AHRQ

Research Activities

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Highlights

Departments

Regular Features

New analysis confirms a direct link between nurse staffing and patient complications and deaths in hospitals

Analysis of data on nurse staffing levels confirms that there is a direct link between the number of registered nurses (RNs) and the hours they spend with patients and whether patients develop a number of serious complications or die while in the hospital.

For the study, which was supported in part by the Agency for Healthcare Research and Quality (HS09958), investigators reexamined and refined their previous analysis released by the Health Resources and Services Administration (HRSA) in April 2001 as part of an ongoing collaboration within the Department of Health and Human Services to improve nursing care in American hospitals. The partnership also included AHRQ, the Centers for Medicare and Medicaid Services, and the National Institute for Nursing Research.

The research described in the original HRSA report and the new analysis were conducted by Jack Needleman, Ph.D., of the Harvard School of Public Health, and Peter Buerhaus, Ph.D., R.N., F.A.A.N., of the Vanderbilt University School of Nursing. Along with their colleagues, Drs. Needleman and Buerhaus reviewed their original discharge and staffing data from 799 hospitals in 11 States—California, New York, Maryland, Virginia, West Virginia, Arizona, Massachusetts, Missouri, Nevada, South Carolina, and Wisconsin—to estimate nurse staffing levels for RNs, licensed practical nurses (LPNs), and aides, as well as the frequency of a wide range of complications that patients developed during their hospital stay. These data cover 6 million patients discharged from hospitals in 1997.

Specifically, they confirmed their initial findings that low levels of RNs among a hospital's nurses were associated with higher rates of serious complications such as pneumonia, upper gastrointestinal bleeding, shock, and cardiac arrest, including deaths among patients with these three complications, as well as sepsis or deep vein thrombosis. These complications occurred 3 percent to 9 percent more often in hospitals with lower

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Nurse staffing

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RN staffing levels than in hospitals with higher levels of RN staffing.

Both studies also found that rates for urinary tract infections, a less serious but common infection among hospital patients, and length of time spent in the hospital were also higher in hospitals with lower RN staffing. When comparing hospitals, the study controlled for how ill patients were in different hospitals and differences across hospitals in how likely patients were to suffer these complications.

Researchers again found an association between nurse staffing and deaths from more serious complications, but they found no evidence of an association between nurse staffing and overall deaths among medical or surgical patients. Low RN staffing at hospitals makes it more likely that some patients will suffer pneumonia, shock and cardiac arrest, and gastrointestinal bleeding, and that some patients may die as a result, according to the researchers. They conclude that more and better-educated nurses are needed to ensure that hospital patients don't suffer needlessly from complications. They also call for more research to identify the factors influencing nurse staffing levels and the mix of different types of nurses working in a particular hospital.

See "Nurse-staffing levels and the quality of care in hospitals," by Drs. Needleman and Buerhaus, Soeren Mattke, M.D., M.P.H., and others, in the May 30, 2002 *New England Journal of Medicine* 346(22), pp. 1715-1722. ■

Patient Safety

Computerized algorithms that generate reminders, alerts, protocols, and other information reduce clinical errors

Clinical error rates should be less than 1 percent to make important progress towards eliminating threats to patient safety. Unfortunately, the impact of clinical practice guidelines, education, and other efforts falls far short of this goal. One way to improve treatment, reduce errors, and increase quality of care is through the use of computerized protocols at the point of care, suggests Alan H. Morris, M.D., of LDS Hospital in Salt Lake City, UT. His research was supported in part by the Agency for Healthcare Research and Quality (HS06594).

In a recent commentary, he notes that many, if not most, clinical errors result from system problems. Humans cannot be relied upon consistently to render decisions that comply with evidence-based recommendations. For example, traditional screening for in-hospital adverse drug events detects only 1 percent and voluntary reporting only 12 percent of the adverse drug events detected by automated computerized screening of an integrated electronic clinical database. Simple computerized algorithms that generate reminders, alerts, or other information and protocols that incorporate more complex rules reduce the clinical decision error rate.

