



Research Activities

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Physician preference plays a role in breast cancer treatment for women age 65 and older

Nearly 50 percent of new cases of breast cancer and almost two-thirds of the deaths from this disease occur among women 65 years of age or older. Doctors vary greatly in how they treat localized breast cancer, and more than clinical factors influence their treatment decisions. A recent study reveals that whether an older woman receives breast-conserving surgery (BCS) or mastectomy (MST) depends in part on her doctor's treatment preference. With support from the Agency for Healthcare Research and Quality (HS08395), Jeanne S. Mandelblatt, M.D., M.P.H., of the Georgetown University School of Medicine, and her colleagues surveyed a random sample of 1,000 surgeons treating Medicare beneficiaries in fee-for-service settings.

The researchers asked the surgeons whether they would use BCS or MST for two clinical scenarios involving older women with localized breast cancer and whether they would use radiation therapy after BCS in another

scenario. There was no "right" answer for either scenario, since the best treatment was a clinical "toss-up." Surgeons practicing in areas with the highest BCS fees were nearly nine times as likely to choose BCS for the scenarios as surgeons in areas with the lowest fees. After controlling for other factors, surgeons with the strongest beliefs in patient participation in treatment decisions were nearly six times as likely to choose BCS as surgeons with the weakest belief in patient participation.

Male surgeons were more likely to favor MST over BCS than female surgeons. Older and male surgeons were less likely than young or female surgeons to choose radiation therapy after BCS, which is recommended by the National Cancer Institute but not often used in the elderly. Finally, surgeons' treatment preferences in the scenarios were significantly associated with self-reported practice and actual treatments for localized breast

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Breast cancer treatment

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cancer. The researchers conclude that surgeons' treatment preferences explain some of the observed variations in breast cancer treatment patterns among older women.

See "Measuring and predicting surgeons' practice styles for breast cancer treatment in older women," by Dr. Mandelblatt, Christine D. Berg, M.D., Neal J. Meropol, M.D., and others, in the March 2001 *Medical Care* 39(3), pp. 228-242.

Women's Health

Women usually are older than men when they have a heart attack, which may account in part for their higher death rate

The incidence of coronary heart disease in women has increased over the past decade, yet evidence suggests that they typically receive fewer high-technology cardiac procedures than men. Before age 75, women also die in the hospital more often than men after a heart attack. According to a recent study, 29 percent of women and 20 percent of men have died 2 years after a heart attack, a difference that is fully explained by women's older age—about 8 years on average. The study, which was funded by the National Heart, Lung, and Blood Institute, and led by Viola Vaccarino, M.D., Ph.D., of Emory University School of Medicine, analyzed the outcomes of nearly 7,000 heart attack patients discharged from 16 Massachusetts hospitals.

In their study, Dr. Vaccarino and colleagues outlined several possible mechanisms that could contribute to worse outcomes in middle-aged women, including genetic, hormonal, and/or inflammatory factors. However, because the sex-based differences in mortality were independent of clinical severity and other clinical characteristics, the researchers note that nonbiological factors might be involved. These include behavioral, psychological, and social factors such as smoking, adherence to medication regimens, depression, social isolation and lack of support, low income, and emotional stress.

In an editorial accompanying the study, John Z. Ayanian, M.D., M.P.P., of Harvard Medical School, whose work is supported by the Agency for Healthcare Research and Quality (HS09718), notes that there was a higher 2-year mortality rate for women than men before age 60 (11 vs. 7 percent), but that mortality was lower for women than men after age 79 (46 vs. 51 percent). This interaction of age and sex remained a significant predictor of death even after adjustment for numerous demographic and clinical characteristics of patients, as well as the cardiac treatments they received while hospitalized.

Dr. Ayanian discusses the implications of this study for researchers and clinicians. First, the findings should spur the ongoing search for biological, psychosocial, and clinical factors that may contribute to increased mortality after heart attack in women younger than 60 years of age. Second, Dr. Ayanian points to the increasing number of heart attacks in patients 80 years of age and older and cites the need for increased emphasis on reducing the very high mortality rates in both men and women in this age group.

For more information, see "Increased mortality among middle-aged women after myocardial

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Women and heart attacks

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infarction: Searching for mechanisms and solutions,” by Dr. Ayanian, in the February 6, 2001 *Annals of Internal Medicine* 134(3), pp. 239-241.

Editor’s note: For more information on the study discussed in Dr. Ayanian’s editorial, see “Sex differences in 2-year mortality after hospital discharge for myocardial infarction,” by Dr. Vaccarino, Harlan M. Krumholz, M.D., Jorge Yarzebski, M.D., M.P.H., and others, in the same journal, pp. 173-181.

Hormone replacement therapy may improve mental function for some postmenopausal women

Hormone replacement therapy (HRT) improves some areas of mental functioning in women who have menopausal symptoms but has no clear cognitive benefits for asymptomatic women, according to a systematic review of the evidence that was supported in part by the Agency for Healthcare Research and Quality (contract 290-97-0018). The review is part of a comprehensive update on the benefits and risks of HRT being prepared for the U.S. Preventive Services Task Force. The review of studies from 1966 to 2000 included different types and dosages of estrogen with and without progestin.

In women with menopausal symptoms, HRT improved certain areas of cognition in particular, such as verbal memory (ability to recall lists of words, word pairs, or paragraphs), vigilance (ability to sustain attention), reasoning, and motor speed (for example, clerical speed or simple reaction time). In asymptomatic women, HRT did not have any consistent effects on results of formal tests of cognitive function. Although nonexperimental studies suggest a reduced risk of dementia among women who take HRT, methodologic problems in most of these studies prevent drawing strong conclusions about the effects of HRT on dementia.

Such neural and cognitive specificity is not surprising because estrogen receptors are not distributed uniformly throughout the brain, according to the researchers at the Oregon Health Sciences University Evidence-based Practice Center. They reviewed results of 17 studies on the effects of HRT on cognitive decline. Estrogen doses and formulations and duration of use varied.

Asymptomatic postmenopausal women showed no improvement in cognition. However, women suffering from symptoms typical of menopause such as fatigue, depression, sleep difficulty, and hot flashes, improved their verbal memory, vigilance, reasoning, and motor speed, perhaps because the HRT helped them sleep better, improved their mood, and reduced the number of hot flashes they experienced.

A meta-analysis of 12 observational studies suggested that HRT was associated with a 34 percent decreased risk of Alzheimer disease. However, these studies had several methodologic weaknesses—women taking HRT differed in other ways that may have lowered their risk of dementia, data on HRT use may have been inaccurate, and negative studies may have been less likely to be published. Overall, the studies did not contain enough

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Hormone replacement therapy

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information to adequately assess the effects of progestin use, various estrogen preparations or doses, and duration of therapy. The researchers suggest that future studies target

specific cognitive effects of HRT, including its ability to prevent Alzheimer disease. Two large prevention trials are underway that may provide more definitive answers to these questions.

See "Hormone replacement therapy and cognition: Systematic

review and meta-analysis," by Erin S. LeBlanc, M.D., M.P.H., Jeri Janowsky, Ph.D., Benjamin K.S. Chan, M.S., and Heidi D. Nelson, M.D., M.P.H., in the March 21, 2001 *Journal of the American Medical Association* 285(11), pp. 1489-1499.

More women die following c-section than vaginal birth, probably due more to preexisting conditions than the surgery itself

Although reducing maternal deaths following childbirth has been identified as a high priority in recent national research and policy agendas, very little is known about the relationship between method of delivery—cesarean section or vaginal birth—and risk of maternal death following childbirth. Five recent studies have reported conflicting results; three reported a significantly higher death rate among women who underwent c-sections compared with those who had vaginal births, and two others found just the opposite.

A new study that was supported in part by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00034) and conducted by researchers at the University of Washington may shed some light on the issue. It found that women in Washington State who had cesarean deliveries were four times as likely to die a pregnancy-related death following delivery as women who had vaginal deliveries. However, there was no difference in pregnancy-related maternal death rates after adjustments were made for maternal age and severe preeclampsia (a serious complication that occurs late in pregnancy and can lead to convulsions and coma).

According to Mona Lydon-Rochelle, M.P.H., Ph.D., and her colleagues, cesarean delivery may be more of a marker for serious preexisting maternal problems such as preeclampsia that increase maternal risk of death, rather than a risk factor for death in and of itself. The researchers analyzed Washington State

maternally linked birth certificate, hospital discharge, and death certificate data to examine the association between method of delivery and maternal death within 6 months of delivery among women giving birth for the first time.

The rate of women who died from pregnancy-related problems was higher among women who had c-sections than among women who delivered vaginally (10.3 vs. 2.4 per 100,000 women). However, the women who died were more likely than those who survived to have had cardiac, renal, mental health, or severe preeclampsia complications and to have had medically indicated induction or labor. Also, compared with women who delivered vaginally, women who had c-sections were not at a significantly higher risk of death overall after adjustments were made for their age. Nor were they at increased risk of either pregnancy-related death after adjustment for their age and the presence of severe preeclampsia or pregnancy-unrelated death after adjustment for their age and marital status, compared with women who had vaginal deliveries.

More details are in "Cesarean delivery and postpartum mortality among primiparas in Washington State, 1987-1996," by Dr. Lydon-Rochelle, Victoria L. Holt, M.P.H., Ph.D., Thomas R. Easterling, M.D., and Diane P. Martin, M.A., Ph.D., in the February 2001 *Obstetrics & Gynecology* 97(2), pp. 169-174.

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Women and Asians are less likely than other patients with end-stage renal disease to be recommended for kidney transplants

Kidney transplant is the optimal treatment for people with end-stage renal disease (ESRD). These patients typically must stay on renal dialysis until a donor kidney becomes available. For a patient to even be considered for a kidney transplant, their nephrologist must first recommend them as a suitable candidate. However, nephrologists' recommendations are influenced by nonclinical as well as clinical factors, according to a study supported by the Agency for Healthcare Research and Quality (HS08365).

Researchers from Johns Hopkins Medical Institutions, the Independent Dialysis Foundation, and New England Medical Center conducted a national random survey of 271 U.S. nephrologists. Most participants were white and male. The researchers gauged nephrologists' basis for transplant recommendations based on their response to eight unique patient

scenarios in which the characteristics of patients were randomly assigned.

