AHRQ

Research Activities

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One-third of heart attack patients delay seeking care because they don't have chest pain

Chest pain has long been considered the classic sign of a heart attack (acute myocardial infarction, AMI). However, a new study, which was supported in part by the Agency for Healthcare Research and Quality (HS08843), found that one-third of patients diagnosed with AMI did not experience chest pain. What's more, these patients arrived at the hospital 3 hours later (mean of 8 vs. 5 hours) than AMI patients with chest pain.

Patients who did not have chest pain also were less likely to be diagnosed with AMI at hospital admission (22 vs. 50 percent), suggesting that doctors still consider chest pain a hallmark sign of heart attack. Perhaps as a result of delayed hospital arrival, diagnosis, and fewer cardiac treatments, these patients were twice as apt to die in the hospital (23 vs. 9 percent) as AMI patients with chest pain.

To improve the outcomes of AMI patients without chest pain, the public and medical professionals should be educated that other symptoms besides chest pain can indicate a heart attack and that the absence of chest pain does not necessarily rule out an AMI, notes lead author, John G. Canto, M.D., M.S.P.H., of the University of Alabama, Birmingham. Dr. Canto and his colleagues observed 434,877 patients with confirmed AMI treated at 1,674 U.S. hospitals to determine the frequency with which AMI patients arrived at the hospital without chest pain and their subsequent care and outcomes. Data used in this research were drawn from the National Registry of Myocardial Infarction, the largest observational study to date of U.S. heart attack patients.

The study revealed that heart attack patients without chest pain were less apt to receive clot-busting therapy or angioplasty (25 vs. 74 percent), aspirin (60 vs. 85 percent), beta blockers (28 vs. 48 percent), or the anticoagulant heparin (53 vs. 83 percent). These patients had some different clinical features as well. On average, they were 7 years older than those with chest pain (74 vs. 67 years), were more likely to be female (49 vs. 38 percent), and were more likely to have diabetes

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Heart attack without chest pain

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mellitus (33 vs. 25 percent) or prior heart failure (26 vs. 12 percent). Although it is widely known that heart attack victims who have diabetes may not experience chest pain, these other clinical characteristics are newly associated with lack of chest pain during heart attack and may help doctors more quickly identify and treat these patients.

See "Prevalence, clinical characteristics, and mortality among patients with myocardial infarction presenting without chest pain," by Dr. Canto, Michael G. Shlipak, M.D., M.P.H., William J. Rogers, M.D., and others, in the June 28, 2000 *Journal of the American Medical Association* 283(24). ■

Clinical Decisionmaking

Missed diagnosis of heart attack or angina in 2 percent of ER patients is usually due to atypical symptoms

About half of the 1.1 million heart attack victims in the United States each year come to hospital emergency departments (EDs). A new study shows that ED doctors miss diagnosing 2 percent of ED patients with heart attack (acute myocardial infarction, AMI) or unstable angina, whom they mistakenly send home. These misdiagnosed patients usually have atypical symptoms that make diagnosis more difficult. These patients have nearly twice the likelihood of dying from their heart problems than similar patients who are hospitalized, notes principal investigator Harry P. Selker, M.D., M.S.P.H., of the New England Medical Center.

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In a study supported in part by the Agency for Healthcare Research and Quality (HS07360), Dr. Selker and colleagues prospectively analyzed clinical data on 10,689 patients who sought help at the EDs of 10 U.S. hospitals for chest pain or other symptoms suggestive of a cardiac problem, including 1,855 who met the criteria for AMI or unstable angina. The data were collected during patients' arrival at the ED, during hospitalization (for those who weren't sent home), and 30 days later. Among the 889 patients with AMI, 2.1 percent were mistakenly discharged from the ED; among the 966 patients with unstable angina, 2.3 percent were mistakenly discharged. Patients with AMI or unstable angina who were not hospitalized had nearly twice the odds of dying (odds ratio 1.9 and 1.7, respectively) than patients who were properly diagnosed with these conditions and hospitalized.

The patients whose diagnoses were missed tended to be women under the age of 55; to be black, Hispanic, or another minority; to report shortness of breath as the chief symptom (instead of the typical chest pain); or to have apparently normal electrocardiograms (ECGs). In other words, these patients often did not have typical features of cardiac ischemia. The researchers point out that coronary artery disease is so prevalent that even patients without typical risk factors may suffer from it. They recommend that physicians become more familiar with the atypical symptoms of acute coronary syndromes and be aware of the groups in which such symptoms are especially likely, such as patients who are young, female, diabetic, or very old.

See "Missed diagnoses of acute cardiac ischemia in the emergency department," by J. Hector Pope, M.D., Tom P. Aufderheide, M.D., Robin Ruthazer, M.P.H., and others, in the April 20, 2000 *New England Journal of Medicine* 342(16), pp. 1163-1170. ■

Individual patient factors determine whether a special diet or medication is best for patients with high cholesterol

The National Cholesterol Education Program (NCEP) recommends treatment guidelines for primary prevention (no history of coronary heart disease, CHD) and secondary prevention (history of CHD) based on cholesterol level and number of risk factors.

According to the NCEP guidelines, patients in the primary prevention group should be treated as follows: (1) dietary therapy for all patients with LDL greater than 160 mg/dL; (2) drug treatment (using a statin) concurrent with dietary therapy for patients whose LDL is above 190 mg/dL, regardless of risk profile; and (3) drug therapy concurrent with dietary therapy for patients who have two or more risk factors and an LDL of 160-189 mg/dL.

NCEP guidelines for secondary prevention include drug treatment concurrent with diet therapy for all patients whose LDL is higher than 130 mg/dL, regardless of risk profile. However, these recommendations are based on average patient characteristics and may be misleading when used in individual treatment decisions, note the authors of a recent study.

Their research suggests that primary prevention with diet for otherwise healthy young women may not be a cost-effective option, and that primary prevention with a statin may not be cost effective for some risk subgroups. However, their findings do agree with the NCEP that use of a statin for secondary prevention in all risk subgroups is cost effective. The study was supported in part by the Agency for Healthcare Research and Quality (HS06258, principal investigator Milton C. Weinstein, Ph.D., of the Harvard School of Public Health). The researchers used a computer simulation model to estimate the effects and costs of cholesterol-lowering diet or statin drugs in each risk group.

Diet therapy for primary prevention was generally cost effective, with cost-effectiveness ratios generally less than $100,000 per quality-adjusted life year (QALY) for men and women with more than one risk factor, except for some women under 45 years of age. Cost-effectiveness ratios for primary prevention with a statin varied widely according to risk factor subgroup, from $54,000 per QALY to $420,000 per QALY for men and from $62,000 per QALY to $1,400,000 per QALY for women, and were greater than $100,000 per QALY for many risk subgroups. Secondary prevention with a statin was cost effective for all risk groups, with cost-effectiveness ratios of less than $50,000 per QALY for all risk subgroups and only $10,000 per QALY or less for most risk subgroups. In general, most cost-effectiveness ratios became more favorable with increasing numbers of risk factors. However, certain risk factors, such as high diastolic blood pressure, had more impact than others.

See "Cost-effectiveness of cholesterol-lowering therapies according to selected patient characteristics," by Lisa A. Prosser, M.S., Aaron A. Stinnett, Ph.D., Paula A. Goldman, M.P.H., and others, in the May 16, 2000 *Annals of Internal Medicine* 132(10), pp. 769-779. ■

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Urologists and radiation oncologists agree on some aspects of prostate cancer treatment but not on which treatment is best

A new survey of urologists and radiation oncologists sponsored by the Agency for Healthcare Research and Quality (HS08397) reveals that the two groups of specialists largely agree that radical prostate surgery, external beam radiotherapy, and brachytherapy are potentially life-saving treatments for localized prostate cancer in men whose normal life expectancy is 10 years or longer. Radical prostate surgery involves removal of the entire prostate gland and any affected surrounding tissue; external beam radiotherapy shoots x-rays into the tumor from outside the body; and brachytherapy consists of inserting tiny radioactive pellets through a needle into the tumor.

