Research Activities

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Agency for Healthcare Research and Quality

Highlights

Departments

Regular Features

Younger women with heart failure have worse quality of life than older women and men, but they also tend to improve more over time

Heart failure not only has a high mortality rate, but it also causes shortness of breath, fatigue, and emotional problems. The resulting lower quality of life affects younger women with heart failure more than elderly women or men of any age, according to a study supported by the Agency for Healthcare Research and Quality (HS09822).

Researchers led by Nan Hou, R.N., M.S.N., and Susan J. Bennett, R.N., D.N.S., from the School of Nursing at Indiana University, examined differences in health-related quality of life (HRQOL) among four groups of patients on the basis of age (younger than 65 and 65 years or older) and sex to evaluate the relationships of age and sex to changes in HRQOL over a 6-month period. They asked patients from two urban hospital outpatient clinics at baseline and 26 weeks later to rate shortness of breath (dyspnea) they experienced while doing each of five activities during the previous 4 weeks to identify changes in dyspnea and fatigue. They measured patients' HRQOL using the 21-item Minnesota Living With Heart Failure Questionnaire (LHFQ) and the 16-item Chronic Heart Failure Questionnaire (CHQ).

Of the 165 patients who completed baseline and later interviews, those younger than 65 years had poorer HRQOL scores on total scales and some subscales compared with older patients. Women had poorer scores than men on some scales, particularly the emotional subscales, but their scores did improve over time. With demographic and clinical factors controlled for, women younger than 65 had more improvement in fatigue over time than older women and more improvement in emotional symptoms over time than men less than 65 years of age as measured by the CHQ. There were no significant differences

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Heart failure

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among the four groups over time in the LHFQ. The CHQ may be more sensitive for detecting individual changes in clinical conditions, particularly in dyspnea and fatigue, conclude the researchers.

See "Relationship of age and sex to health-related quality of life in patients with heart failure," by Nan Hou, R.N., M.S.N., Michelle A. Chui, Pharm.D., Ph.D., George J. Eckert, M.A.S., and others, in the March 2004 *American Journal of Critical Care* 13(2), pp. 153-161. ■

Clinical Decisionmaking

Treatment of high cholesterol in women should be based on all risk factors for heart disease, not just lipid levels

For women who don't have cardiovascular disease, use of drugs, most often statins, to treat high levels of blood lipids or fats such as cholesterol and triglycerides (hyperlipidemia) does not affect rates of death due to coronary heart disease (CHD) or total death rates. For women with known cardiovascular disease, lipid-lowering therapy is effective in reducing CHD-related death, nonfatal heart attack, and revascularization (coronary angioplasty or coronary artery bypass graft surgery), but it does not affect total mortality, according to a new study.

Based on the study findings, researchers suggest that when deciding about beginning lipid-lowering therapy in women, doctors should consider not only a woman's lipid levels, but also her other risk factors for CHD. These risk factors include age, blood pressure, tobacco use, and diabetes, as well as the woman's overall risk of suffering a CHD event such as a heart attack. The study was conducted by researchers at the University of California, San Francisco-Stanford Evidence-based Practice Center, which is supported by the Agency for Healthcare Research and Quality (contract 290-97-0013).

EPC researchers Judith M.E. Walsh, M.D., M.P.H., and Michael Pignone, M.D., M.P.H., assessed and synthesized the evidence regarding drug treatment of hyperlipidemia for the prevention of CHD events in women. They conducted a meta-analysis of 13 studies on the effects of lipid-lowering drug treatment on mortality.

Six trials assessed the effects of lipid-lowering medications on 11,435 women without cardiovascular disease. This approach did not reduce total mortality, CHD mortality, nonfatal heart attack, or revascularization. However, some analyses were limited by too few CHD events in the available trials. Eight trials assessed the effects of lipid-lowering medications on 8,272 women with cardiovascular disease. Lipid lowering did not reduce total mortality in these women, but it did reduce CHD mortality by 26 percent, nonfatal heart attack by 29 percent, revascularization by 30 percent, and total CHD events by 20 percent.

See "Drug treatment of hyperlipidemia in women," by Drs. Walsh and Pignone, in the May 12, 2004 *Journal of the American Medical Association* 291(18), pp. 2243-2252. ■

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Researchers focus on primary care for diabetes and use of a rapid-turnaround test to measure blood glucose

Diabetes patients who have uncontrolled blood glucose levels are at increased risk for serious complications such as kidney failure, blindness, and heart attack. Regular monitoring of blood glucose levels in diabetes patients is needed to prevent these complications or delay progression of the disease. Yet, little time is devoted to diabetes management during primary care visits, according to a study led by Lawrence S. Phillips, M.D., of Emory University, and colleagues. A second study by the same research team shows that a rapid-turnaround blood glucose test during a doctor's visit can identify most inadequately controlled diabetes patients so that their therapy can be intensified. Both studies, which were supported in part by the Agency for Healthcare Research and Quality (HS09722), are summarized here.

Barnes, C.S., Ziemer, D.C., Miller, C.D., and others. (2004, January). "Little time for diabetes management in the primary care setting." ***Diabetes Educator*** **30(1), pp. 126-135.**

This study of patient flow and time management during a routine office visit to a hospital primary care clinic found relatively little time spent by internal medicine residents with type 2 diabetes patients and even less time spent on diabetes management. During the clinic visit, patients spent an average of 25 minutes with the resident. Despite the considerable time invested in these patient visits, the residents spent an average of only 5 minutes on diabetes care, and many standard diabetes care items were omitted.

Glucose monitoring was addressed in 70 percent of visits, but residents asked patients about a history of hypoglycemia (low blood sugar) in only 30 percent of visits. Blood pressure values were mentioned in 75 percent of visits, and hemoglobin A1c (HbA1c) values (an indicator of blood glucose levels) were addressed in only 40 percent of visits. The need for proper foot care was discussed in 55 percent of visits, but feet were examined in only 40 percent of visits. Although 65 percent of patients had high glucose levels (HbA1c level averaged 8.9 percent; optimal glycemic control is less than 7 percent), therapy was intensified for only 15 percent of patients.

Given the time pressures on the primary care doctor, the authors recommend a "5-Minute Scenario" as a model of diabetes care. Using a flowsheet, the doctor first "runs the numbers"—blood pressure, lipids, use of aspirin, and glucose patterns from home monitoring—and makes appropriate adjustments for medications. Next, the doctor orders a urine albumin/creatinine ratio (if not up to date, to detect kidney problems) and dilated eye exam (if the patient's eye screening is not up to date). Finally, he or she examines the patient's feet. The investigators suggest that the recommendation can be easily remembered using the mnemonic "PLAGUE-F" (i.e., pressure, lipids, aspirin, glucose, urine albumin/creatinine ratio, eye examination, and foot examination).

El-Kebbi, I.M., Ziemer, D.C., Cook, C.B., and others. (2004, February). "Utility of casual postprandial glucose levels in type 2 diabetes management." ***Diabetes Care*** **27(2), pp. 335-339.**

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Also in this issue:

Diabetes patients

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Hemoglobin A1c (HbA1c), the main indicator of blood glucose level, is used to determine whether current diabetes treatment is successfully controlling blood sugar levels (optimal blood sugar control is considered to be HbA1c of 7 or less) or needs to be intensified. However, a recent HbA1c result often is not available during patient visits to guide adjustment of therapy. This is because rapid-turnaround HbA1c tests are not widely used in offices, and patients often do not perform home blood glucose monitoring. Fortunately, casual glucose measurements (obtained 1 to 4 hours after a meal) during office visits are an acceptable alternative to guide timely adjustment of therapy, concludes this study.

The investigators examined the relationship between casual postprandial plasma glucose (cPPG) levels (1 to 4 hours after a meal) and HbA1c levels in 1,827 type 2 diabetes patients (most of whom were middle-aged and black) who had both tests done during a single clinic visit. Overall, 67 percent of patients had an HbA1c value at 7 percent or more, and 77 percent had an HbA1c level higher than 6.5 percent. In the clinic, a cPPG of 150 mg/dl identified 78 percent of those with an HbA1c level at 7 or more (elevated) and 74 percent of those with an HbA1c level higher than 6.5 percent. The correlation between cPPG and HbA1c was strongest in patients treated with diet alone and weaker, but still highly significant, for patients treated with oral agents or insulin.

A cutoff cPPG of 150 mg/dL had a predictive value of 80 to 88 percent, meaning that 80 to 88 percent of patients with a plasma glucose level greater than 150 mg/dl also had an elevated HbA1c level. Thus, when rapid-turnaround HbA1c results are not available, a single cPPG level greater than 150 mg/dl may be used during a clinic visit to identify most inadequately controlled diabetes patients to permit timely intensification of therapy.

Editor's note: Another AHRQ-supported study on a related topic found no association between provider continuity and completion of diabetes monitoring tests among privately insured patients. For more details, see Gill, J.M., Mainous III, A.G., Diamond, J.J., and Lenhard, M.J. (2003, September). "Impact of provider continuity on quality of care for persons with diabetes mellitus." (AHRQ grant HS10069). *Annals of Family Medicine* 1(3), pp. 162-170. ■

Pharmaceutical Research

Sibutramine can help manage obesity, but it may not be appropriate for patients with significant cardiovascular disease

Currently, an estimated one-third of the U.S. population is obese, and 50 percent of Americans may be obese by 2020. Clinical trials of sibutramine—a medication that has been approved for the long-term management of obesity—in obese individuals have demonstrated significant weight loss and better weight maintenance than placebo, as well as reduction in fat mass. However, because the drug increases heart rate and blood pressure, it may not be applicable for use in obese patients with significant cardiovascular disease or uncontrolled hypertension.

Blood pressure and heart rate should be regularly monitored in all patients taking sibutramine, according to Walker S. Carlos Poston, Ph.D., M.P.H., of the University of Missouri, Kansas City, and John P. Foreyt, Ph.D., of Baylor College of Medicine. They reviewed clinical efficacy and safety trials of the drug and examined its appropriateness for special populations ranging from minorities and people with diabetes to patients with binge eating disorders. Their work was supported in part by the Agency for Healthcare Research and Quality (HS11282).

Obesity is defined as a body mass index (BMI; weight in kg/height in m2) of 30 or more, for example, a 5'5" woman weighing 180 pounds or more or a 5'11" man weighing 215 pounds or more. Obesity is a serious public health problem, since it boosts the risk of developing heart disease, diabetes, some cancers, osteoarthritis, and other disorders. Sibutramine helps weight loss by increasing feelings of fullness and satisfaction, due to the medication's selective effect on the availability of the neurotransmitters, serotonin and noradrenaline. It has established general safety and efficacy in long-term trials with clinically approved doses of 10 mg and 15 mg. However, the researchers concluded that data are insufficient at this time to determine its appropriateness for use in special populations, such as people with binge eating disorders.

See "Sibutramine and the management of obesity," by Drs. Poston and Foreyt, in *Expert Opinion on Pharmacotherapy* 5(3), pp. 633-642, 2004. ■

Careful use of chloramphenicol and quinolone antibiotics may help preserve the use of chloramphenicol to treat vancomycin-resistant infections

Hospital-acquired enterococcal infections have increased markedly in the past 20 years, accounting for over 10 percent of hospital-acquired bloodstream infections that often result in death. In recent years, the broad-spectrum antibiotic, vancomycin, has been used to treat these multi-drug-resistant pathogens, which has led to the emergence of vancomycin-resistant enterococci (VRE). Chloramphenicol (CR) is one of the few antibiotics effective in the treatment of VRE bloodstream infections. However, longitudinal trends in development of chloramphenicol resistance in VRE isolates are unknown.

Careful use of CR and quinolone antibiotics can help preserve the usefulness of CR in fighting VRE infections, according to a recent study. The study was supported in part by the Agency for Healthcare Research and Quality through its Centers for Education and Research on Therapeutics (CERTs) program (HS10399). Investigators at the University of Pennsylvania CERT examined the relationship between annual hospital-wide use of specific antibiotics and antibiotic classes and CR-resistant VRE prevalence by analyzing the antimicrobial susceptibility profiles of all VRE blood isolates from 1991-2000 at one hospital.

During the 10-year study period, the prevalence of CR-resistant VRE increased from 0 to 11 percent. CR-resistant VRE prevalence was correlated only with use of CR and quinolone antibiotics (for example, ciprofloxacin and levofloxacin). If these trends continue, dependence on newer, more expensive agents will increase, caution the researchers. Their findings suggest that efforts to preserve the usefulness of CR for fighting vancomycin-resistant infections may depend on optimizing the use of CR and quinolone antibiotics.

