



Research Activities

No. 243, November 2000

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Coronary angiography is underused for both Medicare managed care and fee-for-service heart attack patients

According to a just-published study, Medicare patients enrolled in managed care plans are significantly less likely than those with traditional Medicare fee-for-service coverage to receive needed coronary angiography—a potentially lifesaving diagnostic procedure—following a heart attack, even though the procedure is a highly recommended practice. The study was supported by the Agency for Healthcare Research and Quality (HS08071) and led by Edward Guadagnoli, Ph.D., associate professor at Harvard Medical School's Department of Health Care Policy.

Nearly one-fifth of the Medicare population is in a managed-care plan. As these numbers have increased, there has been a decline in the growth of overall medical expenditures. This is cause for concern about the quality of care provided to managed-care enrollees, and particularly the elderly who are the most vulnerable patients, notes Dr. Guadagnoli. He and his colleagues found that the elderly heart attack patients who needed coronary angiography—

or Class I patients as defined by the American College of Cardiology and the American Heart Association guidelines—were more likely to receive the diagnostic procedure if they had fee-for-service coverage rather than coverage through a managed care plan (46 percent vs. 34 percent). This is a significant statistical difference in care quality, according to Dr. Guadagnoli.

Other studies have also found that patients with managed care received fewer procedures than their fee-for-service counterparts, but this study went a step further. It revealed a difference even when the procedure was highly recommended by current standards of care, a factor not examined in previous studies.

These findings also bear out the underuse of the procedure in general, as 66 percent of patients in managed care plans and 54 percent of patients with fee-for-service coverage did not receive the recommended standard of care for Class I patients. Among both groups of heart attack patients, the

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Coronary angiography

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study found that where a patient was first admitted was crucial to having coronary angiography. A substantial underuse of coronary angiography was found when patients were admitted to hospitals without angiography facilities. Of those patients who needed coronary angiography, 85 percent of patients in managed care plans and 69 percent of patients with fee-for-service coverage did not receive the procedure while they were hospitalized for their heart attack. The patients who did receive the procedure were transferred to facilities with catheterization labs.

Increasing age also was correlated with the underuse of angiography. Among patients assigned to Class I in both coverage groups, the rate of angiography declined with increasing age, but a higher percentage of fee-for-service

beneficiaries than managed-care enrollees underwent angiography in each age group. The investigators believe more recent data will allow researchers to evaluate changes to these findings over time.

In commenting on the new study, AHRQ Director John Eisenberg, M.D., noted that a critical part of improving health care quality is understanding whether patients are receiving the services they need. Dr. Eisenberg points out that future research should address the impact of different utilization management techniques on access to health care services, as well as plan characteristics that may be responsible for differences among models of managed care.

The study examined patient data records between February 1994 and July 1995. The Medicare managed care study population of 4,732 patients was drawn from 38 managed care plans in Florida,

Texas, California, New York, Ohio, Pennsylvania, and Massachusetts. These seven States account for over 70 percent of all Medicare beneficiaries enrolled in managed care. The Medicare fee-for-service study population of 46,321 patients was derived from the Cooperative Cardiovascular Project. Patients were classified according to the need for angiography by a panel of physicians using guidelines by the American College of Cardiology and the American Heart Association.

For more information, see "Appropriateness of coronary angiography after myocardial infarction among Medicare beneficiaries: Managed care versus fee for service," by Dr. Guadagnoli, Mary Beth Landrum, Ph.D., Eric A. Peterson, M.Phil., and others, in the November 16, 2000 *New England Journal of Medicine* 343, pp. 1460-1466.

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Heart Disease

Evidence does not support a link between periodontal disease and increased risk of coronary heart disease

Several studies have suggested a relationship between periodontal disease, a chronic inflammatory disease that results in the breakdown of bone that surrounds teeth, and coronary heart disease (CHD). Researchers have proposed several biological mechanisms through which periodontal disease may contribute to CHD. These include the invasion of chronic low-level bacteria that occurs with periodontal disease into endothelial coronary cells, the harmful cardiovascular effects of the inflammation sparked in response to periodontitis, and the contributions of oral microorganisms to acute cardiac events.

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Periodontal disease

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However, a recent analysis of 16 years of data from a national study found no convincing evidence of a causal association between periodontal disease and CHD.

With joint support from the National Institute of Dental Research and the Agency for Healthcare Research and Quality, University of Washington researchers evaluated 8,032 adults aged 25 to 74 years with no reported history of cardiovascular disease, including 1,859 people with periodontitis, 2,421 with gingivitis, and 3,752 with healthy periodontal tissues. They compared a first occurrence of hospitalization or death from CHD with the patient's periodontal history.

After adjustment for known cardiovascular risk factors, gingivitis was not associated with CHD (hazard ratio, 1.05; 1 is equal risk), while periodontitis

was associated with a nonsignificant increased risk for a CHD event, such as a heart attack (hazard ratio, 1.14). This was not convincing evidence of a causal association between periodontitis or gingivitis (which affects about 50 percent of U.S. adults) and CHD. Furthermore, markers of periodontal inflammation associated with either periodontitis or gingivitis—such as swollen red papillae, bleeding gums, or diffuse marginal inflammation—were not associated with an increased risk for CHD. Finally, there were no obvious dose-response relationships between the severity of periodontitis and CHD risk.

Details are in "Periodontal disease and coronary heart disease risk," by Philippe P. Hujoel, Ph.D., Mark Drangsholt, D.D.S., M.P.H., Charles Spiekerman, Ph.D., and Timothy A. DeRouen, Ph.D., in the September 20, 2000 *Journal of the American Medical Association* 284(11), pp. 1406-1410.

Access to Care

Lack of English ability creates a substantial barrier to Hispanic children's access to health care

The disadvantage that some Hispanic children experience in their access to health care may be related to their parents' inability to speak English well enough to interact fully with the health care system, according to a recent study from the Agency for Healthcare Research and Quality. The AHRQ researchers who authored the study conclude that interpreters or bilingual providers and office staff may be needed to help reduce disparities in children's access to care. These findings are based on an analysis of data from AHRQ's Medical Expenditure Panel Survey (MEPS).

The study's authors, Robin M. Weinick, Ph.D., and Nancy A. Krauss, M.S., explored reasons for racial and ethnic differences in children's access to care. They found that black and

Hispanic children are at a substantial disadvantage compared with white children, even after accounting for health insurance and socioeconomic status. However, when their parents' ability to speak English is comparable, the differences between Hispanic and white children become negligible. These results suggest that the disadvantage in Hispanic children's access to care may be related to language ability and characteristics associated with having parents with limited English skills, including differing knowledge about the health care system.

The data used in this study were derived from the 1996 MEPS Household Component. The sample included nearly 6,900 children younger than age 18; data

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English-language ability

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for more than 90 percent of these children were reported by one of their parents. The data were collected during a series of personal interviews with the

families. Slightly more than 40 percent of the Hispanic families needed their interviews to be conducted in Spanish, indicating that they probably would require interpreters or health care providers and staff who could speak Spanish to help them obtain access to needed health care.

Details of the study are in "Racial and ethnic differences in children's access to care," in the November 2000 *American Journal of Public Health* 90, pp. 11-14. Reprints (AHRQ Publication No. 01-R008) are available from AHRQ.**

Insurance coverage does not guarantee access to high-quality health care services

Ensuring that Americans have insurance coverage will not necessarily ensure that they have access to high-quality health care services. Agency for Health Care Research and Quality Director John M. Eisenberg, M.D., and Elaine J. Power, M.P.P., formerly of AHRQ and now with the National Forum for Healthcare Quality Measurement and Reporting, identified seven obstacles to guaranteeing high-quality health care.

In a recent article in the *Journal of the American Medical Association*, Dr. Eisenberg and Ms. Power explain that these obstacles are similar to "voltage drops" that may occur as electrical current passes through resistance. They cite the following issues that must be adequately addressed to ensure that all patients will receive high-quality care:

- Many Americans do not have access to affordable health insurance.
- Even when they are offered insurance, some do not enroll.
- Even if they have health insurance, some services or providers they need may not be covered.
- Even if services and providers are covered, patients may not be able to choose among plans, institutions, or clinicians, and thus cannot exercise their power in the market to select the care they prefer.
- Even if people have a choice of plan or provider, a consistent source of primary care may not be accessible.
- Even if primary care is available and accessible, appropriate referral services may not be.
- Even if people have both primary care and referral

services, there may be gaps between the quality of care that can and should be provided and the quality of care that is delivered.

Dr. Eisenberg and Ms. Power note that preventing these voltage drops between insurance and quality of care will require a multi-pronged effort to ensure not only that insurance is available but also that it is taken, not only that appropriate services are covered but also that informed choices can be made, and not only that primary care and specialty services are accessible but also that quality care is delivered.

For more information, see "Transforming insurance coverage into quality health care," by Dr. Eisenberg and Ms. Power, in the October 25, 2000 *Journal of the American Medical Association* 284, pp. 2100-2107. Reprints (AHRQ Publication No. 01-R005) are available from AHRQ.**

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Comprehensive followup care reduces life-threatening illnesses and improves outcomes among high-risk infants

Implementing a program of comprehensive neonatal followup care after hospital discharge for inner city, high-risk infants reduces life-threatening illnesses and appears to reduce costs. R. Sue Broyles, M.D., Jon E. Tyson, M.D., M.P.H., and colleagues at the University of Texas Southwestern Medical Center at Dallas found that, when high-risk infants received comprehensive followup care, 47 percent fewer of them died or developed life-threatening illnesses that required admission for pediatric intensive care. Their research was supported in part by the Agency for Healthcare Research and Quality (HS06837).

High-risk infants were defined as those weighing less than 1,000 grams at birth or those weighing 1,001-1,500 grams who required mechanical ventilation. For all care between discharge and 1 year, the estimated average cost per infant was \$6,265 for comprehensive care and \$9,913 for routine care.

Comprehensive followup care for high-risk infants was defined as 24-hour access to highly experienced caregivers and 5-day-a-week followup care, which included well-baby care, treatment for acute and chronic illnesses, and routine followup care. Routine followup care was available 2 days per week and included well-baby care and chronic illness management.

For more information, see "Comprehensive followup care and life-threatening illnesses among high-risk infants: A randomized controlled trial," by Dr. Broyles, Jon E. Tyson, M.D., M.P.H., Elizabeth T. Heyne, M.S., PA-C., and others, in the October 25, 2000 *Journal of the American Medical Association* 284, pp. 2070-2076.

State primary care scholarship programs play a major role in the nation's health care safety net

State-sponsored scholarship, loan forgiveness, and similar programs now support a primary care workforce comparable in size to that fielded by better known Federal programs, such as the National Health Service Corps. Donald Pathman, M.D., M.P.H., and his colleagues at the University of North Carolina at Chapel Hill found that programs receiving only State support have experienced dramatic growth since the 1980s. In fact, the number of such programs doubled between 1990 and 1996 to 82 programs operating in 41 States. In 1996, an estimated 1,306 physicians and 370 nurse

practitioners, nurse midwives, and physician assistants provided care under obligation to these State programs, a number roughly equal to those obligated under Federal programs, notes Dr. Pathman.

According to the researchers, these previously unheralded State programs are now a major portion of the U.S. health care system's safety net, and they should no longer be omitted from listings of safety net initiatives. And, they should not be overlooked in future plans to further improve health care access. Dr. Pathman and his colleagues also recommend that a mechanism be established to track,

evaluate, and coordinate the efforts of States, local communities, and Federal programs to eliminate duplication of effort and prevent gaps in the health care safety net.

This research was supported by the Agency for Healthcare Research and Quality (HS09165).

Details are in "State scholarship, loan forgiveness, and related programs: The unheralded safety net," by Dr. Pathman, in the October 25, 2000 *Journal of the American Medical Association* 284, pp. 2084-2092.

