 2000, AHRQ earmarked nearly \$8 million to support projects that address the goals of the President's Initiative to Eliminate Racial and Ethnic Disparities in Health.
- AHRQ funded nine projects under the EXCEED (Excellence Centers to Eliminate Ethnic/Racial Disparities) initiative. These projects address the factors that contribute to ethnic and racial inequities in health care and identify practical tools and strategies to eliminate the disparities.

Minority Health. AHRQ and its predecessor agencies have been involved in research on minority health issues for more than three decades. For example, in the mid-1990s, AHRQ funded 11 MEDTEP (Medical Treatment Effectiveness Program) Research Centers on Minority Populations throughout the Nation. The MEDTEP centers are concentrating on ways to improve medical diagnosis and treatment and disseminate information to help both minority patients and their health care providers. In FY 1999 alone, AHRQ funded 49 grants with a major emphasis on minority health. These grants have a total value of more than \$16.8 million.

AHRQ's investments in minority health services research have resulted in numerous findings that are helping to shed light on the disparities experienced by racial and ethnic minorities and expand what is known about the reasons for those disparities. AHRQ's activities in FY 1999-2000 in this area include:

- A study by researchers at Georgetown University Medical Center to examine the influence of race and sex on physicians' recommendations for cardiac catheterization. They found that black women are less likely than white or black men or white women to be referred for this procedure, which is considered to be the "gold standard" test for diagnosing coronary artery disease. The study involved 720 primary care physicians and eight patient actors (two each white men, white women, black men, and black women).
- A project to develop methods for risk adjustment for surgical procedures that are performed in otherwise healthy individuals. The project focuses on hysterectomy, which is performed at very high rates in black women, who also have higher complication rates compared with other women.
- A project that involves focus groups for Chinese and Vietnamese patients to identify health care issues that are important to them and develop and validate patient questionnaires that are sensitive to language and cultural barriers.
- A project to compare translated and non-translated brochures (developed originally in Spanish) currently being distributed to Spanish-speaking adults in southern Arizona and Northern Mexico. The goal of the project is to develop guidelines for preparing effective written health-related materials in Spanish.

Women's Health. In FY 1999, AHRQ met the critical challenge of obtaining input from a broad community of researchers, clinicians, policymakers, consumers/patients, and advocates to identify priorities for women's health services research. As a result, the Agency developed a new women's health initiative that broadened the program beyond existing research on problems unique to women, such as breast cancer, to fund studies that examine the differences in patterns of care between men and women.

Domestic violence affects millions of women and their families each year. It is the second leading cause of injuries and death among women of childbearing age. Women from all racial and ethnic groups and income levels are victims of domestic violence, and the consequences are seen in a range of medical, obstetric, gynecologic, and mental health problems. Direct health care costs associated with domestic violence are estimated to be \$1.8 billion per year.

In FY 1999, AHRQ was approached by a number of advocacy organizations and the Federal Steering Committee on Violence Against Women for assistance in developing a research-based

performance standard for health care providers in the area of domestic violence. AHRQ and other HHS agencies worked together to convene a meeting of experts to develop a health services research agenda to address the health aspects of domestic violence.

In FY 2000, AHRQ invested \$1 million in research to evaluate health system responses to domestic violence. These longitudinal studies are the first of their kind and will move us beyond studying prevalence, screening, and training to take a rigorous look at health care interventions for domestic violence and their effectiveness. Women will be evaluated over time to identify interventions that improve the health and safety of victims, predict and improve health care use, prevent and reduce the occurrence of domestic violence, and develop better techniques to identify women at risk for domestic violence.