The study also found that almost all the urologists and radiation oncologists agreed that prostate-specific antigen (PSA) testing should be included as part of primary care physicians' routine physical examination of men between 50 and 75 years of age. But the specialists, who treat most of the approximately 180,000 new cases of prostate cancer diagnosed each year, disagreed about which treatments they would recommend to their patients. More than nine of every ten urologists questioned (93 percent) said they considered prostate surgery better than radiation therapy for men with a normal life expectancy of 10 years or more, while 72 percent of the radiation oncologists indicated that they believed radiotherapy worked as well as radical prostatectomy for such men. To date, randomized clinical trials have not proven that aggressive treatment of prostate cancer with either surgery or radiotherapy improves patient outcomes, but neither have they proven that the two therapies are ineffective.

Some patients will find it confusing to hear different treatment recommendations from doctors, notes the study's principal investigator, Michael J. Barry, M.D., of the Medical Practices Evaluation Center at Massachusetts General Hospital. He notes that scheduling consultations with a member of each specialty before making a decision may be the best way to get a balanced view of treatment options.

The researchers also found that:

- Both groups of physicians generally agreed on the probability of complications from all three therapies and that prostatectomy is more likely than radiotherapy to cause incontinence and sexual dysfunction.
- Both groups also agreed that nerve-sparing surgery reduces the rate at which patients experience sexual dysfunction.
- Both groups proved strikingly similar in the extent to which they would recommend either watchful waiting or depriving the cancer of the male hormone androgen as first-line treatment for certain subsets of men. Treatment for these men would be based on their Gleason scores—a scale running from 2 to 10 which indicates the aggressiveness of tumor growth—and their PSA levels.
- But fewer than 25 percent of physicians in either group said they would recommend watchful waiting to men with unaggressive tumors (Gleason score of 3), despite the fact that such patients appear to have a normal life expectancy without aggressive treatment. About 40 percent would recommend androgen deprivation to men with the most aggressive tumors and highest PSA levels.
- Despite insufficient data on the long-term effects of brachytherapy, members of both specialties generally thought it is as least as good as external beam radiation. Urologists seemed to be slightly more positive about brachytherapy than external beam radiotherapy.

The study findings are based on answers to questionnaires returned by 559 radiation oncologists (76 percent response rate) and 504 urologists (64 percent response rate) from across the nation. The survey was conducted in 1998 as part of a prostate cancer Patient Outcomes Research Team (PORT) project funded by AHRQ. The analysis was conducted by researchers from the University of Massachusetts, Massachusetts General Hospital, and the University of Connecticut Health Center.

Details are in "Comparison of treatment recommendations by urologists and radiation oncologists for men with clinically localized prostate cancer," in the June 28, 2000 issue of the *Journal of the American Medical Association* 283(24), pp. 3217-3222. ■

Apgar scores found to be useful in assessing premature newborns

The use of Apgar scoring for premature newborns remains widespread, despite controversy about its reliability in measuring health status in these newborns. A recent study, supported by the Agency for Healthcare Research and Quality (HS08385), found that low Apgar scores in premature newborns are associated with increased neonatal morbidity and mortality.

The reliability of Apgar scores in premature newborns has been called into question because several criteria used to determine Apgar scores for full-term newborns (muscle tone, reflex irritability, and respiratory effort) are developmentally determined. Thus, low Apgar scores in term infants mean that some medical problem might be the cause of not meeting developmental milestones. Many argue that low Apgar scores in premature newborns may reflect neurodevelopmental immaturity more than fetal compromise. However, the findings from this study suggest otherwise. This study examined the antenatal and early neonatal correlates of low Apgar scores (less than 3 at 1 minute and less than 6 at 5 minutes) for a group of 852 preterm infants (23 to 34 weeks' gestation) born during a 34-month period between 1984 and 1987 at three hospitals in central New Jersey. Low Apgar scores were associated with increased neonatal morbidity and mortality as well as more neonatal interventions and complications in preterm newborns.

Premature newborns with low Apgar scores received more cardiopulmonary resuscitation in the delivery room and in the first 6 to 8 hours of neonatal intensive care, and they had significantly higher mortality rates than those with good Apgar scores (54 vs. 26 percent for 23- to 28-week infants, 30 vs. 6 percent for 29- to 34-week infants). Premature newborns with low scores required significantly more positive pressure ventilation, intubation, cardiopulmonary resuscitation, umbilical catheterization, and intravenous medications. The researchers conclude that Apgar scores are a useful tool for assessing neonatal short-term prognosis and the likelihood of intensive care among preterm newborns.

See "Antecedents and neonatal consequences of low Apgar scores in preterm newborns," by Barry Weinberger, M.D., Mujahid Anwar, M.D., Thomas Hegyi, M.D., and others, in the March 2000 *Archives of Pediatric and Adolescent Medicine* 154, pp. 294-300. ■

Primary Care

Urinary incontinence is associated with the risk of depression among the elderly

Elderly Americans who are incontinent often experience shame, disgust, embarrassment, and reduced social life that may lead to depression. In fact, elderly people who suffer from urinary incontinence (UI) are more likely to have symptoms of depression than those without UI. What's more, the degree of depression is linked to the severity of incontinence (amount of urine lost with each "accident"), concludes a study supported in part by the Agency for Healthcare Research and Quality (HS08716).

Principal investigator Stuart J. Cohen, Ed.D., and his colleagues studied 668 adults (93 percent white, 78 percent female, average age 72.5) who had at least one visit in the previous 60 days to a primary care provider (PCP) at one of 41 primary care practices in North Carolina. Some PCPs were instructed about the detection and management of UI based on a practice guideline for urinary incontinence in adults, and they were given educational materials for themselves and patients, office system support, and academic detailing. Other PCPs (controls) were not assisted in this way.

Symptoms of depression were assessed with a standard eight-item screen. Results showed that UI was associated with moderate to severe depression (43 percent of UI patients vs. 30 percent of patients without UI). About 35 percent of UI patients reported some depressive symptoms, which is slightly higher than the national average. On seven of eight items in

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Urinary incontinence

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the depression scale, patients with UI reported significantly more distressed responses than did continent adults.

About 30 percent of adults with UI indicated that incontinence interfered with their day-to-day lives. The frequency of UI episodes and the perception that UI interfered with life were significantly correlated with depressive symptoms in these patients. Also, loss of more urine per episode was associated with more depressive symptoms. Depressive symptoms appeared to be influenced by sex (more women than men) and physical health to a greater degree than UI. Nevertheless, the depression associated with UI makes it more difficult to persuade the patient to perform pelvic muscle exercises and bladder retraining, which are necessary to reduce UI episodes.

Details are in "The association of depressive symptoms and urinary incontinence among older adults," by Elizabeth Dugan, Ph.D., Dr. Cohen, Deirdre R. Bland, M.D., and others, in the April 2000 *Journal of the American Geriatrics Society* 48, pp. 413-416. ■

Training in continuous quality improvement may not improve preventive services in primary care clinics

Coaching staff of primary care clinics to increase preventive services by using a continuous quality improvement (CQI) team does not substantially improve their delivery of preventive services over clinics that do not receive CQI training, according to a new study supported by the Agency for Healthcare Research and Quality (HS08091). Leif I. Solberg, M.D., of HealthPartners Research Foundation, Minneapolis, MN, and his colleagues randomly assigned 44 primary care clinics in the same area to CQI training or no training (controls). The CQI clinics received leadership support, training, consulting, and networking to help multidisciplinary teams at each clinic use CQI methods to develop and implement eight prevention services.

These services for adults 19 years and older (except when otherwise indicated) included a yearly blood pressure measurement, cholesterol measurement every 5 years, assessment of tobacco use and smoking cessation advice, Pap smear every 2 years, breast exam every 2 years, mammogram every 2 years for women older than 49, annual influenza shot for the elderly, and a one-time pneumovax shot for patients older than 64. The researchers asked the patients and reviewed their charts to see if they had received these services.

They found that patient reports of receiving needed cholesterol tests increased 5 percent more in CQI versus control clinics. Chart audits showed that blood pressure measurements increased 3.6 percent more in CQI than control clinics. Beyond these improvements, increases in delivery of prevention services were not significantly greater in CQI versus control clinics. There are several possible explanations for these results. Recruited clinics had unusually high rates for these services, causing a ceiling effect; the CQI program was inadequately delivered; the clinics were inexperienced in organizational change; and/or there was inadequate tension for change. The researchers believe the trial demonstrated the relative ineffectiveness of the particular CQI approach they tested.