See "Emergence of resistance to chloramphenicol among vancomycin-resistant enterococcal (VRE) bloodstream isolates," by Ebbing Lautenbach, M.D., M.P.H., Carolyn V. Gould, M.D., Lori A. LaRosa, Pharm.D., and others, in the *International Journal of Antimicrobial Agents* 23, pp. 200-203, 2004. ■

Researchers find no evidence that vitamin E supplements have any benefit in preventing or treating cardiovascular disease

Vitamin E supplementation appears to have no benefit on cardiovascular disease prevention or treatment, according to the results from a meta-analysis of 84 studies on the topic. Supplementation with vitamin E alone or with other antioxidants had no positive or negative impact on fatal or nonfatal heart attacks, deaths due to cardiovascular disease or other causes, or cholesterol levels. The meta-analysis was conducted by Paul G. Shekelle, M.D., Ph.D., and colleagues at the Southern California-RAND Evidence-based Practice Center, which is supported by the Agency for Healthcare Research and Quality (contract 290-97-0001).

A total of 20 trials found no effect of supplementation with vitamin E alone (either 400 IU or less or more than 400 IU) or in combination with other antioxidants (typically vitamin C or beta-carotene) on death rates from all causes in people with no known preexisting cardiovascular disease and those

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Vitamin E supplements

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with cardiovascular disease. Four trials showed no effect of vitamin E supplementation compared with placebo on the risk of death due to cardiovascular disease. Neither was there any evidence of significant harm from the use of vitamin E alone or with other vitamin supplements.

A meta-analysis of seven trials found no positive or negative effect of vitamin E alone or in combination with other antioxidants compared with placebo on fatal or nonfatal heart attack among patients with a previous history of or significant risk factors for cardiovascular disease. Supplementation with vitamin E alone (or in combination with other antioxidants) in doses ranging from 100 IU to 1200 IU for 8 to 24 weeks did not demonstrate a significant positive or negative effect on serum lipids such as total cholesterol, LDL cholesterol, and HDL cholesterol.

See "Effect of supplemental vitamin E for the prevention and treatment of cardiovascular disease," by Dr. Shekelle, Sally C. Morton, Ph.D., Lara K. Jungvig, B.A., and others, in the April 2004 *Journal of General Internal Medicine* 19, pp. 380-389. ■

Patients may overstate their use of antihypertensive medication

Patients with high blood pressure (hypertension) markedly overstate how much antihypertensive medication they take, according to a recent study that was supported in part by the Agency for Healthcare Research and Quality (T32 HS00020). Therefore, clinicians should be cautious when relying solely on patient reports of medication compliance to evaluate the effectiveness of a given regimen. Inaccurate reports of compliance may prompt doctors to diagnose a patient's hypertension as nonresponsive to current medication, needlessly switch therapies, or expose patients to potentially toxic antihypertensive regimens, according to Philip S. Wang, M.D., Dr.P.H., of Brigham and Women's Hospital in Boston.

Dr. Wang and his colleagues conducted a telephone survey of 200 hypertensive patients (mostly of whom were white and older than 55) treated with a single antihypertensive agent either in a large HMO or a Veterans Affairs medical center. Patients were asked about how often they missed taking their antihypertensive medication, and their responses were compared with records of filled prescriptions. The researchers found very poor agreement between self-reported compliance and days actually covered by filled prescriptions. There was also very poor agreement between a measure of self-reported compliance (ever vs. never missing a dose) and categories of actual compliance defined by filled prescriptions (80 percent vs. more than 80 percent of days covered).

Patients who saw their doctors more frequently (perhaps a marker for a closer doctor-patient relationship) were much more likely to admit to imperfect compliance. Patients may overestimate compliance for several reasons. Some may never have received clear instructions from their physicians or fully understood the instructions they were given. Desire to please the doctor may also be a factor.

See "How well do patients report noncompliance with antihypertensive medications? A comparison of self-report versus filled prescriptions," by Dr. Wang, Joshua S. Benner, Pharm.D., M.S., Robert J. Glynn, Sc.D., Ph.D., and others, in the January 2004 *Pharmacoepidemiology and Drug Safety* 13, pp. 11-19.

Editor's note: Another AHRQ-supported study on a related topic found that a computer-based physician order-entry system failed to improve antihypertensive treatment compliance or outcomes of patients with uncomplicated hypertension. For more details, see Murray, M.D., Harris, L.E., Overhage, M., and others. (2004). "Failure of computerized treatment suggestions to improve health outcomes of outpatients with uncomplicated hypertension: Results of a randomized controlled trial." (AHRQ grant HS07763). *Pharmacotherapy* 24(3), pp. 324-337. ■

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Most pediatric ER workers say they are willing to receive the smallpox vaccine, but few have done so

In January 2003, smallpox vaccinations were offered to health care workers to create hospital-based teams prepared to care for patients with smallpox as part of national bioterrorism preparedness activities. A 2002 survey of pediatric emergency health care workers (HCWs) in the weeks before the start of the national vaccination program found that 72 percent of those surveyed were willing to receive the smallpox vaccine. Researchers from the University of Pennsylvania and two Philadelphia hospitals sent the survey to physicians, nurses, and ancillary staff at five pediatric emergency departments in major U.S. cities. Their work was supported in part by the Agency for Healthcare Research and Quality (HS10399) through the agency's Centers for Education and Research on Therapeutics (CERTs) program.

Pediatric emergency HCWs who were willing to receive the smallpox vaccine were 29 percent more likely than those who were unwilling to receive the vaccine to believe that a local smallpox outbreak was likely to occur in their city during the next 12 months. One-fifth of those surveyed reported a contraindication to smallpox vaccine. Nevertheless, more than half of them indicated they would still be willing to receive the vaccine. More than half of all HCWs surveyed reported concerns about vaccine-related adverse effects.

HCWs who perceived themselves at high risk for vaccine- related adverse events were 27 percent less willing to receive the pre-event smallpox vaccine. Self-protection was the most common reason cited for wanting to receive the vaccine, followed by protecting one's family. Thus, many pediatric HCWs were willing to receive pre-event smallpox vaccine, but they reported ambivalent or contradictory attitudes toward the vaccine. These inconsistent attitudes might have contributed to the unexpected poor participation in this program. Fewer than 10 percent of the targeted health care workers had been immunized (38,759 out of 440,000) as of October 31, 2003. The researchers call for further research to identify conflicting beliefs and gaps in knowledge so that educational interventions can be designed for targeted populations.

See "Preevent vaccination against smallpox: A survey of pediatric emergency health care providers," by Worth W. Everett, M.D., Theoklis L. Zaoutis, M.D., Scott D. Halpern, M.D., Ph.D., and others, in the April 2004 *Pediatric Infectious Disease Journal* 23(4), pp. 332-337. ■

Children's Health

Selective use of CT scan and ultrasound to help diagnose appendicitis should markedly reduce unnecessary surgeries

Appendicitis demands prompt treatment because of the risk of perforation, which occurs in approximately one-third of cases. Appendicitis is the most common surgical emergency in children, yet its diagnosis continues to challenge clinicians. Between 5 and 25 percent of children with suspected appendicitis are found to have a normal appendix during surgery. These unnecessary surgeries were reduced by nearly half at one hospital with use of a clinical guideline and selective use of computerized tomography (CT) and ultrasound (US), according to a study that was supported in part by the Agency for Healthcare Research and Quality (T32 HS00063).

A multidisciplinary team of surgeons, emergency department physicians, radiologists, and nurses at Children's Hospital Boston developed a clinical practice guideline (CPG) for the diagnosis and management of acute appendicitis. Douglas S. Smink, M.D., M.P.H., and his colleagues retrospectively analyzed the medical records of patients evaluated under the CPG at their hospital during 2001.

Depending on a child's clinical presentation, the CPG recommends immediate surgery or further evaluation with CT or US. The researchers compared negative appendectomy (surgery on a normal appendix) and perforation rates, as well as admissions for inpatient observation in CPG patients evaluated for acute appendicitis in 2001 compared with similar patients who were evaluated in 1997, before the

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Appendicitis

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existence of the CPG and more frequent use of imaging studies.

Although 90 percent of the 571 patients evaluated for acute appendicitis in 2001 received a CT or US, only 6 percent were admitted to the surgical service for serial examinations. The percent of surgical patients with a histologically normal appendix decreased from 10.6 percent in 1997 to 5.5 percent in 2001. Also, 22.2 percent of patients in 2001 had a perforated appendix compared with 28.5 percent in 1997. The CPG, which incorporates clinical judgment and selected imaging, had a sensitivity of 98.8 percent and a specificity of 95.2 percent.

See "Diagnosis of acute appendicitis in children using a clinical practice guideline," by Dr. Smink, Jonathan A. Finkelstein, M.D., M.P.H., Barbara M. Garcia Pena, M.D., M.P.H., and others, in the March 2004 *Journal of Pediatric Surgery* 39(3), pp. 458-463. ■

Children with short stature function within the normal range on most standardized tests

On average, children with short stature (2 to 3 deviations below the mean for height) score lower than their peers on tests of mental and physical functioning (perhaps due to the underlying condition that caused both the short stature and cognitive impairment). However, few short children score outside the normal range. In addition, most children with primary short stature score within the normal range on functional tests, and there is no evidence that treatment of short stature improves function. Nevertheless, in the opinion of the authors, growth hormone treatment may be warranted in children with severe short stature (4 to 5 standard deviations below the mean for height) to relieve practical restrictions such as being unable to use school bathrooms or reach elevator buttons.

These conclusions are based on a systematic review of the evidence conducted by the Tufts-New England Medical Center Evidence-based Practice Center, which is supported by the Agency for Healthcare Research and Quality (contract 290-97-0019). EPC researchers reviewed studies of children (aged 17 years and younger) with short stature and functional limitations conducted through October 2001. The studies included children with isolated short stature (ISS), constitutional growth delay (CGD), growth hormone deficiency (GHD), or multiple hormone deficiency (MHD).

Short children showed no substantial deviation from normal, but many studies found that children with short stature had slightly lower intelligence and academic achievement scores than children of average height.

The three studies that evaluated visual motor perception found significant visual-motor skill reduction among short children; however, the studies had numerous limitations. Teacher-based evaluation of behavior in children with short stature was, in general, similar to that for normal-height children. No study found a direct causal link between short stature and functional impairment.

See "Short stature and functional impairment: A systematic review," by Patricia G. Wheeler, M.D., Karen Bresnahan, M.D., Barbara A. Shephard, M.D., and others, in the March 2004 *Archives of Pediatric and Adolescent Medicine* 158, pp. 236-243. ■

Disadvantaged communities may be at increased risk for *S. pneumoniae* transmission among young children

Efforts to decrease the burden of disease among adults and children have focused on immunization and judicious use of antibiotics to minimize development of drug-resistant strains of *Streptococcus pneumoniae*. Certain communities, particularly those that are socioeconomically disadvantaged, may be at increased risk for transmission of *S. pneumoniae* among young children, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS10247) through the Centers for Education and Research on Therapeutics (CERTs) initiative.

Certain community characteristics increase the odds of carriage of disease-causing strains two- to three-fold. The presence of

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S. pneumoniae transmission

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these characteristics could be used to identify communities that should be targeted for interventions to decrease carriage, according to Jonathan Finkelstein, M.D., M.P.H., of the HMO Research Network CERT in Boston.

Based on U.S. census data, the researchers calculated that living in census tracts with an average household size of more than 2.9 predicted a three-fold increase in the odds of *S. pneumoniae* carriage, and living in socioeconomically disadvantaged census tracts conferred an additional two- to three-fold increase in the odds of carriage (equal to that of a child attending child care).

The predictive value of a low-income census tract (median household income less than $35,000) was interchangeable with any of several socioeconomic measures, including poverty, unemployment, low educational attainment, and low owner occupancy, in addition to high density of children and limited household plumbing facilities. Furthermore, living in census tracts where residents had low educational attainment predicted a four-fold risk of carriage of antibiotic-resistant *S. pneumoniae*. The authors geocoded addresses from a multi-community sample of 710 Massachusetts children previously swabbed for pneumococcal carriage in 2001. They used mathematical models to evaluate associations between census tract measures and pneumococcal carriage.