Examples of recent AHRQ-supported research on women's health issues include:

- A study of hysterectomy in women enrolled in nine managed care organizations in Southern California, which found that about 70 percent of the hysterectomies performed on 497 women in these MCOs between 1993 and 1995 were inappropriate. These cases did not meet the level of care recommended by an expert panel or the criteria for hysterectomy developed by the American College of Obstetricians and Gynecologists. The most common indications for hysterectomy were benign tumors, pelvic relaxation, and bleeding. The most common reasons for tagging hysterectomy recommendations as inappropriate were inadequate diagnostic evaluation and failure to try alternative treatments before hysterectomy.
- A study by researchers at Johns Hopkins University, which found that physician compassion can substantially reduce anxiety in women who are newly diagnosed with breast cancer. The study involved 123 healthy breast cancer survivors and 87 women who had not had cancer. Half of the women in each group saw a standard videotape of two treatment options for metastatic cancer. The other women saw an enhanced compassion videotape in which the doctor acknowledged the patient's concerns, touched her hand, and generally expressed compassion and support. Anxiety scores were significantly lower among women in the second group.
- A study to examine the use of unplanned cesarean delivery. Nearly 1 million c-sections are performed in the United States each year, and just over one-fourth of them are done for lack of progress in labor. A recent study by researchers at RAND, Brown University, and UCLA found that each year thousands of these cesareans done for lack of progress in labor may be performed too early. The researchers note that doctors may be more at ease with risks associated with performing a c-section than they are with continuing to observe a labor that is not progressing as rapidly as expected. Or, the doctors may disagree with recommendations developed by ACOG or interpret them differently. This study involved more than 730 women who delivered full-term, nonbreach infants by unplanned c-section in Los Angeles County and Iowa between March 1993 and February 1994.
- White women are more likely than minority women to receive hormone replacement therapy (HRT), according to this study by researchers at the University of California, San Francisco. The study involved nearly 9,000 women, aged 50 and older, who were seen as outpatients and prescribed HRT. White women were significantly more likely to be given HRT (33 percent) than Asians (21 percent), blacks (25 percent), or Hispanics (23 percent). These findings are particularly troubling for black women who have coronary mortality rates that are more than 30 percent higher than rates among white women.

Children's Health. Improving outcomes, quality, and access to health care for America's 70 million children and adolescents is a critical goal of

health services research and central to the mission of AHRQ. Understanding what's needed to improve health care delivery for children and adolescents requires a special research focus.

Because children are growing and developing, their health care needs and resource use differ from adults. Unlike adults, they usually are dependent on others for access to care and determinations about the quality of care they receive. Several AHRQ-funded studies on children's health have shown the importance of experience in caring for children.

AHRQ's work in this area 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 policymaking decisions. The need for this information has become particularly critical since the implementation of the State Child Health Insurance Program (SCHIP). In addition to the RFAs funded by AHRQ in FY 1999—*Development of Quality of Care Measures for Vulnerable Populations and Health Care Access, Quality, and Insurance for Low-Income Children*—other research conducted and sponsored by the Agency is contributing to the evidence base for children's health care decisionmaking.

To address the paucity of quality measures for children, AHRQ is supporting the development, testing, and implementation of the Pediatric Quality of Life measures. Also, AHRQ's CAHPS® children's survey was adopted by the National Committee for Quality Assurance for HEDIS—the first time a health-plan-oriented survey of children was administered nationwide.

In FY 1999-2000, the Agency funded more than 60 projects focused on children's health issues. Examples of findings from recent AHRQ-supported research on children's health include:

- Researchers from the University of Alabama at Birmingham found that high-risk infants who are born in hospitals with level-III neonatal intensive care units (NICUs) are 38 percent less likely to die than similar infants born in other

hospitals. Level-III NICUs treat a high volume of such infants and thus have more experience in their care. This study examined the effects on neonatal mortality of NICU volume and the level of NICU care available at the hospital of birth for more than 50,000 infants born in California in 1990.