More details are in "Failure of a trial of continuous quality improvement and systems intervention to increase the delivery of clinical preventive services," by Dr. Solberg, Thomas E. Kottke, M.D., Milo L. Brekke, Ph.D., and others, in the May/June 2000 *Effective Clinical Practice* 3, pp. 105-115, and a commentary "Improving prevention is difficult," also in *Effective Clinical Practice*, 3, pp. 153-155, 2000. ■

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Studies examine school and health problems of teenagers who weighed 1 to 2 pounds at birth

Extremely low birthweight (ELBW) infants (1 to 2 pounds) tend to have lifelong problems that range from neurosensory impairments (NSIs) such as blindness and deafness to neurodevelopmental problems, including behavioral and learning disorders. They also tend to suffer from poor physical growth, recurrent infections, and many hospitalizations.

Two recent studies supported by the Agency for Healthcare Research and Quality (HS08385, principal investigator Nigel Paneth, M.D., of Michigan State University) show that ELBW teens are much more apt than normal birthweight teens to have problems with reading, spelling, and arithmetic and to need special education assistance. Despite their greater burden of cognitive and physical disability, ELBW teens nevertheless manage to have a fairly high quality of life, according to their parents.

Saigal, S., Hoult, L.A., Streiner, D.L., and others. (2000, February). "School difficulties at adolescence in a regional cohort of children who were extremely low birth weight." ***Pediatrics*** **105(2), pp. 325-331.**

This study of 150 ELBW teens (501 to 1,000 g) aged 12 to 16 years, who were born in Ontario, Canada, between 1977 and 1982, found that they scored 13 to 18 points lower on cognitive and academic achievement tests than an age-matched group of teens whose birthweight was normal. ELBW teens who weighed less than 750 g at birth fared worst, with less than half of them achieving normal (85 or higher) cognitive and academic achievement scores. Decreasing birthweight was also associated with lower scores on reading, spelling, and arithmetic, with children born at less than 750 g scoring the lowest.

Over half (58 percent) of ELBW teens were receiving special educational assistance and/or had repeated a grade compared with 13 percent of normal birthweight teens. Also, 22 percent of ELBW teens required full-time educational assistance compared with none of the normal birthweight teens. Even the apparently normal ELBW group (those without NSIs) still scored from 8 to 11 points lower on achievement tests than their normal birthweight peers. The odds of scoring below the normal range (less than 85) on most psychometric measures were 8- to 13-fold higher for children who weighed less than 750 g at birth and 4- to 6-fold higher for those who weighed 750 g or more, compared with normal birthweight teens.

In addition, only 57 percent of ELBW versus 94 percent of normal birthweight teens were in regular classes. Even apparently normal ELBW teens were having significantly more school difficulties than normal birthweight teens (46 vs. 11 percent). A comparison of this study with an earlier study by these researchers of 8-year-old ELBW children shows that the gap in the cognitive performance of ELBW children widens as they become older. On the other hand, these children were born before many innovations in neonatal intensive care occurred that potentially could have improved their outcomes.

Saigal, S., Rosenbaum, P.L., Feeny, D., and others. (2000, March). "Parental perspectives of the health status and health-related quality of life of teen-aged children who were extremely low birth weight and term controls." ***Pediatrics*** **105(3), pp. 569- 574.**

Interviews of parents of 149 ELBW teens (including 41 with NSIs) and 126 teens of normal birthweight revealed that parents of ELBW teens were fully aware that their children were more disabled than their age-matched peers but nevertheless believed that their children's health-related quality of life (HRQOL) was fairly high. They noted a lower proportion of their teens as having no functional limitations (that is, perfect health) compared with parents of normal birthweight (NBW) teens (34 vs. 60 percent). Parents were asked to assess their children's functioning for six attributes: sensation (vision, hearing, and speech), mobility, emotion, cognition, self-care, and pain.

Parents reported that one or two attributes were affected in 47 percent of ELBW teens compared with 39 percent of controls and that three to six attributes were affected in 19 percent of ELBW teens compared with 2 percent of controls. For example, a significantly higher proportion of ELBW than NBW teens were seen by their parents to have moderate to severe disabilities in sensation (15 vs. 2 percent), mobility (3 vs. 0

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Low birthweight studies

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percent), cognition (23 vs. 2 percent), and self-care (5 vs. 0 percent).

Despite their children's disabilities, 53 percent of parents of ELBW teens compared with 72 percent of parents of NBW teens gave their children a score of 1.0 (perfect health). However, the ELBW distribution was more skewed, with 4.2 percent of ELBW teens having scores below 0.40 compared with none in this range among parents of NBW teens. The researchers found the variation in parents' perceptions consistent with the severity of their children's disabilities. The fact that many parents of ELBW teens considered their children to have good to excellent general health despite these disabilities may reflect their resilience in coping with these difficulties. ■

Type of anesthesia has little effect on outcomes for patients undergoing hip fracture repair surgery

Patients who undergo hip fracture repair surgery have the same risk of postoperative problems or death, whether they receive regional (epidural or spinal) or general anesthesia during surgery, finds a study supported in part by the Agency for Healthcare Research and Quality (HS07322). Thus, the type of anesthesia used should depend on other factors such as patient characteristics (for example, other illnesses and age), according to the researchers. They retrospectively reviewed the medical charts of patients 60 years of age or older who underwent hip fracture repair at 20 study hospitals in 4 metropolitan areas between 1983 and 1993.

The researchers found greater use of regional anesthesia for hip fracture repair in recent years. In 1981 and 1982, general anesthesia was used for 95 percent of patients but in only 50 percent of patients by 1993-1994. However, there was considerable variability in use of regional anesthesia among institutions, ranging from 13 to 97 percent. Of the 9,425 patients (most patients were women with a mean age of 80 years) studied, general anesthesia was used for 66 percent and regional anesthesia for the remaining 34 percent. The unadjusted 30-day mortality rate was 4.4 percent in the general anesthesia group and 5.4 percent in the regional anesthesia group, which was older and more sick (more apt to have a history of cardiovascular or chronic obstructive lung disease).

After adjusting for patient differences, there were no significant differences in 7-day mortality rates among patients who had regional versus general anesthesia. There also were no significant differences between the two groups in rate of postoperative problems, such as postoperative pneumonia or congestive heart failure. Thus, type of anesthesia was not associated with morbidity or mortality.

The study's principal investigator was Jeffrey L. Carson, M.D., of the University of Medicine and Dentistry of New Jersey, Robert Wood Johnson Medical School. His colleagues are from the University of Pennsylvania School of Medicine, Brown University School of Medicine, the University of Texas at San Antonio, and the Medical College of Virginia.

See "The effect of anesthetic technique on postoperative outcomes in hip fracture repair, by Dorene A. O'Hara, M.D., M.S.E., Amy Huff, M.H.S., Jesse A. Berlin, Sc.D., and others, in *Anesthesiology* 92, pp. 947-957, 2000. ■

Evidence-Based Medicine

Screening for cervical cancer every 3 to 5 years with the conventional Pap test remains effective

Since widespread screening for cervical cancer with the Pap test began in the United States, cervical cancer rates declined from 14 per 100,000 women in 1973 to 8 per 100,000 in 1994. Nevertheless, cervical cancer is still the ninth leading cause of cancer deaths among U.S. women, and some of these women had recently received negative Pap test results, which obviously were incorrect (false-negative).

About two-thirds of false-negative Pap test results are caused by sampling error (abnormal cells

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Cervical cancer

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are not collected or are not transferred to the Pap slide) or detection error (abnormal cells on the Pap slide are missed or misinterpreted). New methods to correct these errors have been introduced, such as monolayer cytology and computer screening or rescreening.

A recent review of studies that compared conventional and newer Pap tests with a current reference standard (histologic examination, colposcopy, or cytology) found that conventional Pap tests were only moderately accurate and did not achieve concurrently high sensitivity and specificity. Estimates of sensitivity and specificity varied greatly (ranging from 30 to 87 percent and 86 to 100 percent, respectively) in individual studies. Nevertheless, serial Pap testing remains effective. Pap testing every 3 to 5 years will probably detect abnormalities missed in one screening because cervical cancer is usually a slow-growing disease, and many low-grade lesions regress spontaneously.