When explicit computerized protocols are driven by patient data, the output is a patient-specific protocol (instructions), thus preserving individualized treatment while standardizing clinical decisions. The expected decrease in clinical practice variation and increase in compliance with evidence-based recommendations should lower the error rate and enhance patient safety, concludes Dr. Morris.

See "Decision support and safety of clinical environments," by Dr. Morris, in *Quality and Safety in Health Care* 11, pp. 69-75, 2002. ■

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New Zealand's no-fault approach to medical injury cases has the potential to prevent such injuries in the future

The highly punitive approach of medical malpractice suits in the United States, which rests on pinpointing who is at fault in a medical injury case, frustrates efforts to understand and prevent medical errors. In contrast, New Zealand channels compensation to victims of medical injury through a no-fault scheme in cases that typically are settled in a few months.

A no-fault system can avoid the sort of punitive environment that chills openness and data gathering in tort-based compensation schemes. Moreover, the wide range of injuries that come within the purview of no-fault systems offers a unique window on the root causes of medical error, explain Julie Fitzjohn of New Zealand's Christchurch School of Medicine, and David Studdert, Sc.D., of the Harvard School of Public Health, in a recent commentary. Their work was supported in part by the Agency for Healthcare Research and Quality (HS11285)

Like Sweden's system, the New Zealand system first seeks to determine whether medical management in fact caused the injury that prompted the claim. Immediate compensation is provided in cases where it is determined that substandard or inappropriate treatment led to the injury. Severity of injury is based on time spent in the hospital or with significant disability. However, the third step in Sweden is to determine whether the injury was avoidable with optimal care, while New Zealand focuses on whether the injury was rare (a medical mishap).

Reform of New Zealand's compensation criteria for medical injury to embrace the notion of avoidability or preventability would help to realize the system's potential to identify and uncover the root causes of medical injury, assert the authors. The current "medical error" test in New Zealand's compensation criteria clearly targets individual errors rather than system failures that potentially can be prevented. Clearly, a shift to preventability criteria will pose some challenges. For example, it will take time to establish workable definitions of preventable events and consistent determinations about which injuries are compensable.

More details are in "A compensation perspective on error prevention: Is the ACC medical misadventure scheme compensating the right sort of injury?" by Ms. Fitzjohn and Dr. Studdert, in the September 2001 *New Zealand Medical Journal* 114 (1140), pp. 432-434, 2001. ■

Also in this issue:

Women's Health

Hysterectomy does not appear to diminish long-term life satisfaction among older women

About one-third of women in the United States have a hysterectomy by the age of 60. Fortunately, this operation doesn't seem to diminish their long-term life satisfaction, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS06726).

In a 1992 survey, women aged 55-94 years were asked to rate their life satisfaction as better, the same, or worse after menopause or hysterectomy compared with before. Nearly one-fourth (23 percent) of the 1,177 women who

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Hysterectomy

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responded to the mailed survey had undergone a hysterectomy with bilateral oophorectomy (uterus and both ovaries removed) an average of 24 years earlier, and 26 percent reported hysterectomy with ovarian conservation an average of 28 years earlier.

Women who were 20 or more years posthysterectomy or postmenopause were significantly more likely to rate their life satisfaction as better than were women 5 or fewer years after these events. Among women with a hysterectomy, 53 percent with oophorectomy and 60 percent with ovarian conservation rated life satisfaction better after the surgery. Only 42 percent of women who had not had a hysterectomy rated life satisfaction as better after menopause. These differences persisted, even after adjustment for age, estrogen use, or number of postoperative or postmenopausal years, notes Donna Kritz-Silverstein, Ph.D., of the University of California, San Diego.

Women currently using estrogen were significantly more likely to rate their life satisfaction as better than those who had never used estrogen. Even among women who had never used estrogen (which may improve mood and a sense of well-being), a significantly greater proportion of women who had a hysterectomy with ovarian conservation rated their life satisfaction as better than women who did not have a hysterectomy. Relief from symptoms (such as constant pain and heavy bleeding) necessitating hysterectomy may be responsible for the increased satisfaction among these women. Women who had a hysterectomy with both ovaries removed and had never used estrogen may have experienced new symptoms due to low levels of estrogen and testosterone.