For example, one scenario presented a 52-year-old white male who lived alone, was compliant with treatment, was diabetic, weighed more than 200 pounds, and had no residual kidney function. Another case was a 47-year-old black female who lived alone, was not compliant with treatment, had HIV disease, was not diabetic, weighed less than 200 pounds, and had no residual renal function. All patients had started dialysis within the past 3 months. Nephrologists were less likely to recommend patients with the following clinical characteristics: history of treatment noncompliance, less than 25 percent cardiac ejection fraction (indicative of cardiovascular disease), HIV infection, and weight over 200 pounds.

All clinical factors being equal, white men were almost 2.5 times as

likely as white women and white women were equally as likely as black women to be recommended for transplantation. Asian men were half as likely as white men to be recommended. There were no differences in recommendation rates overall for blacks versus whites. The well-documented black-white disparities in use of renal transplantation documented elsewhere may be due to unaccounted for factors in this study or arise later in the transplantation process. Nephrologists' demographic characteristics, experience, and training did not appear to influence their kidney transplant recommendations.

More details are in "U.S. nephrologists' attitudes toward renal transplantation: Results from a national survey," by Mae Thamer, Ph.D., Wenke Hwang, Ph.D., Nancy E. Fink, M.P.H., and others, in the January 27, 2001 *Transplantation* 71(2), pp. 281-288.

Barriers to enrollment in Medi-Cal lead to inadequate prenatal care for some disadvantaged women in California

About 4 percent of U.S. women who give birth each year either do not get prenatal care until the third trimester of pregnancy or have no prenatal care. This lack of care precludes timely diagnosis and management of maternal and fetal problems that can be more common among medically and sociodemographically disadvantaged women.

Despite expansion of Medi-Cal (California's Medicaid program) eligibility for maternity care coverage to 200 percent of the Federal poverty level (up to \$29,600 for a family of four in 1994), low-income women (incomes less than or equal to 200 percent of poverty) still were more likely than other women to have late or no prenatal care in California, according to findings from a State-wide, representative survey of postpartum women. The study was

supported in part by the Agency for Healthcare Research and Quality (HS07910) and conducted about 5 years after the income-eligibility expansions occurred. Based on data from postpartum interviews, the researchers identified characteristics and major risk factors for late or no prenatal care among 6,364 low-income women.

Women in absolute poverty (incomes up to \$14,800 for a family of four in 1994) were nearly nine times as likely to get no care as women with incomes between 101-200 percent of the Federal poverty level. Women who had more than one child, unmarried women, and women whose pregnancies were unplanned were three times more likely to have no prenatal care. Among women with no care, 42 percent were uninsured,

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Inadequate prenatal care

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despite being income-eligible for Medi-Cal maternity care coverage. Over 40 percent of the uninsured women who lacked care had applied for Medi-Cal maternity care coverage during pregnancy but either were denied coverage or did not complete their application. Race and education level did not seem to influence prenatal care initiation, and problems with child care and transportation were not significant barriers to care.

The results strongly suggest that barriers and/or missed opportunities need to be addressed within the

Med-Cal application process itself, according to Paula Braveman, M.D., M.P.H., of the University of California, San Francisco, and her colleagues. In addition to eliminating barriers to prenatal coverage, policies to reduce late/no care should focus on prepregnancy factors such as family planning and poverty reduction, rather than on logistical barriers during pregnancy.

See "Risk factors for late or no prenatal care following Medicaid expansions in California," by Melissa Nothnagle, M.D., Kristen Marchi, M.P.H., Susan Egerter, Ph.D., and Dr. Braveman, in *Maternal and Child Health Journal* 4(4), pp. 251-259, 2000.

Designating ob-gyns as primary care physicians could affect how medical services are provided to elderly women

Federal legislation has recently been proposed to designate obstetrician-gynecologists (ob-gyns) as primary care physicians. Many managed care programs already allow women to see their ob-gyns for routine gynecologic care without referrals. Few studies have measured the degree to which ob-gyns already provide primary care and have focused mostly on surveys of women in their reproductive years. A recent study of elderly women reveals that most ob-gyns in Washington State in 1994 provided very little nongynecologic care to elderly women, a finding consistent with other studies examining the scope of ob-gyns' practices.

Designating ob-gyns as primary care providers could affect the way general medical services are delivered to elderly women. Many elderly women may have nongynecologic medical conditions that require treatment and

monitoring. If most ob-gyns do not routinely provide these services, these women will require referral to medical specialists. This could lead to increasing costs, inconvenience, and fragmentation of care, according to the researchers.

In a study cosponsored by the Agency for Healthcare Research and Quality (290-93-0136), the Office of Rural Health Policy, and the Robert Wood Johnson Foundation, the researchers examined the degree to which ob-gyns in the State of Washington offered primary care to elderly women in 1994. They used Medicare claims data for Washington residents to identify visits made by women 65 years of age and older to ob-gyns and nine other types of specialists.

About 12 percent of visits made by elderly women to ob-gyns had nongynecologic diagnoses. The median percentage of

nongynecologic visits for individual ob-gyns was 7 percent. Patients who saw ob-gyns received over 15 percent of their overall health care from an ob-gyn compared with the 43 percent of total health care received by elderly women who saw family physicians. The researchers recommend studies to evaluate how the practices of ob-gyns have changed since the 1996 initiation of ob-gyn residency requirements for primary care, as well as studies on the impact of how Federal legislation designating ob-gyns as primary care doctors affects the health care received by elderly women.

More details are in "The role of gynecologists in providing primary care to elderly women," by Kenneth S. Fink, M.D., M.G.A., Laura-Mae Baldwin, M.D., M.P.H., Herschel W. Lawson, M.D., and others, in the February 2001 *Journal of Family Practice* 50(2), pp. 153-158.

Clinical Decisionmaking

Tissue prostheses may be better than mechanical ones for elderly patients undergoing aortic valve replacement

With the declining incidence of rheumatic valve disease, aortic valve replacement (AVR) is now performed primarily for degenerative valve disease in increasingly older patients. Unlike younger people, elderly men and women who need an AVR would benefit more from tissue valves than the mechanical valves which are commonly used in elderly patients, according to a study supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00070).

Prior studies have shown that long-term survival after AVR is similar for patients receiving tissue and mechanical aortic heart valve prostheses. In these cases, the higher bleeding rates among patients with durable mechanical valves, who must receive permanent oral anticoagulation (blood thinners) to prevent blood

clots (thromboembolism), were offset by higher reoperation rates for valve degeneration among patients with tissue valves.

However, these researchers found that for 70-year-old patients, currently the mean age of those undergoing AVR, the effects of major bleeding complications with mechanical valves (24 percent) substantially outweighed those of reoperation for tissue valve failure (12 percent) at 12 years. Lead author, Nancy J.O. Birkmeyer, Ph.D., of Dartmouth-Hitchcock Medical Center, and her colleagues used a model to simulate the occurrence of valve-related events and life expectancy for patients undergoing AVR. They derived the probabilities of clinical events and mortality from several randomized clinical trials and large followup studies.

The researchers found that both valve types were associated with similar life expectancy in 60-year-

old patients (mean age of patients in the clinical trials), but that tissue valves were associated with greater life expectancy in 70-year-old patients (11.1 vs. 10.7 years). This was probably related to risks of anticoagulation-related bleeding that increase with age. Also, tissue valve failure, which typically occurs 10 to 15 years after valve implantation, may be of lesser concern for older patients, who have lower valve failure rates and shorter life expectancies.

For more details, see "Prosthetic valve type for patients undergoing aortic valve replacement: A decision analysis," by Dr. Birkmeyer, John D. Birkmeyer, M.D., Anna N.A. Tosteson, Sc.D., and others, in the December 2000 *Annals of Thoracic Surgery* 70, pp. 1946-1952.

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Researchers compare strategies for treating elderly patients who have an infected hip prosthesis

Total hip replacement (THR) is often used for people suffering from the pain and dysfunction caused by arthritis of the hip. Infection of the hip prosthesis has been reported in about 1 percent of people who undergo THR. Exchange arthroplasty—surgical removal and replacement with another hip prosthesis—is often advocated, but this approach involves two major surgical procedures, often results in complications, and is costly.

Another approach is debridement (surgical cleaning and removal of infected tissue) of the infected prosthesis, but this is associated with high rates of reinfection. Nevertheless, debridement rather than replacement of a nonloosened, infected hip prosthesis is a better approach for elderly and frail elderly patients, concludes a study supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00020).

The researchers found that debridement and retention of the infected prosthesis for these patients was associated with 2.2 to 2.6 more months in quality-adjusted life expectancy than replacement of the prosthesis in all groups. This is similar to the life expectancy gains with chemotherapy for non-small-cell lung cancer and the use of beta-blockers by men who have survived a heart attack, notes David N. Fisman, M.D., of Beth Israel Deaconess Medical Center in Boston.

Dr. Fisman and colleagues developed a model to simulate the initial management, clinical course, and later complications of an infected hip prosthesis to evaluate the cost-effectiveness of these two strategies—two-stage exchange arthroplasty or open debridement of the hip prosthesis followed by 6 weeks of antibiotic therapy—for managing infected THRs in hypothetical groups of 65-year-old men and women and frail 80-year-old men and women.

For 65-year-old men, a strategy of debridement and retention increased total lifetime costs by \$3,600 and increased quality-adjusted life expectancy by 2.2 months, resulting in an incremental cost-effectiveness ratio of \$19,700 per quality-adjusted life year (QALY) gained compared with initial hip replacement. Results were similar for 65-year-old women, for whom debridement and retention cost \$21,800 per QALY gained. This same strategy for the frail elderly groups was associated with an incremental cost-effectiveness ratio of \$500 per QALY for men and \$8,200 per QALY for women.

For more details, see “Clinical effectiveness and cost-effectiveness of 2 management strategies for infected total hip arthroplasty in the elderly,” by Dr. Fisman, Donald T. Reilly, Adolf W. Karchmer, and Sue J. Goldie, in the February 1, 2001 *Clinical Infectious Diseases* 32(3), pp. 419-430.

Sophisticated imaging tests and specialty care usually are not necessary to evaluate and manage acute low back pain

Two out of three people will develop low back pain at some point in their lives. While low back pain rarely indicates a serious disorder, it is a major cause of pain, disability, and lost social life, and it accounts for one-third of workers' compensation costs. The good news is that 75 to 90 percent of patients who see primary care doctors for acute low back pain report improvement within a month.