See "Community-level predictors of pneumococcal carriage and resistance in young children," by Susan S. Huang, M.D., M.P.H., Jonathan A. Finkelstein, M.D., M.P.H., Sheryl L. Rifas-Shiman, M.P.H., and others, in the *American Journal of Epidemiology* 159(7), pp. 645-654, 2004. ■

Child abuse is associated with increased risk of death in young children with abdominal injuries

Between 1995 and 2001, more than half (61 percent) of traumatic abdominal injuries in young children 0 to 4 years of age were the result of motor vehicle accidents. Other significant causes were child abuse (16 percent) and falls (14 percent). These figures are based on an analysis of data provided by U.S. pediatric trauma hospitals to the National Pediatric Trauma Registry. Children who were abused and those with concomitant central nervous system (CNS) injury were more likely than other children with abdominal trauma to die while in the hospital, according to the study, which was supported in part by the Agency for Healthcare Research and Quality (T32 HS00060).

Matthew Trokel, M.D., M.S., and colleagues from Tufts-New England Medical Center identified 927 cases of blunt abdominal injuries from the Registry, which includes data on the causes, treatment, and consequences of pediatric trauma. They examined hospital use and patient outcomes for these trauma victims. Among children injured in motor vehicle accidents, the severe multisystem-injury group had the highest rates of inappropriate car restraint device use (66 percent), almost double that of the isolated abdominal injury group (38 percent). Children with all three systems injured (abdominal, skeletal, and traumatic brain injury or TBI) had the longest median length of hospital stay (10 days), the highest ICU admission rate (89 percent), and the highest surgery rate (40 percent). Children with two body systems injured had less intensive use of hospital resources but more than children with abdominal injury alone.

Patient outcomes also varied according to the associated injuries. Children with abdominal injuries and fracture had outcomes similar to those for children with isolated abdominal injury, but they had an increase in home rehabilitation referral (5.9 percent vs. 0.9 percent). Children with TBI, with or without fractures, had an almost nine-fold increase in in-hospital death rate (27 vs. 3 percent) and a 6.5 fold increase (48 vs. 7 percent) in the rate of rehabilitation referral compared with those who did not have TBI. Child abuse was associated with higher death rates across all injury groups compared with all other mechanisms of injury, perhaps due to delay in seeking medical care.

See "Blunt abdominal injury in the young pediatric patient: Child abuse and patient outcomes," by Matthew Trokel, M.D., Carla DiScala, Ph.D., Norma C. Terrin, Ph.D., and Robert D. Sege, M.D., Ph.D., in the February 2004 *Child Maltreatment* 9(1), pp. 111-117. ■

Women who undergo hysterectomy for abnormal uterine bleeding report improved health-related quality of life

About 90 percent of hysterectomies are elective and performed before menopause, usually for abnormal uterine bleeding. The initial approach to treating abnormal bleeding is with medicines such as medroxyprogesterone. When this medication fails to relieve symptoms or causes adverse effects, hysterectomy is superior to use of additional medications for alleviating clinical symptoms and improving women's quality of life, according to a recent study. The study was conducted by the Medicine or Surgery Research Group, based at the University of California, San Francisco, with support from the Agency for Healthcare Research and Quality (HS09478).

For this multicenter study, the researchers randomly assigned 63 premenopausal women (aged 30 to 50 years) with abnormal uterine bleeding that had not responded to cyclic medroxyprogesterone acetate treatment to receive either a hysterectomy or expanded medical treatment with estrogen and/or progesterone and/or a prostaglandin synthetase inhibitor. The researchers followed the women for 2 years. Two reports from this study are described here.

Kuppermann, M., Varner, R.E., Summitt, R.L., and others. (2004, March). "Effect of hysterectomy vs. medical treatment on health-related quality of life and sexual functioning." ***Journal of the American Medical Association*** **291(12), pp. 1447-1455.**

This report describes significant improvements in quality of life among women in the hysterectomy group (31 women) compared with women in the medication group (32 women). At 6 months, more women in the hysterectomy group boosted their mental health scores than women in the medicine group. They also had better symptom resolution, fewer pelvic problems that interfered with sex, more sexual desire, less health distress, fewer sleep problems, better overall health, and greater satisfaction with health.

By the end of the study, 53 percent of women in the medicine group had requested and received a hysterectomy. These women reported improvement in quality of life outcomes during the 2 years similar to those reported by women randomized to the hysterectomy group. Those who continued medical treatment also reported some improvements.

Learman, L.A., Summitt, R.L., Varner, E., and others. (2004, May). "Hysterectomy versus expanded medical treatment for abnormal uterine bleeding: Clinical outcomes in the medicine or surgery trial." ***Obstetrics & Gynecology*** **103, pp. 824-833.**

This report discusses greater improvement in clinical symptoms among women in the hysterectomy group compared with women in the medicine group for cessation of vaginal bleeding (87 vs. 11 percent), pelvic pain, urinary urgency, incomplete bladder emptying, and breast pain. Compared with those who remained on medication through year 2, women who crossed over to hysterectomy experienced greater improvement in bleeding, pelvic pain, low back pain, breast pain, and urinary frequency and urgency. However, they also experienced more days off from work or usual activities and more days spent in bed than those who remained on medicine.

Quality of life and sexual functioning improved to a clinically significant degree among all women in the 2 years of followup, regardless of whether or not they had a hysterectomy. The researchers conclude that hysterectomy may be an optimal choice for women who give high priority to resolving bothersome symptoms, but they note that many women who are treated medically also experience some improvement.

Editor's note: A related study shows that use of medical care resources over a 2-year period is comparable for total and supracervical hysterectomy. For more details, see Showstack, J., Kuppermann, M., Lin, F., and others. (2004, May). "Resource use for total and supracervical hysterectomies: Results of a randomized trial." (AHRQ grant HS11657). *Obstetrics & Gynecology* 103, pp. 834-841. ■

Individuals who suffer from both major depression and diabetes function worse than those with either illness alone

Individuals who suffer from both major depression and diabetes are less able to carry out routine daily living and social activities than patients with either problem alone, according to a study supported by the Agency for Healthcare Research and Quality (K08 HS11418). This is significant, especially given that about 10 percent of people with diabetes suffer from major depression.

Treatment for depression decreases functional disability. Thus, strategies to improve diagnosis and treatment of depression in diabetes patients are needed to decrease disability in this group, notes Leonard E. Egede, M.D., M.S., of the Medical University of South Carolina. Dr. Egede analyzed data from the 1999 National Health Interview Survey on 30,022 adults to compare the ability of four groups to perform 12 routine tasks without special equipment: those with no diabetes and no major depression, major depression alone, diabetes alone, and diabetes and major depression. Activities ranged from walking a quarter of a mile and standing for 2 hours to carrying a 10-pound bag of groceries and visiting friends.

After controlling for other factors affecting functioning, such as age, 25 percent of those with no diabetes or major depression were functionally disabled, compared with 51 percent of those with major depression, 58 percent of those with diabetes, and 78 percent of those with both diabetes and major depression. Individuals suffering from major depression were three times as likely to be functionally disabled as those without depression or diabetes. Those with diabetes were 2.5 times as likely, and those with diabetes and major depression were 6.15 times as likely to be functionally disabled as those without depression or diabetes. Additional studies are needed to establish a causal relationship.

See "Diabetes, major depression, and functional disability among U.S. adults," by Dr. Egede, in the February 2004 *Diabetes Care* 27(2), pp. 421-428. ■

Most people who have chronic fatigue syndrome are underemployed or unemployed, and some can be considered disabled

Chronic fatigue syndrome (CFS) causes severe, disabling physical and mental fatigue, which is exacerbated by minimal exertion. CFS is diagnosed by excluding other medical problems that might cause these symptoms because no diagnostic laboratory marker or biopsy specimen has yet been identified for CFS. A recent systematic review of published studies related to CFS disability examined the extent of functional disability associated with the disease and its impact on a person's ability to work.

The review by Susan D. Ross, M.D., F.R.C.P.C., and colleagues at the MetaWorks, Inc., Evidence-based Practice Center found that most patients with CFS are underemployed or unemployed. The studies they reviewed demonstrated that CFS patients suffer from physical and mental impairments, and that some are disabled, according to the Social Security Administration definition. However, the relationship of these impairments to work status was not well demonstrated. Also, no distinctive demographic, clinical, or psychiatric traits were shown to be consistently predictive of the ability of patients with CFS to return to work. Only depression seemed to be associated with unemployment in patients with CFS.

Of the eight studies that compared any physical impairment and employment, the percentage of patients with CFS who were employed ranged from 13 to 49 percent, whereas the percentage of those without CFS who were employed ranged from 71 to 100 percent. Only cognitive behavior therapy, rehabilitation, and exercise therapy were associated with restoring the ability of people with CFS to work, but no specific intervention was proven to be effective in restoring the ability to work. Simple and consistent evaluations of functional capacity in patients with CFS are needed, conclude the researchers. Their work was supported by the Agency for Healthcare Research and Quality (contract 290-97-0016).

See "Disability and chronic fatigue syndrome: A focus on function," by Dr. Ross, Rhonda P. Estok, R.N., B.S.N., C.N.O.R., Diana Frame, M.E.M., and others, in the May 24, 2004 *Archives of Internal Medicine* 164, pp. 1098-1107. ■

Medical errors appear to be common among ICU patients, and a simple blame-free reporting system can help identify them

A study of an intensive care unit (ICU) at an urban teaching hospital found medical errors to be common among ICU patients. During a 6-month period in 2003, the SAFE reporting system recorded 232 medical events (ranging from risky situations and near-misses to harmful events) involving 147 patients (89 medical events per 1,000 ICU days). The SAFE reporting system, which enlisted health care providers to voluntarily provide information on errors without being punished for them, described statistically more medical events than a hospital-wide computer database for cataloging errors and high-risk events.

Over half (56 percent) of the errors occurred within the ICU and involved patient care providers working directly in the ICU area. Errors ranged from unrecognized failure of a mechanical ventilator to complications of intravenous medications. Nearly 44 percent of medical errors were commissions or omissions that occurred outside of the ICU during patient transport or in the emergency department and hospital floors. Ten percent of medical events leading to medical errors resulted in the need for additional life-sustaining treatment, and 3 percent may have contributed to patient deaths.

An anonymous report, a simple two-sided card placed at several hospital sites, was not used to assign blame or punish individuals for any reported medical events. The card identified the patient, the event, perceived cause of the event, and whether any action was taken to remedy the situation, as well as the reporting person's job description and optional contact information.

The goal of the SAFE system is to identify the cause of medical errors in order to reduce them in the future, according to the researchers. In the study, which was supported in part by the Agency for Healthcare Research and Quality (HS11898), researchers used the SAFE reporting system to determine the frequency and type of medical errors occurring in the ICU over a 6-month period.

See "Reporting of medical errors: An intensive care unit experience," by Stephen Osmon, M.D., Carolyn B. Harris, M.P.H., W. Claiborne Dunagan, M.D., and others, in *Critical Care Medicine* 32(3), pp. 727-733, 2004. ■

A pain in the neck could mean Lemierre's syndrome

Lemierre's syndrome (infected clot in the jugular vein of the neck) develops most often after a strep throat infection has created an abscess near the tonsils, where bacteria migrate to the nearby jugular vein. There they cause an infected clot (thrombosis) that can travel to the lungs or heart, which can be fatal.

In the era before antibiotics, Lemierre's syndrome was common, but the incidence declined in the 1960s and 1970s, as use of antibiotics for pharyngitis (sore throat) became increasingly common. In the past decade, incidence has again increased, and some have attributed this change to the increasingly judicious use of antibiotics for pharyngitis.

A recent article details the clinical steps taken that eventually diagnosed Lemierre's syndrome in a 16-year-old girl who visited her doctor because of a 2-day history of sore throat, fatigue, fever, headache, and vomiting. She had no rhinorrhea or cough. She had a mildly tender anterior neck, but no swollen lymph nodes. Following a strep-negative throat culture, viral pharyngitis was diagnosed and treated accordingly. Four days later, the patient returned to the doctor with worsening sore throat, difficulty swallowing, dizziness while standing, and a headache and neck pain that became increasingly severe. Her appearance and vital signs were alarming, with rapid heartbeat and low blood pressure.

The doctor began aggressive rehydration for suspected deep-tissue infection and, given the possibility of meningitis, performed a lumbar puncture, as well as a computerized tomography scan of her neck, chest, abdomen, and pelvis to evaluate the possibility of lymphoma. There was asymmetric thickening of the right pharyngeal soft tissues, and the right internal jugular vein was occluded to the level of the thoracic inlet. The rest of the vasculature was normal, and there was no lymph node enlargement. Blood cultures showed bacterial infection. These findings were consistent with a diagnosis of

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Lemierre's syndrome

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septic thrombophlebitis of the internal jugular vein, or Lemierre's syndrome. Following surgery on the jugular vein, the patient recovered with supportive care.