See "Hysterectomy status and life satisfaction in older women," by Dr. Kritz-Silverstein, Deborah L. Wingard, Ph.D., and Elizabeth Barrett-Connor, M.D., in the *Journal of Women's Health and Gender-Based Medicine* 11(2), pp. 181-190, 2002. ■

Long-term outcomes are comparable for inpatient and outpatient treatment of women with pelvic inflammatory disease

Women with mild to moderate pelvic inflammatory disease (PID) who are treated as outpatients have recovery and reproductive outcomes similar to those for women treated in hospitals, according to a recent study that was funded by the Agency for Healthcare Research and Quality. If left untreated, PID can result in chronic pelvic pain, infertility, and ectopic pregnancy.

The PID Evaluation and Clinical Health (PEACH) study was a randomized clinical trial designed to compare the effectiveness of inpatient and outpatient treatment strategies in preserving fertility and preventing PID recurrence, chronic pelvic pain, and ectopic pregnancy for women with mild to moderate PID. Women treated as outpatients received a single injection of cefoxitin and an oral dose of probenecid, followed by a 14-day supply of oral doxycycline. Those treated in a hospital were given multiple intravenous doses of cefoxitin plus doxycycline during a minimum inpatient stay of 48 hours. The women's care was followed for 35 months to document long-term outcomes.

The short-term clinical improvements were similar for women treated in inpatient and outpatient settings. After 35 months of followup, pregnancy rates were nearly equal between the groups, as was the amount of time it took to become pregnant. There also were no statistically significant differences between the proportion of women with ectopic pregnancy, chronic pelvic pain, or PID recurrence.

Each year, about 1.2 million women are treated for PID, a sexually transmitted disease that causes infection and inflammation of all or some of the pelvic organs. Over 100,000 women with PID are hospitalized each year, and about 15 percent of these women have acute and serious versions of the disease that require intensive inpatient treatment. But for approximately 85,000 women with mild or moderate PID who currently are being hospitalized, treating

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Note: Only items marked with a single (*) or double (**) asterisk are available from AHRQ. Items marked with a single asterisk (*) are available from AHRQ's clearinghouse. Items with a double asterisk (**) are also available through AHRQ InstantFAX. Three asterisks (***) indicate NTIS availability. See the back cover of *Research Activities* for ordering information. Consult a reference librarian for information on obtaining copies of articles not marked with an asterisk.

Pelvic inflammatory disease

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them as outpatients may save around $500 million each year.

According to lead author Roberta B. Ness, M.D., M.P.H., of the University of Pittsburgh, the findings from this study demonstrate that shifting treatment of mild to moderate PID from inpatient to outpatient settings will not cause harm to affected women. In addition, women who receive outpatient treatment for PID will have less disruption to their daily lives.

Details can be found in "Effectiveness of inpatient and outpatient treatment strategies for women with pelvic inflammatory disease: Results from the PID Evaluation and Clinical Health (PEACH) Randomized Trial," by Dr. Ness, David E. Soper, M.D., Robert L. Holley, M.D., and others, in the May 2002 *American Journal of Obstetrics and Gynecology* 186(5), pp. 929-937. ■

Outcomes/Effectiveness Research

New measure may help prevent patients with pneumonia from being sent home from the hospital too soon

Hospitalized pneumonia patients who have abnormal vital signs, mental confusion, or problems with eating or drinking in the 24 hours prior to discharge are more likely not to be able to resume normal activities, and they face a greater chance of hospital readmission or death compared with other pneumonia patients. These are the findings of a recent study funded by the Agency for Healthcare Research and Quality (HS09973) and conducted by a team of researchers led by Ethan A. Halm, M.D., M.P.H., of the Mount Sinai School of Medicine.

Dr. Halm and his colleagues focused on the potential danger of releasing pneumonia patients from the hospital "quicker and sicker." They developed a simple severity-of-illness measure for patients with pneumonia. Clinicians can use the measure to judge whether it is safe for the patients to be discharged from the hospital. The measure uses information from the five basic vital signs that are checked several times a day in hospitalized patients (temperature, heart rate, blood pressure, respiratory rate, and oxygen levels in the blood), as well as an assessment of the patient's mental status and ability to eat and drink.