- Researchers from Johns Hopkins University found better outcomes for children undergoing dialysis when they were treated in facilities experienced in providing this specialized treatment for children. The study involved more than 1,250 children undergoing treatment at outpatient dialysis centers across the country.
- Referrals to specialists are uncommon among pediatricians, according to the largest study ever conducted of pediatricians' referral patterns. The study involved office visits to 142 pediatricians in 94 practices across 36 States. The pediatricians in this study referred only 1 of every 40 patients seen during office visits. Unexpectedly, the researchers found that gatekeeping arrangements nearly doubled the odds of referral.
- More than one-third of U.S. children from both urban and rural communities lacked the immunizations recommended for their ages in the early 1990s, according to this study from the University of Colorado. Low income, low family education, minority race, parental unemployment, and female sex were associated with under-immunization. This was true even in States that purchased and distributed vaccines for all children to reduce cost and improve access to immunization.

Medical Expenditure Panel Survey

AHRQ's Medical Expenditure Panel Survey (MEPS) provides highly detailed information on how Americans use and pay for health care. This ongoing survey of about 10,000 households each year provides estimates for the country as a whole and for important priority populations. One of the principal products of the survey is a rich, research

database that can be used by researchers at AHRQ and elsewhere to examine a wide range of questions on access to health care, cost and use of health care, and insurance coverage. During FY 2000, supplements and innovations to the data collection expanded MEPS to include the collection of information on health status and health care quality.

Databases. MEPS produces a number of analytical databases and, consistent with privacy policy, releases a number databases to the public. These databases include demographic, health care use, access, expense, and insurance coverage information for all survey participants. Additional files detailing conditions, the specific content of health care events, and employment of household respondents also are made available to the public.

Printed data. In addition to providing databases for research use, AHRQ publishes MEPS data in tabular form on a range of topics. Each year, AHRQ releases hundreds of tables on the health insurance coverage offered by employers. These tables are derived from the MEPS Insurance Component. The data are available for the Nation as a whole, for important economic sectors, and for many States. The MEPS staff also produce findings, summaries/highlights, and methodology reports. Chartbooks, which translate statistical information into graphic form, expand access to information from this important database. In FY 1999, the MEPS staff published a book that discusses methodological and policy issues related to two decades worth of AHRQ-sponsored medical expenditure surveys.

Web site. To maximize the use of this important investment, AHRQ has developed a Web site specific to the MEPS. This Web site rapidly disseminates databases and other products to the research community and quickly responds to inquiries from MEPS data users. By the end of FY 2000, AHRQ was responding to more than 100 inquiries made through the Web site each month. We anticipate high growth, and future plans include the development of sophisticated, online tools so customers without statistical programming

skills can produce tabular data. Go to the Web site, www.meps.ahrq.gov to review these exciting features.

Training. To develop a cadre of sophisticated MEPS users outside of AHRQ, the Agency has developed a series of workshops, which range in length from a few hours to several days. They provide orientation to the policymaker and researcher about the range of questions that MEPS can answer and how the data can be properly used. The longer workshops, which are geared to the trained health services researcher, provide a “hands on component” during which participants actually have the opportunity to begin constructing their own research file with technical assistance from AHRQ staff.

Data Center. The Center for Cost and Financing Studies operates a Data Center through which researchers and others with approved projects can be allowed access to data that do not meet standards for public release. Researchers with approved projects are given access to those data elements required to complete their projects, and micro-data files are not released. Summary data are released subject to review and approval by AHRQ staff to ensure data confidentiality.

Healthcare Cost and Utilization Project

Scientifically sound, standardized databases at the national, regional, and State levels and tools for using them are needed to inform decisionmaking. The Healthcare Cost and Utilization Project is designed to fill this niche. HCUP is a Federal-State-industry partnership to build a standardized, multi-State health data system and companion set of complementary resources. HCUP databases are a family of longitudinal, administrative databases including State-specific hospital-discharge databases, State-specific ambulatory surgery databases, and a national sample of discharges from community hospitals. AHRQ maintains HCUP and has taken the lead in making the databases publicly available and in developing Web-based products and software tools.