Steven J. Atlas, M.D., M.P.H., of Harvard Medical School, and Richard A. Deyo, M.D., M.P.H., of

the University of Washington, recently reviewed studies outlining approaches to the evaluation and management of acute low back pain in the primary care setting. Their study was supported in part by the Agency for Healthcare Research and Quality (HS06344, HS08194, and HS09804).

Drs. Atlas and Deyo point out that most back symptoms are nonspecific, and the precise cause of low back pain is rarely identified. Furthermore, most episodes of acute, nonspecific low back pain are self-limited. In fact,

many patients treat themselves without seeing a doctor. When they do see a doctor, a medical history and examination usually provide clues to the rare but potentially serious causes of low back pain and identify patients who are at risk for prolonged recovery.

Imaging and laboratory tests should not be routinely ordered for these patients. Rather, selective use of tests should be based on the history and physical examination and the patient's initial response to treatment. In fact, the primary emphasis of treatment should be

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Acute low back pain

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conservative care, time, reassurance, and education.

Current recommendations focus on activity as tolerated (though not active exercise while pain is severe) and minimal if any bed rest.

Referral for physical treatments is most appropriate for patients whose

symptoms are not improving over 2 to 4 weeks. Specialty referral should be considered for patients with a progressive neurologic deficit, failure of conservative therapy, or an uncertain but potentially serious diagnosis. The prognosis for most patients is good, although recurrence is common. Educating patients about the

natural history of low back pain and how to prevent future episodes can help ensure reasonable expectations.

See "Evaluating and managing acute low back pain in the primary care setting," by Drs. Atlas and Deyo, in the February 2001 *Journal of General Internal Medicine* 16(2), pp. 120-131.

Researchers examine the use of antibiotics to treat acute respiratory infections in otherwise healthy adults

Up to 75 percent of the antibiotics prescribed each year are for upper respiratory tract infections. Yet most of these prescriptions are unnecessary, since most respiratory tract infections are caused by viruses and are unaffected by antibiotics. Unnecessary use of antibiotics contributes to antibiotic-resistant strains of bacteria, which then require even stronger antibiotics to treat.

These antibiotic-resistant bacteria have multiplied to create a situation in the United States in which current antibiotics may soon be ineffective in treating resistant strains of serious illnesses such as bacterial pneumonia or meningitis. Strategies aimed at reducing community use of antibiotics need to address the management of acute respiratory infections.

The Centers for Disease Control and Prevention (CDC) recently convened a panel of physicians—representing the disciplines of internal medicine, family medicine, emergency medicine, and infectious diseases—to develop a series of evidence-based recommendations for appropriate antibiotic use for treatment of acute respiratory tract infections in otherwise healthy adults. The approach taken by the panel of

physicians and recommendations for appropriate antibiotic use for uncomplicated bronchitis and pharyngitis are detailed in three position papers, which are described here.

This research was supported in part by the Agency for Healthcare Research and Quality (National Research Service Award fellowship F32 HS00134).

Gonzales, R., Bartlett, J.G., Besser, R.E., and others. (2001, March). "Principles of appropriate antibiotic use for treatment of acute respiratory tract infections in adults: Background, specific aims, and methods." *Annals of Internal Medicine* 134, pp. 479-486.

The recommendations for evaluating and treating otherwise healthy adults with acute respiratory tract infections originated from a review of the pertinent research literature through March 2000 by a multidisciplinary panel of physicians. After analyzing and interpreting the studies, they completed several draft recommendations, which were eventually endorsed by the American Academy of Family Physicians, American College of Physicians-American Society

of Internal Medicine, CDC, and the Infectious Diseases Society of America. The basic theme of the recommendations is that antibiotics not be routinely prescribed for acute respiratory tract infections in healthy adults.

Recommended practices provide clinicians with practical strategies for limiting antibiotic use to the patients who are most likely to benefit from it. For most healthy adults, the best treatment for bronchitis, sinusitis, pharyngitis (sore throat), and nonspecific upper respiratory tract infections is over-the-counter cold remedies and salt water gargles to relieve symptoms. These principles should be used in conjunction with effective patient education campaigns and enhancements to the health care delivery system that facilitate nonantibiotic treatment of these conditions.

Gonzales, R., Bartlett, J.G., Besser, R.E., and others. (2001, March). "Principles of appropriate antibiotic use for treatment of uncomplicated acute bronchitis: Background." *Annals of Internal Medicine* 134, pp. 521-529.

Uncomplicated acute bronchitis in healthy adults is an acute

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Acute respiratory infections

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respiratory tract infection chiefly characterized by a cough with or without phlegm. Evaluation of these adults should focus on ruling out serious illness, particularly pneumonia. In healthy, nonelderly adults, pneumonia is uncommon in the absence of vital sign abnormalities or asymmetrical lung sounds, and chest x-rays usually are not indicated. In patients with a cough lasting 3 weeks or longer, chest x-rays may be warranted in the absence of other known causes of the cough, recommend the panel of physicians. They do not recommend routine antibiotic treatment of uncomplicated acute bronchitis, regardless of duration of the cough. If pertussis (whooping cough) infection is suspected (an unusual circumstance), a diagnostic test should be performed and antibiotic therapy initiated.

Patients frequently expect to receive antibiotics for acute bronchitis, but not getting antibiotics is not the important issue. Instead, the doctor spending enough time with them and explaining the illness and treatment plan has a stronger relationship to satisfaction, according to this study. Doctors should provide realistic expectations for the duration of the patient's cough, which will typically last 10 to 14 days after the office visit; refer to the illness as a "chest cold" rather than bronchitis; and personalize the risk of unnecessary antibiotic use. This risk ranges from allergic reactions to the medication to gastrointestinal

discomfort, yeast infections, and drug-drug interactions. Doctors also should mention the need for restraint in prescribing antibiotics and the current epidemic of antibiotic resistance. Management of patients with acute bronchitis with underlying chronic obstructive pulmonary disease, congestive heart failure, or compromised immune systems must be tailored in light of these problems.

Snow, V., Mottur-Pilson, C., Cooper, R.J., and others. (2001, March). "Principles of appropriate antibiotic use for acute pharyngitis in adults." *Annals of Internal Medicine* 134, pp. 506- 508.

Acute pharyngitis (sore throat) accounts for 1 to 2 percent of all visits to outpatient departments, physician offices, and emergency departments, and viruses are the most common cause. About 5 to 15 percent of adult cases are caused by group A beta-hemolytic streptococcus (GABHS), so-called strep throat. Antibiotics are prescribed to many patients with acute pharyngitis because of perceived patient expectations or physician desire to avoid such potential but rare strep-related complications as rheumatic fever and acute glomerulonephritis (kidney inflammation). However, according to the panel of physicians, doctors should not routinely prescribe antibiotics for healthy adults with acute pharyngitis who have no history of rheumatic fever, valvular heart disease, compromised immune system, or chronic pharyngitis. Instead, doctors should offer these

patients analgesics, antipyretics (fever-reducing medications), and other supportive care.

The goal of the diagnostic evaluation should be to predict which patients have a high likelihood of GABHS pharyngitis or strep throat. Unfortunately, the results of throat cultures differ when checked at 24 or 48 hours, and they cannot distinguish acute infection from the carrier state. The panel recommends use of clinical criteria alone or the use of rapid antigen testing as an adjunct to clinical screening. Each strategy is associated with 70 percent or greater sensitivity and specificity and allows treatment decisions to be made early in the course of illness to provide patients with symptom relief.

Doctors should initiate antibiotic treatment of adults who have at least three of four clinical criteria: history of fever, tonsillar exudate, tender anterior cervical lymphadenopathy, and absence of cough, all of which are associated with GABHS pharyngitis. Another approach is to initiate antibiotic treatment of adults with all four clinical criteria, rapid antigen testing of patients with three (or perhaps two) clinical criteria followed by treatment of those with positive test results, and nontreatment of all others. The preferred antibiotic agent for treatment of acute GABHS pharyngitis is penicillin or erythromycin in penicillin-allergic patients.

Quality of Care

Better ratings of the patient-provider relationship are associated with higher quality of care for depression

The interpersonal patient-provider relationship (PPR) is a critical element of health care quality, especially for patients suffering from depression. Depressed patients are more likely to disclose concerns and details about their illness when the doctor asks them about specific problems such as depression, shows empathy, discusses treatment choice, and listens well, all elements of quality PPR. RAND researchers used data from the Partners in Care (PIC) Study to examine the relationship between patient ratings of interpersonal PPR and both satisfaction with health care and technical quality of care among a sample of depressed primary care patients.

This study, supported by the Agency for Healthcare Research and Quality (HS08349) and the Robert Wood Johnson Foundation, involved 1,104 depressed patients who visited providers at six managed care organizations. The correlation between satisfaction and interpersonal PPR was moderate, implying they are distinct but related elements. Ratings of satisfaction and PPR tended to be high overall, while technical quality scores were low to moderate. Thus, satisfaction

and PPR ratings also reflect something other than technical quality. In routine monitoring of care, therefore, such measures may convey a broader consumer perspective that technical quality measures do not capture.

Patients receiving higher technical quality of care for depression, especially appropriate medication use, had significantly higher ratings of the PPR and were more satisfied with their care than patients who received lower technical quality of care. The researchers point out that additional research is needed to determine whether patient ratings are causally linked to quality of care over time and clarify their relationship to health plan enrollment and disenrollment decisions.

More details are in "Are better ratings of the patient-provider relationship associated with higher quality care for depression?" by Lisa S. Meredith, Ph.D., Maria Orlando, Ph.D., Nicole Humphrey, M.H.S.A., and others, in the April 2001 *Medical Care* 39(4), pp. 349-360.

ICU patients need to feel safe, a feeling that is influenced by family, friends, ICU staff, and other factors

Patients who are admitted to an intensive care unit (ICU) are seriously ill and often very frightened. It is not surprising then that the overwhelming need of ICU patients is to feel safe, according to a study supported by the Agency for Healthcare Research and Quality (National Research Service Award fellowship F32 HS00094). Nurses can intervene in many ways to foster the feeling of safety in these critically ill patients, says Judith E. Hupcey, R.N., Ed.D., C.R.N.P., of the Pennsylvania State University School of Nursing.

Dr. Hupcey conducted unstructured tape-recorded interviews with 45 critically ill adults, who stayed at least 3 days in the medical or surgical ICU of a large rural hospital. She interviewed them once they were stable in the ICU or immediately following their transfer to a general unit. Dr. Hupcey then analyzed the tapes to develop a model of the psychosocial needs of ICU patients.