Dr. Halm and his colleagues found that patients who were medically unstable—that is, having problems with at least one of the seven factors in the measure—had a 30 percent increased chance of readmission or death and a 50 percent higher chance of not returning to their usual activities within 30 days. The researchers found that the small proportion of patients who were discharged with two or more unstable factors had a five-fold greater risk of readmission or death. Using their instrument, Dr. Halm and his colleagues found that one in five of the patients they studied had been discharged "medically unstable."

The researchers believe that hospital and insurance plan guidelines that shorten the length of hospital stays should build in a safety check to measure clinical stability prior to discharge to make sure that patients are not sent home too soon. Dr. Halm also suggests that measuring stability before discharge can be used as an indicator of quality of care. Further, measures of patient stability could also be used to compare provider and health plan performance and to stimulate quality improvement activities.

For more information see "Instability on hospital discharge and the risk of adverse outcomes in patients with pneumonia," by Dr. Halm, Michael J. Fine, M.D., M.Sc., Wishwa N. Kapoor, M.D., M.P.H., and others, in the June 10, 2002 *Archives of Internal Medicine* 162, pp. 1278-1284. ■

People who have diabetes are twice as likely to use complementary and alternative medicine as other patients

People with diabetes are much more likely than other patients to use complementary and alternative medicine (CAM). However, they seem to use CAM not as a substitute for conventional treatment but as an adjunct to conventional treatment, finds a study supported in part by the Agency for Healthcare Research and Quality (HS11418 and HS10871). In this study, 57 percent of people with diabetes who used CAM discussed it with their regular physician, and 43 percent were actually referred to other CAM users by a physician.

Leonard E. Egede, M.D., M.S., and his Medical University of South Carolina colleagues suggest that doctors acknowledge use of CAM and discuss it candidly with their patients. The researchers compared the prevalence and pattern of CAM use in people with and without diabetes using data from AHRQ's 1996 Medical Expenditure Panel Survey, a nationally representative sample of the U.S. household civilian population. After controlling for age, sex, race/ethnicity, household income, educational level, and coexisting medical conditions, people with diabetes were 1.6 times as likely to use CAM as people without diabetes (8 vs. 5 percent). Individuals who had only diabetes were twice as likely to use CAM, whereas those with diabetes and additional chronic conditions were 1.8 times as likely to use CAM as the general population without chronic medical conditions.

The most frequently used CAM treatments by people with diabetes were nutritional advice and diets, spiritual healing (21 percent), herbal remedies (20 percent), massage, and meditation. Many of the CAM nutritional/dietary recommendations (for example, homeopathic diets and orthomolecular therapies such as magnesium, melatonin, or megadoses of vitamins) differ from conventional dietary recommendations endorsed by diabetes educators and physicians. Recent studies have shown that prayer and spiritual healing by a clergyman or spiritualist improve treatment effects. In contrast, use of herbal remedies has not been shown to improve glucose control and may even be harmful in people who have diabetes.

See "The prevalence and pattern of complementary and alternative medicine use in individuals with diabetes," by Dr. Egede, Xiaobous Ye, M.D., M.S., Deyi Zheng, M.B., Ph.D., and Marc D. Silverstein, M.D., in the February 2002 *Diabetes Care* 25(2), pp. 324-329. ■

Elevated lipoprotein(a) may be a risk factor for problems with vascular access among black hemodialysis patients

Patients with kidney failure who undergo regular hemodialysis need a permanent site of access to veins and arteries for the exchange of fluids during dialysis. These arteriovenous access sites can be created with the patient's own vessels (native fistulae) or with synthetic grafts. Elevated lipoprotein(a) [Lp(a)] may be a risk factor for arteriovenous access complications due to blood clots and other problems among both black and white hemodialysis patients, according to recent findings from the Choices for Healthy Outcomes in Caring for ESRD (CHOICE) study. The study was supported in part by the Agency for Healthcare Research and Quality (HS08365).