In conclusion, the authors note that the clinicians caring for the patient in this case would have been well served to remember her chief symptom: a pain in the neck. This authors of this article were supported in part by a patient safety grant from the Agency for Healthcare Research and Quality (HS11540).

See "A pain in the neck," by Sandra J. Bliss, M.D., Scott A. Flanders, M.D., and Sanjay Saint, M.D., M.P.H., in the March 4, 2004 *New England Journal of Medicine* 350, pp. 1037-1042.

Editor's note: Another article on clinical problem-solving underscores how a more thorough review of a man's medical history, including earlier exposure to asbestos while in the Navy, could have sped up the eventual diagnosis of malignant peritoneal mesothelioma. For more details, see: Cornia, P.B., Lipsky, B.A., Dhaliwal, G., and Saint, S., "Red snapper or crab?"(AHRQ grant HS11540) in the April 1, 2004 . *New England Journal of Medicine* 350, pp. 1443-1448. ■

Mental Health Research

Improved access to medication and therapy for depressed primary care patients improves 5-year outcomes

Many patients who are depressed do not receive quality care for depression. This is especially true for minority patients who generally receive less care for depression than white patients. A new managed care quality improvement (QI) initiative, which enhanced access to medication and therapy among depressed primary care patients, reduced depression rates up to 5 years after implementation, especially among Hispanic and black patients.

The Partners in Care (PIC) program, supported in part by the Agency for Healthcare Research and Quality (HS08349), randomly assigned 46 primary care clinics in six managed care organizations to usual depression care or one of two QI groups, QI-Meds or QI-therapy, for 6 to 12 months. The QI-Meds group used trained nurses to support medication management by primary care providers, and the QI-Therapy group trained local therapists in cognitive behavior therapy (CBT, which helps change self-defeating behavior and thinking patterns) and lowered the patient copay for use of those therapists. Patients could have any or no treatment in either intervention.

Kenneth Wells, M.D., Ph.D., of RAND, and his colleagues used a telephone survey to gauge the effects of the QI programs on health outcomes and quality of care for 991 primary care patients with depression (including 452 Hispanics and blacks) nearly 5 years (57 months) after study enrollment. Relative to usual care, combined QI-meds and QI-therapy reduced the percentage of patients with probable depressive disorder at 5 years by 6.6 percentage points but reduced the probability of the disorder for blacks and Hispanics by 16.1 percentage points. In the usual care group, blacks and Hispanics combined had worse health outcomes (56 percent had probable depressive disorder) than whites (36 percent had probable depressive disorder). Participation in QI-therapy alone lowered the rate of probable disorder among blacks and Hispanics, but it had little effect among whites. Results were similar for QI-meds alone but were not significant.

See "Five-year impact of quality improvement for depression," by Dr. Wells, Cathy Sherbourne, Ph.D., Michael Schoenbaum, Ph.D., and others, in the April 2004 *Archives of General Psychiatry* 61, pp. 378-386.

Editor's note: Another AHRQ-supported study on a related topic calls for new approaches to improving access to appropriate depression care for Hispanic and black primary care patients. The researchers found that Hispanic and black primary care patients with depression remain less likely than similar white patients to obtain appropriate care, such as antidepressant medication or specialty care. For more details, see Miranda, J., and Cooper, L.A. (2004, February). "Disparities in care for depression among primary care patients."(AHRQ grant HS19758 and HS08349). *Journal of General Internal Medicine* 19, pp. 120-126. ■

Many barriers interfere with family care in psychiatric settings

An estimated one-third to two-thirds of all mentally ill patients live with family members, who bear substantial levels of stress and a large burden in caring for these individuals. Yet, a large gap exists between what families feel they need from mental health professionals and what they receive, according to a study supported by the Agency for Healthcare Research and Quality (HS10378).

Many health professionals say they don't have the training and resources to deal with complex family issues. Yet families believe that lengthy and intensive interventions are neither necessary nor desired to address their concerns. Linda Rose, Ph.D., of Johns Hopkins University, and colleagues conducted 11 focus groups (78 people) with families, patients, and mental health professionals to examine what they believed constituted effective family care in psychiatric settings.

Families identified poor quality of care, conflict with health professionals about treatment, and lack of a role for families in the treatment. Patients wanted their families to be better educated about mental illness. Black families also identified isolation of their communities from the mental health care system. Adolescents emphasized the burden they sometimes felt as caregivers and their need for support. Providers said that the health care system hampered effective care through inadequate staffing and poor coordination of services. Providers also felt that they lacked skill and experience in family care.

Based on the focus groups, the researchers make several recommendations for mental health professionals to help families. These include general recommendations appropriate for all patients and families, as well as more focused recommendations for targeted groups, including blacks and adolescents.

See "Barriers to family care in psychiatric settings," by Dr. Rose, R. Kevin Mallinson, R.N., Ph.D., A.C.R.N., and Benita Walton-Moss, R.N., D.N.S., C.S., F.N.P., in the *Journal of Nursing Scholarship* 36(1), pp. 39-47, 2004. ■

Prevention

Task Force update concludes that current data do not support screening asymptomatic individuals for lung cancer

Lung cancer is the leading cause of cancer-related death in the United States, with 87 percent of lung, bronchial, and tracheal cancer attributed to smoking. After reviewing the latest scientific evidence on the topic to update its 1996 recommendation on lung cancer screening, the U.S. Preventive Services Task Force concluded that the evidence remains insufficient to recommend screening asymptomatic individuals for lung cancer with either chest x-ray, low-dose computerized tomography (CT), sputum cytology (examination of a coughed sputum sample for cancerous cells), or a combination of these tests.

The Task Force found fair evidence that screening with any of these methods can detect lung cancer at an earlier stage than it would be detected in an unscreened population. However, it found poor evidence that any screening strategy decreased death rates from the disease. Because of the invasive nature of diagnostic testing and the possibility of a high number of false-positive tests (tests that indicate cancer where there is none) in certain populations, there is also the potential for significant harm from screening.

Researchers at the Oregon Evidence-based Practice Center, which is supported by the Agency for Healthcare Research and Quality (contract 290-97-0018), reviewed studies that evaluated mass screening programs for lung cancer with chest x-ray, sputum cytologic exam, and low-dose CT. None of the randomized trials of screening for lung cancer with chest x-ray alone or in combination with sputum cytologic examination showed benefit among those screened.

Six studies showed that when CT was used to screen for lung cancer, lung cancer was diagnosed at an earlier stage than in usual clinical care. However, these studies did not have control groups, making mortality evaluation difficult, and they had a high rate

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of false-positive findings. Two randomized trials of screening with chest x-ray or low-dose CT are currently underway and will better inform lung cancer screening decisions.

See "Lung cancer screening: Recommendation statement," by the U.S. Preventive Services Task Force," in the May 4, 2004 *Annals of Internal Medicine* 140(9), pp. 738-739.

Editor's note: For a detailed account of the evidence on which this recommendation is based, see Humphrey, L.L., Teutsch, S., and Johnson, M. (2004, May). "Lung cancer screening with sputum cytologic examination, chest radiography, and computed tomography: An update for the U.S. Preventive Services Task Force." *Annals of Internal Medicine* 140(9), pp. 740-753. A systematic evidence review on the topic is also available on the AHRQ Web site at www.ahrq.gov by clicking on "Preventive Services." ■

Screening people with hypertension for diabetes is more cost effective than screening all patients for diabetes

In 2003, the U.S. Preventive Services Task Force recommended screening adults with hypertension (blood pressure 140/90 mm Hg or higher) or high cholesterol for type 2 (non-insulin dependent) diabetes. In 2004, a work group for the Task Force concluded that screening hypertensive patients for diabetes is more cost effective than screening all adults for diabetes. This study was supported in part by the Agency for Healthcare Research and Quality (contract 290-97-0011).

Investigators at the Research Triangle Institute/University of North Carolina, Chapel Hill Evidence-based Practice Center calculated that diabetes screening for 55-year-old people with hypertension would cost the U.S. health care system $34,375 per quality-adjusted-life-year (QALY) gained. This is similar to the cost-effectiveness of many accepted health care interventions. Expanding screening to all adults would cost an additional $360,966 per QALY, a far more costly approach.

The researchers used clinical data from several large studies and recent cost data to develop a cost-effectiveness model. The model used data on diabetes disease progression to simulate lifetime diabetes-related health care costs (including costs for complications such as heart, eye, and kidney disease) and QALYs for people with diabetes. In the model, they assumed that in the absence of screening, diabetes would be diagnosed 10 years after its onset. With a one-time screening, diabetes would be diagnosed on average 5 years after onset and patients would thus begin treatment 5 years earlier.

Based on the model, the most cost-effective approach to one-time diabetes screening is to target people with hypertension between ages 55 and 75 years. The benefit of screening comes primarily from reducing fatal and nonfatal heart attacks through intensive control of hypertension rather than from reducing microvascular complications, such as end-stage renal disease or blindness, by intensive blood-sugar control.

See "Screening for type 2 diabetes mellitus: A cost-effectiveness analysis," by Thomas J. Hoerger, Ph.D., Russell Harris, M.D., M.P.H., Katherine A. Hicks, M.S., and others, in the May 2004 *Annals of Internal Medicine* 140(9), pp. 689-699. ■

WIC participation improves poor children's access to dental care

Over one-third of infants born in the United States are enrolled in the Federal Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). WIC is often the first contact with the health care system for many poor women and children. To achieve the goal of good nutrition and health for women, infants, and children, the WIC agencies work to improve the linkage between clients and health care providers, including dentists, through referrals and networking.

According to findings from a recent study, the WIC program is working to improve dental health among children. The study found that children who participated in WIC had an increased probability of visiting the dentist, were more likely to use preventive and restorative services, and were less likely to use emergency services for oral problems.

In the study, which was supported by the Agency for Healthcare Research and Quality (T32 HS00032 and HS11607), Jessica Y. Lee, D.D.S., Ph.D., M.P.H., of the University of North Carolina, and her colleagues linked North Carolina Medicaid claims and enrollment data to WIC enrollment data to compare dental services use for children enrolled in WIC with those not enrolled. More than 50 percent of the 21,277 children enrolled in Medicaid were on WIC at any time during the 5-year study period.

Children who participated in WIC for a full year were about 1.7 times as likely to have two or more dental visits per year and 1.5 times as likely to have one dental visit as children who never participated in WIC. Children who participated in WIC for 1 year were nearly twice as likely to have a preventive visit and a restorative visit. WIC participation also led to reduced use of emergency services for oral problems; WIC participants were 32 percent less likely than non-participants to have an emergency visit related to oral problems.

See "Effects of WIC participation on children's use of oral health services," by Dr. Lee, R. Gary Rozier, D.D.S., M.P.H., Edward C. Norton, Ph.D., and others, in the May 2004 American *Journal of Public Health* 94(5), pp. 772-777. ■

Higher income and coverage for dental care increase use of dental services among older adults

Nearly one-third of the U.S. population (77 million people) will be approaching retirement age by 2010, and many of these baby boomers will lose employer-sponsored dental insurance. According to findings from a recent study, lower income and lack of coverage for dental care are associated with reduced use of dental services among older adults, including those in minority populations. This trend will likely extend into retirement years because the prospect of having enough disposable income to pay for dental care will remain low, explains Richard J. Manski, D.D.S., Ph.D., M.B.A., of the Center for Financing, Access and Cost Trends, Agency for Healthcare Research and Quality, and the University of Maryland School of Dentistry.

Dr. Manski and his colleagues examined the effects of age, income, and insurance coverage on dental care use during 1996 using data from the 1996 Medical Expenditure Panel Survey. Overall, 34 percent of adults 55 and older had private dental coverage during 1996, and 43 percent reported a dental visit during that year. People in older age groups (aged 65 to 74 years and 75 years and older) were less likely to have dental coverage than those aged 55 to 64 years. Poor, low-income, and middle-income older adults were less likely to have dental coverage than wealthier older adults. Although Hispanics in this study were less likely to have coverage than other groups, older blacks were no less likely than whites to have coverage.

People in the oldest age group (age 75 or older) were less likely to have a dental visit than individuals in either the middle (age 65-74) or youngest (age 55-64) age groups (32.2 percent, 46.9 percent, and 46.8 percent, respectively). About one-quarter of poor adults reported a dental visit during the year, compared with more than half of those in the high income group. Not surprisingly, those who had dental coverage were more likely than those who did not to report a dental visit during the year. When the researchers controlled for income, age, and coverage, older Hispanics

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and blacks were less likely to have reported a dental visit than whites.