HCUP databases serve a unique function and are being tapped by analysts and researchers interested in hospital use, access, charges, quality, and outcomes. Researchers rely on HCUP data to identify, track, analyze, and compare trends at the national, regional, and State levels. Because of their large size, the HCUP databases are used to describe patterns of care for both rare and common diseases, analyze infrequent and frequent hospital procedures, and track use for population subgroups, such as minorities, children, women, and the uninsured.

HCUP databases contain a core set of clinical and nonclinical information on all patients, regardless of payer—including those covered by Medicare, Medicaid, or private insurance and the uninsured—translated into a uniform format to facilitate multi-State and National-State comparisons and analyses. HCUP data include over 100 variables, such as principal and secondary diagnoses and procedures, admission and discharge status, patient demographics, expected payment source, total charges, length of stay, hospital characteristics, and hospital and county identifiers that permit linkages to other databases.

HCUP data users must agree to certain conditions: the database can be used only for research, analysis, and statistical reporting; attempts to identify individuals are prohibited; and institutions cannot be identified, either directly or indirectly, in publications and other materials.

State Inpatient Databases (SID). Individual data sets from 22 participating States make up the 1997 SID. Each data set contains the universe of that State's non-Federal hospital discharge abstracts. All together, the SID represent about 60 percent of all U.S. hospital discharges, totaling over 21 million inpatient discharge abstracts. State participation is growing; the 1999 SID will include 26 states. The SID are particularly well-suited for policy inquiries unique to a specific State, studies comparing two or more States, market area research, and small area variation analyses. Currently, data are available for 1995-1997.

State Inpatient Databases (SID)

Twenty-two States participate in the SID:

Arizona*	Massachusetts*
California*	Missouri
Colorado*	New Jersey*
Connecticut	New York*
Florida*	Oregon*
Georgia	Pennsylvania
Hawaii	South Carolina*
Illinois	Tennessee
Iowa*	Utah*
Kansas	Washington*
Maryland*	Wisconsin*

In FY 1999, AHRQ developed a designated central distributor in which 14 States (*) participate to facilitate access to their databases.

State Ambulatory Surgery Databases (SASD). The SASD include data sets from nine States. As of FY 2000, 1997 data were available; 1999 data will be released in fiscal year 2001. The SASD capture data on surgeries performed on the same day in which patients are admitted and released from hospital-affiliated ambulatory surgery sites. Some SASD contain records from freestanding surgery centers as well.

The SASD are well suited for research that requires complete enumeration of hospital-based ambulatory surgeries within market areas or States. Analysts and researchers use the SASD to compare inpatient and outpatient ambulatory surgery patterns, conduct market area research or small area variation analyses, or identify State-specific trends in ambulatory surgery use, access, charges, and outcomes.

Nationwide Inpatient Sample (NIS). The NIS is a stratified probability sample of hospitals drawn from the SID. The NIS is designed to approximate a 20-percent sample of U.S. community hospitals. Currently, the NIS includes 1988-1997 data. The 1997 NIS provides information on about 7 million inpatient discharges from about 1,000 hospitals. It is the largest all-payer inpatient database in the United States. The NIS is ideal for research that

State Ambulatory Surgery Databases (SASD)

Nine States participate in the SASD:

Colorado*
 Connecticut
 Florida*
 Maryland*
 New Jersey*
 New York*
 South Carolina
 Utah*
 Wisconsin

Six States (*) participate in AHRQ's designated central distributor to facilitate access to their databases.

requires a large sample size and for developing national estimates, analyzing national trends, and providing benchmark statistics that can be compared with regional and State statistics.

Web-based HCUPnet. HCUPnet is an interactive, Web-based service developed by AHRQ in FY 1999 for Federal and State policymakers, health plan executives, and others who need to identify, analyze, and compare hospital inpatient statistics at the national, regional, and State levels. HCUPnet provides inpatient data from the Nationwide Inpatient Sample and, as of FY 2000, 10 individual HCUP State Inpatient Databases (SID). HCUPnet's menu-driven format permits users to tailor their online queries about inpatient hospital care. Currently, 1997 data are available. Most questions can be answered in 5 seconds or less.