The metabolic abnormalities associated with kidney failure often result in elevated levels of Lp(a), which are significantly higher among blacks than among whites, explains lead author Brad C. Astor, Ph.D., of Johns Hopkins University. Dr. Astor and his colleagues analyzed the intervention-free survival of the first arteriovenous access among 215 white and 112 black hemodialysis patients participating in the CHOICE study, a national multicenter study (81 dialysis clinics) begun in 1995 to investigate treatment choice, dose, and outcomes of dialysis care.

The researchers found that median levels of Lp(a) protein were higher among blacks than whites (81.0 vs. 37.5 nmol/L). The rate of access interventions needed to rectify complications did not vary by race but was much higher in those with synthetic grafts vs. native fistulae (1.0 vs. 0.5 interventions per access-year) and in patients with kidney failure primarily due to diabetes vs. other causes (0.9 vs. 0.6). However, blacks in the highest race-specific Lp(a) quartile (greater than 145 nmol/L) had a significantly higher rate of arteriovenous access interventions than other blacks

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Elevated lipoprotein(a)

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(1.4 vs. 0.7), but no similar association was found for white patients.

More details are in "Race-specific association of lipoprotein(a) with vascular access interventions in hemodialysis patients: The CHOICE study," by Dr. Astor, Joseph A. Eustace, M.D., Michael J. Klag, M.D., and others, in *Kidney International* 61, pp. 1115-1123, 2002. ■

Use of subcutaneous instead of IV erythropoietin for end-stage renal disease patients could reduce Medicare costs

Recombinant human erythropoietin (epoetin) stimulates production of red blood cells and improves cardiovascular function and overall quality of life in patients with end-stage renal disease (ESRD), who have lost most kidney functioning.

Most ESRD patients undergoing hemodialysis receive epoetin intravenously, including 90 percent of those in the Medicare End-Stage Renal Disease Program, despite recommendations by the National Kidney Foundation for the subcutaneous route. Treating ESRD patients with subcutaneous epoetin would maintain the target hematocrit level at far less cost than the IV epoetin currently being used, concludes a study supported in part through an interagency agreement between the Agency for Healthcare Research and Quality and the Department of Veterans Affairs.

Denise M. Hynes, Ph.D., of Loyola University, and her colleagues used an economic cost projection model to estimate potential savings to the Medicare ESRD Program that could occur during a transition from IV to subcutaneous administration of epoetin among hemodialysis patients. They developed the model using data from a Department of Veterans Affairs clinical trial, a 1998 ESRD core indicators survey, and 1997-1998 Medicare claims files. The model estimated Medicare cost savings at $47 million to $142 million annually as 25 percent to 75 percent of hemodialysis patients who received IV epoetin switched to subcutaneous epoetin, while reducing the dose by 32 percent.

A minimal dose reduction (10 percent) would result in Medicare cost savings of $15 million to $44 million annually. Based on the model, use of subcutaneous epoetin reduced the dose per month by 10 percent, lowered the number of administrations per month, and reduced the costs compared with use of IV epoetin. Since the half-life of epoetin is prolonged with subcutaneous administration, lower doses can be used to maintain a target hematocrit level via this route.

See "Potential cost savings of erythropoietin administration in end-stage renal disease," by Dr. Hynes, Kevin T. Stroupe, Ph.D., Joel W. Greer, Ph.D., and others, in the February 15, 2002 *American Journal of Medicine* 112, pp. 169-175. ■

Users of nonaspirin, nonsteroidal antiinflammatory medications may benefit from use of aspirin for cardioprotection

The cardioprotective benefits of low-dose aspirin therapy are due largely to aspirin's irreversible and almost complete inhibition of thromboxane produced by blood platelets. Inhibition of thromboxane, which is a potent inducer of platelet aggregation, helps prevent blood thickening. Many nonaspirin, nonsteroidal antiinflammatory agents (NANSAIDs) inhibit the production of thromboxane and thus also inhibit platelet aggregation. However, this inhibition is reversible and appears to be less complete than that of aspirin. For example, naproxen, the most efficient NANSAID studied, suppresses the production of thromboxane and inhibits platelet aggregation by 88 percent for up to 8 hours.