Clinical Decisionmaking

Surgery is the most cost-effective testosterone suppression treatment for advanced prostate cancer

Orchiectomy—surgical removal of the testicles to suppress testosterone, which can promote the growth of prostate cancer cells—is more cost effective than suppressing the hormone through other means, according to a recent study supported by the Agency for Healthcare Research and Quality (290-97-0015).

Using a computer model, researchers predicted that a man with recurrent prostate cancer who undergoes orchiectomy would incur costs of about \$7,000 overall and live an average of 5.1 quality-adjusted life years. Quality-adjusted life years are the years of life saved by a technology or service, adjusted to reflect the quality of those years. All other currently used treatments, including nonsteroidal antiandrogens, luteinizing hormone-releasing agonist (LHRH)

drugs, and combined androgen blockade—an LHRH agonist drug combined with a nonsteroidal antiandrogen medication or surgery—cost more and extend survival by a shorter time.

For men who prefer to avoid surgery, diethylstilbestrol (DES) was used as a baseline in the study. At one time, DES was a widely used treatment, but it is now rarely employed because of increased cardiac deaths associated with the drug.

The researchers, who were led by Ahmed M. Bayoumi, M.D., of the University of Toronto, also examined how cost-effectiveness varies with the time of initiation of therapy, whether prompted by symptoms or biochemical evidence of disease progression using prostate specific antigen monitoring. The study was based on an evidence report on

testosterone suppression treatment for prostatic cancer, which was produced by the Blue Cross-Blue Shield Evidence-based Practice Center under contract to AHRQ.

Details are in “Cost-effectiveness of androgen suppression therapies in advanced prostate cancer,” by Dr. Bayoumi, Adalsteinn Brown, A.B., and Alan M. Garber, M.D., in the November 2000 *Journal of the National Cancer Institute* 92, pp. 1731-1739.

Editor’s note: Copies of *Evidence Report/Technology Assessment No. 4, Relative Effectiveness and Cost-Effectiveness of Methods of Androgen Suppression in the Treatment of Advanced Prostatic Cancer* (AHRQ Publication No. 99-E012) are available from AHRQ.* A summary of the report (AHRQ Publication No. 99-E011) is also available from AHRQ.**

Routine use of antibiotics and alpha-blockers to treat chronic prostatitis is not supported by evidence

Almost 2 million U.S. men suffering from prostatitis saw a doctor for their condition between 1990 and 1994. Chronic prostatitis is typically characterized by pelvic area pain and lower urinary tract symptoms. Unfortunately, the wide scope of recommended treatments for chronic prostatitis indicates how little is known about what causes the condition and how to diagnose and treat it.

Chronic prostatitis often results in physician frustration, patient

confusion and dissatisfaction, variable thresholds for referral, and potentially inappropriate antibiotic use. In fact, the routine use of antibiotics and alpha-blockers to treat chronic prostatitis is not supported by the existing evidence, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS08397).

Although acute bacterial prostatitis is relatively straightforward to diagnose and treat, it accounts for few cases of prostatitis. Chronic prostatitis is

much more common, is more difficult to diagnose and treat, and 90 percent of cases are abacterial (that is, untreatable by antibiotics) and of unknown cause. Optimal management of chronic abacterial prostatitis is not known. In this study, the researchers systematically reviewed studies from 1966 to 1999, contacted experts, and researched other sources to determine if there were reliable diagnostic tests or effective therapies for the condition. The 19

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Treating chronic prostatitis

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diagnostic test studies included 1,384 men (mean age, 33 to 67 years). The 14 treatment trials included 570 men (mean age 38 to 45 years) and involved use of finasteride and alpha-blockers, anti-inflammatory medications, antibiotics, and thermal therapy.

The researchers concluded that there was no gold-standard diagnostic test for chronic abacterial prostatitis, including the widely recommended bacterial localization test, and that the methodologic quality of diagnostic studies was low. The few

treatment trials were conducted outside the United States. They were methodologically weak, small in scope, and did not support the effectiveness of the medications studied. Thermal therapy appeared to have clinically significant benefit, but further evaluation is needed.

See "Diagnosis and treatment of chronic abacterial prostatitis: A systematic review," by Mary McNaughton Collins, M.D., M.P.H., Roderick Macdonald, M.S., and Timothy J. Wilt, M.D., M.P.H., in the September 5, 2000 *Annals of Internal Medicine* 133(5), pp. 367-381.

Patients can use an interactive video program to help them make decisions about back surgery

Back surgery rates are rising rapidly in the United States. This surgery is usually elective, so patient preferences are important in the treatment decisions. Patient decisions about back surgery can be informed and influenced by an interactive video, finds a study supported in part by the Agency for Healthcare Research and Quality (HS08079). Patients with herniated disks who watched an interactive video program about the costs and benefits of back surgery for their problem and received a booklet about the topic were less likely to choose back surgery than those who only received the booklet. Outcomes for both groups were similar.

Patients who chose to forego back surgery as a result of watching the video program apparently made good decisions for themselves, notes Richard A. Deyo, M.D., M.P.H., of the University of Washington. Dr. Deyo and his colleagues compared the surgical decisions and outcomes of elective surgery candidates (171 with herniated disks, 110 with spinal stenosis, and 112 with other back diagnoses) at two sites. One group saw an interactive video and received an educational booklet about surgery for their condition, the other group received only a booklet.

Symptom and functional outcomes at 3 months and 1 year were similar for the two groups, but the overall surgery rate was 22 percent lower in the video group (26 vs. 33 percent). Patients with herniated disks in the video group who learned that their problem usually improves with nonsurgical care underwent significantly less surgery (32 vs. 47 percent) than the booklet-only group. Patients with spinal stenosis in the video group found out that without surgery their condition would probably stay about the same for many years. They had higher surgery rates (39 vs. 29 percent) than the booklet-only group. The video had little effect on patient satisfaction, but patients in the video group felt better informed than patients in the other group. Thus, patients who are well-informed about their medical choices and expected outcomes may choose fewer surgeries for herniated disks without harm, and they may choose surgery for spinal stenosis more often than otherwise.

More details are in "Involving patients in clinical decisions: Impact of an interactive video program on use of back surgery," by Dr. Deyo, Daniel C. Cherkin, Ph.D., James Weinstein, D.O., M.S., and others in *Medical Care* 38(9), pp. 959-969.

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Health Care Delivery

Physicians can be more responsive to patients' concerns without lengthening visits

Few studies have examined how physicians address patients' concerns, which patients hint at in small comments during their visits. In fact, patients typically provide two to three emotional clues to their doctors regarding anxiety about their medical condition or psychological or social concerns during a medical or surgical visit.

Physicians often miss these opportunities to adequately acknowledge patients' feelings. Yet a recent study of primary care physicians and surgeons shows that when doctors do respond to their patients' concerns, visits tend to be shorter not longer. Thus, these physicians can better respond to patient concerns even in the context of their busy clinical practices, conclude Wendy Levinson, M.D., and her University of Chicago colleagues. The study was supported in part by the

Agency for Healthcare Research and Quality (HS07289).

The researchers analyzed audiotapes of 116 randomly selected routine office visits to 54 primary care doctors and 62 surgeons in community-based practices in two States in 1994. They examined the frequency, nature (emotional vs. social), and content of patient clues during visits and physician responses to clues (positive or missed opportunity). They found that patients gave their doctors one or more clues during half of the primary care (52 percent) and surgery (53 percent) visits, with a mean of 2.6 clues per visit in primary care and 1.9 in surgery.

Three-fourths of patient-initiated clues in primary care settings were chiefly related to psychological or social concerns (80 percent) in their lives, such as aging, loss of a family member, and major life changes. Sixty percent of clues in

surgical settings were also emotional in nature, with most (70 percent) related to patients' anxieties about their medical condition. Physicians responded positively to patient emotions in only 38 percent of cases in surgery and 21 percent in primary care. More frequently, they missed opportunities to adequately acknowledge patients' feelings. This is significant because many studies suggest outcomes are better when doctors address patients' emotional concerns as well as their medical problems.

Details are in "A study of patient clues and physician responses in primary care and surgical settings," by Dr. Levinson, Rita Gorawara-Bhat, Ph.D., and Jennifer Lamb, B.S., in the August 23, 2000 *Journal of the American Medical Association* 284(8), pp. 1021-1027.

Organizational factors beyond the control of primary care physicians may affect patient satisfaction ratings

A growing number of physician groups and medical care organizations use patient satisfaction data to assess the quality of care provided by primary care physicians. In fact, patient satisfaction ratings play a large role in medical group decisions about physician employment and compensation. But credit or blame for the quality of a patient's primary care experience needs to be shared by the doctor and the organizational manager. This is because patient satisfaction with an office visit often hinges on more than the quality of the physician's direct care. It includes organizational factors that may be outside the physician's control, such as waiting time to see the physician and courtesy of the nonphysician

staff, according to a study supported by the Agency for Healthcare Research and Quality (HS09350).

It is unwise to reward or penalize physicians for the effects of systemic factors that are out of their control, concludes Donald Barr, M.D., Ph.D., of Stanford University. Dr. Barr and his colleagues surveyed 291 patients making an office visit in the primary care departments of a large, multispecialty medical group. They gave patients questionnaires on three aspects of patient satisfaction (access to care, direct interaction with the doctor, and the overall visit) and concurrently observed the care process from patient arrival at the group practice to the end of the visit.

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Patient satisfaction ratings

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Survey responses showed that factors external to the doctor-patient interaction explained 36 percent of the variance in patient satisfaction with the visit overall and 24 percent of patient assessment of the quality of the direct doctor-patient encounter. Two organizational variables—waiting time to see the doctor and courtesy of the nonphysician office staff—explained 20 percent of the variance in patient responses to the four questions

used specifically to evaluate the quality of the physician's care (i.e., time spent with the doctor, information provided by the doctor, technical skills, and personal manner).

See "Problems in using patient satisfaction data to assess the quality of care of primary care physicians," by Dr. Barr, Pamela Vergun, Ph.D., and Stephen R. Barley, Ph.D., in the September 2000 *Journal of Clinical Outcomes Management* 7, pp. 19-24.

Women's Health

Current research and quality improvement efforts show potential for improving quality and outcomes for older women

There will be nearly 70 million women over the age of 50 in the United States by the year 2030. The current health system is inadequately prepared to meet the needs of older women, especially vulnerable women such as the poor, racial and ethnic minorities, the chronically ill and disabled, and those over the age of 80. On the other hand, recent developments in assessing and improving quality of care and outcomes offer a promising foundation for reducing the excess disability suffered by older women in developed countries, according to a recent commentary on the topic.

Carolyn M. Clancy, M.D., Director of the Center for Outcomes and Effectiveness Research, Agency for Healthcare Research and Quality, and Arlene S. Bierman, M.D., M.S., also of AHRQ, describe some of these developments. A growing number

of clinical trials now include one or more patient-reported outcome measures, such as functional status. This outcome is particularly important to women with chronic disease, who live longer but report greater disability than men.

In addition, different models of service delivery that recognize the impact of nonclinical determinants of health may be needed to improve outcomes for different populations. This is especially relevant for older women, who are more likely to be poor, live alone, or serve as caretakers for ailing spouses. Establishment of a Women's Health Measures Advisory Panel by the National Committee for Quality Assurance and similar efforts have challenged researchers, clinicians, and policymakers to identify which health outcomes are important to older women.

Two new measures of quality offer innovative solutions to some of the challenges unique to

women's health. First, a new measure of management of menopause provides an alternative approach to assessing quality for a condition where the science continues to evolve and where women's preferences for treatment and outcomes vary. The second, the Medicare Health Outcomes Survey, uses change in functional status over 2 years as a measure of quality of care provided to Medicare beneficiaries enrolled in health maintenance organizations.