See "Dental insurance visits and expenditures among older adults," by Dr. Manski, Harold S. Goodman, D.M.D., M.P.H., Britt C. Reid, D.D.S., Ph.D., and Mark D. Macek, D.D.S., Dr.Ph., in the May 2004 *American Journal of Public Health* 94(5), pp. 759-764. Reprints (AHRQ Publication No. 04-R046) are available from AHRQ.** ■

HIV/AIDS Research

For women with HIV and abnormal Pap smears, colposcopy should continue to be the next step to rule out cervical cancer

Essentially all cervical cancer, especially high-risk types, arises from precursors associated with infection by human papillomavirus (HPV). Women infected with the human immunodeficiency virus (HIV) are at increased risk for the development of cervical cancer precursors. Since published reports show that women with HIV, whose Pap smears show atypical squamous cells of uncertain significance (ASCUS), have a 14-15 percent risk for high-grade cervical cancer precursors, colposcopy has been recommended for all HIV-infected women with ASCUS on Pap smears. Although colposcopy is costly and uncomfortable, it should remain the next diagnostic step for these women, according to the findings of a recent study.

The researchers found that a simple DNA test for high-risk HPV DNA may not be sensitive enough for clinical use in women with HIV and ASCUS on Pap smears. Lead author, L. Stewart Massad, M.D., of Southern Illinois School of Medicine, and his colleagues compared the results of HPV DNA assays obtained by cervicovaginal lavage (CVL) with colposcopic biopsy findings among women with ASCUS Pap smears, who participated in the Women's Interagency HIV Study (WIHS). WIHS is a multicenter study of the natural history of HIV in women, which is jointly funded by the Agency for Healthcare Research and Quality, the National Institutes of Health, and the Centers for Disease Control and Prevention.

The results indicate that RNA testing of CVL fluid for high-risk HPV DNA by polymerase chain reaction was not sufficiently sensitive. High-risk HPV DNA was found in 30 percent of the 270 women studied. However, the sensitivity of high-risk HPV DNA for detection of advanced precancerous changes (cervical intraepithelial neoplasia) was only 50 percent (it would detect these changes in only half of women who had them), and the specificity was only 71 percent (it would identify only 71 percent of women who truly did not have such changes).

See "HPV testing for triage of HIV-infected women with Papanicolaou smears read as atypical squamous cells of uncertain significance," by Dr. Massad, Michael F. Schneider, M.S., D. Heather Watts, M.D., and others, in the *Journal of Women's Health* 13(2), pp. 147-153, 2004. ■

Study finds delays in prescribing protease inhibitors for some HIV-infected individuals

Protease inhibitors (PIs), in combination with other antiretroviral medications, have dramatically improved the lives of HIV-infected patients. Following current HIV treatment guidelines, physicians tend to delay prescribing antiretroviral therapy for patients they think are unlikely to take their medication regularly. There is some evidence that lack of adherence promotes drug resistance and may lead to worse health outcomes.

Most providers consider patient adherence an important factor in their decision to prescribe PIs, and this attitude apparently accounted for the relatively later use of PIs for Latinos, women, and the poor found in a recent study. The study was supported in part by the Agency for Healthcare Research and Quality (HS08578), as a followup to the HIV Cost and

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Services Utilization Study (HCSUS). HCSUS was led by co-principal investigators Martin F. Shapiro, M.D., Ph.D., of RAND and the University of California, Los Angeles School of Medicine, and Samuel A. Bozzette, M.D., Ph.D., of RAND and the University of California, San Diego.

The researchers analyzed HCSUS data on 1,717 HIV-infected adults eligible for PI treatment and 367 providers who cared for them. They examined the relationship between a physician's attitude toward prescribing PIs to nonadherent patients (less than 80 percent of pills taken) with disparities in PI use and health outcomes seen between 1996 and 1998. Overall, 89 percent of providers agreed that patient medication adherence was important in their decision to prescribe PIs (selective), while 11 percent disagreed (nonselective).

Patients who had a selective provider received PIs later than those who had a nonselective provider. Adjusting for patient health and other characteristics as well as provider characteristics (for example, HIV experience and specialty), Latinos, women, and poor patients received PIs later if they had a selective provider. These groups received PIs as soon as others if they had a nonselective provider. Blacks received PIs later than whites, irrespective of their provider's prescribing attitude. However, whether or not certain groups are less adherent to HIV therapy remains unclear, and physician bias may play a role, notes Mitchell D. Wong, M.D., Ph.D., the study's lead author.

See "Disparities in HIV treatment and physician attitudes about delaying protease inhibitors for nonadherent patients," by Dr. Wong, William E. Cunningham, M.D., M.P.H., Dr. Shapiro, and others, in the April 2004 *Journal of General Internal Medicine* 19, pp. 366-374. ■

Alleviating HIV symptoms is critical for patients' mental health

Although people infected with the human immunodeficiency virus (HIV) are much more likely to suffer from anxiety or depression than the general population, living with HIV does not necessarily lead to increased psychiatric distress, according to a new study. Nevertheless, relief of HIV symptoms is paramount to patients' mental health.

Researchers led by Aram Dobalian, Ph.D., J.D., of the University of Florida, Gainesville, examined the potential impact of clinical factors (for example, HIV symptoms, CD4 cell count, and/or a diagnosis of AIDS) and sociodemographic factors on the persistence or new development of generalized anxiety disorder (GAD), panic disorder (PD), major depressive disorder (MDD), and dysthymia (DYS) over a 6-month period. For the analysis, Dr. Dobalian and his colleagues used data from the HIV Cost and Services Utilization Study (HCSUS), a nationally representative sample of people in the United States under care for HIV. HCSUS is supported in part by the Agency for Healthcare Research and Quality (HS08578).

Of the 2,864 patients studied, baseline anxiety and depression were highly prevalent (GAD, 16 percent; PD, 11 percent; MDD, 36 percent; and DYS, 27 percent). Fewer patients exhibited anxiety or depression 6 months later (GAD, 11 percent; PD, 9 percent, MDD, 28 percent, and DYS, 21 percent).

Of the clinical factors, baseline HIV symptom count was associated with increased likelihood of each condition at followup. In addition, an increase in the number of HIV symptoms from baseline to followup predicted greater likelihood of screening positive for all conditions at followup. Symptoms may be a salient and constant reminder that one has the disease, and many HIV-related symptoms are painful and debilitating, which may in turn lead to increased anxiety, depression, or both. On the other hand, pre-existing psychiatric distress may amplify symptom perception or report.

See "Stability of anxiety and depression in a national sample of adults with human immunodeficiency virus," by Jennie C. Tsao, Ph.D., Dr. Dobalian, Charles Moreau, M.D., and Kendra Dobalian, M.D., in the February 2004 *Journal of Nervous and Mental Disease* 192(2), pp. 111-118. ■

Children's health insurance coverage has increased, more care has shifted to outpatient sites, and expenditures have declined

Since 1987, insurance coverage for U.S. children has improved, the site of care has shifted toward ambulatory or outpatient sites, hospital use has declined, and expenditures for children as a proportion of total health care expenditures have decreased. These findings are the result of a study by Lisa Simpson, M.D., B.Ch., M.P.H., formerly deputy director of the Agency for Healthcare Research and Quality, and now professor of pediatrics at the University of Florida. Her colleagues for the study were Marc W. Zodet, M.S., Frances M. Chevarley, Ph.D., Pamela L. Owens, Ph.D., and Denise Dougherty, Ph.D., of AHRQ, and Marie McCormick, M.D., Sc.D., of the Harvard School of Public Health.

The researchers found that the proportion of children uninsured for an entire year declined from 10.4 percent in 1996 (7 million children) to 7.7 percent in 1999 (5.3 million). Overall use of hospital-based services declined significantly since 1987. Only 6.1 percent of children had at least one hospital outpatient visit in 1999 compared with 11.8 percent in 1987, a 48 percent decrease. Children with at least one hospital inpatient stay decreased from 4.7 percent in 1987 to 2.6 percent in 1999, a decrease of 45 percent. Also, the proportion of children with at least one emergency department visit declined from 17.1 percent in 1987 to 11.1 percent in 1999.

During this period, the site of ambulatory care shifted significantly toward office-based points of service, mostly due to a decline in hospital outpatient use from 7.3 percent to 3.7 percent. The percent of total expenditures attributable to children decreased substantially from about 14 percent in 1987 to about 10 percent in the late 1990s. Several of the observed changes from 1987 varied significantly by type of health insurance coverage, poverty status, and geographic region. These findings are based on an analysis of data from the Medical Expenditure Panel Survey (1996-2001), the 1987 National Medical Expenditure Survey, and the Nationwide Inpatient Sample (1995-2000) from the Healthcare Cost and Utilization Project.

See "Health care for children and youth in the United States: 2002 report on trends in access, utilization, quality, and expenditures," by Dr. Simpson, Mr. Zodet, Dr. Chevarley, and others, in the March 2004 *Ambulatory Pediatrics* 4(2), pp. 131-153. Reprints (AHRQ Publication No. 04-R042) are available from AHRQ.* ■

People who switch health plans often do not have to change physicians

Health maintenance organizations' (HMOs') restrictions on the size of their physician networks have raised concerns that individuals who switch health plans or jobs (which usually involves changing health plans) may have to leave preferred physicians. A new study provides the first national estimate of the extent to which restricted networks actually limit a person's access to physicians. The researchers calculated that people who switch HMOs have a reasonable likelihood (50 percent chance) of being able to retain their physician.

Investigators supported by the Agency for Healthcare Research and Quality (HS10771) used data from electronic HMO provider lists of more than 500,000 physicians and 6,000 hospitals to quantify the extent of provider overlap (the probability that a physician in any given plan is also in a competing plan) in U.S. metropolitan markets. The national measure of overlap is 0.48, indicating that the probability that a given HMO enrollee's physician is also in a competing HMO is 48 percent, or about half.

Overlap varies with both plan and market attributes. Not surprisingly, group/staff-model plans have virtually no overlap, since their providers are all part of the health plan staff. Other plan types have high levels of overlap, while younger plans, for-profit plans, and plans in small markets have greater overlap. The Mid-Atlantic and New England regions have higher managed care penetration and higher overlap, while the Southern region has less penetration and only

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moderate overlap. In contrast, the Western region is home to the oldest HMO plans, many of which are group/staff models that have virtually no overlap with other plans.

See "Overlap in HMO physician networks," by Michael E. Chernew, Ph.D., Walter P. Wodchis, Ph.D., Dennis P. Scanlon, Ph.D., and Catherine G. McLaughlin, Ph.D., in the March 2004 *Health Affairs* 23(2), pp. 91-101. ■

Studies reveal that patient cost-sharing influences patients' use of cancer screening and emergency department care

A growing number of health plans have adopted patient cost-sharing mechanisms to control use of health care services and costs. Two studies supported by the Agency for Healthcare Research and Quality reveal that cost-sharing does influence patients' use of care.

The first study (AHRQ grant HS10771 and HS10856) found that patient copayments, deductibles, and gatekeeper requirements for specialist referrals reduced men's likelihood of receiving the prostate cancer screening test, a somewhat controversial screening test, but did not influence women's use of mammography to detect breast cancer, a widely accepted screening test. The second study (AHRQ grant HS13902) demonstrated that patients' perceived copayment for emergency care was strongly associated with avoidance of or delays in such care. The two studies are discussed here.

Liang, S., Phillips, K.A., Tye, S., and others. (2004, February). "Does patient cost sharing matter? Its impact on recommended versus controversial cancer screening services." ***American Journal of Managed Care*** **10(2), pp. 99-107.**

The use of copayments, deductibles, and primary care gatekeepers may discourage controversial services, such as prostate cancer screening, but they may not discourage use of recommended and more widely accepted services, such as mammography screening for breast cancer, concludes this study. The investigators used data from the 1996 Medical Expenditure Panel Survey, a nationally representative sample of privately insured individuals, to examine whether there were differential impacts of patient cost-sharing and health plan organizational characteristics on the use of mammography and prostate cancer screening (PCS), after controlling for other factors such as socioeconomic status.

Men in private health plans with a copayment over $10 for an office-based physician visit or with deductibles over $250 were 62 percent less likely to receive PCS than men in plans with no or lower copayments and deductibles. Men in gatekeeper plans, which required a primary care provider referral for PCS, were 52 percent less likely to receive PCS than those without gatekeepers.