On the basis of currently limited data, it would be inappropriate to withhold aspirin from patients who would otherwise qualify for NANSAID use, according to a study supported in part by the Agency for Healthcare Research and Quality (HS07768). The benefits of aspirin for secondary prevention have been confirmed in large rigorous randomized controlled trials with protection shown both for deaths related to cardiovascular disease and for all-cause mortality. Data of equal rigor

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Aspirin for cardioprotection

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would be necessary to confirm NANSAIDs as an acceptable substitute, assert Wayne A. Ray, Ph.D., and Katherine T. Murray, M.D., of Vanderbilt University School of Medicine, in a recent commentary.

The researchers point out that NANSAIDs used in higher doses inhibit synthesis of prostacyclin, a potent endogenous platelet inhibitor. This theoretically could increase the risk of coronary heart disease, as could other dose-related effects of NANSAIDs, such as hypertension. They cite several case-control studies which suggest that the protective effect of NANSAIDs—if there is one—is not as large as that for aspirin, for which a large protective effect was apparent in observational studies.

See "Aspirin: Redundant in users of nonaspirin, nonsteroidal antiinflammatory agents?" by Drs. Ray and Murray, in the March 2002 *American Heart Journal* 143(3), p. 381-382. ■

Lower birthweight may be associated with patient responses to certain antihypertensive medications

Blacks and people living in the Southeastern United States have a greater prevalence of high blood pressure (hypertension) than people living in other areas of the country. In addition, these groups have higher rates of low birthweight babies. Several studies have found an association between birthweight and blood pressure levels. A recent study, supported in part by the Agency for Healthcare Research and Quality (HS10871), links low birthweight with the use of different classes of antihypertensive medications.

Researchers at the Medical University of South Carolina examined the relationship between birthweight (obtained from birth certificates) and the use of various classes of antihypertensive medications (from pharmacy claims) in hypertensive Medicaid beneficiaries in South Carolina. Subjects had been treated for hypertension between 1993 and 1996.

During the study period, 59 percent of black patients and 59 percent of white patients had a prescription for one or more of the four classes of antihypertensive medications: diuretics, beta blockers (BBs), angiotensin converting enzyme (ACE) inhibitors, and calcium channel blockers (CCBs). Blacks were more likely to receive only diuretics than whites (65 vs. 52 percent), and whites were more likely than blacks to receive either an ACE inhibitor (28 vs. 20 percent) or BB (9 vs. 4 percent). CCBs constituted the sole medication for 9 to 10 percent of both whites and blacks.

No association was found between birthweight and the use of diuretics and/or BBs for any racial/ethnic group or either sex. However, black women who had lower birthweights were more likely to receive CCBs, even after adjustment for the total number of blood pressure medications. White men with high birthweights (who are more likely to become overweight and have more severe blood pressure late in life) and low birthweights were more likely to receive ACE inhibitors. These associations persisted after adjustment for likely confounders, which raises the possibility that birthweight in these demographic groups influences the efficacy of these antihypertensive agents.

In conclusion, the researchers note that these findings may demonstrate differential efficacy, which could provide the basis for more effective therapy in hypertensive patients by taking birthweight into consideration. They recommend that birthweight be considered in future studies that examine racial and geographic disparities in responses to various classes of antihypertensive medications.

See "Associations between birth weight and antihypertensive medication in black and white Medicaid recipients," by Daniel T. Lackland, Dr.P.H., Brent M. Egan, M.D., Holly E. Syddall, M.S., and David J. Barker, M.D., Ph.D., in the January 2002 *Hypertension* 39, pp. 179-183. ■

Iron deficiency in utero is associated with diminished performance in certain mental and psychomotor tests

Infants who do not get enough iron before birth have diminished mental and psychomotor development in areas of language ability, motor functions, attention, and tractability (ability to obey rules and follow orders) at 5 years of age, concludes a study supported in part by the Agency for Healthcare Research and Quality (contract 290-92-0055). Although the exact cause-effect mechanism has not been defined, researchers have shown that prenatal iron deficiency leads to alterations in neurotransmitter or neuronal metabolism and myelin formation in the brain of experimental animals, explains Robert L. Goldenberg, M.D., of the University of Alabama at Birmingham.