More details are in "Quality and outcomes of care for older women with chronic disease," by Drs. Clancy and Bierman, in the July 2000 *Women's Health Issues* 10(4), pp. 178-191. Reprints (AHRQ Publication No. 00-R059) are available from AHRQ.**

Minority Health

Cultural competency of health care providers could reduce disparities in care related to race/ethnicity

Minority Americans are expected to make up more than 40 percent of the U.S. population by 2035. A large body of literature has documented significant racial and ethnic disparities in health care and health outcomes, with minority Americans generally receiving less health care and suffering worse health. Many minority Americans, especially those with limited English proficiency, face barriers to accessing health care and getting appropriate treatment. Addressing the needs of an increasingly diverse population has become a major challenge to clinicians, health systems and plans, and public policymakers.

A conceptual model developed by Cindy Brach, M.P.P., and Irene Fraser, Ph.D., of the Agency for Healthcare Research and Quality, shows how cultural competency techniques have the potential to improve the ability of health systems and clinicians to deliver appropriate services to their minority patients. According to the model, the practice of culturally competent health care could overcome barriers to care by improving clinician/patient communication, increasing trust between clinicians and patients, creating greater knowledge of differences among racial and ethnic groups in epidemiology and treatment efficacy, and enhancing understanding of patients' cultural behaviors and environment. For example, providing interpreter services could result in more accurate medical histories and lead to a reduction in diagnostic errors and unnecessary diagnostic testing.

Harmful interactions between prescribed drugs and folk or home remedies could be avoided by training clinicians to ask patients whether they're using such remedies. Health promotion and education materials that reflect culture-specific attitudes and values could result in more successful patient education and increased adherence to treatment regimens.

The authors reviewed the literature on a variety of cultural competency techniques—including interpreter services, recruitment and retention of minority staff, training, coordination with traditional healers, use of community health workers, and culturally competent health programs—for evidence that bears upon the model. They found evidence that providing professional interpreters reduces disparities in satisfaction, adherence, and outcomes, but they found little in the way of rigorous research evaluating the impact of other cultural competency techniques on outcomes, including the reduction of racial and ethnic disparities. The researchers conclude that although there is substantial evidence to suggest that cultural competency techniques should in fact work, there is little evidence about which cultural competency techniques are effective and under what circumstances.

See "Can cultural competency reduce racial and ethnic health disparities? A review and conceptual model," by Ms. Brach and Dr. Fraser, in the November 2000 *Medical Care Research and Review* 57 (Suppl. 1), pp. 181-217. Reprints (AHRQ Publication No. 01-R007) are available from AHRQ.*

Health Care Costs and Financing

Gap in health insurance coverage for Hispanic men widened between 1987 and 1996

Between 1987 and 1996, the large gap in health insurance coverage experienced by most minority groups compared with white Americans remained constant and widened for Hispanic men, according to a new study by Alan C. Monheit, Ph.D., and

Jessica Primoff Vistnes, Ph.D., of the Agency for Healthcare Research and Quality. Among non-elderly American workers, employment-related insurance coverage among Hispanic men declined 13 percentage points between 1987 and 1996; the

decline among Hispanic and black women was 7 percentage points, while the decline was less than 3 percentage points for white men.

Declining union membership and a decline in the likelihood of being married reduced potential

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Health insurance for Hispanic men

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sources of coverage and helped to explain the drop in coverage for Hispanic men. Declines in family income also contributed to falling coverage rates for Hispanic male workers. Hispanic male workers were also unique in that, unlike other racial/ethnic groups that were either more likely to obtain offers of employment-related health insurance over the study period or had stable offer rates, Hispanic males had a decline in offer rates.

Drs. Monheit and Vistnes also found that in 1996, Hispanic males had the largest gap of all minority groups in employment-based coverage relative to white males. They attribute part of this gap to the lower education attainment,

lower wages, and lower family incomes of Hispanic male workers compared with white male workers. For example, 38 percent of Hispanic men had not completed high school compared with only 10 percent of white men. In addition, nearly half of Hispanic men who were working earned less than \$10 per hour compared with one-fifth of white men.

Insurance affordability and access to coverage were also a problem for other minority groups compared with white men, and this will probably continue, according to the authors. For example, fewer Hispanic and black women worked full-time (73 and 81 percent, respectively) compared with white men (91 percent), which limited their eligibility for coverage.

To narrow the gap in coverage for minorities, the authors cite the need to control health insurance costs, provide affordable insurance products, and improve minority worker skills, earnings potential, and access to jobs that provide health insurance. Their findings are based on analysis of data from two nationally representative household surveys of health care access, use, and expenditures sponsored by AHRQ: the 1987 National Medical Expenditure Survey and the 1996 Medical Expenditure Panel Survey.

See "Race/ethnicity and health insurance status: 1987 and 1996," by Drs. Monheit and Vistnes, in the November 2000 *Medical Care Research and Review* 57 (Suppl.1), pp. 11-35. Reprints (AHRQ Publication No. 01-R009) are available from AHRQ.*

Medicare Catastrophic Coverage Act has not reduced financial strain or increased independence among the elderly

During the 1970s and 1980s, nursing home care quickly drove many elderly men and women into poverty. The spouse who continued to live in the community often was left with little to live on when his or her mate required nursing home care. Out-of-pocket costs for nursing home care often were greater than income, and the copayment for care received under Medicaid was only slightly less than income. The 1988 Medicare Catastrophic Coverage Act (MCCA) was passed to protect community spouses from spiraling down to poverty. Unfortunately, the MCCA did not accomplish its goal, according to the results of this study.

The study was supported by the Agency for Healthcare Research and Quality (HS09515) and conducted by researchers at the University of North Carolina at Chapel Hill. They used longitudinal data from the National Long-Term Care Survey and exploited the differential effect of the MCCA on single people and married people, as well as cross-State variation in Medicaid laws, to test the long-run effect of the MCCA on spousal impoverishment and elderly behavior. Prior to 1988, the institutionalized spouse could keep a maximum of about \$2,000 in nonhousing assets, depending on the State. All jointly owned assets

counted toward the limit, although those held solely by the community-dwelling spouse were exempt.

The MCCA allows most couples to retain up to about \$120,000 in nonhousing assets, but all spousal assets have to be combined and divided equally. As before, all of the institutionalized spouse's share of the assets must go toward nursing home payment. The community spouse can keep at least \$12,000, but no more than \$60,000, with the excess also going toward nursing home care. For example, a couple with \$170,000 in assets could keep \$60,000 (for the community spouse) plus \$2,000 (for the institutionalized spouse); the nursing home would get \$108,000 before Medicaid would pay anything.

In reality, the MCCA had no effect on income and no significant effect on the probability of living independently, receiving formal home health care, or obtaining other help. An alternative approach might be to provide paid help directly to the community-dwelling spouse. Single people were not affected by the MCCA.

For more details, see "The long-run effect of the Medicare Catastrophic Coverage Act," by Edward C. Norton, Ph.D., and Virender Kumar, M.A., in the summer 2000 *Inquiry* 37, pp. 173-187.

Researchers examine physicians' perceptions of health plan incentives to limit services

As managed care plans develop increasingly complex and varied methods of contracting for physicians' services, it becomes more and more important to understand whether and how these contracting methods influence the quantity, quality, and/or mix of services that physicians provide. Despite the need for such information, research on the impact of contractual arrangements on physicians' behavior is hampered by several factors. These include the increasing variety of insurance products, physicians' affiliations with multiple insurance plans, and the difficulty of measuring these arrangements at the individual physician-patient levels.

A recent study supported by the Agency for Healthcare Research and Quality (HS09196) examined the effects of contractual arrangements on the provision of health care services by using physicians' self-reported perceptions of the overall influence of their contractual/compensation

arrangements on the volume of services they provide to patients. The study was conducted by researchers at Georgetown University and New York Medical College using data from a recent national survey of more than 1,500 physicians under the age of 40 who had been in practice for at least 2 years but not more than 9 years.

The researchers found that the following factors were significantly associated with an increased likelihood of reporting an incentive to decrease services: a gatekeeper arrangement with financial incentives; perceived high risk of exclusion of physicians with high costs from the plan; the perception that referrals received depended on the costs of care provided; gag clauses forbidding disclosure of financial incentives to patients; receiving capitation payments from at least one plan; and employment in a health maintenance organization. Being compensated on a fee-for-service basis or receiving a salary with incentive or bonus provisions (compared with

straight salary) were associated with an increased likelihood of reporting an incentive to increase services to patients. However, physicians' overall methods of compensation had a relatively small impact on their perceived financial incentives compared with other factors.

These findings suggest that physicians' self-reported overall personal financial incentives within their practices are a valid summary measure of the mix of specific financial arrangements faced by most physicians. The next step, note the researchers, is to evaluate how physicians' perceptions of their financial incentives affect their behavior.

See "Measuring the effects of managed care on physicians' perceptions of their personal financial incentives," by Jean M. Mitchell, Ph.D., Jack Hadley, Ph.D., Daniel P. Sulmasy, M.D., Ph.D., and J. Gregg Bloche, M.D., J.D., in the summer 2000 *Inquiry* 37, pp. 134-145.

Use of a risk message may be an effective way to present health plan report card information to consumers

Most health plan report cards that compare the performance of health plans emphasize the importance of plan choice as a way to obtain better quality of care. However, a new study suggests that consumers better understand and value health plan report cards that are brief and to the point and emphasize the risks rather than the benefits of plans. The study, which was supported by the Agency for Healthcare Research and Quality (HS09218, James Lubalin, principal investigator; Research Triangle Institute), focuses on CAHPS®, the most widely used set of products for measuring and reporting consumers' ratings of their health plans.

CAHPS was developed with support from AHRQ. Phase I products were launched in 1997 and have since

been adapted by a number of public- and private-sector agencies and organizations.

In this study, the researchers randomly assigned 207 respondents to review a comparative booklet of health plans that varied on two dimensions: whether the plan choice in the comparative booklet was presented in terms of possible risks or possible gains and whether the booklet contained or excluded explanations on how to use the information. Examples of risk messages were, "You could be at risk for lower-quality care," and "Protect yourself from problems in health plans," while an example of a benefit message was "Get the best." Participants reviewed the booklets, completed

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Health plan report card information

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the questionnaires, and reported their health plan decisions in a later questionnaire.

Consumers understood risk messages better than benefit or gain messages (91 vs. 84 percent). Also, those who received a risk message were more likely than those given a gain message to think that their plan choice made a difference in the quality of care they received (92 vs. 81 percent) and were more likely to respond correctly to questions about health plan features (93 vs. 86 percent). Added explanations had an unanticipated negative effect on comprehension.

Higher income participants receiving a risk message were willing to pay more in premiums (\$62 vs. \$46 a month), drive for a longer time to a doctor (36 vs. 27 minutes), and give up their regular doctor to obtain a plan rated higher in quality (85 vs. 50 percent) than those receiving a benefit message. Lower income participants may have felt that they had less latitude to make trade-offs involving time and money.

See "Increasing the impact of health plan report cards by addressing consumers' concerns," by Judith H. Hibbard, Ph.D., Lauren Harris-Kojetin, Ph.D., Paul Mullin, Ph.D., and others, in the September 2000 *Health Affairs* 19(5), pp. 138-143.

Long-Term Care/Elderly Health

Nurse staffing hours is one of several factors that affect quality of care for nursing home residents

Nurses and other health professionals provide care to about 1.6 million nursing home residents in the United States. Many studies have shown that the number of hours provided by registered nurses (RNs) to nursing home residents is related to the quality of care these patients receive. However, a recent study concludes that nursing home characteristics and geographic location are stronger predictors of nursing home care deficiencies than staffing hours and resident characteristics.

The study, which was supported in part by the Agency for Healthcare Research and Quality (HS07574) and led by Charlene Harrington, Ph.D., of the University of California, San Francisco, examined the data reporting system for all U.S. certified nursing homes to identify deficiencies in nursing home care.