Users can request information related to specific conditions, disease groups, or procedures, such as length of stay, total charges, discharge status, and/or in-hospital deaths. HCUPnet users can refine their queries by selecting categories, such as patient insurance status, age, sex, or hospital characteristics (e.g., teaching status or type of ownership). Go to the AHRQ Web site at www.ahrq.gov to access HCUPnet free of charge.

HCUP Publications. In FY 1999, data from HCUP were used to produce Hospital Inpatient Statistics, a report detailing key characteristics about hospital admissions. For example, the most common reasons for hospital admission in the United States are births (3.8 million admissions), followed by coronary atherosclerosis (1.4 million admissions), pneumonia (1.2 million admissions), congestive heart failure (990,000 admissions) and heart attack (774,000 admissions).

HCUP Fact Books and Research Notes

- *Hospitalization in the United States, 1997, HCUP Fact Book No. 1*, gives a snapshot of hospital care in U.S. community hospitals in 1997.
- *Hospital Inpatient Statistics, 1996*, provides hospital stay data by principal diagnosis and procedure.
- *Most Common Diagnoses and Procedures in U.S. Community Hospitals, 1996*, provides length-of-stay, charge, and mortality statistics by diagnosis and procedure.

These publications are available from the AHRQ Clearinghouse; call 800-358-9295.

HIV Data Coordinating Center. Swift changes in treatment regimens resulting from continuous therapeutic advances are having a profound effect on resource use by people with HIV infection. Because change is happening so fast, data that were collected as recently as 3 years ago do not reflect the current situation and cannot be used reliably for policy and planning purposes.

A new data coordinating center (DCC) supported by AHRQ and the Office of the Assistant Secretary for Policy and Evaluation (ASPE), the Substance Abuse and Mental Health Services Administration (SAMHSA), and the Health Resources and Services Administration (HRSA) collects current information about a large number of individuals who have HIV disease from providers who specialize in HIV care. The goal is

to build a set of associated, publicly available databases about the characteristics of patients and the care they receive. Databases will not include any patient or provider identifiers. The DCC produces real-time information about access, costs, and quality of care.

In FY 1999, AHRQ joined with ASPE, SAMHSA, and HRSA to develop a pilot HIV data center at the Johns Hopkins School of Medicine. 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 FY 2000, the pilot test was deemed successful. Efforts were expanded to collect data from 20 to 30 providers who treat at least 20,000 people with HIV disease.

The DCC provides an ongoing means to collect timely information on resource use in 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.

Markets and Managed Care Research

AHRQ has taken the lead in supporting and conducting research on health care markets and changing organizational structures. The Agency also has been a leader in developing and maintaining databases and tools that enable decisionmakers to understand how changes in market dynamics or delivery system variables are likely to affect outcomes, quality, access, cost, and use of health care. Following are some examples of recent AHRQ-supported research on markets and managed care.

- A 1999 study by researchers at Georgetown University looked at whether HMO penetration affects physician earnings. They found that HMOs did reduce physicians' annual and per hour earnings in 1990, presumably through a combination of fewer visits and lower payment rates for people

covered by HMOs. According to the researchers, these results may be somewhat conservative because they reflect market behavior prior to the rapid growth and more aggressive market behavior of HMOs in recent years.