There were insufficient high-quality data to estimate the accuracy of new cytologic methods for cervical screening, such as thin-layer cytology (ThinPrep), the computerized rescreening device (PAPNET), and the algorithmic classifier (AutoPap), all of which have been approved by the U.S. Food and Drug Administration. These results are based on an evidence report prepared by the Duke University Evidence-based Practice Center (EPC), which is directed by David B. Matchar, M.D., and supported by the Agency for Healthcare Research and Quality (contract 290-97-0014).

See "Accuracy of the Papanicolaou test in screening for and follow-up of cervical cytologic abnormalities: A systematic review," by Kavita Nanda, M.D., Douglas C. McCrory, M.D., M.H.Sc., Evan R. Myers, M.D., M.P.H., and others, in the May 16, 2000 *Annals of Internal Medicine* 132, pp. 810-819.

Editor's note: This journal article is drawn from the full evidence report, *Evaluation of Cervical Cytology* (AHRQ Publication No. 99-E010). Copies of the report are available from AHRQ.* A summary of the report (AHRQ No. 99-E009) is also available from the Agency.** See the back cover of *Research Activities* for ordering information. ■

Newer and older antidepressants are equally effective for treating major depression in adults, but side effects differ

Major depression is estimated to be the fourth most important cause of worldwide disability. In fact, the lifetime risk for major depressive disorder ranges from 10 to 15 percent for women and 5 to 12 percent for men. Newer antidepressants and readily available herbal remedies have led to wider but sometimes confusing choices for doctors treating patients with depression. A recent study may help guide these choices. [Editor's note: It is important to note that psychotherapy continues to be a treatment option for major depressive disorder, although this study did not deal with it.]

For this study, researchers at the Evidence-based Practice Center (EPC) at the University of Texas Health Science Center did a meta-analysis of 315 randomized trials comparing newer antidepressants such as serotonin reuptake inhibitors, serotonin norepinephrine reuptake inhibitors, and St. John's wort to placebo and to older tricyclic antidepressants.

The 6- to 8-week long studies were done on adults with acute major depression (at least 2 weeks of depressed mood or loss of interest or pleasure in nearly all activities, along with loss of appetite and/or difficulty concentrating or making decisions) or dysthymia (chronic mood disorder with depressed mood on more days than not for at least 2 years with two or more symptoms such as loss of appetite, insomnia, fatigue, or difficulty concentrating). Overall, 51 percent of those receiving newer antidepressants compared with 32 percent who received placebo improved (at least a 50 percent reduction in depressive symptoms). Efficacy did not differ among newer agents or between newer and older agents (54 percent of patients receiving either agent reduced symptoms by least 50 percent). Hypericum (St. John's wort) was more effective than placebo for mild to moderate depression, but publication bias may have inflated its benefit.

Also, 59 percent of dysthymic patients who received either an older or newer antidepressant improved compared with 37 percent on placebo. Newer and older antidepressants did not differ overall in terms of the number of patients who stopped taking their medication, but side effects (e.g., diarrhea, nausea, insomnia, blurred vision, constipation) varied significantly depending on the drug

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Depression in adults

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class. Because they are similarly effective, both newer and older antidepressants should be considered when making treatment decisions, according to Cynthia Mulrow, M.D., M.Sc., the EPC project director. The EPC is supported by the Agency for Healthcare Research and Quality (contract 290-97-0012).

In conclusion, Dr. Mulrow and her colleagues point out the limitations of this study. In particular, they note that most studies were short-term (less than 8 weeks duration), focused exclusively on relief of depressive symptoms, and were conducted under rigorously controlled conditions necessary to evaluate efficacy. Longer term trials that could provide more informative data on adverse effects and the sustainability of beneficial effects are lacking. They call for effectiveness studies to evaluate the relative benefits of treatments under usual clinical conditions, research to determine whether combinations of antidepressants or antidepressants plus psychosocial treatments are more effective than treatment with an antidepressant alone, more studies on the relative benefits of St. John's wort compared with newer antidepressants, and research on the efficacy of antidepressants in patients with coexisting chronic conditions.

More details are in "A systematic review of newer pharmacotherapies for depression in adults: Evidence report summary," by John W. Williams Jr., M.D., M.H.S., Dr. Mulrow, Elaine Chiquette, Pharm.D., and others, in the May 2, 2000 Annals of *Internal Medicine* 132(9), pp. 743-756.

Editor's note: The journal article summarized here was drawn from the full evidence report, *Treatment of Depression–Newer Pharmacotherapies* (AHRQ Publication No. 99-E014). Copies of the report and a companion summary (AHRQ Publication No. 99-E013) are available from AHRQ.* ■

AHRQ releases four new evidence reports

Four new evidence reports were released recently by the Agency for Healthcare Research and Quality. They present the results of systematic reviews of the evidence on weaning from mechanical ventilation, disability in patients with chronic renal failure, management of acute otitis media, and management of new onset atrial fibrillation. The reports were prepared by Evidence-based Practice Centers (EPCs) supported by the Agency for Healthcare Research and Quality. They provide organizations with comprehensive, science-based information on common, costly medical conditions and new health care technologies.

There are 12 AHRQ-supported EPCs; they systematically review the relevant scientific literature on topics assigned to them by AHRQ and conduct additional analyses when appropriate prior to developing their reports and assessments. The goal is to inform health plans, providers, purchasers, and the health care system as a whole by providing essential information to improve health care quality. Evidence report summaries are now available from AHRQ, both online via the AHRQ Web site and in print from the AHRQ Clearinghouse.* Copies of the full evidence reports will be available in the near future.

Criteria for Weaning from Mechanical Ventilation.
Mechanical ventilation refers to the use of life-support technology to perform the work of breathing for patients who are unable to do so on their own. The majority of critically ill patients in most modern intensive care units require a period of this treatment. The use of prolonged mechanical ventilation is associated with hospital-acquired pneumonia, cardiac-associated morbidity, and death. On the other hand, premature discontinuation of mechanical ventilation also incurs a substantial risk of reintubation and other complications.

This evidence report, which was developed for AHRQ by the McMaster University Evidence-based Practice Center (contract 290-97-0017), focuses on issues related to weaning patients from mechanical ventilation. In preparing the report, the EPC addressed the following questions:

1. When should weaning be initiated?
2. What criteria should be used to initiate the weaning process?
3. What are the most effective methods of weaning from mechanical ventilation?
4. What are the optimal roles of non-physician health care professionals in facilitating safe and expeditious weaning?
5. What is the value of clinical practice algorithms and computers in expediting weaning?

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New evidence reports

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In addition to answering these questions, the report also presents background information, describes the methodology used by the EPC, and identifies a number of priorities for future research on mechanical ventilation. Copies of the summary (AHRQ Publication No. 00-E028) are available from AHRQ.** The full evidence report (AHRQ Publication No. 00-E029) is expected to be available by late summer 2000.

Determinants of Disability in Patients with Chronic Renal Failure. The purpose of this report, which was prepared for AHRQ by ECRI of Plymouth Meeting, PA (contract 290-97-0020), is to evaluate the Social Security Administration's current Listing of Impairments for determining disability in individuals with chronic renal failure. Renal failure occurs when the kidneys lose their ability to filter wastes from the blood. It can occur as a result of chronic conditions such as primary kidney disease, diabetes, hypertension, and heart disease. Renal failure can also be acute, occurring from a sudden injury or illness, such as a blow to the abdomen, bacterial infection, or a drug overdose.

This report is concerned with chronic renal failure, which is much more common than acute renal failure, and focuses solely on patients who are undergoing dialysis. It presents background information, the methodology and parameters used in collecting evidence, the results of the review, and a discussion of future research needs. Copies of the report summary (AHRQ Publication No. 00-E012) are available from AHRQ.** Copies of the full report (AHRQ Publication No. 00-E013) is expected to be available by late summer 2000.

Management of Acute Otitis Media. This report presents an analysis of the available scientific evidence on the initial management of uncomplicated acute otitis media (AOM) in children ages 4 weeks to 18 years. For the purposes of this report, AOM is defined as the presence of middle-ear effusion in conjunction with the rapid onset of one or more signs or symptoms of inflammation of the middle ear. Uncomplicated AOM is defined as AOM that is limited to the middle ear cleft. The scope of the evidence report is limited to three key clinical questions:

1. What is the natural history of AOM without antibiotic treatment?
2. Are antibiotics effective in preventing clinical failure?
3. What is the relative effectiveness of specific antibiotic regimens?