ICU patients said that the perception of feeling safe was influenced by family and friends, ICU staff, religious beliefs, and

the perception that they knew what was happening to them and they were regaining control. For example, if patients felt a loss of control during periods of confusion or they lost trust in the staff, they felt unsafe. Knowing what was happening to them provided reassurance and appeared to help ICU patients "get through a terrible experience." Those who said they did not know or understand their situation began to refuse treatments, fight with the staff, and feel frightened. Some even became

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ICU patients

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paranoid that the staff were “out to get them.”

Patients spent enormous amounts of energy trying to pull the pieces of the ICU experience together. At times, families were the source of this information.

Patients in families that withheld information from them said they listened to the nurses and physicians during rounds to try to piece together what was happening to them. Nurses can work closely with family members to build trusting relationships with patients and families, and they can include

family members as part of the team. Family members in turn can help to provide support for patients.

See “Feeling safe: The psychosocial needs of ICU patients,” by Dr. Hupcey, in the *Journal of Nursing Scholarship* 32(4), pp. 361-367, 2000.

Advance directives improve patient satisfaction but do not ensure compliance with end-of-life treatment wishes

The purpose of advance directives (ADs) is to ensure that doctors and family members know a patient’s end-of-life treatment decisions in the event the patient becomes incapacitated and unable to articulate his or her wishes. Although ADs are reassuring to patients who write them, they do not ensure that a patient’s end-of-life wishes will be followed, according to three recent studies supported by the Agency for Healthcare Research and Quality.

The first study (AHRQ grant HS07632) found that discussions about ADs improved the care satisfaction of elderly patients with chronic illnesses. Unfortunately, these “instructional” ADs often did not prompt family members to make decisions that accurately reflected the patients’ wishes at the end of life, according to a second study (AHRQ grant HS08180). On the other hand, ADs did prompt emergency and critical care physicians, but not patients’ primary care doctors, to make more accurate end-of-life treatment decisions, according to a third study (AHRQ grant HS08180). The three studies are summarized here.

Tierney, W.M., Dexter, P.R., Gramelspacher, G.P., and others. (2001, January). “The effect of discussions about advance directives on patients’ satisfaction with primary care.” *Journal of General Internal Medicine* 16, pp. 32-40.

Barriers ranging from time constraints and communication difficulties to physicians’ anxiety about patients’ reactions constrain doctor-patient communication about advance directives. However, these researchers found that patients want to have such discussions. Elderly patients with chronic illnesses who discussed ADs with their doctors were more satisfied with their primary care physicians (PCPs) and outpatient visits than those who had no AD discussions. This was after adjustment for other doctor, patient, and medical visit factors that influence care satisfaction. Doctors should initiate AD discussions and overcome communication barriers that might lead to patient dissatisfaction, suggest the researchers.

They studied 686 elderly patients involved in a randomized, controlled trial of computer reminders to increase discussions of end-of-life care and

advance directives among clinicians and patients. This study was performed in a general internal medicine practice where 87 PCPs either did or did not receive computer reminders to discuss ADs with their elderly, chronically ill patients. The investigators assessed patient satisfaction with their PCP and medical visits via patient interviews held in the waiting room after completed visits. The strongest predictor of satisfaction with the primary care visit was ever having previously discussed ADs with their current PCP. The percentage of patients scoring a visit as “excellent” increased from 34 percent for visits without AD discussions to 51 percent for visits with such discussions.

Ditto, P.H., Danks, J.H., Smucker, W.D., and others. (2001, February). “Advance directives as acts of communication.” *Archives of Internal Medicine* 161, pp. 421-430.

ADs do not ensure that family members will make end-of-life treatment decisions that accurately reflect patients’ wishes as outlined in their AD, according to the results of this study. The researchers randomized 401 elderly outpatients

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Advance directives

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and their self-designated surrogate decisionmakers (62 percent spouses, 29 percent children) to one of five experimental conditions. In the control group, family members predicted patients' preferences for four life-sustaining medical treatments in nine illness scenarios without the benefit of a patient-completed AD. The researchers compared the accuracy of family surrogate predictions in this group with that in four intervention groups in which surrogates made predictions after reviewing either a scenario-based or a value-based directive completed by the patients and either discussing or not discussing the contents of the AD with them.

In the scenario-based AD, patients indicated their preferences about life-sustaining treatments in each of several medical scenarios. These ranged from extremes such as coma with no chance of recovery and terminal cancer with pain to current state of health. In the value-based AD, patients generated a list of activities they believed to be so important to their well-being that they would not want to live if they were no longer able to engage in them. Despite confidence of patients and family members that they could accurately carry out the patients' wishes, family members without the benefit of an AD inaccurately predicted patients' desires to receive life-sustaining treatment in about 3 of every 10 decisions.

In other words, family members' predictions of what the patient would want were correct less than 70 percent of the time. Family members were two to three times as likely to make errors of overtreatment as undertreatment—that is, okaying life-sustaining treatment the patient wouldn't have wanted in that circumstance. Surprisingly, none of the AD interventions, including discussion of written ADs, improved the accuracy of the family members' medical decisions in any illness scenario or for any medical treatment. These findings clearly challenge current policy and law advocating ADs as a way to honor specific patient wishes at the end of life.

Coppola, K.M., Ditto, P.H., Danks, J.H., and Smucker, W.D. (2001, February). "Accuracy of primary care and hospital-based physicians' prediction of elderly outpatients' treatment preferences with and without advance directives." *Archives of Internal Medicine* 161, pp. 431-440.

Advance directives do not improve the likelihood that end-of-life-treatment decisions by primary care providers will accurately reflect the wishes of their elderly patients. However, ADs apparently do increase the accuracy of treatment decisions by hospital-based physicians, according to this study. The researchers compared the accuracy with which primary care doctors and emergency/critical care doctors predicted patients'

treatment preferences in nine hypothetical illness scenarios. The physicians made substituted judgments after being provided with no patient AD, a patient's value-based AD (decisions based on whether the patient could still do certain valued activities), or a patient's scenario-based AD (circumstances in which death was preferable—for example, coma with no hope of recovery).

For PCPs, neither type of AD improved the accuracy of substituted judgments over not having the patient's AD. However, when hospital-based physicians had a scenario-based AD, they improved the accuracy of their decisions over no AD and made fewer overtreatment errors (opting for life-sustaining treatments the patient did not want). Without the use of ADs, these doctors were more likely to overtreat perhaps presuming that in an emergency, everything should be done to preserve life.

Given these findings, ADs should be available and easily accessible in an emergency situation and, when clinically appropriate, should be reviewed by hospital-based doctors providing care to acutely ill patients. Indeed, as primary care physicians delegate their care of seriously ill patients to hospital-based physicians, more decisions about initiation of life-sustaining treatments will be made by doctors who do not know the patient, explain the researchers.

Primary Care

Medicare waivers alone are insufficient to improve use of primary care by poor and elderly blacks

In 1979, the Health Care Financing Administration granted Medicare waivers to five cities to implement a demonstration called the Municipal Health Services Program (MHSP), which set up MHSP clinics similar to community health centers. The purpose was to provide more primary and preventive care services to inner city, elderly, Medicare enrollees by eliminating financial barriers that may have limited access to services.

The waiver eliminated payment of part-B deductibles and coinsurance that Medicare patients usually must pay and covered ancillary services not normally covered by the Medicare program, such as prescription drugs, dental services, and optometry. Despite these incentives, the clinics set up by the waiver were not able to overcome the tendency of black elderly urban patients to use less primary care than their white counterparts.

Other barriers to primary care for racial minorities may need to be addressed, such as assistance with transportation and child care, expansion of office hours, and reduction of waiting time, suggests Jayasree Basu, Ph.D., of the Center for Primary Care Research, Agency for Healthcare Research and Quality.

During the 1987-1989 study period, the 14 MHSP clinics provided better access to Medicare patients who were poor enough to also be eligible for Medicaid

than to patients who were not eligible for both programs. Among those eligible for both programs, MHSP clinics provided better access to care to minority patients than to white patients.

However, patients who were eligible for both programs also used more ancillary services than all Medicare patients and those who were eligible only for Medicare. Half of patients eligible for both Medicare and Medicaid compared with 44 percent of all Medicare patients used clinics solely for ancillary care. This suggests a lower propensity among poor Medicare beneficiaries to use clinics for primary care services than for ancillary services. For instance, 72 percent of poor Medicare patients compared with 78 percent of all Medicare patients who visited primary care doctors at the MHSP clinics saw them more than twice during 1987-1989.

Overall, whites and minorities accounted for 37 percent and 63 percent of visits for ancillary care and 56 percent and 44 percent of visits for primary care, respectively.

More details are in "Access to primary care: The role of race and income," by Dr. Basu, in the April 2001 *Journal of Health & Social Policy* 13, pp. 57-73. Reprints (AHRQ Publication No. 01-R043) are available from AHRQ.**

Primary care residents' practice style predicts their referral of patients to specialty care

Nearly 5 percent of patient visits to a primary care provider result in a referral to a specialist. Physician practice style as well as patient factors such as age and health status influence these referrals. In fact, a new study by University of California, Davis researchers found that primary care residents with a technically oriented style of care were more likely than other residents to refer patients to specialty clinics.

With support from the Agency for Healthcare Research and Quality (HS06167), Klea D.

Bertakis, M.D., M.P.H., and her colleagues analyzed the influence of patient factors (sociodemographic characteristics, such as age, sex, race, and income; self-reported health status; and number of primary care visits) and primary care resident practice style on patient referrals to specialists. They randomly assigned 509 new adult patients to residents at a university medical center and monitored patient referrals for 1 year of care.

Patients who were referred to specialty care were significantly

older, had poorer physical health, and saw their primary care doctors more often than patients who were not referred. About 13 percent of the variance in medical specialty referrals was explained by these factors. However, after controlling for these patient factors, visits to a resident physician who had a technically oriented style of care was associated with a greater total number of referrals to specialty clinics. Together, these factors accounted for 18 percent of the variation in total specialty referrals.

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Primary care residents

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An exception was referral to a mental health specialty clinic, which was predicted only by the number of primary care visits and the physician's psychosocial style of care (a doctor who discusses

with the patient his or her interpersonal relations or current emotional state). The influence of residents' practice style on referral patterns is important because professional practice style is shaped during residency training and may be expected to influence future referral patterns.