Neither higher copayments nor deductibles had a significant influence on whether or not women underwent mammography screening for breast cancer. Furthermore, use of primary care gatekeepers seemed to encourage use of mammography. The impact of cost-sharing on Medicare, Medicaid, and uninsured populations requires further investigation.

Hsu, J., Reed, M., Brand, R., and others. (2004, March). "Cost sharing: Patient knowledge and effects on seeking emergency department care." ***Medical Care*** **42(3), pp. 290-296.**

Patients are less aware of their copayment amounts for emergency department (ED) visits than for physician office visits and prescription drugs. However, perceived copayments for ED care can lead some patients to delay or avoid emergency care, according to this study. Further research is needed to determine whether these responses reflect greater efficiency (care could have been handled effectively elsewhere) or harmful decisions (needed emergency care was not received), note the researchers.

They studied a stratified random sample of 695 adult patients in an integrated delivery system, including many elderly and low-income patients. They asked those surveyed about perceived levels of copayments for ED visits, office visits, and prescription drugs and whether these copayments influenced their decisions to seek care. Only one-third of adults surveyed correctly reported their ED copayment, whereas three-fourths correctly reported their prescription drug and office visit copayments.

Over half (57 percent) of those surveyed underestimated their ED copayment by $20 or more. Perceived copayment level was strongly associated with behavior change. One-fifth (20 percent) of adults who thought their copayment was $20 or higher said they had delayed or avoided emergency care compared with only 6 percent who thought their copayment was less than $20. Among patients who reported having any ED copayment, 11 percent said they either delayed or avoided emergency care. ■

Inner-city parents often have limited knowledge about managed care rules and practices

More than half (58 percent) of Americans insured by State Medicaid programs are enrolled in managed care plans. Yet, a survey of urban parents living in Boston found that most of them, especially those who are disadvantaged, do not know what managed care is and have little knowledge about managed care rules and practices. For example, many of the surveyed parents believed that prior approval was not necessary for emergency department visits for mild childhood illnesses.

These parents need better, more understandable information about managed care, particularly parents who are poor, Latino, and have limited English proficiency, suggests Glenn Flores, M.D., of Boston Medical Center. Dr. Flores and his colleagues interviewed 1,100 parents at inner-city community sites—including supermarkets, hair salons, and laundromats—about care access, insurance, and managed care. Their work was supported in part by the Agency for Healthcare Research and Quality (K02 HS11305).

Most of the parents were poor, minority, and covered by public health insurance. Although 55 percent of insured children were covered by managed care, 45 percent of their parents were unaware of their children's managed care coverage. When asked, "What is managed care?" 88 percent of parents did not know it was a type of insurance, and 94 percent did not identify a specific feature. Latino parents were significantly more likely to provide a wrong or "do not know" answer to this question.

Most parents reported that if their child were covered by managed care, they would bring the child to the ED without prior approval for minor childhood problems such as a sprained ankle or diarrhea. Latino ethnicity, having a child not covered by managed care, and having a child covered by managed care but being unaware of the managed care coverage were associated with 2.0, 2.3, and 2.9 greater odds, respectively, of answering definitions of managed care wrong or with a "don't know." Low family income and limited English proficiency were consistently associated with significantly higher odds of "wrong/do not know" answers about specific managed care features.

See "Urban parents' knowledge and practices regarding managed care," by Dr. Flores, Milagros Abreu, M.D., Donglin Sun, M.S., and Sandra C. Tomany, M.S., in the April 2004 *Medical Care* 42(4), pp. 336-345. ■

Disparities in use of preventive care may be reduced by requiring Medicare HMO enrollees to select a primary care doctor

Some Medicare+Choice health maintenance organizations (HMOs) have been successful in reducing socioeconomic disparities in the use of preventive services by elderly men. The findings of a study by Leo S. Morales, M.D., Ph.D., of RAND Health and the University of California, Los Angeles, and his colleagues raise the possibility that requiring enrollees to select a primary care provider (PCP) may lessen socioeconomic disparitiies in use of preventive services. Mandatory enrollment with a PCP may foster a regular patient-provider relationship which, in turn, may promote use of preventive services, especially among low-income people.

In the study, which was supported in part by the Agency for Healthcare Research and Quality (HS09630), Dr. Morales and his colleagues examined the effects of demographic and socioeconomic factors on use of three preventive care services—prostate-specific antigen (PSA) testing, colorectal cancer (CRC) screening, and influenza vaccination—among elderly men enrolled in two Medicare HMOs.

Overall, 49 percent of the men underwent PSA testing, 32 percent underwent CRC screening, and 49 percent received an influenza vaccination. Age, marital status, educational attainment, and household wealth were all associated with the use of one or more of the preventive services studied. However, plan-specific analyses revealed income-related differences in PSA testing, CRC screening, and number of preventive services used in the Midwestern plan, which did not require enrollees to choose a PCP, but not in the Northeastern plan, which did include this requirement.

Other studies have found much lower influenza vaccination rates among blacks compared with whites, but this study found no

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racial difference in vaccination rates after adjusting for other factors. On the other hand, there was a 14 percent difference in influenza vaccination rates between men with less than a high school education and men with some college, and an 11 percent difference between men in the lowest and highest wealth categories.

See "Use of preventive services by men enrolled in Medicare+Choice plans," by Leo S. Morales, M.D., Ph.D., Jeannette Rogowski, Ph.D., Vicki A. Freedman, Ph.D., and others, in the May 2004 *American Journal of Public Health* 94(5), pp. 796-802.

Editor's note: Another AHRQ-supported study on a related topic found that office systems that support vaccination for pneumonia, such as patient and provider reminders and express vaccination clinics, might improve pneumonia vaccination rates. For more details, see Santibanez, T.A., Zimmerman, R.K., Nowalk, M.P., and others. (2004, January). "Physician attitudes and beliefs associated with patient pneumococcal polysaccharide vaccination status." (AHRQ grant HS09874). *Annals of Family Medicine* 2(1), pp. 41-48. ■

Medicare managed care is better at delivering preventive services, but traditional Medicare is better in other areas

Individuals enrolling in Medicare can choose among several managed care and traditional fee-for-service (FFS) plans. Medicare managed care (MMC) is better at delivery of preventive services, whereas traditional Medicare is better in the overall care experience, according to a study supported in part by the Agency for Healthcare Research and Quality (HS09205). The researchers analyzed responses of elderly Medicare beneficiaries in both MMC and traditional plans to the Consumer Assessment of Health Plans (CAHPS®) surveys in 2000 and 2001.

Nationally, FFS Medicare beneficiaries rated experience with care (getting needed care; getting care quickly; communication with clinicians; courtesy and respect of physician's office staff; and paperwork, information, and customer service) higher than MMC beneficiaries. For instance, in overall care ratings (scale of 1-10), FFS enrollees rated care 8.91, and MMC enrollees rated care 8.86 in 2000; in 2001 the corresponding ratings were 8.88 and 8.78. Differences varied across States, however.

MMC enrollees reported significantly fewer problems with paperwork, information, and customer service. They were also more likely to report having received immunizations for influenza and pneumonia in 2000 than FFS enrollees (77 vs. 63 percent), and MMC smokers were more likely to report having received counseling to quit smoking. The tradeoff between the strengths of both programs should be considered when policy decisions are made that affect the availability of choice or influence beneficiaries to choose one model of care over another, suggest the researchers.

See "Comparison of performance of traditional Medicare vs. Medicare managed care," by Bruce E. Landon, M.D., M.B.A., Alan M. Zaslavsky, Ph.D., Sulamit L. Bernard, Ph.D., and others in the April 14, 2004 *Journal of the American Medical Association* 291(14), pp. 1744-1752. ■

More restrictive laws and consumer and investor anxiety have had an effect on managed care cost-cutting strategies

A combination of class-action, malpractice, and employee-benefits lawsuits peppered the health care industry during the 1990s, eventually eroding the legal shield health maintenance organizations (HMOs) claimed under the Employee Retirement Income Security Act. Yet it was commercial, not legal, concerns that moved HMOs away from aggressive practices, according to Gregg Bloche, M.D., J.D., of Georgetown University, and David M. Studdert, L.L.B., Sc.D., M.P.H., of the Harvard School of Public Health.

In a recent article, they note that Federal courts and State regulators have remade the rules of the medical marketplace, restricting the methods available to managed care

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Managed care cost-cutting strategies

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organizations to control costs. Legal conflict, however, has had a larger effect through its influence on market actors' perceptions and expectations.

In anticipation of adverse legal outcomes and in response to consumers' and investors' anxiety, health plans changed business strategies, backing away from aggressive cost management, according to the authors. Today, aggressive utilization management, selective contracting with caregivers, and financial incentives to physicians to limit care play much less prominent roles in health insurance business strategy than they did in the mid-1990s.

Today, Americans with health insurance have more freedom to choose among doctors and hospitals and to obtain costly tests and treatments. Market pressures from angry and anxious consumers have been the main force behind health plans' retreat from tightly managed care. Investors' fears and health care providers' resurgent bargaining power have also been important factors. Nevertheless, the managed care industry continues to prosper, with stock values soaring in the past year. Managed care is giving insured consumers more of what they want but charging accordingly, conclude the researchers. Their work was supported in part by the Agency for Healthcare Research and Quality (K02 HS11285).

See "A quiet revolution: Law as an agent of health system change," by Drs. Bloche and Studdert, in the March 2004 *Health Affairs* 23(2), pp. 29-42. ■

Announcements

New publications and data products now available from AHRQ

The Agency for Health Care Research and Quality has released several new publications, and new data products from AHRQ's Healthcare Cost and Utilization Project (HCUP) and Medical Expenditure Panel Survey (MEPS) are now available online. For publication ordering information, see the back cover of *Research Activities*. See the summaries below for more information about accessing online data products.

Health Care Expenses in the United States, 2000. **MEPS Research Findings No. 21. Ezzati-Rice, T.M., Kashihara, D., and Machlin, S.R. AHRQ Publication No. 04-0022.**

This report presents descriptive data on health care spending in the United States. Estimates are based on data from the 2000 MEPS and cover the civilian noninstitutionalized U.S. population. Estimates of total health care expenses and expenses for hospital inpatient services, ambulatory services (including office-based, hospital outpatient, and emergency room visits), prescription medicines, dental services, home health services, and other medical equipment and supplies are provided. The proportion of people with expenses, mean and median expenses, and the proportion of expenses paid by various sources—including out of pocket, Medicare, Medicaid, and private insurance—are shown for each type of service. In addition, distributions of expenses and sources of payment across the population are examined by selected demographic, geographic, and socioeconomic characteristics and by health insurance and health status.*

Women and Domestic Violence: Programs and Tools that Improve Care for Victims. **Research in Action No. 15. Kass-Bartelmes, B.L., and Rutherford, M.K. AHRQ Publication No. 04-0055.**

This publication describes training programs and tools that can be used by health care providers, social workers, and facilities and their staff members to provide better care for victims of domestic violence. Studies funded by AHRQ have identified gaps in research on domestic violence, indicating a need to build a stronger evidence base for screening, detecting, and treating victims. Among the tools discussed are the Domestic Violence Survivor Assessment tool to help providers counsel victims, a critical pathway for intimate partner violence that provides guidance for patient care, and a tool that can be used to assess the quality of hospital-based domestic violence programs. In addition, training sessions have been shown to help health care providers screen for and identify victims of domestic abuse.**

HCUP 2002 Nationwide Inpatient Sample (NIS) Data.

HCUP NIS data from 2002 are now available to the public. The

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New publications

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2002 NIS contains new severity of illness variables. The NIS is a unique and powerful database of hospital inpatient stays. Researchers and policymakers use the NIS to identify, track, and analyze national trends in health care use, access, charges, quality, and outcomes. For more information about the NIS and how to order the data, go to www.hcup-us.ahrq.gov/home.jsp.

MEPS Statistical Briefs and Data Products.