The EPC presents background information about AOM, discusses the methodology used in developing the report, discusses the effects of antibiotics on AOM, compares the relative effects of different antibiotic regimens, and discusses the limitations of the literature. This evidence report was developed for AHRQ by the Southern California Evidence-based Practice Center/RAND Corporation (contract 290-97-0001). Copies of the report summary (AHRQ Publication No. 00-E008) are available from AHRQ.** Copies of the full report are expected to be available by late summer 2000.

Management of New Onset Atrial Fibrillation. Atrial fibrillation (AF) is the most common arrhythmia physicians face in clinical practice, accounting for about one-third of hospitalizations for arrhythmia. This evidence report, which was developed for AHRQ by the Johns Hopkins University Evidence-based Practice Center (contract 290-97-0006), was prepared to synthesize the available scientific evidence that should be used to guide clinicians in their management of patients with new onset atrial fibrillation. It is limited to first-line strategies for use in patients with this condition. It identifies a set of key questions used to guide the review, describes the methodology used by the EPC, presents the results of the review and the meta-analysis and decision analysis, and presents a set of research topics to guide future studies.

Copies of the report summary (AHRQ Publication No. 00-E006) are available from AHRQ.** Copies of the full report (AHRQ Publicaton No. 00-E007) are expected to be ready by fall 2000. ■

Higher risk of out-of-pocket health care expenses is associated with an increased risk of premature death among the elderly

Various cost-sharing requirements and benefit limitations in the Medicare program leave beneficiaries vulnerable to high out-of-pocket costs. As a result, many elderly Americans fill these gaps in Medicare coverage with private supplemental insurance (so-called Medigap plans). However, even these individuals may face substantial out-of-pocket costs in the event of a catastrophic illness, depending on the generosity of their private supplemental plan.

A recent study supported by the Agency for Healthcare Research and Quality (HS09522) found that among elderly Americans with private Medigap insurance, those at risk for higher out-of-pocket costs had a greater chance of dying within 5 years than those at risk for lower out-of-pocket costs. This is similar to findings from previous studies of younger people in which adverse health outcomes were associated with financial barriers, such as lack of insurance and high copayments.

These findings suggest that decreased out-of-pocket health care expenditures may be associated with a reduced risk of premature death among elderly Americans, according to Jessica S. Banthin, Ph.D., and Carolyn M. Clancy, M.D., of the Agency for Healthcare Research and Quality. Drs. Banthin and Clancy and their coauthors Mark P. Doescher, M.D., M.S.P.H., from the University of Washington School of Medicine, and Peter Franks, M.D., of the University of Rochester, used data on 3,751 people aged 65 years and older with private supplemental insurance from the 1987 National Medical Expenditure Survey (a sample of the U.S. civilian population) which had been linked to the National Death Index.

The researchers found that after 5 years, 18.5 percent of people at low risk for high out-of-pocket expenditures, 22.5 percent of those at intermediate risk, and 22.6 percent of those at high risk had died. This pattern held while controlling for health status, chronic conditions, smoking status, age, sex, education level, poverty status, and other potential confounding factors.

The researchers call for more studies to identify which specific components of uncovered expenditures are associated with poor health outcomes among the elderly. For instance, individuals whose supplemental insurance plans do not include prescription drug coverage are likely to be at increased risk of high out-of-pocket costs.

For more details, see "Supplemental insurance and mortality in elderly Americans," by Drs. Doescher, Franks, Banthin, and Clancy, in the March 2000 *Archives of Family Medicine* 9, pp. 251-257. Reprints (AHRQ Publication No. 00-R032) are available from AHRQ.** ■

Researchers examine factors influencing health insurers' coverage of new genetic technologies

Health insurers play a critical role in determining patient access to new medical technology. If insurers won't cover them, new tests and therapies are less likely to be introduced and used. A recent national survey of people who make the coverage decisions for health insurers about genetic testing and gene therapies revealed that insurers base their decisions on the validity of tests and the safety and effectiveness of gene therapies.

Coverage decisionmakers surveyed represented health maintenance organizations, preferred provider organizations, indemnity plans, and self-insured employer health plans that were identified from insurance membership directories. They were asked whether they would cover cystic fibrosis (CF) carrier screening, testing for genetic susceptibility to breast cancer (test for the BRCA gene), and medical costs of a clinical trial of gene therapy for CF under certain conditions.

Only 4 to 15.5 percent of all insurers covered these services at the time of the study. Coverage decisions did not differ by type of insurance organization. Insurers said they would significantly increase coverage of CF carrier

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Insurance coverage of new technologies

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screening and BRCA testing if the group tested was restricted to those at high risk for developing the diseases, if disease detection rates were higher and costs lower, and if testing was endorsed by a national professional group or consensus conference. Insurers said they would also be more likely to cover the medical costs of a trial of CF gene therapy if the trial was restricted to children or adults with severe CF, safety and effectiveness were proven, and therapy could be administered in a regional hospital or an outpatient setting rather than in a research hospital.

Only half of respondents considered CF carrier screening of all pregnant women to be medically appropriate, and fewer considered the BRCA test or the CF gene therapy trial to be medically appropriate. The majority agreed that the detection rate of the two tests was adequate, but over three-fourths agreed on the potential for psychological harm from the BRCA test. Few respondents thought there was great potential for future cost savings by offering the tests. The study was supported in part by the Agency for Healthcare Research and Quality (doctoral dissertation grant HS08461) and led by Michele M. Schoonmaker, of Vysis, Inc.

See "Factors influencing health insurers' decisions to cover new genetic technologies," by Ms. Schoonmaker, Barbara A. Bernhardt, and Neil A. Holtzman, in the *International Journal of Technology Assessment in Health Care* 16(1), pp. 178-189, 2000. ■

Emergency Medicine

Researchers examine use of emergency medical services and hospitalization for children with special needs

Based on a review of hospital charts, an estimated 2-24 percent of children in Utah who used emergency medical services (EMS) in 1991-1992 were children with special health care needs (CSHCN). Compared to other children in the State who used EMS, these children (who often have congenital anomalies or birth-related conditions) were more likely to be admitted to the hospital and to have longer stays and greater hospital charges than other children. They also were more likely than other children to use EMS for transfer between health care facilities and to receive prehospital procedures such as intravenous therapy.

EMS personnel required more time for CSHCN than other children at the scene. This suggested a need for an educational program for EMS providers concerning CSHCN, which was established within the Bureau of EMS, Utah Department of Health, in the period following the study. The University of Utah School of Medicine researchers who conducted the study call for a definition of CSHCN that can be applied to existing data to facilitate research on EMS and other medical care provided to these children.

Their research was supported by the Agency for Healthcare Research and Quality (HS09057).

Led by Anthony Suruda, M.D., M.P.H., the researchers identified patterns of EMS usage for children (ages 0-17 years) by linking hospital record diagnosis information to the EMS run information in 1991 and 1992. They used three ICD-9-based definitions to identify CSHCN as: (1) children with congenital anomalies and birth-related conditions, (2) those with diagnosis codes indicating a need for separate Medicaid reimbursement, and (3) children who met an operational surveillance definition of CSHCN from the Arizona Emergency Medicine Research Center, which consisted of 382 diagnosis and procedure codes used in a Tucson study of children with special needs.

More details are in "Usage of emergency medical services by children with special health care needs," by Dr. Suruda, Donald D. Vernon, M.D., Edma Diller, M.P.H., and J. Michael Dean, M.D., M.B.A., in the April 2000 *Prehospital Emergency Care* 4(2), pp. 131-135. ■

Sexual assault is a major problem for homeless women, which often correlates with physical and mental health problems

Sexual assault is a major problem faced by homeless women, according to a study supported in part by the Agency for Healthcare Research and Quality (HS08323). Recent interviews with nearly 1,000 homeless women in Los Angeles County revealed that 13 percent of the women had been raped during the previous year, and half of these women were raped at least twice in that year. The women ranged in age from 15 to 44 years and completed a 45-minute structured interview seeking to correlate factors with rape among these women.