More details are in "Predictors of patient referrals by primary care residents to specialty care clinics," by Dr. Bertakis, Edward J. Callahan, Ph.D., Rahman Azari, Ph.D., and John A. Robbins, M.D., M.H.S., in the March 2001 *Family Medicine* 33(3), pp. 203-209.

Long-Term Care

Educational program for controlling chronic pain cuts nursing home NSAID use by 70 percent

Training nursing home doctors and nursing staff to treat chronic pain from osteoarthritis and other disorders through safer means than nonsteroidal antiinflammatory drugs (NSAIDs) could reduce the incidence of drug-induced complications and even death in elderly residents without increasing their pain and disability, according to a new study sponsored by the Agency for Healthcare Research and Quality (HS07768). The study involved an educational program that provided instructions for substituting acetaminophen for NSAIDs, as well as for using topical agents, such as salicylic acid and capsaicin creams, and nondrug therapies like stretching and strengthening exercises. Although acetaminophen is no more effective than NSAIDs, it does not cause the complications sometimes associated with NSAIDs, which include peptic ulceration and gastrointestinal bleeding.

An estimated 45 to 80 percent of nursing home residents suffer from chronic pain. Although guidelines for the initial management of osteoarthritis recommend prescribing acetaminophen and using nondrug treatments, use of NSAIDs in nursing homes remains high.

Researchers led by Wayne A. Ray, Ph.D., of Vanderbilt University School of Medicine, found that in the 3 months following initiation of the program, use of NSAIDs decreased by approximately 70 percent without compromising pain control. The average number of days a week nursing home residents used NSAIDs declined from 7 at the start of the study to 1.9 3 months later when the study ended. By comparison, average use of NSAIDs among residents of facilities not provided the educational program declined from 7 days to only 6.2 during the same period. The decrease in NSAID use was accompanied by a significant increase among study subjects in the use of acetaminophen. Three months after the program began,

acetaminophen was used by study subjects an average of 5.1 days a week and by the control group 2.1 days a week.

Physicians and nursing staff also were given an algorithm (treatment flowchart) for stopping NSAID use, substituting 650 mg of acetaminophen three times a day and, if needed, at bedtime. The algorithm included suggestions for continual re-evaluation of the resident's pain and measures to follow if the pain was not adequately controlled.

The size of the study did not permit the researchers to determine if the reduction in NSAID use achieved by their educational intervention led to a decrease in gastrointestinal complications. However, they believe that in the long term, such a program could be expected to reduce the risk of gastrointestinal morbidity and mortality and decrease the costs of investigation, treatment, and prevention of NSAID complications. The randomized controlled trial (RCT) involved 20 Tennessee nursing homes and 147 residents age 65 and older who took NSAIDs regularly.

For details, see "An educational program for nursing home patients and staff to reduce use of non-steroidal anti-inflammatory drugs among nursing home residents: A randomized controlled trial," by C. Michael Stein, M.B., Ch.B., Marie R. Griffin, M.D., M.P.H., Jo A. Taylor, R.N., M.P.H., and others, in the May 2001 *Medical Care* 39, pp. 436-445.

Editor's note: These authors reported similar findings from an RCT involving NSAID use among community-dwelling elderly people. For the results of that study (also supported in part by AHRQ grant HS07768), see "Educational program for physicians to reduce use of non-steroidal anti-inflammatory drugs among community-dwelling elderly persons," by Dr. Ray, C. Michael Stein, M.B., Ch.B., Victor Byrd, M.D., and others, in the May 2001 *Medical Care* 39, 425-435.

Health Care Costs and Financing

Proposed Medicare drug benefit plans with high cost-sharing and no catastrophic coverage may not help the sickest patients

Prescription drugs can be life-saving for elderly people with chronic diseases such as hypertension, yet the basic Medicare benefits package lacks drug coverage. About two-thirds of Medicare beneficiaries have supplemental drug coverage from some source, but one-third have no coverage for drugs.

A recent study shows that Medicare beneficiaries with hypertension (high blood pressure) who did not have supplemental drug coverage consistently obtained fewer prescription drugs to lower blood pressure and paid more out-of-pocket for the medications they did get. In the study supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00020), Harvard Medical School researchers examined the influence of different types of private and public drug coverage on costs of antihypertensive medications and drug use by a 1995 national sample

of Medicare beneficiaries with hypertension.

Medicare enrollees in State drug coverage programs had the highest drug use, and those in Medicare fee-for-service (FFS) plans had the lowest overall drug use. In the middle were employer-sponsored, Medicaid, and self-purchased drug coverage groups. Although they had similar illness profiles, elderly people with drug coverage through Medicare FFS plans spent on average \$586 on all drugs compared with \$1,094 spent by those in State programs and \$1,001 by those with Medicaid drug coverage, \$956 for those with employer-sponsored coverage, \$836 for those with self-purchased coverage, and \$672 for those with private insurance but no drug coverage.

Predictably, the Medicaid and State drug coverage groups paid much less out-of-pocket for medications (24 percent and 31 percent, respectively) than did the Medicare FFS-only group (95

percent) and the private insurance group without drug coverage (95 percent). Those with employer, State, and Medicaid drug coverage purchased a higher average number of antihypertensive tablets during the year than did those with private insurance without drug coverage or with self-purchased drug coverage. The Medicare FFS-only group purchased the fewest tablets during the year. The researchers conclude that proposed Medicare drug coverage benefit plans with high cost-sharing but no catastrophic coverage are unlikely to protect chronically ill and low-income beneficiaries from the high cost of prescription drugs.

See "Use of antihypertensive drugs by Medicare enrollees: Does type of drug coverage matter?" by Alyce S. Adams, Ph.D., Stephen B. Soumerai, Sc.D., and Dennis Ross-Degnan, Sc.D., in the January-February 2001 *Health Affairs* 20(1), pp. 276-286.

Costs are about the same for generalists and specialists who treat patients with chronic heart problems

Expenditures for elderly Medicare patients with coronary artery disease (CAD) are higher when their principal care doctor is a cardiologist rather than a generalist. However, this is only when the cardiologist treats patients who have serious and costly heart problems, such as myocardial infarction (heart attack) or unstable angina. Costs are about the same for cardiologists and generalists who are treating patients with chronic heart problems. Also, the presence of coexisting illnesses doesn't seem to influence expenditures. These are the findings of a study by researchers at the Johns Hopkins University,

the Indian Health Service at Chinle, AZ, and the Agency for Healthcare Research and Quality.

The researchers examined the physician type (cardiologist or generalist) and expenditures for over 250,000 elderly patients with CAD drawn from a 5 percent national sample of 1992 Medicare beneficiaries. Patients in the cardiologist group had lower numbers of coexisting illnesses (comorbidity) and higher severity of CAD than those in the generalist group.

Overall mean expenditures were significantly higher for the cardiologist group than for the generalist group

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Costs for treating chronic heart problems

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(\$7,658 vs. \$6,047), and these differences were evident at all levels of comorbidity. Patients with acute myocardial infarction or unstable angina seen by cardiologists incurred more expenses than those seen by generalists (mean of \$15,378 vs. \$12,260), probably because cardiologists tend to treat these patients more aggressively. However, the mean expenditures for patients with only chronic CAD conditions were similar (\$4,856 vs. \$4,745).

Allowing patients with CAD, whether acute or chronic, to choose a cardiologist as their principal care provider may cost managed care organizations little, if

anything, extra and may increase patient satisfaction, conclude the researchers. They suggest that patients and payers consider coexisting illnesses and severity of CAD when evaluating the potential trade-offs between additional costs and benefits that may derive from specialty care.

More details are in "Specialty of principal care physician and Medicare expenditures in patients with coronary artery disease: Impact of comorbidity and severity," by Robert L. McNamara, M.D., M.H.S., Neil R. Powe, M.D., M.P.H., M.B.A., David R. Thiemann, M.D., and others, in the March 2001 *American Journal of Managed Care* 7(3), pp. 261-266. Reprints (AHRQ Publication No. 01-R058) are available from AHRQ.**

Market pressures prompt children's hospitals to develop new relationships with doctors and other health care organizations

Although they constitute less than 1 percent of all hospitals in the United States, children's hospitals provide care for about 12 percent of all hospitalized children and training for about 25 percent of all pediatricians in the United States. The traditional mission of children's hospitals was threatened by marketplace turbulence in the 1990s, including the rise of managed care, consolidation within the adult health care delivery system, and the prospect of government-led national health care system reform in the early 1990s. There was a move toward more outpatient care, and hospital lengths of stay declined.

Over 90 percent of children's hospitals reported increased marketplace competition. Nearly all of them responded by creating new formal business relationships with other providers in their markets.

The most common strategy was to form a network of pediatricians through various physician-hospital integration models. Most preferred looser forms of affiliation, for example, an "open" physician-hospital organization or independent practice association that allowed doctors a substantial degree of autonomy.

About 86 percent of children's hospitals developed at least one type of business relationship with pediatricians or with another health care organization. Seventy-two percent developed a network of pediatricians, and 59 percent developed a relationship with an adult-focused health care organization. However, despite these organizational moves, the children's hospitals did not significantly change their child-focused agenda for teaching, research, and community service, even when they allied themselves

with adult hospitals or health care organizations.

These findings are from a study supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00063). Donald Goldmann, M.D., of Harvard Medical School, and his colleagues analyzed survey responses from the chief executive officers of 29 U.S. children's hospitals (there are a total of 44) about the impact of market changes on hospital roles and missions from 1991 through 1996.

See "Market forces and organizational evolution at freestanding children's hospitals in the United States," by John D. Yee, M.D., M.P.H., Donna Shelton, M.H.A., Shirley Girouard, Ph.D., R.N., and others, in the March 2001 *Ambulatory Pediatrics* 1(2), pp. 117-121.

Access to members' comparative ratings of health plans could affect consumers' choices of health plans

Employees are given comparative information on health plan performance by nearly one-quarter of the large employers that offer coverage choices. Several States have recently published report cards that compare plans based on surveys of plan members or the HEDIS performance measures developed by the National Committee for Quality Assurance. The Health Care Financing Administration is collecting and will publish survey information for every managed care plan that has a contract with Medicare. Finally, the Consumer Assessment of Health Plans Study (CAHPS®), developed by the Agency for Healthcare Research and Quality, soon will include a survey to measure quality of health plans from the consumer perspective, as well as tools for communicating survey results. CAHPS ratings could affect consumer selection of health plans and ultimately contain costs, according to a study supported by the Agency for Healthcare Research and Quality (HS09204).