- A 1997 study examined the effects of physicians' personal financial incentives and other measure of involvement with HMOs on three measures of satisfaction and practice style: overall practice satisfaction, the extent to which prior expectations about professional autonomy and the ability to practice good-quality medicine are met, and several specific measures of practice style. The researchers conducted a telephone survey of more than 1,500 physicians. About 15 percent of respondents reported a moderate or strong incentive to reduce services; 70 percent reported a neutral incentive; and 15 percent reported an incentive to increase services. Compared with physicians who had a neutral incentive, physicians with an incentive to reduce services were 1.5 to 3.5 times more likely to be very dissatisfied with their practices. The researchers concluded that although financial incentives to reduce services are not widespread, there is a legitimate reason to be concerned about possible adverse effects on the quality of care.
- In recent years, most health care markets in the United States have experienced rapid penetration by HMOs and preferred provider organizations (PPOs). During the same period, growth in health care costs has slowed. The researchers used a national database to examine the relationship between price competition and hospital cost growth in the early 1990s. They found that between 1989 and 1994, HMOs and PPOs significantly restrained cost growth among hospitals located in competitive hospital markets. This did not hold true, however, for hospitals located in relatively concentrated markets. The researchers concluded that HMOs have contained cost growth more effectively than PPOs.

- An analysis of data from a 1993 survey of nearly 1,500 hospitals revealed that the relationship between managed care and physician and clinical integration is relatively modest. The goal was to empirically estimate the effects that managed care has on physician and clinical integration in urban hospitals. Other things being equal, physician involvement in hospital management and governance increase with managed care involvement. To a lesser degree, the use of physician organization arrangements and other similar ventures also increase. In this study, practice management and support services were lower in hospitals with high managed care activity. Larger hospitals, investor-owned, system, and nonteaching hospitals had larger managed care revenues, while revenues from managed care were lower in more concentrated hospital markets.
- Two trends—managed care and physician-hospital integration—have been prominent in reshaping insurance and provider markets over the last decade. An assessment of the impact of HMO market structure on the formation of physician-hospital strategic alliances in the mid-1990s suggests that hospitals form alliances with physicians for several reasons. Alliances serve to contract with the growing number of HMOs, they pose a countervailing bargaining force of providers in the face of HMO consolidation, and they accompany hospital downsizing and restructuring efforts.
- AHRQ research has shown that Medicaid managed care enrollment is progressing more slowly in rural areas of the country, while growing rapidly in the rest of the country. Medicaid enrollees in only slightly more than half of the rural counties in the United States were covered by some type of managed care in early 1997, compared with nearly three-fourths of those in urban counties. Also, there are important differences in rural and urban areas in the types of managed care programs. According to this study, mandatory fully

capitated programs are less common in rural counties than in urban ones (10 percent versus 23 percent), although seven States do have State-wide mandatory fully capitated Medicaid programs. And finally, programs that combine different types of managed care are less common in rural counties.

User Liaison Program

AHRQ's User Liaison Program (ULP) synthesizes and distributes research findings to local, State, and Federal policymakers so they can use it to make evidence-based decisions about health care. ULP holds small workshops to provide information to policymakers on the critical issues confronting them in today's changing health care marketplace. These workshops are user-driven and user-designed. ULP solicits input from legislators, executive agency staff, and local officials on policy issues where they need information and technical assistance.

In FY 1999, ULP held 17 workshops attended by 843 health care policymakers from 48 States, the District of Columbia, Puerto Rico, Virgin Islands, Micro Polynesian Islands, and Guam. Twelve of these were national workshops attended by policymakers from around the country, and five workshops were held for specific audiences. ULP held another 17 workshops in FY 2000 that provided training for 635 attendees from 50 States and the District of Columbia.

Future Directions

AHRQ's FY 2001 budget of \$269.9 million will allow us to expand the Agency's investment in health services research to devote more attention to developing the much-needed evidence-based information that will provide the foundation for health care decisions well into the new century. In addition, the reauthorization legislation passed in FY 2000 affirmed the Agency's core mission and gave us a new charge to improve the quality of health care services provided in the Nation.

We will do this by building on the foundation already laid by AHRQ for promoting evidence-based practice, stepping up research on medical errors and other patient safety issues, translating research into tools and strategies to improve the quality of health care services, and developing the information needed to answer questions about access to health care and its cost and use.