Results from the interviews showed that compared with homeless women who had not been raped, rape victims were three times as likely (odds ratio, OR 3.3) to have one or more limitations in their ability to function physically, nearly twice as likely (OR 1.88) to report 2 or more gynecologic symptoms and conditions, and three times (OR 3.31) as likely to report two or more serious physical health symptoms. Rape victims were also more apt than women who had not been raped (53 vs. 35 percent) to report that they had not seen a doctor during the previous year, despite their need to do so. In addition, rape victims were nearly three times as likely as nonvictims to have experienced psychological distress during the past month (OR 2.68) and depression during the past year (OR 2.87) and twice as likely to have a lifetime history of alcohol (OR 1.83) or drug (OR 2.46) abuse or dependence. What's more, homeless women who were raped were more likely than those who hadn't suffered rape to say they desired treatment for substance abuse but were unable to obtain it (20 vs. 6 percent).

These results should serve to alert clinicians about groups of homeless women who may benefit from rape screening and treatment interventions. The striking association of rape with all aspects of women's health suggests that all homeless women who present with serious mental, physical, or substance abuse problems should be screened for violent experiences, notes Lillian Gelberg, M.D., M.S.P.H., of the University of California, Los Angeles.

See "Health of homeless women with recent experience of rape," by Suzanne L. Wenzel, Ph.D., Barbara D. Leake, Ph.D., and Dr. Gelberg, in the April 2000 *Journal of General Internal Medicine* 15, pp. 265-268. ■

Agency News and Notes

AHRQ institutes new Kerr White Visiting Scholar Program

The Agency for Healthcare Research and Quality is now accepting applications for the newly established Kerr White Visiting Scholars Program. The intent of the Kerr White Visiting Scholars Program is to combine opportunities for both the development of new scholars and enrichment of the Agency's intramural research program. Scholars participating in the program will draw from a wide range of theories and methods to address new and emerging issues related to health care access and use, quality, cost-effectiveness, and outcomes.

The Kerr White Visiting Scholars Program at AHRQ provides collaborative research opportunities, linking both new and recognized health care research scholars with AHRQ researchers. Visiting scholars will have an opportunity to learn and use AHRQ databases, including the Medical Expenditure Panel Survey (MEPS) and the Healthcare Cost and Utilization Project (HCUP). Applicants can propose a general area of research interest or a specific project to be completed while in residence at AHRQ.

Positions are nonrenewable and can be filled for a period of 1 to 2 years. Mechanisms used to hire scholars range from service fellowships to Intergovernmental Personnel Act (IPA) appointments. September 22, 2000, is the closing date for this year.

Visit the AHRQ Web site at http://www.ahrq.gov/ and click on "Research Training" to access the program announcement, which includes application

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Kerr White Visiting Scholar Program

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instructions. Applicants are encouraged to contact Agency research staff for further information about topics of most interest. See the program announcement for names and phone numbers of appropriate Agency staff by program area.

For additional information about the program, contact Francis D. Chesley, M.D., Director of AHRQ's Office of Research Review, Education and Policy at 301-594-6410. Print copies of the program announcement also are available from AHRQ InstantFAX and from the AHRQ Clearinghouse.** See the back cover of *Research Activities* for ordering information.

Editor's note: This program is named in honor of Kerr L. White, M.D. Dr. White has been an internationally known leader in health care research for the past 50 years. Educated at McGill University in economics, political science, and medicine, Dr. White did postgraduate work at Yale University, the London Hospital Medical School, and the London School of Hygiene and Tropical Medicine. In the 1950s, Dr. White introduced the term "primary medical care" and conducted a number of early studies in the medical discipline later defined as "health services research." ■

Announcements

AHRQ announces priority interests for grant-supported research

The Agency for Healthcare Research and Quality has issued a program announcement detailing the Agency's priority interests for research, demonstration, dissemination, and evaluation projects. Researchers should use these priorities to guide their development of investigator-initiated grant applications.

AHRQ is interested in research on a wide range of topics organized under the Agency's priority program areas: supporting improvements in health outcomes, strengthening quality measurement and improvement, and identifying strategies to improve access, foster appropriate use, and reduce unnecessary expenditures. Potential research topics include:

- Effectiveness and cost-effectiveness of clinical and organizational interventions.
- Ways to assess the impact of diagnostic and other health care technologies on cost and patient outcomes, and how to prioritize such assessments.
- Development and testing of practical, ready-to-use outcomes measures addressing functional status, quality of life, and severity and risk adjustment.
- Development of innovative approaches to measuring quality, including the perspectives of providers, patients, and consumers.
- Methods for optimal systematic reviews of evidence, including methodological research on meta-analysis, decision analysis, and cost-effectiveness analysis.
- Interventions to address specific patient barriers to preventive care, with specific focus on vulnerable populations—including older women—who may receive fewer and lower quality services.
- Studies of major changes in health care markets.
- Studies of how variations in health care organizations, structure, and delivery affect care in terms of outcomes, quality, access, cost, and use.
- Characteristics of primary care practice that lead to improvements in outcomes and quality of care.

AHRQ encourages research using data from the Medical Expenditure Panel Survey (MEPS), the Healthcare Cost and Utilization Project (HCUP), and other AHRQ data. Information on MEPS and HCUP is available from the data section of the newly redesigned AHRQ Web site at www.ahrq.gov.

AHRQ's research agenda includes a special focus for health services research on a number of populations: low-income groups, racial and ethnic minority groups, women, children, the elderly, individuals with special health care needs, and people living in inner-city, rural, and frontier areas.

AHRQ also encourages partnerships with public and private organizations to facilitate

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Priority areas for research

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development and sharing of scientific knowledge and resources, including cost-sharing mechanisms; projects that will produce results within 2-3 years; and results that can be integrated rapidly into practice and policy. Research topics in areas that are not discussed in the program announcement also will be considered, however, they must contribute to the Agency's goals and initiatives.

Full details, including the names of Agency staff who can be contacted for further information can be found online at www.ahrq.gov/fund/grantix.htm, by fax from AHRQ InstantFAX at 301-594-2800, and from the AHRQ Clearinghouse (request PA-00-111). See the back cover of *Research Activities* for ordering information. ■

Position available: The Agency for Healthcare Research and Quality is recruiting for the position of Director, Center for Cost and Financing Studies (CCFS). The Director, CCFS, leads a staff of approximately 50 highly trained and skilled economists, statisticians, social scientists, clinicians, and support staff in conducting intramural and supporting extramural research related to the cost and financing of personal health care services. Candidates must possess a doctoral degree (or equivalent) and have at least 5 years appropriate postdoctoral health care research and/or policy experience; demonstrate strong personal and leadership accomplishments in health science or allied sciences, behavioral science, economics, mathematics, statistics, or related disciplines; and have extensive professional experience in planning, evaluating, conducting, or administering research investigations of health care services. The Agency is seeking a nationally recognized leader in the area of health services research or health policy. Salary will be commensurate with the qualifications and experience of the successful applicant. Call 301-594-2408 to obtain a copy of the full text announcement, which provides more information about the position and application procedures, or visit AHRQ's Web site at www.ahrq.gov and click on "Job Announcements" (see announcement AHRQ-00-30). Applications must be received by August 31, 2000. AHRQ is an Equal Opportunity Employer. ■

HHS releases new Public Health Service guideline on smoking cessation

The Public Health Service guideline, *Treating Tobacco Use and Dependence: A Clinical Practice Guideline*, was released by the Department of Health and Human Services on June 27, 2000. It contains evidence-based information about first-line pharmacologic therapies (bupropion SR, as well as nicotine gum, patches, inhalers, and nasal sprays) and second-line therapies (clonidine and nortriptyline) to treat tobacco dependence. It also highlights new evidence about how telephone counseling can help patients quit using tobacco.

The guideline is aimed at practicing clinicians. Studies have shown that more than 25 percent of U.S. adults smoke, and that 70 percent of them would like to quit. Of those smokers who try to quit, those who have the support of their physician or other health care provider are the most successful. Data show that only half of the smokers who see a doctor have ever been urged to quit, even though smoking is the single greatest preventable cause of illness and premature death in the United States.