Dr. Goldenberg and his colleagues from the Prevention of Low Birthweight in High-Risk and Minority Women Patient Outcomes Research Team (PORT) correlated the iron status of 278 fetuses, assessed by cord serum ferritin concentrations, with test scores of mental and psychomotor development of the same 278 children at 5 years of age. The children took six tests on intelligence, language ability, fine- and gross-motor skills, attention, and tractability. The children in the lowest cord ferritin quartile scored the worst on every test and had significantly lower scores in language ability, fine-motor skills, and tractability. There were no significant differences in scores on any test between the children in the highest ferritin quartile and children in the 2 median quartiles.

Intelligence scores in the highest quartile were slightly (but not significantly) lower than in the median quartiles. The odds ratio for having intelligence scores of less than 70 (considered mental retardation) for children in the highest quartile was 3.3, but it is not clear why. High ferritin, reflecting either excessive iron or an acute-phase reaction (usually due to infection or trauma) in intrauterine life, may be associated with poor intelligence.

Details are in "Cord serum ferritin concentrations and mental and psychomotor development of children at five years of age," by Tsunenobu Tamura, M.D., Dr. Goldenberg, Jinrong Hou, M.D., and others, in the February 2002 *Journal of Pediatrics* 140, pp. 165-170. ■

Researchers examine prevalence, quality of life, and treatment of men suffering from prostate problems

The Patient Outcomes Research Team for Prostatic Diseases, supported by the Agency for Healthcare Research and Quality (HS08397) and led by Michael J. Barry, M.D., of Massachusetts General Hospital, recently published four studies examining the prevalence of prostate problems and the quality of life and treatment of men who have prostate problems. The first study shows that prostatitis is a common condition among otherwise healthy men. The second study reveals that the lower urinary tract symptoms associated with benign prostatic hyperplasia (BPH) can significantly affect men's quality of life. A third study finds that educating primary care doctors and patients about prostate conditions has no impact on prostate-related primary care. The fourth study concludes that the use of radical prostatectomy (surgical removal of the prostate) to treat prostate cancer in men older than 70 years is now more selectively targeted to otherwise healthy men than it has been in the past. The articles are summarized here.

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Questions? Please send an e-mail to Howard Holland in AHRQ's public affairs office at hholland@ahrq.gov

Prostate problems

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Collins, M.M., Meigs, J.B., Barry, M.J., and others. (2002, March). "Prevalence and correlates of prostatitis in the Health Professionals Follow-Up Study cohort." *Journal of Urology* 167, pp. 1363-1366.

Men who suffer from chronic prostatitis (inflammation of the prostate) typically experience lower urinary tract symptoms and pelvic pain, symptoms that overlap with BPH, a common condition affecting older men. Prostatitis and BPH are associated with lower urinary tract symptoms, and men can and do get both conditions. More than half (57 percent) of men with prostatitis in this study reported a history of BPH, and more than one-third (39 percent) with BPH reported a history of prostatitis. Whether there is a true association or just a confusion of symptoms is unknown, since there is no specific diagnostic test for either condition, explain these authors.

They examined a nationwide sample of 31,681 health professionals without prostate cancer for urological diagnoses, lower urinary tract symptoms, and demographic, clinical, and lifestyle factors. They then compared the characteristics of men with prostatitis to those with BPH. Men who had a history of BPH were nearly eight times more likely to have a history of prostatitis. Men with moderate or severe lower urinary tract symptoms, those with a history of sexually transmitted disease, and men who reported stress at home or work were more likely to have a history of prostatitis.

Men with prostatitis reported a higher burden of filling symptoms (frequency of urination, feelings of urgency to urinate, and excessive urination at night) relative to voiding symptoms (incomplete emptying, intermittent or weak stream, and straining). However, those with BPH had a similar mean void and fill score. The 2,163 men with prostatitis alone were younger and had less severe urinary tract symptoms (but a similar pattern of symptoms) than the 4,575 men with BPH alone. It may be that when men see physicians with similar lower urinary tract symptoms, younger men get diagnosed with prostatitis, while older men are diagnosed with BPH, conclude the researchers.