The following statistical briefs and data files from MEPS are now available online at www.meps.ahrq.gov:

- Statistical Brief 33. Outpatient Prescribed Medicines: A Comparison of Use and Expenditures, 1987 and 2001.
- Statistical Brief 39. The Uninsured in America, First Half of 2002: Estimates of the Uninsured Living in Working Families for the Civilian Noninstitutionalized Population Under Age 65.
- Statistical Brief 40. Health Insurance Coverage and Income Levels for the U.S. Noninstitutionalized Population Under Age 65, 2001.
- Statistical Brief 41. The Uninsured in America, 2003: Estimates for the U.S. Population Under Age 65.
- Statistical Brief 44. Health Insurance Status of Children in America, 1996-2003: Estimates for the U.S. Population Under Age 18.
- Statistical Brief 45. The Uninsured in America, 1996-2003: Estimates for the U.S. Population Under Age 65.
- MEPS HC-062: 2002 Full Year Population Characteristics (data file).
- MEPS HC-063: 2002 Job Files (data file).
- 02HC/NHISLinkFile: 2002 MEPS/2001 and 2000 NHIS Link File (data linkage file). ■

Register now for the September 2004 MEPS data users' workshop

The Agency for Healthcare Research and Quality will hold a 2-day, hands-on workshop September 20-21, 2004, to facilitate the use of data files from the MEPS Household Component (MEPS-HC). The workshop will be held in the conference facility at the John M. Eisenberg Building in Rockville, MD. It will focus on public use data files from the MEPS-HC on prescribed medicines and health insurance status (person-level data). The goal is to facilitate use of the data files by health services researchers by providing both practical information about MEPS files and an opportunity to construct analytic files with the assistance of AHRQ staff. A PC will be available for each participant. Enrollment is limited to 20 participants, and the cost is $50 for the 2-day, hands-on computer lab. Go to the MEPS Web site at www.meps.ahrq.gov and click on "Workshop" for program descriptions, registration forms, and logistical information. ■

Journal features four articles stemming from a collaboration between AHRQ and the FTC

The Agency for Healthcare Research and Quality and the Federal Trade Commission (FTC) collaborated on four articles that were published in the July issue of the *International Journal of Health Care Finance and Economics.* A fifth article, authored by AHRQ staff, is also included in the journal. The articles are:

- Provider competition and health care quality: Challenges and opportunities for research, by Herbert S. Wong, Peggy McNamara and Warren Greenberg (AHRQ Publication No. 04-R051)**
- Competition in medical services and the quality of care: Concepts and history, by Mark Pauly
- The evolving science of quality measurement for hospitals: Implications for studies of competition and consolidation, by Patrick Romano and Ryan Mutter
- Incorporating empirical research on health care quality into competition law and policy: Four translational complexities," by David A. Hyman

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AHRQ and FTC collaboration

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- Tax incidence and net benefits in the market for employment-related health insurance: Sensitivity of estimates to the incidence of employer costs, by Thomas Selden and Didem Bernard (AHRQ Publication No. 04-R049)

A copy of the journal (AHRQ Publication No. 04-M040) is available free from AHRQ.* Individual reprints of the staff-authored articles, only, are also available from AHRQ.* See the back cover of *Research Activities* for ordering information. ■

New evidence reports and technical review now available from AHRQ

The Agency for Healthcare Research and Quality recently published two new evidence reports and a technical review. These reports were developed by AHRQ-supported Evidence-based Practice Centers (EPCs). There are 13 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. Technical reviews and EPC reports and summaries are published by AHRQ and are available online and through the AHRQ clearinghouse. Visit the AHRQ Web site at www.ahrq.gov and click on "Clinical Information" or see the back cover of *Research Activities* for ordering information.

- *Pharmacological Treatment of Dementia.* Evidence Report/Technology Assessment No. 97. Summary (AHRQ Publication No. 04-E018-1)** and full report (AHRQ Publication No. 04-E018-2).*
- *Criteria to Determine Disability Related to Multiple Sclerosis.* Evidence Report/Technology Assessment No. 100. Summary (AHRQ Publication No. 04-E019-1)** and full report (AHRQ Publication No. 04-E019-2).*
- *Meta-regression Approaches: What, Why, When, and How?* Technical Review No. 8. (AHRQ Publication No. 04-0033)* ■

Research Briefs

Adegoke, O.J., Blair, A., Shu, X.O., and others. (2004). "Agreement of job-exposure matrix (JEM) assessed exposure and self-reported exposure among adult leukemia patients and controls in Shanghai." (AHRQ grant HS11640). *American Journal of Industrial Medicine* 45, pp. 281-288.

Workers' self-report is a suitable way to assess occupational exposure to potentially toxic substances, concludes this study. The investigators evaluated agreement between selected self-reported occupational exposures to benzene, other organic solvents, pesticides, and electromagnetic fields and job-exposure matrix (JEM) exposure assessment (probability of exposure to specific agents using job titles and/or descriptions) in a case-control study of 486 leukemia patients and 502 healthy controls in Shanghai. Agreement between self-reported exposures and JEM assessment (the "gold standard") was good.

Blewett, L.A., Parente, S.T., Finch, M.D., and Peterson, E. (2004). "National health data warehouse: Issues to consider." (AHRQ grant HS10091). *Journal of Healthcare Information Management* 18(1), pp. 52-58.

A national data warehouse that links public and private data could be used to monitor trends in health care costs, use of services, quality of care, adherence to quality guidelines, and changes in treatment protocols, conclude these authors. They note, however, that

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the development of the data warehouse would require overcoming a number of political and technical challenges to gain access to private insurance data. They outline recommendations from a national conference sponsored by AHRQ on the private sector's role in quality monitoring and provide an operational outline for the development of a national private-sector health data warehouse.

Carney, P.A., Elmore, J.G., Abraham, L.A., and others. (2004, June). "Radiologist uncertainty and the interpretation of screening." ***Medical Decision Making*** **24, pp. 255-264.**

Male radiologists who have more years of interpreting mammograms and read a higher volume of mammograms exhibit less intense reactions to the uncertainty that is inherent in the interpretation of mammograms. However, radiologists' reactions to uncertainty do not appear to affect interpretive performance, according to this study. The investigators used a mailed survey to assess demographic and clinical characteristics of radiologists and reactions to uncertainty associated with practices. Responses were linked to radiologists' actual interpretive performance data obtained from three regionally located mammography registries.

Carder, P.C., and Hernandez, M. (2004). "Consumer discourse in assisted living." (AHRQ grant HS09886). ***Journal of Gerontology: Social Sciences*** **59B(2), pp. S58-S67.**

Assisted living is a type of residential long-term care that is becoming an increasingly popular alternative for older people who need assistance with personal care and health monitoring. Consumer discourse used by assisted living practitioners, gerontologists, and public agency personnel characterizes this setting as one where older people act as rational and informed shoppers, seeking the goods and services that best meet their personal preferences. This paper relies on theories of consumer studies to explain strategies used by assisted living practitioners to promote consumer choice and independence while minimizing potential risks. Data include field notes, participation in manager-training programs, and interviews with residents and family members during a 2-year period.

Centers for Education and Research on Therapeutics (CERTs) Risk Assessment Workshop Participants. (2003). "Risk assessment of drugs, biologics, and therapeutic devices: Present and future issues." (AHRQ grant HS12084). ***Pharmacoepidemiology and Drug Safety*** **12, pp. 653-662.**

The current U.S. system for detecting adverse effects of therapeutics (drugs, devices, and biological products) is suboptimal, assert these authors. Their report presents the results of an expert workshop on assessing therapeutic risks. The workshop's focus was on the post-approval phase and procedures in the United States, but relevant international issues and attendees were included. Workshop participants delineated substantial deficiencies in the current U.S. system for risk assessment of therapeutics. Improving the system will involve research into methods to enhance risk assessment, refinement and consolidation of data-handling systems, education of health care workers, allocation of financial resources, and building of constituencies.

Chen, S.C., Bayoumi, A.M., Soon, S.L., and others. (2004). "A catalog of dermatology utilities: A measure of the burden of skin diseases."(AHRQ training grant T32 HS00028). ***Journal of Investigative Dermatology Symposium Proceedings*** **9, pp. 160-168.**

Utilities represent a measure of the burden a disease places on a particular individual. Utilities are quality of life measures that reflect the strength of individuals' preferences or values for a particular health outcome. These authors introduce the concept of utilities to the dermatology community and present a catalog of dermatology utilities obtained from direct interviews with 236 patients. They present utilities for 17 diagnostic categories ranging from acne and hives to lymphoma and melanoma and discuss the underlying reasons for the significant disease burden that these utilities represent. For example, the burden of blistering diseases was high and comparable to that of kidney disease.

Cheng, E.M., Siderowf, A., Swarztrauber, K., and others. (2004). "Development of quality of care indicators for Parkinson's disease." (AHRQ grant K08 HS00004). ***Movement Disorders*** **19(2), pp. 136-150.**

To date, there have been no large-scale efforts to measure the quality of Parkinson's disease (PD) care because of a lack of quality indicators for reviewing the PD care process. This paper presents a set of quality indicators for PD care. Following a review of the medical literature, the authors

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drafted 79 potential indicators. An expert panel of seven specialists in movement disorders rated each indicator and agreed on 71 quality indicators. Applying thresholds for impact on patient outcomes, room for improvement, and overall utility, the panel narrowed these down to 29 quality indicators of PD care. The indicators span assessment of functional status, assessment and treatment of depression, coordination of care, and medication use.

Feldman, P.H., and McDonald, M.V. (2004). "Conducting translation research in the home care setting: Lessons from a just-in-time reminder study." (AHRQ grant HS10542). ***Worldviews on Evidence-Based Nursing*** **1, pp. 49-59.**

This article examines issues in implementing evidence-based practice in home health care, a decentralized setting that lacks strong peer contact or on-site support and supervision compared with hospitals, clinics, and nursing homes. The authors demonstrate that translational research on the effectiveness of an e-mail reminder (by itself or augmented with other reminders) to nurses about treatment of heart failure or cancer pain patients can be successfully conducted in the home health care setting. They also point to the value of assessing different levels of intensity of interventions in a single study, looking at process measures and patient outcomes, and conducting a cost-effectiveness analysis. To encourage broader adoption of translation strategies, additional incentives from purchasing or regulatory agencies may be needed.

Franks, P., Lubetkin, E.I., Gold, M.R., and others. (2004, May). "Mapping the SF-12 to the EuroQol EQ-5D index in a national U.S. sample." (AHRQ grant HS13770). ***Medical Decision Making*** **24, pp. 247-254.**

The SF-12 component summary scale scores can be transformed to a preference scale score exhibiting adequate performance characteristics in a large, national sample, concludes this study. The investigators examined responses of 1,500 adults in the 2000 Medical Expenditure Panel Survey that included the SF-12 health status questionnaire and the EQ-5D Index of health state preferences. The performance of the predicted EQ-5D seemed adequate for group comparison purposes for which the SF-12 was developed. The mapped SF-12 yielded usable preference-scaled scores, with some caution for the lowest health states. Researchers seeking to minimize respondent burden in primary data collection, while generating data useful for health profiles and cost-effectiveness analyses, may find that use of the SF-12 suffices.

Glance, L.G., Dick, A., Osler, T.M., and Mukamel, D. (2004). "Judging trauma center quality: Does it depend on the choice of outcomes?" (AHRQ grant HS11295). ***Journal of Trauma Injury, Infection and Critical Care*** **56, pp. 165-172.**

Trauma center quality should be judged based on patients' functional status as well as survival, concludes this study. The researchers found that the trauma care quality of 15 of 27 hospitals studied was categorized differently when their performance was benchmarked using survival versus functional outcome. The investigators used data from the National Trauma Database on adult patients who sustained a blunt trauma (but without head or spinal cord injury) in 1999. They developed a model that would allow trauma centers to compare their performance with one another and with a national norm in terms of functional outcomes. They compared the probability of good functional outcome using this model with survival rates using a different model. The researchers then compared the performance of 27 hospitals based on the number of survivors and the number of survivors with good functional outcomes.

Guise, J., Berlin, M., McDonagh, M., and others. (2004, March). "Safety of vaginal birth after cesarean: A systematic review." (AHRQ grant K08 HS11338). ***Obstetrics and Gynecology*** **103(3), pp. 420-429.**

Researchers conducted a comprehensive review of research studies to determine the risks and benefits associated with repeat c-section and attempted vaginal birth after cesarean (VBAC). They analyzed 20 studies involving more than 55,500 women with prior cesarean delivery and found the studies to be flawed or limited. They found no direct evidence for the relative benefits and harms of VBAC, although several studies provided indirect evidence. The researchers were unable to determine the relative increased risk for a patient choosing a trial of labor compared with repeat cesarean, regardless of the ultimate delivery route. They make several recommendations for future studies comparing VBAC with elective repeat cesarean.

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Krueger, P.M., Huie, S.A., Robers, R.G., and Hummer, R.A. (2004). "Neighbourhoods and homicide mortality: An analysis of race/ethnic differences." (AHRQ grant HS13996). *Journal of Epidemiology and Community Health* 58, pp. 223-230.