The tobacco cessation guideline was developed by a consortium convened by the U.S. Public Health Service that includes the Centers for Disease Control and Prevention, the National Cancer Institute, the National Institute on Drug Abuse, the National Heart, Lung, and Blood Institute, the Agency for Healthcare Research and Quality, the Robert Wood Johnson Foundation, and the University of Wisconsin Medical School's Center for Tobacco Research and Intervention. It builds on a smoking cessation guideline first issued by the government in 1996. In addition, more than 100 organizations are supporting this effort.

An article by the Tobacco Use and Dependence Clinical Practice Guideline Panel, chaired by Michael Fiore, M.D., M.P.H., of the University of Wisconsin

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Smoking cessation guideline

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Medical School, summarizing the guideline appears in the June 28, 2000 issue of the *Journal of the American Medical Association* 283(24), pp. 3244-3254.

Copies of the full guideline, *Treating Tobacco Use and Dependence: A Clinical Practice Guideline,* and the consumer guide, *You Can Quit Smoking*, are available free of charge by calling 1-800-358-9295.

Click on www.surgeongeneral.gov/tobacco/default.htm to access the guideline documents online. ■

New MEPS methodology reports are now available from AHRQ

Several new reports are now available from the Medical Expenditure Panel Survey (MEPS). MEPS is the third in a series of nationally representative surveys of medical care use and expenditures sponsored by the Agency for Healthcare Research and Quality. MEPS is cosponsored by the National Center for Health Statistics (NCHS). The first survey, the National Medical Care Expenditure Survey (NMCES), was conducted in 1977; and the second survey, the National Medical Expenditure Survey (NMES) was carried out in 1987.

MEPS collects detailed information on health care use and expenses, sources of payment, and insurance coverage of individuals and families in the United States. MEPS comprises four component surveys: The Household Component, the Medical Provider Component, the Insurance Component, and the Nursing Home Component.

The following two methodology reports are newly released from the MEPS program. Copies are available from AHRQ.* See the back cover of *Research Activities* for ordering information.

Design, Methods, and Field Results of the 1996 Medical Expenditure Panel Survey Medical Provider Component. MEPS Methodology Report No. 9 **(AHRQ Publication No. 00-0028). Machlin, S.R. and Taylor, A.K.**

The Medical Provider Component is a survey of medical professionals and institutions that provided care to sample individuals in the MEPS Household Component. The MPC's primary focus is to collect data on expenditures for medical services provided to MEPS respondents. MPC data are critical in the development of MEPS national medical expenditure estimates because household respondents are not always a reliable source of information on medical expenditures. This report describes the design of and methods used in the 1996 MEPS MPC. In addition, information is included on MPC objectives, instruments and procedures for data collection, sample sizes, and response rates.*

Imputation of Employer Information for the 1996 Medical Expenditure Panel Survey Insurance Component. MEPS Methodology Report No. 10 **(AHRQ Publication No. 00-0039). Sommers, J.P.**

The Insurance Component (IC) is a survey of employers, unions, and other providers of health insurance. The IC has two parts. The household sample is linked to sample individuals in the MEPS Household Component. It consists of private- and public-sector employers of MEPS respondents, as well as unions and insurance companies that provide insurance to them. The list sample consists of an independent random sample of private-sector business establishments, governments, and the self-employed with no employees. This report describes the process used to impute values for missing establishment and plan characteristics for the IC in four types of cases: list sample, private sector; list sample, government; household sample, private sector; and household sample, government. The description includes preparation of the data, selection of donors, and the use of donor and other information to create the item for the recipient.* ■

Reprints available: Two new reprints of articles by AHRQ Director John M. Eisenberg, M.D., are now available from our Clearinghouse and AHRQ InstantFAX. "Staying true to roots while branching out" (AHRQ Publication No. 00-R038), which appeared in the May 2000 issue of *Managed Care*, pp. 33-40, is an interview with Dr. Eisenberg that focuses on the Agency's reauthorization and the effects it has had on programs and priorities. In the article "Quality research for quality healthcare: The data connection" (AHRQ Publication No. 00-R034), which appeared in the June 2000 issue of *Health Services Research*, 35, pp. xii-xvii, Dr. Eisenberg discusses on two data resources developed and maintained by AHRQ: MEPS (the Medical Expenditure Panel Survey) and HCUP (the Healthcare Cost and Utilization Project).** ■

AHRQ announces availability of ambulatory surgery databases

The Agency for Healthcare Research and Quality has announced the availability of a new set of databases from the Agency's Healthcare Cost and Utilization Project (HCUP). HCUP is a Federal-State-industry partnership dedicated to building a multi-State data system and making high-quality health care data more readily available to researchers and policy analysts. This new resource—the State Ambulatory Surgery Databases (SASD)—provides data on ambulatory surgery encounters in Colorado, Florida, New Jersey, New York and Utah.

According to AHRQ's Director John M. Eisenberg, M.D., SASD will spur research that examines the migration of surgical procedures from inpatient to outpatient settings. For example, how does the distribution of surgical procedures between inpatient and outpatient settings vary by State and by payer? Do outcomes vary according to setting?

SASD files contain uniformly formatted abstracts from hospital-affiliated ambulatory surgery sites; some include records from freestanding surgery centers as well. Each State database contains a core set of clinical and nonclinical data, including principal and secondary diagnoses and procedures, patient demographics, total charges, discharge status, and patients' expected payment source, including Medicare, Medicaid and no insurance. The databases contain hospital identifiers that permit linkages to hospital-level and county-level databases.

SASD files are available for purchase in CD-ROM format from HCUP Central Distributor, the MEDSTAT Group, 5425 Hollister Avenue, Suite 140, Santa Barbara, CA 93111; telephone 805-681-5876; fax 805-681-5888; e-mail hcup@medstat.com. Data files from the State Inpatient Databases (SID) also are available from the HCUP Central Distributor. ■

AHRQ funds new projects

The following research grants, small project grants, and conference grant were funded recently by the Agency for Healthcare Research and Quality. Each listing includes the project title, principal investigator, performing organization, project number and dates, and funding. Note that research findings usually are not available until a project has ended or is nearing completion.

Research Projects

Health care markets and vulnerable populations

Project director: Jose J. Escarce, M.D., Ph.D.
Organization: RAND Corporation
Santa Monica, CA
Grant number: AHRQ grant HS10770
Project period: 7/1/00 to 6/30/05
First year funding: $402,282

Health preference assessment in Parkinson's disease

Project director: Andrew Siderowf, M.D.
Organization: University of Pennsylvania
Philadelphia, PA
Grant number: AHRQ grant HS00004
Project period: 8/1/00 to 7/31/05
First year funding: $120,625

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New projects

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Improving outcomes in U.S. Latino children

Project director:	Marielena Lara, M.P.H.
Organization:	University of California Los Angeles, CA
Grant number:	AHRQ grant HS00008
Project period:	7/1/00 to 6/30/05
First year funding:	$126,630

Reducing adverse drug events in the nursing home

Project director:	Jerry H. Gurwitz, M.D.
Organization:	University of Massachusetts Worcester, MA
Grant number:	AHRQ grant HS10481
Project period:	7/1/00 to 6/30/03
First year funding:	$590,747

Small Grants

Effect of Medicaid drug copayments on outcomes and costs

Project director:	Neil Jordan, M.S.
Organization:	University of Minnesota Minneapolis, MN
Grant number:	AHRQ grant HS10791
Project period:	7/1/00 to 6/30/01
Funding:	$32,400

Long-term care decisionmaking among Korean American elderly

Project director:	Jong W. Min, M.S.W.
Organization:	University of California Los Angeles, CA
Grant number:	AHRQ grant HS10785
Project period:	7/1/00 to 6/30/01
Funding:	$27,194

Using an endoscopic database to study outcomes of reflux

Project director:	Brian Fennerty, M.D.
Organization:	Oregon Health Sciences University Portland, OR
Grant number:	AHRQ grant HS10650
Project period:	7/1/00 to 6/30/01
Funding:	$75,444

Conference Grant

Building bridges for child health research, policy, and practice

Project director:	Holly A. Grason
Organization:	Johns Hopkins University Baltimore, MD
Grant number:	AHRQ grant HS10100
Project period:	7/1/00 to 6/30/01
Funding:	$50,000 ■

AHRQ to cosponsor conference on working conditions and patient safety

The Agency for Healthcare Research and Quality is joining with the National Institute for Occupational Safety and Health (NIOSH/CDC), the Veteran's Health Administration (VHA), the Occupational Safety and Health Administration (OSHA), and the National Center for Infectious Diseases (NCID/CDC) in sponsoring the conference, "Enhancing Working Conditions and Patient Safety: Best Practices." The conference will be held October 17-18, 2000, in Pittsburgh, PA.