A sample of 311 privately insured adults from Los Angeles County reviewed materials on four hypothetical health plans and selected one plan. The health plans varied as to cost, coverage, type of plan, ability to keep one's doctor, and quality as measured by the CAHPS survey. In the absence of CAHPS information, 86 percent of consumers preferred plans that covered more services, even though they cost

more. When CAHPS information was provided, consumers shifted to less expensive plans covering fewer services if CAHPS ratings identified those plans as higher quality (59 percent of consumers preferred plans covering more services). Consumer choices were unaffected when CAHPS ratings identified the more expensive plans covering more services as higher quality (89 percent of consumers preferred plans covering more services).

There are some obvious benefits to presenting consumers with comparative health plan information, explains Ron D. Hays, Ph.D., of the University of California, Los Angeles School of Medicine. If consumers choose plans with higher ratings, enrollment will be concentrated in better plans, and more consumers will receive quality services. Also, plans have an incentive to improve their services and attract more members. Finally, consumers will be disposed to choose the plan that offers equal quality services at a lower price which, in turn, may encourage plans to operate more efficiently and compete on price.

See "Do consumer reports of health plan quality affect health plan selection?" by Mark Spranca, Ph.D., David E. Kanouse, Ph.D., Marc Elliott, Ph.D., and others, in the December 2000 *Health Services Research* 35(5), pp. 933-947.

Medicaid managed care programs decreased the likelihood of repeat c-sections during the 1990s

First-time or primary c-sections are hardly ever performed on an elective basis, whereas many repeat c-sections are, that is, there often are no clinical indications for the surgery. Fixed payments to managed care providers are designed to give them an incentive to reduce use of unnecessary services such as many repeat c-sections.

It is not surprising then that as more Ohio women became enrolled in Medicaid managed care programs (MCP) versus fee-for-service (FFS) programs from 1992

to 1997, the overall rate of repeat c-sections declined, while the rate of first-time c-sections remained about the same for both groups. Also, the difference between the rates of repeat c-sections between FFS and MCP groups diminished, with the rates converging over time, according to a study supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00059).

In fact, the difference between the two groups in the likelihood of undergoing repeat c-section observed in 1992 was not present

in 1997, despite the lack of utilization review efforts in the FFS group, says Case Western Reserve University researcher, Siran M. Koroukian, Ph.D. Dr. Koroukian and colleagues cite several possible explanations for the closing gap in repeat c-section rates between the two groups.

Expansion of Medicaid MCP markets probably resulted in a pooling of physician and hospital resources at the community level. Thus, most doctors who cared for Ohio Medicaid MCP enrollees also

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Medicaid managed care programs

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retained their FFS patients and probably exercised the same practice style in caring for all their patients regardless of the payment method. Also, more than two-thirds of Medicaid-eligible women were receiving care through Medicaid MCPs by the end of the study

period, making it more difficult for managed care organizations to enroll lower risk patients. As a result, the MCP and FFS groups may have become more similar in their risk profiles over time.

The study findings are based on analysis of Ohio birth records and Medicaid files on women in urban Ohio counties who had single live births from 1992 through 1997. The researchers analyzed changes

in primary and repeat c-section rates in the FFS and MCP groups.

See "Comparison of cesarean section rates in fee-for-service versus managed care patients in the Ohio Medicaid population, 1992-1997," by Dr. Koroukian, Donna Bush, M.S.W., and Alfred A. Rimm, Ph.D., in the February 2001 *American Journal of Managed Care* 7, pp. 134-142.

Critical pathways reduce postoperative hospital stays no more than local market forces

Step-by-step guides to caring for patients with certain conditions, so-called critical pathways, are often used to make care more standardized and efficient. Several studies have shown that such an approach may reduce postoperative hospital stays, but the studies had methodological shortcomings.

A recent study supported by the Agency for Healthcare Research and Quality (HS08311) found that critical pathways, which were developed and implemented at one hospital following a substantial investment of time and effort, led to significant reductions in postoperative hospital stays for five types of surgery. However, the researchers also found comparable, often dramatic reductions in length of stay at neighboring hospitals that did not launch critical pathways or other specific efficiency initiatives.

These findings raise questions about the effectiveness of critical pathways in a competitive environment, concludes Steven D. Pearson, M.D., M.Sc., of Harvard Medical School. Dr. Pearson and his colleagues compared postoperative lengths of stay for patients who underwent coronary artery bypass graft (CABG) surgery, total knee replacement, colectomy (surgical removal of all or part of the colon), thoracic surgery, or hysterectomy before and after pathway implementation at a university hospital. They also assessed changes in lengths of hospital stay for three procedures at neighboring hospitals without pathway programs.

After pathway implementation at the university hospital, the length of stay decreased 21 percent for total knee replacement, 9 percent for CABG surgery, 7 percent for thoracic surgery, 5 percent for

hysterectomy, and 3 percent for colectomy. However, similar decreases were seen in the neighboring hospitals that did not have critical pathways or other specific efficiency initiatives. Staff at these hospitals said that competitive pressures, often driven by local health plans, led each hospital to focus on reducing length of stay, and that each group developed informal efforts to encourage greater efficiency.

See "Critical pathways intervention to reduce length of hospital stay," by Dr. Pearson, Sharon F. Kleefield, Ph.D., Jane R. Soukop, M.S., and others, in the February 15, 2001 *American Journal of Medicine* 110, pp. 175-180.

Special Populations

Reducing socioeconomic inequalities may be the key to smoking cessation among blacks

Cigarette smoking among Americans declined markedly over the past three decades, but this trend has leveled off recently. Of great concern is the dramatic increase in the rate of smoking among adolescents. Also, a recent study has found that although smoking declined from 25 percent to 20 percent among whites from the 1980s to 1990s, one-third of blacks continued to smoke during this same period. According to the study findings, income, education, and other socioeconomic factors explained most of this black/white disparity in smoking cessation.

Public efforts aimed at changing smoking behavior among blacks should place more emphasis on reducing socioeconomic inequalities in education and access to care, concludes Catarina I. Kiefe, Ph.D., M.D., of the University of Alabama at Birmingham. This raises questions about the best way to allocate public resources for smoking cessation and calls attention to the potential limitations of programs designed to bring about behavior change.

In a study supported in part by the Agency for Healthcare Research and Quality (HS09446), Dr. Kiefe and her colleagues examined changes over a 10-year period in smoking behavior among over 5,000 blacks and whites who participated in the Coronary Artery Risk Development in Young Adults (CARDIA) study, a multicenter study of the evolution of risk

factors for cardiovascular disease in young adults (18-30 years). The researchers found that the 25 percent of whites who smoked in 1985-1986 had declined to 20 percent in 1995-1996, but that the rate of black smokers stayed about the same, 32 percent and 33 percent, respectively.

More blacks than whites began smoking and fewer quit smoking during this same period. Thirteen percent of black men and 7 percent of black women began smoking over the 10-year period compared with 5 percent of white men and 3.5 percent of white women, with corresponding cessation rates of 19 percent, 25 percent, 31 percent and 35 percent. Yet adjustment for socioeconomic factors explained most of these racial disparities. Beneficial changes in smoking behavior were strongly and positively associated with higher educational attainment among men and women, independent of all other measured socioeconomic factors. Higher income was more strongly associated with beneficial smoking changes among black than among white men.

See "Ten-year changes in smoking among young adults: Are racial differences explained by socioeconomic factors in the CARDIA study?" by Dr. Kiefe, O. Dale Williams, Ph.D., Cora E. Lewis, M.D., M.S.P.H., and others, in the February 2001 *American Journal of Public Health* 91(2), pp. 213-218.

Knowledge of the Tuskegee syphilis study continues to limit participation of blacks in medical research

Blacks and other ethnic minorities have long been underrepresented in medical research studies, leading the National Institutes of Health to mandate their inclusion in all studies they fund. However, the ongoing distrust of blacks in medical research studies remains a barrier to their participation and is linked to their awareness of the U.S. government-sponsored Tuskegee Study of the natural

history of syphilis among black men, according to a recent study.

Black men who had syphilis and participated in the Tuskegee Study, which began in 1932, were told that they were being treated, when in reality they received little or no treatment. This practice continued even after it was discovered that syphilis could be treated effectively with penicillin, notes Vickie L. Shavers, Ph.D., of Johns Hopkins University.

In a study supported in part by the Agency for Healthcare Research and Quality (HS09597), Dr. Shavers and her colleagues surveyed adults in Detroit in 1998 and 1999 about their knowledge of the Tuskegee Study and its impact on their willingness to participate in research studies. Overall, 81 percent of blacks and 28 percent of whites had prior knowledge of the Tuskegee Study. Over half (51

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Participation of blacks in research

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percent) of blacks said that their knowledge of the Tuskegee Study played a role in their reluctance to participate in clinical trials due to lack of trust in such trials; 48 percent reported that knowledge of the study had not changed their trust, and 1 percent reported that they had more trust in medical researchers.

Among white respondents who knew about the study, 17 percent said they had less trust in medical researchers as a result of the study, 83 percent had no change in their level of trust, and none had more trust. These findings confirm that distrust arising from knowledge of the Tuskegee Study negatively affects the willingness of many blacks to participate in medical research studies. To include more minorities in clinical studies, medical researchers should discuss past misuse of minority participants

in research, their commitment to ethical research practices, and safeguards they are using to protect participants in their particular study.

See "Knowledge of the Tuskegee Study and its impact on the willingness to participate in medical research studies," by Dr. Shavers, Charles F. Lynch, and Leon F. Burmeister, in the December 2000 *Journal of the National Medical Association* 92(12), pp. 563-572.

Rural Health

Rural youths are much more likely to receive preventive and acute care if they have a regular source of care

Rural adolescents with no regular source of care are much less likely to obtain preventive or illness care than adolescents with a regular source of care. Those with a regular provider also are less likely to seek emergency care, according to a study supported by the Agency for Healthcare Research and Quality (HS07045).

Researchers from the University of Rochester School of Medicine and the Johns Hopkins School of Hygiene and Public Health surveyed students at two middle schools and two high schools in rural areas of one State about their health status and use of health care services to identify factors predicting use of these services. One-third of the youths said they had received preventive care services within the prior 3 months, 41 percent received problem-focused care, and 18 percent received emergency care.