Homicide was the 15th leading cause of death in the United States in 2000, and the majority of those deaths were among young black and Hispanic men. According to this study, residents living in poverty-stricken neighborhoods had a 50 percent higher risk of homicide death than residents of neighborhoods with less inequality or poverty. Those living in areas where 15 percent or more of their neighbors lived in poverty had a 21 percent higher risk of homicide death. The findings support economic deprivation, social disorganization, and acculturation theories of homicide differences and suggest that both neighborhood and individual risk factors play a role. They cite the need for public health policies that focus on both individual and neighborhood factors to reduce homicide risks in vulnerable populations.

Lyles, R.H., Lin, H., and Williamson, J.M. (2004). "Design and analytic considerations for single-armed studies with misclassification of a repeated binary outcome." (AHRQ grant HS11452). *Journal of Biopharmaceutical Statistics* 14(1), pp. 229-247.

In clinical studies, misclassification or mismeasurement due to the use of an imperfect surrogate outcome measure is a common problem that is known to produce potentially significant bias in estimated treatment effects. In this study, the investigators consider the case of a single-armed (noncomparative) study of the effectiveness of antibiotics to combat acute otitis media. Both initial misclassification at screening and a regression phenomenon impacting the error-prone followup outcome measure contributed to bias in the typical treatment effect estimate.

McIntosh, W.A., Alston, L.T., Booher, J.R., and others. (2003). "Time spent with patients and charges to patients for specialty consultations using telemedicine." (AHRQ grant HS08247). *Telemedicine Journal and e-Health* 9(4), pp. 345-350.

These authors modeled time spent with patients and estimated costs using data from a university medical center on 184 telemedical consultations to determine the cost of teleconsultations. More time was spent with patients if payment was through private insurance, more specialists were involved in the consult, or the specialist had practiced medicine longer. Consultations took less time if the specialist was a neonatologist or if the specialist recently completed medical training, and charges were lower when a neonatologist was involved. Estimated charges to patients were higher when consults took more time, multiple specialists were involved, the patient was female, the consultation involved endocrinology or dermatology, or the patient came from a rural community.

M'ikanatha, N.M., Lautenbach, E., Kunselman, A.R., and others. (2003). "Sources of bioterrorism information among emergency physicians during the 2001 anthrax outbreak." (AHRQ grant HS10399). *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science* 1(4), pp. 259-265.

An electronic Health Alert Network, composed of broadcast faxes, electronic mail, and the Web, is a potentially efficient mechanism for public health agencies to disseminate bioterrorism recommendations to physicians. Health Alerts are perceived as highly credible and appear to be able to convey important information, according to the results of a survey of emergency physicians in Pennsylvania in 2001. For the survey, physicians were asked about their sources of information on bioterrorism during the anthrax outbreak. Although physicians received bioterrorism information from various sources, they most often cited Health Alerts, medical journals, and the Web as primary sources.

Marshall, M.N., Romano, P.S., and Davies, H.T. (2004). "How do we maximize the impact of the public reporting of quality of care?" (AHRQ grant HS10985). *International Journal for Quality in Health Care* 16(S), pp. i57-i63.

Many developed countries are beginning to see the public reporting of comparative information about the quality of health care as an important way to improve accountability, stimulate quality improvement, and empower members of the public to make informed health care choices. The authors of this paper make recommendations about the importance of understanding the macro- and micro-environment within which public reporting takes place, actively addressing the unintended consequences of public reporting, and engaging the public and media. They describe lessons they think are common to all countries attempting to produce

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and disseminate health care quality reports.

Potter, P., Boxerman, S., Wolf, L., and others. (2004, February). "Mapping the nursing process: A new approach for understanding the work of nursing." (AHRQ grant HS11983). *Journal of Nursing Administration* 34(2), pp. 101-109.

This article describes an observational investigation of a single registered nurse (RN) and patient care technician (PCT) team over a 10-hour period. Human factors engineering analysis identified the activities performed by the RN and PCT during 1-minute intervals during the work shift. The nurse was shadowed to observe how and to what extent the five steps of nursing process (assessment, diagnosing or problem identification, planning, intervention, and evaluation) were completed. The goal was to develop a new method for mapping the nursing process—a cognitive pathway—to better understand the work of nursing. The pathway also provides an analytical tool for examining how disruptions to the nursing process may contribute to errors within the acute care environment.

Rosen, M.P., Jarvik, J.G, and Swan, S. (2004, February). "Expect the unexpected: Thoughts, insights, and musing about research in radiology." (AHRQ grant HS09499). *Academic Radiology* 11(2), pp. 206-212.

In this paper, the authors present an informal discussion of their individual experiences in radiological research, including mistakes made along the way. They detail the top ten mistakes they made in clinical non-funded research and lessons they learned from the mistakes. They also recount experiences accumulated during 10 years of working on randomized controlled trials and all that can go wrong while conducting such trials. Finally, they make several recommendations to radiology researchers focused on dealing with institutional review boards, interactions with colleagues and funding agencies, data collection, and the clinical environment.

Schmid, C.H., Cappelleri, J.C., and Lau, J. (2004). "Bayesian methods to improve sample size approximations." (AHRQ grant HS10064). *Methods in Enzymology* 383, pp. 406-427.

Determining the sample size necessary to have a high probability of obtaining a statistically significant result is a key component of study design. Although the standard calculations aim for sufficient power to account for sampling variation, they assume fixed values of the parameters and ignore the usually substantial prior uncertainty associated with them. In this article, the authors incorporate this uncertainty in a Bayesian analysis to improve sample size approximations.

Tebb, K.P., Shafer, M., Wibbelsman, C.J., and others. (2004). "To screen or not to screen: Prevalence of *C. trachomatis* among sexually active asymptomatic male adolescents attending health maintenance pediatric visits." (AHRQ grant HS10537). *Journal of Adolescent Health* 34, pp. 166-168.

This study estimated the prevalence of *Chlamydia trachomatis* (CT) among sexually active, asymptomatic, multiethnic adolescent males attending preventive health maintenance visits at pediatric clinics within a large health maintenance organization. First-void urine samples of sexually active 14- to 18-year-old males were screened for CT. The CT infection rate was 4 percent. This finding indicates the need to increase research efforts to find ways to identify at-risk populations, suggest the researchers. They advise implementing CT screening of sexually active asymptomatic adolescent males as part of routine health care.

Walter, L.C., Davidowitz, N.P., Heineken, P.A., and Covinsky, K.E. (2004, May). "Pitfalls of converting practice guidelines into quality measures." (AHRQ grant K02 HS00006). *Journal of the American Medical Association* 291(20), pp. 2466-2470.

The Department of Veterans Affairs (VA) measures quality of care at all of its sites by assessing adherence rates to performance measures, which generally are derived from evidence-based practice guidelines. However, there are problems with converting practice guidelines into performance measures that are meant to identify poor quality of care. The authors of this paper suggest a more balanced perspective on the use of performance measures to define quality by delineating conceptual problems with the conversion of practice guidelines into quality measures. They use a case study of colorectal cancer screening at one VA facility to illustrate pitfalls in using adherence rates to guideline-based measures to assess quality of care.

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Research briefs

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Wolraich, M.L., Lambert, E.W., Bickman, L., and others. (2004, February). "Assessing the impact of parent and teacher agreement on diagnosing attention-deficit hyperactivity disorder." (AHRQ grant HS09905). ***Developmental and Behavioral Pediatrics*** **25(1), pp. 41-47.**

These investigators compared the ratings by teachers and parents of attention-deficit hyperactivity disorder (ADHD) among elementary school children with a high risk of ADHD according to teacher ratings. Followup parent interviews and information from teachers were obtained on 243 children. Before screening, health care professionals had diagnosed ADHD in 40 percent of the identified children. There was low agreement between the parent and teacher reports of ADHD symptoms such as inattention, hyperactivity or impulsive behavior, and performance impairment. The recommendation of multiple informants significantly decreased the prevalence of ADHD in this group, pointing to the need for clear guidelines for dealing with these inconsistencies.

Wyrwich, K.W. (2004). "Minimal important difference thresholds and the standard error of measurement: Is there a connection?" (AHRQ grant HS11635). ***Journal of Biopharmaceutical Statistics*** **14(1), pp. 97-110.**

Several recently published studies have examined the relationship between the magnitude of the standard error of measurement (SEM) and established thresholds for a minimal clinically important difference (MCID) or a minimal important difference (MID) for change scores on health-related quality of life (HRQOL) or health status measures. These investigators reviewed studies linking the minimal important difference standard, determined by a relevant anchor-based procedure, and the SEM. They used study methodologies for establishing a relevant anchor and for estimating the reliability of the HRQOL or health status measure to calculate the SEM.

Yawn, B.P., Ammar, K.A., Thomas, R., and Wollan, P.C. (2003, November). "Test-retest reproducibility of heart rate recovery after treadmill exercise." (AHRQ grant HS10239). ***Annals of Family Medicine*** **1(4), pp. 236-241.**

Slowed heart rate recovery (HRR) of less than 12 beats per minute in the first minute after an exercise stress test has been suggested as a useful addition to the criteria currently used to assess exercise stress test results. However, preliminary data from this study suggest that HRR appears to have limited short-term test-retest stability or reproducibility. Therefore, it might not be a reliable addition to current results of exercise stress tests. The findings were based on a retrospective comparison of medical record information on 90 patients undergoing two exercise stress tests separated by 18 weeks or less. Individual patient's HRR was markedly variable from the first to second stress test.

Zhou, K.H., Fielding, J.R., and Ondategui-Parra, S. (2004). "What is evidence-based medicine?" (AHRQ grant HS13234). ***Academic Radiology*** **11, pp. 127-133.**

In this review article, the authors present the definition and useful concepts of evidence-based medicine (EBM) in radiology. They describe the principles and major steps of practicing EBM in radiology. They also provide useful literature and resources related to meta-analysis, such as AHRQ and the Cochrane Collaboration, which initiated the research and practice in EBM. Finally, they summarize statistical methods for evaluating radiologic diagnostic performances derived from meta-analysis. ■

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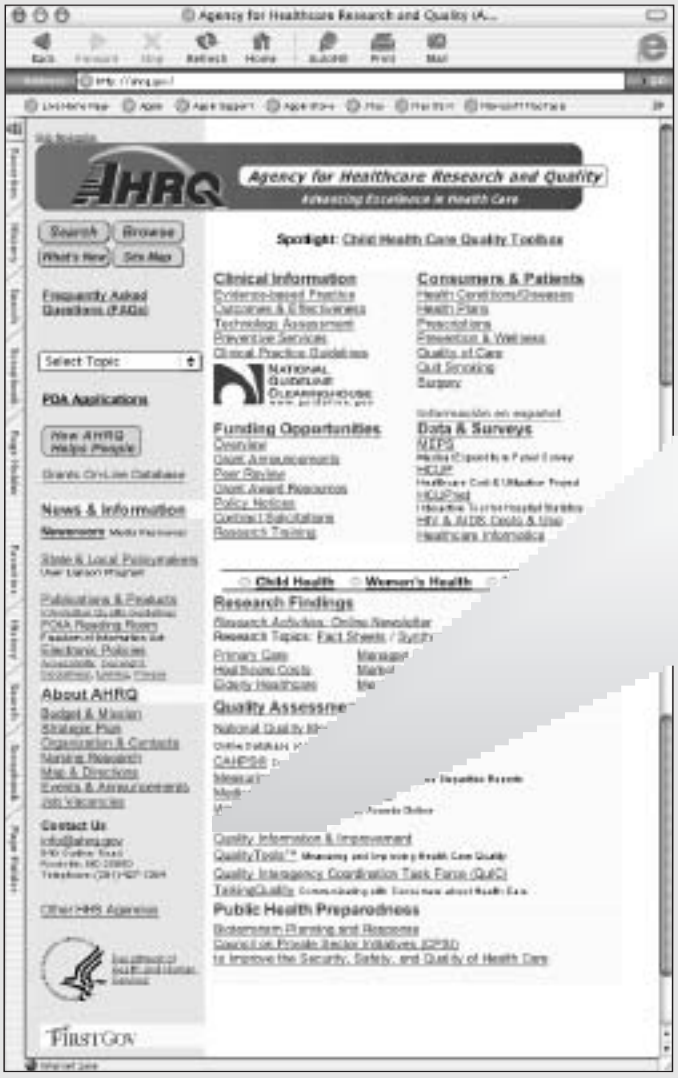

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