Conference participants will discuss practical approaches to simultaneously improving the quality of patient care and working conditions for health care workers. They also will share "best practices," describing both the difficulties encountered and practical examples of successes that can be used by others. Best practices are programs, policies, or procedures that reduce illness and injuries and/or improve well-being among patients, as well as among health care workers. Best practices encourage health care workers and organizations to value safety through attention to organization of work and the physical environment, by encouraging near-miss and error reporting, and by systematically evaluating program effectiveness.

This will be a working meeting, with common themes such as organizational culture and safety presented as plenary topics and working group sessions organized by focus interest areas. Emphasis will be on sharing challenges, pitfalls, and solutions.

This conference will be useful to a diverse audience, including representatives from health care organizations and management, frontline workers and their representatives, researchers from government and academia, and representatives from accrediting bodies, insurance systems, and quality measurement organizations.

To receive conference information and registration materials, please send an e-mail with your contact information to workqual@ahrq.gov. ■

Branas, C.C., Mackenzie, E.J., and ReVelle, C.S. (2000, June). "A trauma resource allocation model for ambulances and hospitals." (AHRQ grant HS09326). *Health Services Research* 35(2), pp. 489- 507.

These researchers used Maryland hospital discharge and vital statistics data on severely injured patients to develop a spatial injury profile based on patient ZIP codes. They then formulated the Trauma Resource Allocation Model for Ambulances and Hospitals (TRAMAH), which can help trauma systems improve the survival rates of their most severely injured patients. TRAMAH was created as a unique combination of mixed-integer programming and an "iterative switching" heuristic.

Lenert, L.A., Sherbourne, C.D., Sugar, C., and Wells, K.B. (2000, July). "Estimation of utilities for the effects of depression from the SF-12." (AHRQ grant HS08349). *Medical Care* 38 (7), pp.763-770.

Utilities for health conditions, including major depression, have a theoretical relationship to health-related quality of life (HRQOL). Because of the complexity of utility measurement and the existence of large numbers of completed studies with HRQOL data but not utility, it would be useful to be able to estimate utilities from measurements of HRQOL. The researchers used clinical interview data to compare differences in utilities and global physical and mental HRQOL at 1- and 2-year followup in 140 depressed primary care patients who did and did not experience remission. Remission of depression resulted in health status improvement, as measured by the SF-12 (a short health status instrument), the equivalent of a gain of 0.11 quality-adjusted life years over 2 years. The authors conclude that utilities for changes in health status can be modeled from the SF-12 scales.

Morales, L.S., Reise, S.P., and Hays, R.D. (2000). "Evaluating the equivalence of health care ratings by whites and Hispanics." (AHRQ grant HS09204). *Medical Care* 38(5), pp. 517-527.

Some concerns have been raised about the validity of care satisfaction surveys among culturally and linguistically diverse patient populations. This study finds that health care rating scales apparently do measure actual differences in satisfaction with care between non-Hispanic white and Hispanic survey respondents. The researchers analyzed survey responses from 5,508 white patients and 713 Hispanic patients on assessment of nine different aspects of medical care they received. Hispanics were significantly more dissatisfied with care than whites. Of the nine areas of care, two were significantly different: reassurance and support offered by doctors and staff and quality of examinations received. However, summary satisfaction scores were similar for whites and Hispanics. The authors conclude that, despite some differences in item functioning, valid satisfaction-with-care comparisons between whites and Hispanics are possible. Any disparities in satisfaction ratings should not be summarily attributed to measurement bias but should be viewed as possibly arising from actual differences in experiences with care.

Myers, E.R., McCrory, D.C., Nanda, K., and others. (2000, June). "A mathematical model for the natural history of human papillomavirus infection and cervical carcinogenesis." (AHRQ contract 290-97-0014). *American Journal of Epidemiology* 151(12), pp. 1158-1171.

These authors developed a model that approximates the age-specific incidence of cervical cancer. It also provides a tool for evaluating the natural history of human papillomavirus (HPV) infection and cervical cancer carcinogenesis, as well as the effectiveness and cost-effectiveness of primary and secondary prevention strategies. The authors used states for HPV infection, low- and high-grade squamous intraepithelial lesions (SIL), and cervical cancer stages I through IV to simulate the natural history of HPV infection in a cohort of women ages 15 to 85. They obtained age-specific incidence for HPV, as well as regression and progression rates for HPV and SIL. The base case model resulted in a lifetime risk of cervical cancer of 3.67 percent and a life-time risk of cervical cancer mortality of 1.26 percent, with a peak incidence of 81/100,000 at age 50. Lifetime risk of cancer was most sensitive to the incidence of HPV and the probability of rapid progression of HPV to high-grade lesions.

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Research briefs

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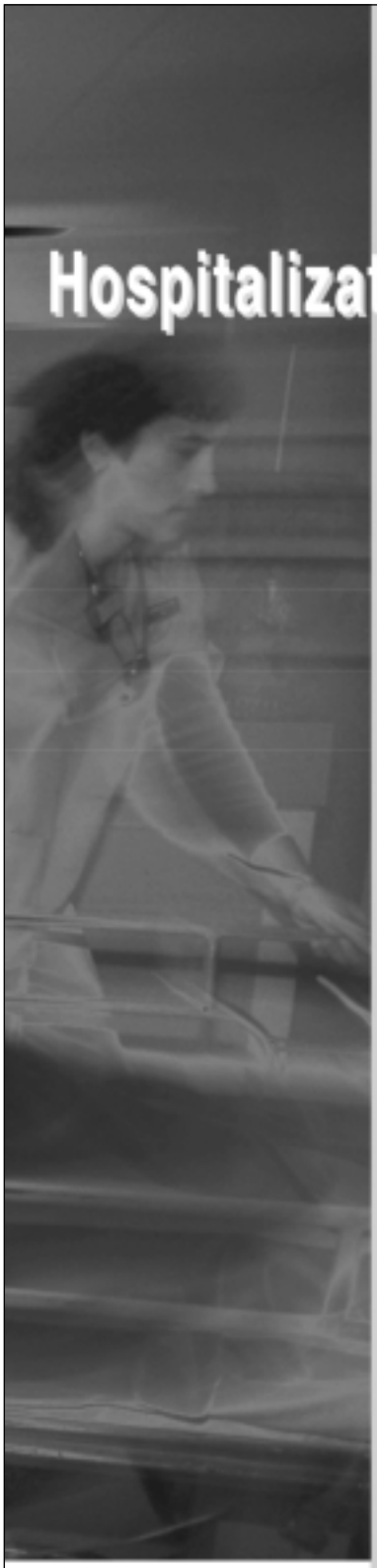
Probst, J.C., Samuels, M.E., Hussey, J.R., and others. (1999, Fall). "Economic impact of hospital closure on small rural counties, 1984-1988: Demonstration of a comparative analysis approach." (AHRQ grant HS07252). *Journal of Rural Health* 15(4), pp. 375-390.

This study demonstrated the use of a comparative analysis approach for estimating the economic effects of hospital closure on small rural counties. The researchers compared the experiences of 103 small rural counties in which a hospital closed between 1984 and 1988 with a matched group of counties in which no hospitals closed. Three scales examined population and economic characteristics in the year before closure; two scales measured change throughout a 3-year period preceding closure; and two scales measured change throughout a 5-year period prior to closure. Comparative analysis suggested that earned income in closure counties (excluding farming and mining income) was lower than in comparison counties subsequent to closure and that labor force growth also shrunk. These results tend to confirm rural hospitals as economic centers. They also justify fears of rural residents that a community hospital closure will reduce new industries' willingness to locate in the community. ■



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- Infant respiratory distress is the most expensive condition treated in the hospital.
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*Hospitalization in the United States, 1997 is based on data from HCUP's Nationwide Inpatient Sample, a database of over 7 million records that approximates a 20-percent sample of U.S. community hospitals. The sample itself is drawn from HCUP's State Inpatient Databases, which cover inpatient care in community hospitals in 22 States, or about 60 percent of all hospital discharges for 1997.

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