Adolescents who had a regular provider for care when they were sick but not for preventive care were much less likely to have received preventive care within the prior 3 months than those with the same source of care for both preventive and illness care. Similarly, adolescents with a regular source of care for preventive but not illness care were half as likely to have received illness care as young people who had the same source of care for both preventive and illness care. Finally, the fragmentation in care that occurs when adolescents have different sources of preventive and illness care almost doubled the likelihood that the young people had used emergency services.

Clearly, having a regular source of both preventive and illness care is important in ensuring receipt of preventive services and timely illness care and in limiting inappropriate emergency room use.

Few sociodemographic factors were significantly associated with use of health care services. However, medical need did influence use of care. Adolescents who had more functional limitations, a greater number of diagnosed conditions, and higher scores on an individual risk behavior scale were more likely to have received illness or problem-focused care. For example, adolescents with four to six medical diagnoses were twice as likely to have received illness care as those with fewer than two diagnoses.

See "The effects of regular source of care and health need on medical care use among rural adolescents," by Sheryl Ryan, M.D., Anne Riley, R.N., Ph.D., Myungsa Kang, M.S., and Barbara Starfield, M.D., M.P.H., in the February 2001 *Archives of Pediatric and Adolescent Medicine* 155, pp. 184-190.

Evidence-Based Medicine

Garlic supplements show promise for lowering some cardiovascular risk factors, but more studies are needed

Garlic supplements are among the most popular herbal remedies that American consumers pay more than \$5 billion for each year. Many animal studies have shown it to reduce blood fats and hypertension.

A recent review of randomized controlled trials in humans found that garlic supplementation (standardized dehydrated garlic powders and various nonstandardized preparations alone or in combination with other ingredients) may reduce levels of total cholesterol, triglycerides, and low-density lipoprotein (LDLs), as well as platelet aggregation (which causes blood thickening) in the short-term compared with placebo or no garlic supplementation. However, the marginal quality and short duration of many trials and inadequate definition of active ingredients in the many types of garlic preparations used limit the clinical usefulness of these studies, cautions principal investigator Cynthia D. Mulrow, M.D., M.Sc.

Dr. Mulrow and her colleagues at the San Antonio Evidence-based

Practice Center (EPC) recommend that the major active ingredients of specific garlic supplements and their mechanisms of action be described before more trials are conducted. Their review, which was supported by the Agency for Healthcare Research and Quality (contract 290-97-0012), involved randomized controlled trials lasting at least 4 weeks and conducted between 1966 and December 2000, that compared garlic with placebo, no garlic, or another active agent. Individual studies found insignificant effects of garlic on blood pressure levels and no effects on blood sugar levels.

However, specific pooled results of studies comparing garlic preparations with placebo showed that garlic may lead to small reductions in the total cholesterol level when measured 1 month later and 3 months later, but this trend did not persist to 6 months later. Changes in LDL and triglyceride levels paralleled total cholesterol level results, but there were no significant changes in high-density lipoprotein levels. Trials also

reported significant reductions in platelet aggregation. The only proven adverse effects of garlic supplements were bad breath and body odor.

More details are in "Garlic shows promise for improving some cardiovascular risk factors," by Ronald T. Ackermann, M.D., Dr. Mulrow, Gilbert Ramirez, Dr.P.H., and others, in the March 26, 2001 *Archives of Internal Medicine* 161, pp. 813-824.

Editor's note: This journal article is based on an evidence report, *Effects on Cardiovascular Risks and Disease, Protective Effects Against Cancer, and Clinical Adverse Effects*, Evidence Report/Technology Assessment No. 20, that was prepared for AHRQ by the San Antonio EPC based at the University of Texas Health Science Center at San Antonio. A summary of the report (AHRQ Publication No. 01-E022)** and the full report (AHRQ Publication No. 01-E023)* are available from AHRQ.

HIV/AIDS Research

HIV-infected patients with certain sociodemographic characteristics are less likely to take antiretroviral therapy

Guidelines have recommended life-prolonging antiretroviral therapy (ART) for people infected with the human immunodeficiency virus (HIV) that causes AIDS if they have less than 500 CD4 cells/ μ l and/or more than 10,000 RNA copies/ml of blood. ART is optional for individuals with less viral burden (fewer RNA copies per ml of blood) and whose immune systems are more competent (CD4 count of

500 or more). However, HIV-infected people with clinical indications for ART who are less educated, younger, have multiple sexual partners, and do not use outpatient care are unlikely to be taking ART, according to a recent study. These nonclinical factors need to be considered when promoting population therapy effectiveness, conclude members of the

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HIV-infected patients

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Multicenter AIDS Cohort Study (MACS), which was jointly funded by the National Institute of Allergy and Infectious Diseases, the National Cancer Institute, and the Agency for Healthcare Research and Quality.

The researchers analyzed factors predicting ART use and non-ART use among a group of more than 650 homosexual and bisexual men (most of whom were white) participating in MACS, who were enrolled in 1984-1985 and in 1987-1991 and returned every 6 months for physical exams, surveys, neuropsychological screenings, lab workups, and other services. The researchers compared the clinical, insurance, sociodemographic, and risk-taking characteristics of individuals who never reported taking ART with those who did during the entire followup period (1984-1998).

Among men who never used ART, over half (55 percent) met the recommended clinical criteria for

ART at that time. Among men with CD4 cell counts less than 500, those who had never received ART were more than twice as likely to have less than a college education and to have multiple sexual partners as those who took ART. Also, non-ART users were nearly nine times as likely not to have used outpatient health care services. The fact that less education, younger age, and having multiple sex partners were associated with not using ART among eligible patients suggests that those with a risk-taking profile may be less likely to use ART. Providers may have considered these risk-taking patients, who made little use of outpatient care, poor candidates for complying with complex therapy, which can lead to drug resistance.

More details are in "Therapy naivete in the era of potent antiretroviral therapy," by Lisa P. Jacobson, Mary E. Gore, Steffanie A. Strathdee, and others, in the February 2001 *Journal of Clinical Epidemiology* 54, pp. 149-156.

Dental problems go unresolved in many HIV patients

Oral infections, mouth ulcers, and other severe dental conditions associated with HIV infection go untreated more than twice as often as other health problems related to the disease, according to a new study supported by the Agency for Healthcare Research and Quality (HS08578). The study, which was conducted by researchers from the University of California, Los Angeles, and RAND, also found that uninsured people with HIV disease are three times more likely to have untreated dental and medical needs than those with private insurance. In addition, Medicaid enrollees who had State-sponsored dental coverage reported significantly more unmet dental needs compared with privately insured patients.

The study, which was based on interviews of HIV patients in a national probability sample in 1996, estimates that 58,000 of the approximately 231,000 people in treatment for HIV disease that year had either unmet dental or medical needs or both. Kevin C. Heslin, Ph.D., of UCLA's AIDS Research Training Center, led the research, which is the first to examine both unmet dental and medical needs in HIV patients.

The investigators estimated that 14.3 percent of HIV patients as a whole had unmet dental needs in the 6 months prior to being interviewed, about 6.2 percent had unmet medical needs, and 5 percent had both unmet dental and medical needs. By comparison, data from previous studies of the general population show that 9 percent had unmet dental needs, roughly 5.7

percent had unmet medical needs, and 2.5 percent had both unmet dental and medical needs. In addition, patients younger than age 50, the poor, the unemployed, and patients living in the South in general were more likely to report having unmet dental and medical needs than were people of mixed race and American Indians, Eskimos, Aleuts, Pacific Islanders, and Asians.

The researchers categorized patients as having unmet dental and medical needs if they reported needing but not receiving these services in the previous 6 months. Although problems with access may play a role, the study did not examine why needs went unmet or seek to identify specific needs.

The study is part of the HIV Cost and Services Utilization Study (HCSUS), conducted by a consortium led by RAND Health under a cooperative agreement with AHRQ. Other Federal programs that support HCSUS include the National Institute of Dental and Craniofacial Research and the Health Resources and Services Administration.

Details are in "A comparison of unmet needs for dental and medical care among persons with HIV infection receiving care in the United States," by Dr. Heslin, William E. Cunningham, M.D., M.P.H., Marvin Marcus, D.D.S., M.P.H., and others, in the winter 2001 *Journal of Public Health Dentistry* 61, pp. 14-21.

Agency News and Notes

AHRQ coauthor receives Article of the Year award

The Academy for Health Services Research and Health Policy (formerly the Association for Health Services Research) has chosen an article coauthored by AHRQ researcher Claudia Steiner, M.D., as the recipient of its Article of the Year award for 2000. The article is based on data from AHRQ's State Inpatient Databases (SID) from the

Healthcare Cost and Utilization Project (HCUP). The award will be conferred at the Association's annual meeting to be held June 10-12, 2001, in Atlanta, GA.

The article, "Relation between prepublication release of clinical trial results and the practice of carotid endarterectomy," by Cary Gross, M.D., Dr. Steiner, Eric Bass, M.D., and Neil Powe, M.D.,

appears in the December 13, 2000 issue of the *Journal of the American Medical Association*, 284, 2886-2893. A summary of the article appears on page 1 of the December 2000 issue of *Research Activities*. In addition, reprints of the journal article (AHRQ Publication No. 01-R017) are available from AHRQ.**

Announcements

New Web-based tool provides State-by-State insurance data

The Agency for Healthcare Research and Quality has a new, interactive tool—MEPSnet/IC—that provides quick and easy access to employer-based health insurance data. To access MEPSnet/IC, go to AHRQ's Medical Expenditure Panel Survey (MEPS) Web site at <http://www.meps.ahrq.gov> and click on "MEPSnet Analytical Tools." MEPSnet/IC uses data from the MEPS Health Insurance Component (IC) and is the first of several analytical tools being developed for quick access to MEPS data.

MEPSnet/IC gives users access to national and State-level statistics and trends about health insurance offered by private establishments and State and local governments, including cost of coverage. The interactive tool guides users through a set of questions leading to the specific data of interest. Once all the questions are answered, MEPSnet/IC analyzes data from all available years—currently 1996, 1997, and

1998—and generates a graph showing the estimates for each year. It also provides a direct link to the tables from which these statistics are generated.

As additional years of data become available from the Health Insurance Component survey, they will be added to the system, allowing MEPSnet/IC users to examine longer trends in health insurance data.