Deficiencies are issued to nursing homes by State licensing and certification surveyors for different types of care problems. The researchers studied the association of care deficiency types with facility staffing hours per resident day, resident characteristics, facility characteristics, and State. They found that fewer RN hours and nursing assistant hours were associated with total deficiencies and quality of care deficiencies. Fewer nursing assistant staff and other care staff hours were associated with quality of life deficiencies. Fewer administrative staff hours were associated with other deficiencies, including administrative deficiencies. However, staffing hours alone predicted less than 1 percent of the total variance in deficiencies.

Together, staffing and resident characteristics only explained 3

percent of the variance in nursing home deficiencies. When facility characteristics and region were added to the model, the proportion of variance explained increased to 21 percent. For instance, facilities that were smaller and nonprofit or government-owned had fewer deficiencies. Facilities with a higher percentage of Medicaid residents had more deficiencies. Because these factors could explain only a small proportion of the variance in nursing home care deficiencies, the researchers call for more research on the topic.

See "Nursing home staffing and its relationship to deficiencies," by Dr. Harrington, David Zimmerman, Ph.D., Sarita L. Karon, Ph.D., and others, in the September 2000 *Journal of Gerontology: Social Sciences* 55(5), pp. S278-S287.

Long-term care users range in age, and most do not live in nursing homes

Americans who get hands-on help from others so that they can accomplish life's basic daily activities are not necessarily elderly nor do they all live in nursing homes, according to a new research report published by the Agency for Healthcare Research and Quality. The most recent data show that an estimated 9.4 million adults 18 years of age and older are given hands-on assistance to carry out either instrumental activities of daily living (IADLs)—these are chores such as shopping and housework—or for the more basic activities of daily living (ADLs), such as bathing and dressing. Roughly 79 percent of these people live at home or elsewhere in the community rather than in institutions, and almost half are under 65 years of age.

These non-elderly adults who receive long-term care are less disabled than elderly adults, more likely to be mentally impaired, and more likely to live in the community. They also are more likely to receive only informal care, the type provided by family and friends, rather than formal care alone (which is provided by agencies or other paid help) or by a combination of informal and formal care.

The authors also found that between 1984 and 1994, there was a marked increase in ADL disabilities and cognitive impairment among the elderly who received long-term care. The proportion of older long-term care users receiving help with three to six ADLs increased from 35 percent to nearly 43 percent. The proportion of the population

cognitively impaired similarly rose from 34 percent to 40 percent. As a result, during this period the intensity of care for the elderly increased. The share of elderly people receiving both informal and formal care grew from 19 percent to 26 percent, and use of institutional care increased from 26 percent to 30 percent.

According to lead author and AHRQ researcher William D. Spector, Ph.D., resource challenges will continue to increase in the future, and it will become increasingly important to tailor services to the disparate needs of the elderly and non-elderly disabled.

Details are in *The Characteristics of Long-Term Care Users* (AHRQ Publication No. 00-0049), which is available from AHRQ.*

Outpatient geriatric evaluation and management programs reduce the burden on caregivers

In recent years, the number of people providing assistance to an older relative or friend has tripled to over 21 million. The burden on these caregivers will likely intensify as health systems shift more and more care to the outpatient arena and growing numbers of older adults strive to maintain their independence.

Fortunately, there is a new model of care delivery that might substantially relieve the caregiving burden on friends and relatives, according to a study supported in part by the Agency for Healthcare Research and Quality (AG/HS11047). The study found that caregivers of adults who received outpatient geriatric evaluation and management (GEM)

were half as likely to report an increasing caregiving burden during the 1-year followup as caregivers of adults receiving usual care (17 vs. 39 percent).

GEM begins with an intensive assessment of a frail older adult's medical, psychosocial, and functional capabilities by an interdisciplinary health care team. The team then provides ongoing care, tailoring it to the patient's needs identified during the assessment.

In this study, the GEM team (geriatrician, nurse, social worker, and a gerontological nurse practitioner) met with the patient once a month and provided medical treatment, care management, educational information,

counseling, assistance with advance directives, and referral to agencies and other professionals as needed. The team discharged the patient back to the primary care doctor when the patient was adhering to the comprehensive plan of care or GEM treatment goals had been met. The GEM model may protect the caregiver from an increasing burden by providing services intended to reduce a frail older person's functional needs.

In this study, 568 high-risk, community-dwelling older adults were randomized to receive either GEM or usual care for 6 months. In telephone interviews, they assessed at baseline and 1 year

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Outpatient geriatric programs

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later the burden experienced by the patients' informal caregivers. For example, they asked caregivers to what extent they felt they could not

meet the care needs of their friend or relative, the extent to which caregiving disrupted their own lives, and the overall time they spent on caregiving.

More details are in "The effects of outpatient geriatric evaluation

and management on caregiver burden," by Jennifer L. Weuve, M.P.H., Chad Boulton, M.D., M.P.H., and Lynne Morishita, M.S.N., in *The Gerontologist* 40(4), pp. 429-436, 2000.

Rural Health

Inadequate hospital care and illness severity prompt rural patients to seek care at hospitals outside their areas

Younger patients who are severely ill and live in rural counties where hospital care is inadequate are most likely to travel outside their rural counties for hospital care. Very old, uninsured, or Medicaid patients are less willing or have less ability to travel elsewhere for hospital care, regardless of whether they live in a rural or nonrural area. As a result, these patients would suffer the most from rural hospital closures or regionalization of care, according to a recent study by Agency for Healthcare Research and Quality researcher Jayasree Basu, Ph.D., and James Cooper, M.D., formerly of AHRQ and now with the Health Care Financing Administration.

Drs. Basu and Cooper analyzed 1994 discharge records for New York residents hospitalized in New York, Pennsylvania, New Jersey, or Connecticut to identify patients admitted with ambulatory care sensitive (ACS) conditions. These are conditions—for example, asthma, diabetes, and

hypertension—for which good primary care can prevent unnecessary hospitalizations.

They used the data to construct conceptual models describing the impact of key factors affecting hospitalization locally and outside local counties for ACS conditions. Some of these key factors included severity of illness, availability and quality of local hospital care, availability of primary care in local counties, distance, and insurance coverage. They applied the models to residents in three types of geographic locations along an urban-rural continuum: metropolitan, nonmetropolitan adjacent to metropolitan, and rural.

Hospital admissions outside patients' counties were generally associated with younger age, higher illness severity, and fewer county hospital resources. The study found that no matter where elderly people live, advancing age makes them less likely to travel for hospital care, even when they are severely ill.

Same-county admissions were associated with minority race and lack of insurance. Surprisingly, more patients were likely to seek outside care in rural counties with a greater number of primary care providers (PCPs). This suggests that the supply of physicians might not be the most critical factor explaining inadequate access to care. On the other hand, more PCPs could increase the retention of ACS patients in metropolitan areas and in metro-adjacent rural areas, as well as in areas with a large proportion of minority patients who are less likely to travel outside their county for care.

For more details, see "Out-of-area travel from rural and urban counties: A study of ambulatory care sensitive hospitalizations for New York State residents," by Drs. Basu and Cooper, in the Spring 2000 *Journal of Rural Health* 16(2), pp. 129-138. Reprints (AHRQ Publication No. 00-R056) are available from AHRQ.**

Health care quality standards for rural areas should be practical, useful, and affordable

Although it is desirable to have a national standard for health care quality, “one size” may not necessarily fit all. The nature of rural health care is necessarily different from that provided in large cities. Rural health care providers struggle to provide basic ambulatory and inpatient services to the communities they serve, but they may lack the organizational depth or sophistication to meet the requirements of external accrediting bodies.

Because of these limitations, accrediting agencies, third-party insurers, and health insurance purchasers need to tailor their expectations and develop rural health care quality standards that are practical and attainable, according to Ira Moscovice, Ph.D., of the University of Minnesota Rural Health Research Center (RHRC), and Roger Rosenblatt, M.D., M.P.H., of the University of Washington RHRC. Their work

was jointly supported by the Health Resources and Services Administration’s Office of Rural Health Policy and the Agency for Healthcare Research and Quality.

The push to measure and monitor rural health care quality has been prompted by several policy initiatives, such as establishment of the Medicare+Choice Program and the Medicare Rural Hospital Flexibility Program. The first program has attempted to expand enrollment of rural Medicare beneficiaries in managed care plans and requires participating providers to document the quality of care provided to Medicare patients. The hospital program allows States to designate rural facilities as critical access hospitals (CAHs) if they are at least a 35-mile drive from another hospital or facility, make available 24-hour emergency care, maintain no more than 15 acute care beds, and provide acute inpatient care not longer than an average of 96 hours.

CAHs receive Medicare payment for services on a reasonable-cost basis.

To facilitate community acceptance and achieve fiscal stability, CAHs must be able to document the quality of care they provide. However, the capital, personnel, and expertise needed to develop and operate sophisticated quality assurance (QA) and improvement (QI) programs are not readily available in most rural areas. The expectations of QA and QI activities in CAHs must take into consideration their limited institutional resources and their communities’ preferences, note the researchers. They call for rural quality of care standards that are practical, useful, and affordable.

See “Quality-of-care challenges for rural health,” by Drs. Moscovice and Rosenblatt, in the Spring 2000 *Journal of Rural Health* 16(2), pp. 168-176.

HIV/AIDS Research

Number of HIV symptoms more accurately predicts patients’ quality of life than disease stage or CD4 cell count

Health-related quality of life for people infected with HIV depends most on the degree of symptoms they suffer. In fact, those who have symptomatic HIV disease have worse physical and mental health than people with most other chronic diseases. After controlling for symptoms, race, sex, health insurance status, disease stage, and CD4 cell count (an indicator of HIV disease progression) are at most only weakly associated with the physical

and mental health of patients with HIV disease, concludes a study that was supported in part by the Agency for Healthcare Research and Quality (HS08578).

Researchers from the University of California, Los Angeles, RAND, Harvard Medical School, and other institutions studied 2,864 HIV-infected adults who participated in the HIV Cost and Services Utilization Study (HCSUS). HCSUS data represent a probability sample of all adults

receiving care for HIV disease in the United States.

The researchers compared patients’ physical functioning and emotional well-being, based on summary scores of a battery of physical and mental health tests, with those of the U.S. general population and patients with other chronic diseases. They also examined the associations of demographic characteristics, stage of illness, CD4 count, symptoms,

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HIV symptoms predict quality of life

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and other factors with physical functioning and emotional well-being.

Compared with the general U.S. population, adults with asymptomatic HIV disease had similar physical functioning, but those with symptomatic HIV disease or AIDS had much worse physical functioning. Patients with AIDS had worse physical functioning than those with other chronic diseases, such as epilepsy, localized prostate cancer, clinical

depression, and diabetes. People at all stages of HIV disease had significantly worse emotional well-being than either the general population or patients with other chronic diseases, except depression.

After adjusting for the number of symptoms, having AIDS was no longer associated with the mental health score and was only weakly associated with the physical health score. The association of lowest CD4 count with health-related quality of life also was only modest after adjusting for the number of symptoms. The authors conclude that more effective clinical management of HIV-related

symptoms may improve functioning and well-being in these patients.

See "Health-related quality of life in patients with human immunodeficiency virus infection in the United States: Results from the HIV Cost and Services Utilization Study," by Ron D. Hays, Ph.D., William E. Cunningham, M.D., M.P.H., Cathy D. Sherbourne, Ph.D., and others, in the June 15, 2000 *American Journal of Medicine* 108, pp. 714-722. Reprints (AHRQ Publication No. 01-R010) are available from AHRQ.**

Social relationships, coping strategies, and mood all influence the adjustment of people living with HIV disease

People infected with the human immunodeficiency virus are subject to ongoing stress. They often are plagued by night sweats and nausea, unpleasant medication side effects, and periods of physical disability. They may have to cope with loss of employment, rejection by members of their social network, hospitalization, impoverishment, and the prospect of premature death. Coping strategies combined with social conflict and support affect the psychological adjustment of these men and women to their illness, according to a recent study led by John A. Fleishman, of the Center for Cost and Financing Studies, Agency for Healthcare Research and Quality.