As this report goes to press, we have already begun to address these new challenges. For example, much of AHRQ's increased focus on patient safety and medical errors will be concentrated in the Agency's Center for Quality Measurement and Improvement. To more appropriately reflect this expanded mission, the Center has been renamed as the Center for Quality Improvement and Patient Safety. Congress has instructed AHRQ to devote \$50 million in FY 2001 to find ways to improve patient safety. We have been instructed to:

1. Establish a competitive demonstration program for health care facilities and organizations to test best practices for reducing errors.
2. Determine ways to improve provider training in order to reduce errors.
3. Develop guidelines on the collection of uniform data related to patient safety.

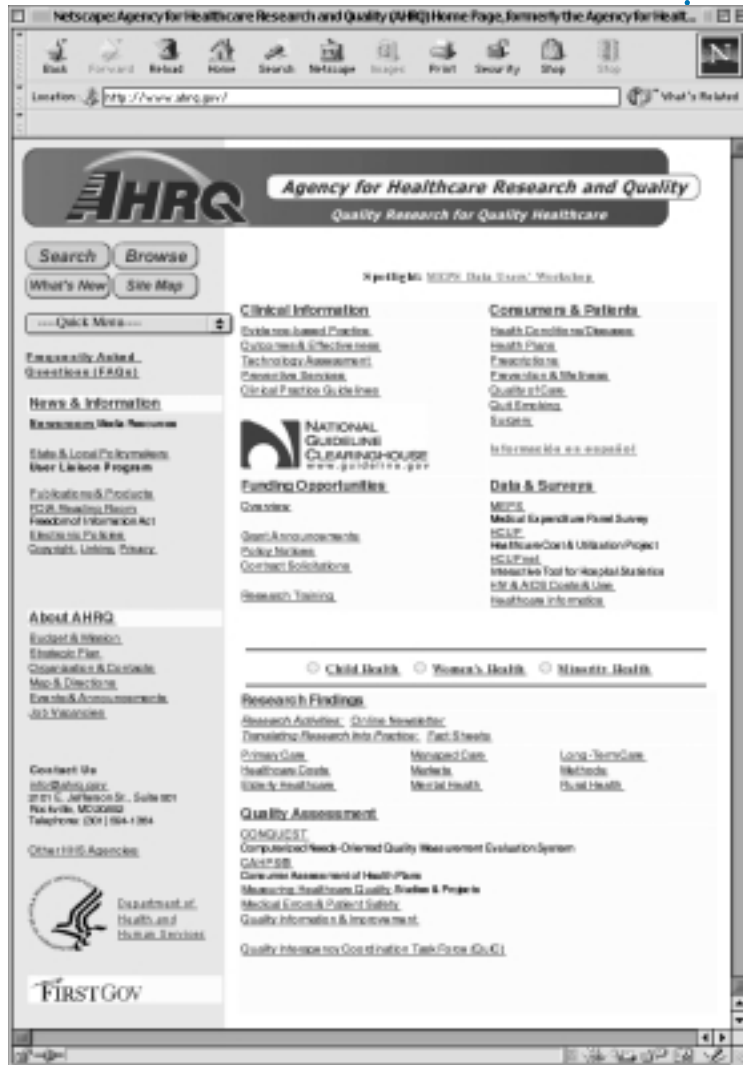
Congress designated \$10 million of AHRQ's FY 2001 budget for research on the relationship between the health care workplace and its impact on medical errors and the quality of care provided to patients. AHRQ's Center for Primary Care Research will coordinate agency-sponsored research in this area. Potential research topics include the impact of extended work hours for registered nurses on patient safety, the effects of restructuring the health care workplace to reduce costs on the health of workers and the quality of their lives, the assignment of work to health care workers (e.g., new approaches to work shifts and working hours), and improvements in health care working conditions that could be undertaken by employers to improve patient safety.

FY 1999 and FY 2000 were very productive years for the agency. We will continue our investment in health services research, which will provide the evidence-based information and tools needed to enhance health care decisionmaking in years to come. We expect that the end result of AHRQ's research will be quantifiable improvements in health care in America that will be measured in improved quality of life and patient outcomes, deaths averted, and dollars saved.

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