MEPS is a nationally representative survey of the civilian noninstitutionalized population of the United States and U.S. nursing home residents. MEPS collects detailed information on health status, access to care, health care use and expenses, and health insurance coverage at different intervals and over time.

For more information about MEPSnet/IC, send an e-mail to James Branscome at jbransco@ahrq.gov or call 301-594-0889.

New CDC report describes measures for tracking health status

A new comprehensive report on methods used to track health status and quality of life has just been published by the Centers for Disease Control and Prevention (CDC). *Measuring Healthy Days: Population*

Assessment of Health-Related Quality of Life describes the validity and use of a set of health-related quality of life (HRQOL) survey measures developed by CDC and its partners. These measures are used to

track population health status and HRQOL in States and local communities.

Tracking HRQOL in populations can identify subgroups with poor health, identify unmet needs and

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CDC report on tracking health status

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disparities, and guide policies or broad community interventions to improve health. Health officials can use these measures and data to more fully assess the public's health and guide the overall attainment of the Healthy People 2010 goals of improving the quality and years of life and eliminating health disparities.

Since 1993, a set of four Healthy Days measures have been used to assess self-rated health, recent physical and mental health, and recent activity limitation, for over 1 million adults in the Behavioral Risk Factor Surveillance System (BRFSS) and since 2000 for all participants aged 12 years and older in the National Health and Nutrition Examination Survey (NHANES).

A PDF copy of the report is available on CDC's new HRQOL Web site at: <http://www.cdc.gov/nccdphp/hrqol>.

The Web site also includes key findings related to HRQOL and links to community, State, and private organizations that have used these measures for population health assessment and policy development.

For help in using the Healthy Days measures, please contact the Division of Adult and Community Health at 770-488-5464, e-mail to rmk4@cdc.gov, or write to Rosemarie Kobau, 4770 Buford Highway, N.E., Mailstop K-45, Atlanta, GA 30341.

Research Briefs

Bechtel, G.G. (2000). "Commensurate ratings of health care." (AHRQ grant HS09550). *Journal of Outcome Measurement* 4(3), pp. 635-666.

The goal of this research was to develop markers of consumer satisfaction with health care delivery that are comparable over different questionnaire items, population groups, and care delivery modes in the United States. These markers will assist health care providers in evaluating how they "measure up" and help consumers in their "comparative shopping" among health plans. In this paper, the author describes a method—the mean cumulative logit (MCL)—that can be used to score ratings of health care at the population level. The author demonstrates the advantages of the MCL on data from AHRQ's Consumer Assessment of Health Plans Study (CAHPS®) from the patient and provider perspectives. From both of these viewpoints, the population studied here perceived quality of health care as greater for fee-for-service plans than for managed care plans.

Friedman, D.S., Bass, E.B., Lubomski, L.H., and others. (2001, March). "Synthesis of the literature on the effectiveness of regional anesthesia for cataract surgery" and "The methodologic quality of clinical trials of regional anesthesia for cataract surgery." (AHRQ Contract No. 290-97-0006). *Ophthalmology* 108, pp. 519-529, 530-541.

The authors of these papers systematically reviewed the research literature on regional anesthesia during cataract surgery on adults. In the first paper, they discuss evidence supporting the effectiveness of different forms of regional anesthesia and grade them by consensus as good, fair, poor, or insufficient. The authors conclude that current approaches to anesthesia management provide adequate pain control for successful cataract surgery, but the effectiveness of techniques vary. In the second paper, the researchers examine the methodologic rigor of the randomized controlled trials on regional anesthesia for cataract surgery on adults. They discuss the quality in each of five domains: representativeness, bias and

confounding, intervention description, outcomes and followup, and statistical quality and interpretation. Overall they found that key outcomes often were inadequately reported, including the distribution of patient-reported pain scores and the mean surgical time. The authors conclude that greater attention to methodologic quality and detailed reporting of study results will improve interpretation of the results of clinical trials assessing regional anesthesia for cataract surgery.

Gifford, A.L., Collins, R., Timberlake D., and others. (2000, December). "Propensity of HIV patients to seek urgent and emergent care." (AHRQ grant HS08578). *Journal of General Internal Medicine* 15, pp. 833-840.

The researchers interviewed a nationally representative group of HIV-infected adults (as part of AHRQ's HIV Cost and Services Utilization Study) with both early and advanced disease about how they would seek care for key HIV-associated symptoms. They were

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asked if they would go to the emergency room, talk to or visit their doctor the same day, schedule a special appointment, wait until the next scheduled appointment, or give the symptom a chance to resolve before seeing a doctor. Most patients with advanced HIV disease (78 to 87 percent) said they would seek care right away from the ER or their primary care provider. Most who had early disease (82 percent) said they would seek care right away for new respiratory symptoms, yet fewer (46 percent) would do so for headaches or white patches in the mouth (62 percent). Blacks, the poor, those with less education, and patients who were drug-dependent or had psychological symptoms were more likely to use the ER than other patients.

Lenert, L.A., Sherbourne, C.D., and Reyna, V. (2001). "Utility elicitation using single-item questions compared with a computerized interview." (AHRQ grant HS08349). *Medical Decision Making* 21, pp. 97-104.

Utilities are numerical ratings of the desirability of health states that reflect a person's preferences. In most studies, measurement of utilities is done through interviews conducted by a research assistant or a computer program. Paper-based questionnaires differ in that the response is measured as the answer to a single-item, open-ended question rather than the result of a forced choice or matching task; there is no graphic or verbal feedback on trade-offs; and there is no training of subjects in utility elicitation procedures prior to their answering the questions of interest. In this study, the researchers compared single-item utility elicitations for current health to

computerized utility elicitations performed 1 to 2 weeks later in a sample of 149 primary care patients with symptoms of depression. Use of single-item questions resulted in less precise estimates of utilities relative to those elicited using a more complex search procedure.

Nallamothe, B.K., Saint, S., Bielak, L.F., and others. (2001, March). "Electron-beam computed tomography." (AHRQ National Research Service Award training grant HS00053) *Archives of Internal Medicine* 161, pp. 833-838.

Electron-beam computed tomography (EBCT) is a noninvasive procedure that is being increasingly advocated as a diagnostic test for coronary artery disease (CAD). This review of studies from 1979 to 2000 on the accuracy of EBCT for diagnosing obstructive CAD found it to be reasonably accurate at detecting obstructive CAD in patients undergoing coronary angiography, with sensitivity and specificity rates comparable to those reported for traditional exercise stress testing. The authors conclude, however, that further studies are needed to determine the exact role of EBCT among current noninvasive tests for CAD.

Rodriguez, I., Kilborn, M.J., Liu, X-K., and others. (2001, March). "Drug-induced QT prolongation in women during the menstrual cycle." (AHRQ grant HS10385). *Journal of the American Medical Association* 285, pp. 1322-1326.

Women have slower cardiac repolarization than men, which shows up as longer heart rate corrected QT intervals (QTc) on the electrocardiogram (ECG). Also, women are more prone than men to develop a particular type of heart arrhythmia known as "torsades de

pointes ventricular arrhythmia" after administration of drugs that prolong cardiac repolarization (for example, drugs to correct irregular heart rhythms, such as ibutilide, and the antibiotic erythromycin). This sex difference is apparent only after puberty, however. These researchers found that menstrual cycle and sex differences existed in QTc responses to ibutilide, with the greatest increase in QTc corresponding to the first half of the menstrual cycle. These findings are based on ECG monitoring at timed intervals during and after ibutilide infusion in a group of 58 healthy adults (39 men and 20 women). Women received the medication on three separate occasions to correspond with menstrual cycle phases. The findings support a complex role for sex hormones in prolongation of cardiac repolarization, including a possible protective effect of the hormone progesterone.

Safran, C., and Goldberg, H. (2000). "Electronic patient records and the impact of the Internet." (AHRQ grant HS08749). *International Journal of Medical Informatics* 60, pp. 77-83.

This paper highlights the benefits of electronic patient records (EPRs) over paper-based medical records, using the successful implementation of CareWeb at Boston's Beth Israel Deaconess Medical Center as an example. The researchers describe the Internet architecture that medical informatics researchers used in implementation of CareWeb. In this case, CareWeb integrated the two existing EPRs to support care in the emergency department in a virtual environment. CareWeb can be viewed from any Web browser providing information to clinicians

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who may be located at many practice sites. The authors also describe how this approach can be extended beyond the boundaries of traditional care settings to help in the development of new collaborative models of “electronic health.”

Stineman, M.G. (2001). “Defining the population, treatments, and outcomes of interest: Reconciling the rules of biology with meaningfulness.” (AHRQ cooperative agreement HD37234 with the National Institute of Child Health and Human Development). *American Journal of Physical Medicine and Rehabilitation* 80, pp. 147-159.

These authors examine the relationship between environment and mental and physical functioning. They describe the 1997 draft of ICIDH-2: International Classification of Impairments, Activities and Participation as an approach to population definition and outcome assessment. They apply a new and

evolving model referred to as the spheres of human-environmental integration (HEI) to expressing the relationships among the ICIDH-2 dimensions. HEI is the individual’s potential for meaningful activity as determined by physical and mental capabilities in relationship to the man-made and natural worlds, societal expectations, and available resources. HEI can be expanded by reducing disabilities through medical and rehabilitation interventions and by eliminating environmental barriers, according to the authors. This dual approach views disability as a function of the environment and implies a need to integrate rehabilitation sciences with the principles of independent living.

Williams, E.S., Konrad, T.R., Scheckler, W.E., and others. (2001). “Understanding physicians’ intentions to withdraw from practice: The role of job satisfaction, job stress, mental and physical health.” (AHRQ grant HS00032). *Health Care Management Review* 26(1), pp. 7-19.

Traditionally, doctors have had almost complete control over their practices. However, as third parties (managed care plans, traditional insurers, and employers) exert more influence in the practice of medicine, physician job control dissipates, exposing doctors to ever-increasing stress. These authors propose and test a model relating job stress to four intentions to withdraw from practice mediated by job satisfaction and perceptions of physical and mental health. The model suggests that higher perceived stress is associated with lower physician satisfaction levels, which in turn are related to greater intentions to quit, decrease work hours, change specialty, or leave direct patient care. Doctors experiencing burnout, anxiety, and depression seem to deal with these problems by leaving patient care in some way rather than quitting their jobs, decreasing work hours, or changing specialty. Higher levels of perceived stress result in poorer perceptions of physical health, which links with greater intentions to change specialty.

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