Dr. Fleishman and his colleagues analyzed questionnaire responses from 145 people with HIV infection. They found that compared with perceived social support, social conflict was more

strongly related to coping behaviors. Negative encounters with others—such as arguments, misunderstandings, and inappropriate demands—had a very strong effect on negative coping strategies such as wishful thinking, anger, and especially social isolation or withdrawal, and on negative mood. Coping by social withdrawal was also related to negative mood. A dynamic may occur in which conflictual social interactions and social isolation aggravate each other and result in escalating psychological distress, notes Dr. Fleishman.

Negative encounters were associated with more symptoms and feelings of stigma. Older respondents coped more than younger ones by seeking information and by engaging in positive actions, but they also were more likely to cope through isolation. Greater physical limitations were associated with

more social isolation and fatalism. Feelings of HIV-related stigma were significantly related to coping by social isolation, anger, and cognitive avoidance (trying to repress HIV-related concerns). Coping by seeking information and by cognitive avoidance were more strongly related to positive mood than negative mood.

More details are in "Coping, conflictual social interactions, social support, and mood among HIV-infected persons," by Dr. Fleishman, Cathy Donald Sherbourne, Ph.D., Stephen Crystal, Ph.D., and others in the *American Journal of Community Psychology* 28(4), pp. 421-453, 2000. Reprints (AHRQ Publication No. 00-R054) are available from AHRQ.*

Agency News and Notes

Two new RFAs seek applications for research on patient safety

The Agency for Healthcare Research and Quality is seeking applications from academic institutions, nonprofit organizations, clinics and other delivery systems, and government agencies to perform patient safety research. The first request for applications (RFA) will provide support to establish as many as six new Centers of Excellence for Patient Safety Research and Practice. The Agency expects to award up to \$5 million under this RFA. The second RFA will provide funding to establish as many as 10 new Developmental Centers for Evaluation and Research in Patient Safety (DCERPS). AHRQ expects to award up to \$2 million in exploratory grants under this second RFA.

The DCERPS are unique because they will include multidisciplinary teams of researchers, including those who are familiar with human factors psychology, organizational processes, and error reporting; direct ties to a medical delivery system through formal data-sharing agreements and other methods; and evidence-based patient safety education programs. DCERPS projects will last up to 3 years, including an initial planning phase of up to 1 year followed by a 1- to 2-year pilot study. Special consideration for this RFA will be given to researchers who have not been funded as principal investigators on AHRQ projects within the past 2 years. The RFA

also includes a set-aside for partnerships with Historically Black Colleges and Universities or Hispanic-Serving Institutions.

These are the first two in a series of RFAs to be released under the Agency's new patient safety and medical errors research program. AHRQ plans to release another four patient safety RFAs in FY 2001. At the heart of this patient safety competitive demonstration program is a portfolio of projects to test the effectiveness, cost, and cost-effectiveness of diverse reporting strategies and information technology innovation on the identification, management, and reduction of medical errors.

AHRQ's research program will address themes gathered from meetings with key stakeholders, public- and private-sector national summit meetings, research-agenda sessions, and the report of the Quality Interagency Coordination (QuIC) Task Force, *Doing What Counts for Patient Safety-Federal Actions to Reduce Medical Errors and Their Impact*. Go to www.quic.gov to access the report and a summary of the recent National Summit on Medical Errors and Patient Safety, which provides a user-driven agenda to which applicants are asked to respond.

Projects funded under these RFAs should address a number of specific issues, including:

- Learning the most effective lessons from medical errors as

a means to improve patient safety.

- Developing a more complete understanding of the types and causes of medical errors in a variety of settings, levels of care, and patient populations.
- Understanding the impact of systems and professional and organizational cultures on reducing medical errors and improving patient safety.
- Describing and testing the role of informatics in improving clinical decisionmaking, reducing errors, and advancing patient safety.

AHRQ also will support a coordinating center to facilitate interaction between all entities funded under the Agency's patient safety programs. The coordinating center will help to ensure that the findings from the Centers of Excellence, the DCERPs, and other parts of the Agency's patient safety initiative are translated into measurable improvements in health care.

Letters of intent for these two RFAs are due to AHRQ by January 3, 2001; applications are due January 24, 2001. For application instructions and more information on the Centers of Excellence RFA (HS-01-002), go to the October 24, 2000, *NIH Guide* at <http://grants.nih.gov/grants/guide/rfa-files>. For the DCERPs RFA (HS-01-007), see the November 8, 2000 *NIH Guide*, also on the Internet.

Editor's note: Reprints of a recent article by AHRQ Director John M. Eisenberg, M.D., and AHRQ staff members Gregg Meyer, M.D., and Nancy Foster are now available from the Agency. The article presents an AHRQ update on medical errors and patient safety research and describes ways in which the health services research community can and should be involved. See the back cover of *Research Activities* for information on ordering reprints of "Medical errors and patient safety: A growing research priority" (AHRQ Publication No. 00-R049), which appeared in the August 2000 issue of *Health Services Research* 35(3), pp. xi-xv.**

AHRQ is spearheading the effort to develop a national report on health care quality

The Agency for Healthcare Research and Quality will develop the first-ever annual report on the quality of health care in the United States. The report was called for in AHRQ's reauthorization legislation, which was enacted in December 1999. The report, which is due in 2003, will provide a clear, easily understood picture of the quality of health care in America and highlight areas where improvement is needed.

An expert committee convened by the Institute of Medicine (IOM) will identify the most important questions to answer in evaluating whether the health care system is providing high quality health care. These questions include the domains of information that should be produced; examples of specific measures that fall into each domain; and methods for tracking improvements in quality over time.

The IOM expects to complete work on the report's framework by May 2001. Criteria for choosing

measures of quality of care will be taken from existing measurement efforts. These include the National Committee for Quality Assurance's HEDIS project, standards published by the Joint Committee on Accreditation of Healthcare Organizations, and information from Federal agencies and partners, such as the Health Care Financing Administration.

The project is being led by AHRQ in collaboration with the National Center for Health Statistics. An interagency work group will develop the final content and design of the report. Other members of the work group include the Office of the Assistant Secretary for Planning and Evaluation of the Department of Health and Human Services, the Centers for Disease Control and Prevention, the Health Care Financing Administration, the National Institutes of Health, the National Cancer Institute, and the Substance Abuse and Mental Health Services Administration.

New topics announced for AHRQ's Evidence-based Practice Centers

The Agency for Healthcare Research and Quality has announced 15 new research topics for the Agency's Evidence-based Practice Centers (EPCs). The EPCs will conduct rigorous, comprehensive reviews of the relevant scientific literature on these topics, including meta-analyses and cost analyses, if appropriate. The results will be published by the Agency as evidence reports or technology assessments, which are available to the public, health care community, and researchers.

Eleven of the new topics assigned to the EPCs were nominated by outside organizations:

Management of allergic rhinitis. New England Medical Center, Boston, MA. Nominated by the American Academy of Family Physicians.

Autopsy as the ultimate outcome measure. University of California, San Francisco (UCSF)-Stanford University. Nominated by the College of American Pathologists.

Impact of cancer-related decision aids. McMaster University, Ontario, Canada. Nominated by the National Cancer Institute.

Definition and management of chronic fatigue syndrome. University of Texas Health Science Center, San Antonio. Nominated by the National Institute of Allergy and Infectious Diseases.

Diagnosis and treatment of congestive heart failure. RAND, Santa Monica, CA. Nominated by the American College of Physicians, American Society of

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New EPC topics

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Internal Medicine, American Academy of Family Physicians, and the Mayo Clinic.

Criteria to determine disability of infant/childhood impairments.

New England Medical Center, Boston, MA. Nominated by the Social Security Administration.

Diagnosis and management of Parkinson's disease. MetaWorks, Boston, MA. Nominated by the American Academy of Neurology.

Management of post-term pregnancy. Duke University, Durham, NC. Nominated by the American College of Obstetricians and Gynecologists.

Diagnosis and treatment of repetitive motion disorders.

ECRI, Plymouth Meeting, PA. Nominated by the American College of Occupational and Environmental Medicine and the Social Security Administration.

Criteria for determining disability of speech/language disorders. Research Triangle Institute and University of North Carolina, Chapel Hill. Nominated by the Social Security Administration.

Effectiveness and cost-effectiveness of echocardiography and carotid ultrasound in the evaluation and management of stroke. Oregon Health Sciences University, Portland, OR.

Nominated by the American Academy of Neurology.

Four of the new topics are in response to Congressional requests for specific information.

Utilization of physicians' services. RAND, Santa Monica, CA.

Methods to rate the strength of scientific evidence. Research Triangle Institute and University of North Carolina, Chapel Hill.

Training for a rare public health event of bioterrorism. Johns Hopkins University, Baltimore, MD.

Role of decision support systems in disease management following a bioterrorism event. University of California, San Francisco (UCSF)-Stanford University.

Recruiting is underway for several senior positions at AHRQ

The Agency for Healthcare Research and Quality is seeking applicants for several senior positions within the Agency. One of the positions is Director of AHRQ's Office of Priority Populations Research; the other position is for a senior research scientist to work on disparities in health care delivery.

Director, Office of Priority Populations Research. The Director will help establish the office and lead a staff of multidisciplinary professionals and support staff in developing and implementing an Agency-wide strategy to conduct extramural and intramural research related to the health needs and health care of priority populations (minorities, women, children, the elderly, low-income groups, the disabled, and others with special health care needs). We are seeking candidates who are highly motivated and have professional training in a clinical discipline (e.g., medicine, nursing) or a related health, allied, social, or

behavioral science discipline. Also, experience in planning, evaluation, conduct, or administration of clinical medicine or health services research on one of AHRQ's priority populations is required. We are seeking applicants with national standing in the areas of health services research and/or health policy.

Senior Research Scientist, Disparities in Health Care Delivery. AHRQ's Center for Outcomes and Effectiveness Research is seeking an experienced researcher in the area of racial and ethnic disparities in health care delivery. This person will be responsible for co-directing the Center's EXCEED—Excellence Centers for Eliminating Disparities—initiative. EXCEED consists of nine centers focused on research to clarify why disparities in health care delivery associated with race and ethnicity occur. The intent is to develop and test interventions to eliminate those disparities. The individual selected

for this position also will be expected to conduct complementary independent intramural research. Applicants should possess a doctoral degree in health services research, a related social science (e.g., public health, sociology, political science) discipline, or clinical medicine. Applicants also should have a demonstrated understanding of research, research methods, statistics, and technical writing. Clinicians interested in this position must have postdoctoral research training or equivalent training and experience.

For more information: The application deadline for these positions is January 23, 2001. To obtain a copy of the full text announcement for either position, as well as application instructions, call 301-594-2408 or visit AHRQ's Web site at www.ahrq.gov and click on "Job Announcements." AHRQ is an Equal Opportunity Employer.

Announcements

AHRQ awards six grants in systems-related best practices to improve patient safety

The Agency for Healthcare Research and Quality recently funded six new research projects designed to improve patient safety by identifying and preventing avoidable system errors. Funding for these FY 2000 projects totals \$2 million and builds on AHRQ's earlier investments in patient safety research. The Agency expects to award additional funding in FY 2001 for research on patient safety. The first two in a series of RFAs (requests for application) on medical errors research have just been announced by AHRQ; see page 18 of this issue for more information. The newly funded grants are:

Characterizing Medical Error: A Primary Care Study. Principal investigator Steven H. Woolf, M.D., Virginia Commonwealth University, Richmond. Total projected funding \$350,362. Project period 9/15/00-8/31/02. The researchers will interview primary care patients and providers from Virginia and Ohio to compare and contrast their experiences with medical errors. They will ask patients and providers what they think constitutes a medical error and what types of errors they think are most common and most serious.

TIPI Systems to Reduce Errors in Emergency Cardiac Care. Principal investigator Harry P. Selker, M.D., New England Medical Center, Boston, MA. Total projected funding \$1,585,335.

Project period 9/15/00-8/31/03. This project focuses on the prevention of medical errors in emergency department triage and treatment of acute cardiac ischemia (ACI) by more accurately predicting the likelihood that a patient has ACI. The researchers will gauge the benefits of thrombolytic therapy using a time-insensitive predictive instrument that provides real-time decision support to prevent inappropriate discharges.

Brief Risky High-Benefit Procedures: Best Practice Model. Principal investigator Colin F. MacKenzie, M.D., R. Adams Cowley Shock Trauma Center, University of Maryland, Baltimore. Total projected funding \$537,843. Project period 9/30/00-8/31/03. This project focuses on the procedures used in thoracostomy for chest tube insertion at the Maryland Shock Trauma Center. The researchers will use video and audio recordings to demonstrate how medical errors can occur through deviations in processes and to prompt discussion among the clinical team about using practice guidelines to encourage appropriate clinical actions.

Developing Best Practices for Patient Safety. Principal investigator Mark B. McClellan, M.D., Ph.D., Stanford University, Stanford, CA. Total projected funding \$1,259,823. Project period 9/30/00-8/31/03. The researchers will develop a public-private patient safety consortium between

leading national organizations and 14 northern California hospitals serving diverse populations. The goals are to build a national evidence base for measuring and predicting patient safety performance and develop cost-effective strategies for improving safety practices in hospitals.

Improving Safety by Computerizing Outpatient Prescribing. Principal investigator David W. Bates, M.D., M.Sc., Brigham and Women's Hospital, Boston, MA. Total projected funding \$1,700,187. Project period 9/30/00-8/31/03. The researchers will study the impact of electronic medical records and computerized medication prescribing on adverse drug events (ADEs) in outpatient clinics associated with Partners HealthCare System and the Regenstrief Institute at Indiana University.

Teamwork and Error in Neonatal Intensive Care. Principal investigator Eric J. Thomas, M.D., University of Texas Medical School, Houston. Total projected funding \$677,795. Project period 9/30/00-8/31/02. The researchers will assess team-related, error-management behavior in the hospital neonatal intensive care unit. They will design an intervention to improve these behaviors and address elements of the organizational and professional culture that influence the frequency of errors.

AHRQ awards 13 grants for second phase of translating research into practice initiative

The Agency for Healthcare Research and Quality recently funded 13 new cooperative agreements to demonstrate and evaluate different strategies for translating research into practice and to ensure that improvements in quality continue. The overall aim of the program is to help accelerate the impact of research on practice and to improve the outcomes, quality, effectiveness, efficiency, and/or cost effectiveness of health care through partnerships between health care organizations and researchers. The new 3-year projects are described below.

An Internet Intervention to Increase Chlamydia Screening.

Principal investigator Jeroan Allison, M.D., University of Alabama, Birmingham. Total projected funding \$1,156,421. Project period 9/30/00 - 9/29/03. This project, undertaken in cooperation with U.S. Quality Algorithms (an Aetna subsidiary), involves a randomized trial in 220 primary care physician offices to test Internet-based learning modules for physicians. The modules are designed to increase screening of at-risk women and decrease incidence of pelvic inflammatory disease.

Improving Quality with Outpatient Decision Support.

Principal investigator David Bates, M.D., M.Sc., Brigham and Women's Hospital, Boston, MA. Total projected funding \$1,451,984. Project period 9/30/00 - 8/30/03. The researchers will test physician compliance with paper-based and electronic guidelines, reminders, and alerts for outpatient settings. Participants will be physicians at the Beth Israel and Massachusetts General Hospitals

and their outpatient clinics. The reminders and alerts will target such areas as disease management, medication management, and ancillary test ordering.

Improving Utilization of Ischemic Stroke Research.

Principal investigator Catherine Borbas, Ph.D., Minneapolis Medical Research Institute, Minneapolis, MN. Total projected funding \$1,564,642. Project period 9/30/00 - 8/31/03. The researchers will assess the effectiveness of a model for accelerating the use of evidence-based treatment guidelines for acute ischemic stroke in 24 urban and rural hospitals in Minnesota. The investigators from Minneapolis Medical Research Institute, Harvard Medical School, and the University of Minnesota School of Nursing will test a hospital-based intervention to improve the quality of stroke care.

MCO Use of a Pediatric Asthma Management Program.

Principal investigator Michele M. Cloutier, M.D., University of Connecticut Health Center, Hartford. Total projected funding \$876,760. Project period 9/11/00 - 8/31/03. In this randomized controlled trial, the University of Connecticut will partner with ConnectiCare and the Connecticut Children's Medical Center to compare two asthma management programs in a large managed care organization in the Hartford area. A specially modified version of the Easy Breathing Program will be implemented by 66 providers in 18 communities and compared with the disease management program presently being used. Outcomes include guideline compliance, hospitalization rates, emergency room visits, prescription utilization,

patient and provider satisfaction, and quality of life.

Better Pediatric Outcomes

Through Chronic Care. Principal investigator Judith Fifield, R.N., Ph.D., University of Connecticut Health Center, Hartford. Total projected funding \$1,437,769. Project period 9/30/00 - 9/29/03. This multi-site intervention project will use a family focused educational intervention to reduce costs and improve outcomes among children with asthma. The study population will be poor, inner-city, minority children, ages 5-18, who are enrolled in a community health center-based Medicaid managed care organization.

Diabetes Education Multimedia for Vulnerable Populations.

Principal investigator Ben S. Gerber, M.D., University of Illinois, Chicago. Total projected funding \$1,148,955. Project period 9/1/00 - 8/31/03. This randomized controlled trial will compare usual care with patient education through the use of an interactive, multimedia computer program to improve diabetes-related knowledge, attitudes, self-efficacy and compliance with self-care recommendations. The study will take place at clinics serving predominately black and Hispanic patients throughout Chicago.

Implementing Adolescent

Preventive Guidelines. Principal investigator Charles E. Irwin, M.D., University of California, San Francisco. Total projected funding \$1,887,829. Project period 9/30/00 - 8/31/03. The researchers will analyze the value of implementing office-based clinical preventive

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Translating research into practice grants

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services for adolescents. They will use an experimental design, consisting of training and tools, looking at the outcome of delivery of preventive services during routine well care visits.

Improving Pain Management in Nursing Homes. Principal investigator Katherine R. Jones, Ph.D., University of Colorado Health Sciences Center, Denver. Total projected funding \$1,540,787. Project period 9/1/00 - 8/31/03. The researchers will attempt to develop and implement a culturally competent, evidence-based educational and behavioral intervention to improve the quality of pain assessment and management in 12 nursing homes. They will develop and implement competency-based educational materials, improve the quality of pain assessment and management procedures, improve knowledge and attitudes toward pain, analyze the influence and changes of organizational variables, and assess the cost-effectiveness of the intervention to nursing homes.

Translating Prevention Research into Practice. Principal investigator Robert A. Levine, M.D., Meharry Medical College, Nashville, TN. Total projected funding \$1,989,273. Project period 9/30/00 - 9/29/03. As a collaboration between Meharry Medical College and the Center for Health Research at Tennessee State University, the researchers will conduct a randomized clinical trial comparing two methods of integrating preventive services in a

group practice serving a low-income minority Medicaid population. Five of the six priority racial and ethnic health disparities will be addressed: infant mortality, cardiovascular disease, cancer screening, HIV/AIDS, and adult and pediatric immunizations.

Optimizing Antibiotic Use in Long-Term Care. Principal investigator Mark B. Loeb, M.D., MSc., McMaster University, Ontario, Canada. Total projected funding \$157,756. Project period 9/30/00 - 8/31/02. This study will determine if an evidence-based clinical algorithm for managing urinary tract infections in older adults in residential long-term care facilities can reduce the overall use of antibiotics in such facilities. This project is a collaboration between McMaster University, the University of Toronto, Queen's University, St. Joseph's Health Care System Research Network nursing homes, and nursing homes in the province of Ontario.

Primary and Secondary Prevention of Coronary Heart Disease and Stroke. Principal investigator Steven M. Ornstein, M.D., Medical University of South Carolina, Charleston. Total projected funding \$1,092,326. Project period 9/30/00 - 8/31/03. The researchers will study the impact of a quality improvement model using academic detailing and electronic medical records on adherence to clinical practice guidelines for prevention of cardiovascular disease and stroke in primary care settings. Investigators from the Medical University of South Carolina's Center for Health Care Research will conduct the study in 22 affiliated Practice

Partner Research Network (PPRNet) sites across the United States.

Developing an Asthma Management Model for Head Start. Principal investigator Perla A. Vargas, Ph.D., Arkansas Children's Hospital, Little Rock. Total projected funding \$1,190,983. Project period 9/26/00 - 8/31/03. Using a randomized design, the researchers will develop an evidence-based asthma case management model for low-income minority children enrolled in 29 Head Start programs. The study will be conducted in cooperation with Pulaski County Head Start and the Arkansas Foundation for Medical Care. The researchers will measure such outcomes as asthma-related school absences, symptoms, quality of life, emergency department visits, and hospital use.

A Model for Use of the Urinary Incontinence (UI) Guideline in U.S. Nursing Homes. Principal investigator Nancy M. Watson, Ph.D., R.N., University of Rochester, School of Nursing, Rochester, NY. Total projected funding \$1,257,133. Project period 9/1/00 - 8/31/03. The researchers will test the effectiveness of a model of care implemented by nurse practitioners in collaboration with nurses and physicians to translate the AHRQ UI guideline into practice in 10 New York nursing homes. The study will determine the feasibility of this model in reducing UI in nursing homes, preventing complications associated with UI, and improving the quality of life of nursing home residents and families.

\$45 million over 5 years earmarked for research on ways to eliminate racial and ethnic health disparities

The Agency for Healthcare Research and Quality recently awarded nine grants that will help us understand and address the factors that contribute to ethnic and racial inequities in health care. Known as the EXCEED (Excellence Centers to Eliminate Ethnic/Racial Disparities) initiative, these studies also will help identify practical tools and strategies to eliminate the disparities.

The new research projects will be funded by AHRQ in partnership with the Office of Research on Minority Health and the National Cancer Institute. Each project will consist of a group of four to seven studies organized around a central theme. Funding for these new projects is anticipated to total \$45.0 million over a 5-year period. The newly funded projects are:

Racial and Ethnic Variations in Medical Interactions. Principal investigator Carol M. Ashton, M.D., M.P.H., Baylor College of Medicine, Houston, TX. Total projected funding \$7,813,750. Project period: 9/27/00–8/31/05. The researchers will assess the extent to which problems in doctor-patient communication contribute to racial and ethnic disparities in health care use. Six projects and three core themes will be used to achieve four major objectives: improve understanding of the etiologies of disparities; identify interventions that can reduce disparities; disseminate information to patients; communities, and health care providers; and build capacity for future minority health services research.

Overcoming Racial Health Disparities. Principal investigator Timothy S. Carey, M.D., M.P.H.,

University of North Carolina, Chapel Hill. Total projected funding \$1,273,224. Project period 9/15/00–8/31/05. These researchers will establish a center of excellence on overcoming racial health disparities in African-American adults, particularly in rural settings. They will collaborate with two Historically Black Colleges and Universities during the project.

Improving the Delivery of Effective Care to Minorities. Principal investigator Mark R. Chassin, M.D., M.P.P., M.P.H., Mount Sinai School of Medicine, New York, NY. Total projected funding \$7,333,543. Project period 9/13/00–8/31/05. The goal of this project is to measure the underuse in Harlem of selected medical and surgical interventions that are known to be effective. The researchers will assess the reasons for the underuse and develop, implement, and evaluate ways to eliminate the underuse when appropriate.

Understanding and Reducing Native Elder Health Disparities. Principal investigator Spero M. Manson, Ph.D., University of Colorado Health Sciences Center, Denver. Total projected funding \$6,210,077. Project period 9/30/00–9/29/05. Four health issues of particular importance to elderly American Indians and Alaska Natives will be addressed: the quality of care for diabetes, delivery of clinical preventive services, cancer screening, and smoking cessation.

Access and Quality of Care for Vulnerable Black Populations. Principal investigator Robert M. Mayberry, M.S., M.P.H., Ph.D., Morehouse School of

Medicine, Atlanta, GA. Total projected funding \$2,128,225. Project period 9/15/00–8/31/05. The researchers will explore ways to improve health care access and quality for vulnerable African Americans, particularly adults who are chronically ill and low-income children.

Health Disparities in Minority Adult Americans. Principal investigator Edmund M. Ricci, Ph.D., University of Pittsburgh, Pittsburgh, PA. Total projected funding \$1,273,224. Project period 9/25/00–8/31/05. The researchers will combine community linkages with academic resources to address differences between white and minority elderly populations in health status and the use of health services, with special emphasis on improving health care for blacks through effective communication and culturally sensitive approaches.

UCLA/DREW/RAND Program to Address Disparities in Health. Principal investigator Martin F. Shapiro, M.D., Ph.D., University of California, Los Angeles. Total projected funding \$1,273,225. Project period 9/01/00–8/31/05. In this collaborative project, researchers from the University of California, Los Angeles, Drew University, and RAND, will establish a multidisciplinary program to address racial and ethnic disparities in health. A major goal is to increase the capacity for health services research on health disparities.

Understanding and Eliminating Health Disparities in Blacks. Principal investigator Barbara Tilley, M.S., Ph.D., Medical University of South Carolina,

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Racial and ethnic disparities

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Charleston. Total projected funding \$10,125,420. Project period 9/21/00–8/31/05. The goal is to identify solutions to known disparities in health status between blacks and whites living in South Carolina, including those in rural areas. The researchers will focus on

interventions related to providers and provider/patient interactions.

Promoting Effective Communication and Decisionmaking for Diverse Populations. Principal investigator Eugene A. Washington, M.D., M.Sc., University of California, San Francisco. Total projected funding \$7,672,925. Project period 9/27/00–8/31/05. The researchers

will assess ways to promote effective communication and decisionmaking in diverse populations. They hypothesize that racial and ethnic disparities in health care and outcomes may be related to less effective communication and decisionmaking skills in minorities compared with whites.

Initial projects are funded for AHRQ'S Integrated Delivery System Research Network

Ten research projects have been funded for the recently created Integrated Delivery System Research Network (IDSRN). The network is a new model of field-based research designed by the Agency for Healthcare Research and Quality. It links the Nation's top researchers with some of the largest health care systems for conducting fast-track research on cutting-edge issues in health care.

The 10 awards, funded for a total of approximately \$2.4 million, will be completed within 9 months to 2-1/2 years. The IDSRN projects are grouped into two categories—those that will inform the development of the Nation's data and measurement capacity and those that will inform 'best practices' of how to structure health care organizations.

The projects for informing the development of data and management capacity will:

- **Build capacity to study racial/ethnic disparities in access, use, and outcomes.** The USQA Center for Healthcare Research, a subsidiary of Aetna Healthcare located in Atlanta, will examine the current capacity of health plans to study racial/ethnic disparities using

managed care organization databases, and it will identify potential strategies for improving such capacity. Project completion 6/01. Funding \$171,170.

- **Validate the Agency's HCUP Quality Indicators.** The Research Triangle Institute in North Carolina will test the validity of AHRQ's Healthcare Cost and Utilization Project (HCUP) Quality Indicators, a quality measurement software tool based on hospital administrative data. Project completion 3/02. Funding \$449,007.
- **Evaluate the potential of private-sector data to augment public-sector data for use in preparing an annual report on health care quality.** The Minneapolis-based Center for Healthcare Policy and Evaluation, an independent research institute affiliated with the United Health Group, will evaluate the feasibility of using data from private health care organizations in developing AHRQ's new annual National Quality Report. The report, scheduled to be published for the first time in FY 2003,

will provide a comprehensive picture of the quality of the Nation's health care system. Project completion 3/02. Funding \$399,884.

The projects for expanding understanding of "best practices" will:

- **Assess variations in the management of cardiovascular disease.** The United Health Group-affiliated Center for Healthcare Policy and Evaluation will assess variations in the management of cardiovascular disease within and across different settings and models of care as they relate to patients' socioeconomic status, sex, race, and ethnicity. Project completion 11/01. Funding \$199,705.
- **Assess the impact of organizational interventions on quality of care and efficiency.** The Marshfield Medical Research and Education Foundation in Marshfield, WI, will evaluate several organizational interventions, including the redesign of its charity care program, and centralization of

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IDSRN projects

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the clinic's medical management of anticoagulation therapy. Project completion 9/01. Funding \$199,942.

- **Identify the hospital policies and practices that underlie the volume-outcomes association for certain complex procedures.** The United Health Group-associated Center for Healthcare Policy and Evaluation will conduct exploratory research to identify specific processes of care, related or unrelated to volume, that might explain variations in outcomes of certain complex procedures. Project completion 3/02. Funding \$249,973.
- **Determine how and to what extent health plans include quality-related provisions in their contracts with hospitals and other providers.** The Marshfield Medical Research and Education Foundation will

conduct a systematic review of 100 health plan contracts with providers to identify how different kinds of health plans (e.g., HMOs, PPOs) are using quality provisions in their provider contracts. Project completion 6/01. Funding \$98,998.

- **Track and evaluate how a clinical practice guideline is implemented by a health plan.** The Kaiser Foundation Research Institute of Oakland, CA, will evaluate the implementation of a clinical practice guideline within an integrated delivery system that involves AHRQ's priority populations. Project completion 3/02. Funding \$195,998
- **Identify barriers to the use of information technology within delivery systems.** The Research Triangle Institute will identify barriers that undermine the diffusion of information technology within integrated delivery systems so that strategies can be tailored to

overcome them. Project completion 9/01. Funding \$200,000.

- **Examine the delivery system's capacity for responding to public health threats, including bioterrorism.** New York's Weill Medical College, a part of Cornell University, will assess a health system's present capability of responding to and managing a public health threat. The researchers will model the recent influenza epidemic and a potential release of anthrax in New York City. Project completion 9/01. Funding \$249,973.

AHRQ is actively seeking input on research topics to be considered in developing future IDSRN projects. If your organization would like to recommend one or more topics for consideration or you need more information, please contact Fred Hellinger, Ph.D., IDSRN project officer, at 301-594-2314 or via e-mail at fhelling@ahrq.gov.

Agency launches bioterrorism prevention research and planning initiative

The Agency for Healthcare Research and Quality is providing support for assessing and improving the U.S. health care system's capacity to respond to possible incidents of bioterrorism. This \$5 million initiative, which focuses on clinical preparedness of health care providers and health care systems, is part of a broad effort by the U.S. Department of Health and Human Services and other Federal agencies directed toward potential instances of bioterrorism.

The initiative will examine the clinical training and ability of

front-line medical staff—including primary care providers, emergency departments, and hospitals—to detect and respond to a bioterrorist threat. This initiative also will support research on the use of information and decision support systems to enhance clinical preparedness in the event of a bioterrorist threat and assess and improve linkages between the health system, local and State public health departments, and emergency preparedness units.

AHRQ will use several mechanisms to accomplish these goals, including research contracts,

evidence reports, primary care practice-based research networks, and integrated delivery system research networks. Components of AHRQ's newly funded comprehensive anti-bioterrorism portfolio include:

Bioterrorism Response Contracts and Topic Assignments. These contracts will support research on the clinical preparedness of key medical staff to respond to potential bioterrorist threats.

- **Bioterrorism: Automated decision support and clinical**

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Bioterrorism prevention research

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- data collection.** Principal investigator Michael Shannon, M.D., Children's Hospital, Harvard University. Total projected funding \$749,917. Project period 9/29/00–3/31/02. The goal is to develop a prototype database and Web site through which clinicians can report suspicious trends that suggest possible bioterrorist events. In addition, the researchers will develop four prototypes for decision support systems for clinicians to give them “just-in-time” information and advice on appropriate responses.
- **Using information technology to improve clinical preparedness for bioterrorism.** Principal investigator Michael Wagner, M.D., Ph.D., MPC Corporation, University of Pittsburgh, and Carnegie Mellon University. Total projected funding \$1,020,652. Project period 9/29/00–3/31/02. The researchers will evaluate the ability of existing data systems and information technology to support earlier detection of and response to a bioterrorist event.
 - **Innovative approaches to training clinicians for bioterrorist attacks.** Principal investigator Kathleen Lohr, Ph.D., Research Triangle Institute, University of North Carolina. Total projected funding \$600,000. Project period 9/29/00–3/31/02. The goal of this project—which includes an advisory committee of clinicians, medical educators, health systems leaders, and others—is to develop two prototype approaches for training

clinicians to recognize and respond appropriately to a possible bioterrorist attack.

- **Understanding needs for health system preparedness and capacity for bioterrorist attacks.** Principal investigator Sue Losch, R.N., B.S.N.C., Booz-Allen & Hamilton, University of Maryland, and Emory University. Total projected funding \$559,031. Project period 9/29/00–3/31/02. The researchers will assess the current capacity of hospitals and health systems to respond to a bioterrorist attack. They also will identify opportunities to improve existing clinical preparedness programs, develop model plans for hospitals and health systems, and develop innovative approaches to increasing hospital system capacity to support medical response.
- **Innovative approaches to training clinicians for bioterrorist attacks.** Principal investigator Thomas Terndrup, M.D., University of Alabama at Birmingham. Total projected funding \$500,000. Project period 9/29/00–3/31/02. The researchers will develop innovative approaches to training clinicians for bioterrorist attacks and methods for evaluating the effectiveness of those approaches.
- **Establishing effective system linkages for bioterrorism: Medical care, public health, and emergency preparedness.** Principal investigator Jerry Hauer, M.H.S., Science Applications International, George Washington University, Johns Hopkins University, and the Joint Commission on Accreditation of Healthcare Organizations. Total projected

funding \$499,843. Project period 9/29/00–3/31/02. The goals of this project are to assess and improve linkages between the medical care, public health, and emergency preparedness systems to enhance their ability to detect and respond to a bioterrorist event.

Projects at Evidence-based Practice Centers (EPCs). AHRQ currently funds research at 12 EPCs in the United States and Canada.

These EPCs systematically review and analyze all relevant scientific literature on assigned clinical care topics, produce evidence reports and technology assessments, conduct research on methodologies and the effectiveness of their implementation, and participate in technical assistance activities. The following EPC projects have a specific focus on bioterrorism:

- **Bioterrorism: Training for rare public health events.** Principal investigators Christina Catlett, M.D., and Trish Perl, M.D., Johns Hopkins University. Total projected funding \$250,000. Project period 11/1/00–4/30/02. The researchers will assess the available research for training providers for rare public health events, such as a bioterrorist attack.
- **Role of decision support systems in disease management following a bioterrorist event.** Principal investigator Douglas K. Owens, M.D., M.S., University of California at San Francisco and Stanford University. Total projected funding \$400,000. Project period 9/29/00–9/28/02. The researchers will focus on

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Bioterrorism prevention research

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the role of decision support systems in the rapid diagnosis and management of disease resulting from a bioterrorist event.

Projects at Primary Care Practice-Based Research Networks (PBRNs).

AHRQ recently funded 19 PBRNs nationwide. These are groups of ambulatory practices devoted principally to patient care but which are affiliated with each other to investigate questions related to community-based practice. These PBRNs will explore the role of primary care providers in clinical preparedness for a bioterrorist event.

- **National Network for Family Practice and Primary Care Research.** Principal investigator Herbert F. Young, M.D., American Academy of Family Physicians (AAFP). Total projected funding \$121,388. Project period 9/30/00–9/29/01. This national network developed by the AAFP, which includes 110 clinicians from practices in 34 States and four Canadian provinces, will explore the adequacy of linkages of providers' offices with public health and emergency preparedness agencies.

- **ResNet.** Principal investigator William M. Tierney, M.D., Indiana University Medical Group-Primary Care. Total projected funding \$134,008. Project period 9/30/00–9/29/01. This network at Wishard Health Services and the primary care practices of the Indiana University School of Medicine will focus on the use of information technology to connect primary care providers with emergency preparedness and public health personnel.

- **UCSF/Stanford Collaborative Research Network.** Principal investigator Mary S. Croughan-Minihane, Ph.D., University of California, San Francisco. Total projected funding \$132,750. Project period 9/30/00–9/29/01. The Collaborative Research Network includes 600 primary care physician practices in Northern and Central California that have a large underserved urban patient population. The network will study clinicians' preparedness for a bioterrorist event.

Integrated Delivery System Research Network (IDSRN)

Project. AHRQ also recently funded the IDSRN, a new model of field-based research designed to link the Nation's top researchers with some of its largest health care systems to conduct fast-track research on cutting-edge issues. The IDSRN will explore the role of

integrated delivery systems in clinical preparedness for a bioterrorist event.

- **Integrated delivery systems and clinical preparedness for bioterrorism.** Principal investigator Alvin Mushlin, M.D., Weill Medical College, Cornell University. Total projected funding \$249,973. Project period 9/25/00–9/24/01. The Weill Medical College Network—which includes the University Hospital of Columbia and Cornell, the Joseph L. Mailman School of Public Health of Columbia University, North Shore University Hospital, Memorial Sloan-Kettering Cancer Center, Health Watch, and members of the New York Presbyterian Healthcare System—will examine hospital and delivery system capacity to respond to a bioterrorist event and identify current linkage capabilities of integrated delivery systems with the local public health infrastructure.

Conference Support Grant.

AHRQ also will provide support, along with our Federal partners, to fund a bioterrorism symposium sponsored by the Center for Civilian Biodefense Studies at Johns Hopkins University. Total funding \$25,000.

Correction: The October 2000 issue of *Research Activities* (pages 22-25) includes a listing of grant final reports newly available from the National Technical Information Service (NTIS). The NTIS accession number attributed to the report *Deploying Idealized Design of Clinical Office Practices* (described on page 22) is incorrect. It should have been given as NTIS accession no. PB2000-107460. We apologize for any confusion or inconvenience this may have caused.

Research Briefs

Cohen, S.B., Machlin, S.R., and Branscome, J.M. (2000). "Patterns of survey attrition and reluctant response in the 1996 Medical Expenditure Panel Survey." *Health Services & Outcomes Research Methodology* 1(2), pp. 131-148.

When researchers conduct national household health care surveys, they often allocate a significant amount of survey resources to obtain participation from people who initially decline to participate. This is necessary in order to complete the target of sampled households. This study describes a way to identify the characteristics that distinguish survey participants across survey rounds from the part-year respondents. It also identifies factors that distinguish the cooperative respondents, the reluctant respondents, and the part-year respondents to better inform the data collection of the Agency for Healthcare Research and Quality's Medical Expenditure Panel Survey (MEPS). The AHRQ researchers found that reluctant respondents in the first round of the survey were significantly more likely to become nonrespondents in the second round. If no effort had been made to convert reluctant participants, the precision of the MEPS estimates would have declined but not substantially. Reprints (AHRQ Publication No. 00-R052) are available from AHRQ.**

Engels, E.A., Terrin, N., Barza, M., and Lau, J. (2000). "Meta-analysis of diagnostic tests for acute sinusitis." (AHRQ Contract No. 290-97-0019). *Journal of Clinical Epidemiology* 53, pp. 852-862.

The most accurate and cost-effective methods for diagnosing acute sinusitis remain uncertain. This meta-analysis of diagnostic tests for acute sinusitis concluded that many studies were of poor quality, with inadequately described test methods and unblinded test interpretation. Based on sinus puncture/aspiration (considered most accurate), 49 to 83 percent of symptomatic patients had acute sinusitis. Compared with puncture/aspiration, radiography offered moderate ability to diagnose sinusitis. Studies evaluating ultrasonography revealed substantial variation in test performance. The clinical evaluation, including medical history and physical examination findings, had moderate ability to identify patients with positive radiographs. The authors conclude that radiography and clinical evaluation provide useful information for diagnosis of sinusitis. **Editor's note:** This article is drawn from an evidence report prepared for AHRQ by the New England Medical Center Evidence-based Practice Center. Copies of the full report, *Diagnosis and Treatment of Acute Bacterial Rhinosinusitis*, (AHRQ Publication No. 99-E016) and a summary (AHRQ Publication No. 99-E015) are available from AHRQ.*

Freiman, M.P., and Zuvekas, S.H. (2000). "Determinants of ambulatory treatment mode for mental illness." *Health Economics* 9, pp. 423-434.

These authors analyze the determinants of the use of outpatient treatment from the specialty mental health sector along with the determinants of use of psychotropic drugs for

mental conditions for a nationally representative sample of U.S. households. They found significant differences in treatment choice by education, sex, race, and ethnicity, while controlling for several aspects of self-reported mental health and treatment attitudes. For example, although women were more likely than men to use the specialty mental health sector and more likely to take psychotropic medications, this difference between men and women was much greater for psychotropic medications. The authors discuss how the estimated differences may reflect traditional patient preferences and may also reflect biases and misperceptions on the part of patients and providers. They also discuss how results relate to some findings and policies in the general health care sector. Reprints (AHRQ Publication No. 00-R048) are available from AHRQ.**

Grembowski, D.E., Diehr, P., Novak, L.C., and others. (2000, August). "Measuring the 'managedness' and covered benefits of health plans." (AHRQ grant HS06833). *Health Services Research* 35(3), pp. 707-734.

These researchers constructed managed care and benefit variables through analysis of health insurance information for 189 insurance product lines and 755 products in the Seattle area, and linked the variables with data on over 2,000 primary care patients. From the managed care variables, they constructed three provider-oriented indexes for the financial, utilization management, and network domains of health plans.

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Research briefs

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From these, they constructed a single “managedness index,” which correlated as expected with the individual measures, domain indexes, plan type, and independent assessments of local experts, as well as with patients’ attitudes about their health insurance. The researchers also constructed an in-network benefits index and out-of-network benefits index, which they correlated with the “managedness” index. The authors discuss the potential uses of the “managedness” and benefit indexes, which were associated with the personal characteristics and health status of the study patients.

Health Outcomes Methodology Symposium Proceedings. In September 1999, the Agency for Healthcare Research and Quality and the National Cancer Institute jointly sponsored a conference on health outcomes research methodology. The commissioned papers and other presentations from the conference were published recently in a special supplement to *Medical Care*. Four papers supported by AHRQ grants are summarized here. Nearly 20 other papers are contained in the proceedings. See *Medical Care*, 38(9, Suppl II), September 2000.

Hays, R.D., Morales, L.S., and Reise, S.P. (2000). “Item response theory and health outcomes measurement in the 21st century.” (AHRQ grant HS08578). *Medical Care* 38(9), pp. SII28-42.

This authors of this article compared classical test theory (CTT) and item response theory (IRT), two statistical techniques for measuring health outcomes. They found that IRT is superior and is ideally suited for implementing

computer adaptive testing. In addition, IRT can be helpful in developing better health outcomes measures and in assessing change over time.

Patrick, D.L., and Chiang, Y-P. (2000). “Measurement of health outcomes in treatment effectiveness evaluations: Conceptual and methodological challenges.” *Medical Care* 38(9), pp. SII14-25.

Evaluating the effectiveness of medical treatment often incorporates a wide variety of outcomes, such as physical measures, observational measures by clinicians, and patient or self-reports. This paper addresses the conceptual and methodological challenges to valid measurement of health outcomes. The authors point out that modern test theory offers the potential for individualized, comparable assessments and for the careful examination and application of different measurement models. Selection and critique of measures should be based on the intended application and accumulated evidence for that application. Also, validity in use is the most important measurement characteristic for treatment effectiveness. An evaluation of the validity of preference-based measures is particularly important for the interpretation and comparability of outcomes in cost-effectiveness evaluations. The researchers note that the successful translation of research into policy and practice is limited by the extent to which these critical issues are addressed in actual treatment evaluations. Reprints (AHRQ Publication No. 00-R053) are available from AHRQ.**

Tsevat, J. (2000). “What do utilities measure?” (AHRQ grant HS09103). *Medical Care* 38(9), pp. SII160-164.

This paper examines utility measures, which assess the value or desirability of a state of health against an external metric. The most common instruments are the standard reference gamble, time tradeoff, and rating scale. The standard gamble determines the risk of (usually) death that one would be willing to take to improve a state of health. The time tradeoff technique asks how many months or years of life one would be willing to give up in exchange for a better health state. Scores on the standard gamble and time tradeoff can range from 0 to 1.0, where 0 usually represents death and 1 represents excellent or perfect health. The rating scale, perhaps the simplest of the 3, asks the patient to rate his or her health on a scale from 1 to 100. The author describes other utilities as well. The lack of a 1-to-1 relationship between health status and utilities does not compromise their validity when used as quality weights for quality-adjusted life years, according to the authors.

Wu, A.W. (2000). “Quality-of-life assessment in clinical research: Application in diverse populations.” (AHRQ grant HS07824). *Medical Care* 38(9), pp. SII130-135.

This paper addresses the application of quality-of-life assessment in clinical research to diverse populations. These include groups that differ in terms of language, culture, age, sex, education, privilege, and resources, including but not restricted to so-called vulnerable populations. The author reviews common research designs that incorporate measures of health-related quality of life, suggests tests for the equivalence of measures using clinical data, and describes problems that may be

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encountered in applications to diverse populations. The author also examines several assumptions necessary to achieve "universality" of a measure, and explores whether this is attainable by examining research on differences in treatment effectiveness related to race and sex.

Jarvik, J.G., and Deyo, R.A. (2000, September). "Cementing the evidence: Time for a randomized trial of vertebroplasty." (AHRQ grants HS08194 and HS09499). *American Journal of Neuroradiology* 21(8), pp. 1373-1374.

Percutaneous vertebroplasty is a technique for treating low back pain that is gaining popularity in the United States. However, there still are no randomized controlled trials that compare the long-term outcomes of this procedure with a control therapy. This type of plastic surgery to prevent further collapse of the vertebrae, or even possibly restore height, might reduce the pain associated with osteoporotic compression fractures. However, this remains to be proven, according to the authors, who argue for controlled clinical trials of the procedure. They point out that vertebroplasty may well be an effective and even cost-effective method for treating low back pain. If the technique is as good as its promoters suggest, then it should be straightforward

to demonstrate its efficacy in a well-designed trial that addresses if and when vertebroplasty should be done.

Yan, Y., Moore, R.D., and Hoover, D.R. (2000). "Competing risk adjustment reduces overestimation of opportunistic infection rates in AIDS." (AHRQ grant HS07809). *Journal of Clinical Epidemiology* 53, pp. 817-822.

To illustrate the importance of adjusting the estimates of cumulative incidence of AIDS-related illnesses for competing risk of other causes of death, these researchers compared unadjusted and adjusted (for competing events) incidence estimates for four AIDS-related illnesses: *Pneumocystis carinii* pneumonia (PCP), *Mycobacterium avium* complex (MAC), cytomegalovirus (CMV), and esophageal candidiasis, among patients with HIV disease at one hospital between 1989 and 1995. Ratios of 4-year unadjusted incidence estimates to 4-year adjusted incidence estimates for the four diseases ranged from 1.38 to 1.86, corresponding to cumulative death rates of 61 to 69 percent. For CMV, the ratios of 4-year unadjusted to adjusted incidence estimates for five groups of patients ranged from 1.5 to 2.33, corresponding to cumulative death rates of 48 to 78 percent. The researchers conclude that ignoring the competing risk of death can result in substantial overestimation of disease occurrence.

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