Welch, G., Weinger, K., and Barry, M.J. (2002). "Quality-of-life impact of lower urinary tract symptom severity: Results from the Health Professionals Follow-Up Study." *Urology* 59, pp. 245-250.

Lower urinary tract symptom (LUTS) severity suffered by men with BPH can have a significant impact on their physical and social functioning. High-moderate LUTS severity was associated with small to moderate increases in anxious and depressed mood and poorer role functioning related to emotional problems arising from illness. Severe LUTS was associated with additional problems of reduced vitality and diminished ability to work and carry out daily tasks as a result of illness. In fact, compared with individuals suffering from four other types of chronic illnesses (diabetes, angina, hypertension, and gout), men with BPH with severe LUTS had less vitality/energy. They also had poorer role functioning and more depressed and anxious feelings.

The detection and effective treatment of LUTS may substantially improve the quality of life of these men, conclude the researchers. They assessed symptom severity among 8,406 health professionals based on the American Urological Association Symptom Index (mild, 0 to 7; low moderate, 8 to 14; high moderate 15 to 19; and severe, 20 to 35). They also analyzed their quality of life using a standard questionnaire. There was a clear symptom severity-related impact on all health-related quality of life dimensions.

The greatest disparities were found between the lowest and highest symptom severity groups for ability to physically carry out work or other usual activities (a 25 point difference on a 0 to 100 scale, with 100 being optimal functioning), vitality or energy level (16 points), role emotional (14), general health perceptions (14), physical functioning (11), bodily pain (10), social function (8), and mental health (7). These findings reinforce the notion that more aggressive medical treatment of patients with moderate to severe LUTS can produce substantial and specific benefits in health status for patients coping with these symptoms.

Hammond, C.S., Wasson, J.H., Walker-Corkery, E., and others. (2001). "A frequently used patient and physician-directed educational intervention does nothing to improve primary care of prostate conditions." *Urology* 58(6), pp. 875-881.

Primary care physicians (PCPs) are becoming more involved in diagnosing and managing prostatic diseases due to increased availability of effective medical treatments for BPH and the

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availability of the prostate-specific antigen (PSA) test for the early detection of prostate cancer. However, evidence suggests that PCPs are not always providing optimal care for prostate-related problems. Unfortunately, newsletters and other educational materials directed at PCPs and patients in two States did not have any noticeable impact on prostate-related primary care, according to this study.

The investigators randomized 33 rural primary care practices (including 50 PCPs) to either the educational intervention or no intervention (control group). They mailed two newsletters, conducted two face-to-face research staff visits, and provided educational manuals about management of prostate conditions to 17 intervention practices. In addition, they mailed educational pamphlets about prostate symptoms to patients at the intervention practices. After 18 months, 87 percent of patients and 92 percent of PCPs completed a final survey of prostate-related knowledge for patients and management of common prostate conditions for the physicians.

Before randomization, most men (59 percent) said they knew little or nothing about prostate problems that affect urination, and 63 percent reported little or no knowledge about PSA testing. Eighteen months later, there were no differences between intervention and control patients in measures of health status, urinary symptoms and bother, treatments received, and prostate-related knowledge. What's more, knowledge of intervention physicians and self-reported practices for managing common prostate conditions were no better than they were for the control physicians.

The researchers conclude that alternative educational approaches should be explored by urologists and PCPs who wish to improve understanding about and management of their patients' prostate-related problems.

Bubolz, T., Wasson, J.H., Lu-Yao, G., and Barry, M.J. (2001). "Treatments for prostate cancer in older men: 1984-1997." ***Urology*** **58, pp. 977-982.**

After the introduction of PSA screening in the late 1980s, the rate of radical prostatectomy (RP) increased dramatically. However, after 1992, the use of RP decreased among older men. This study found that RP is now more selectively targeted for treatment of prostate cancer in men older than 70 years who have no other medical problems. The researchers examined the age-specific trends in RP, brachytherapy (BT, localized radiation therapy), and external beam radiotherapy (EBRT) use for the period 1984 to 1997 based on retrospective analysis of Medicare data on treatment for prostate cancer among Medicare beneficiaries.

The rate of RP peaked in 1992. From 1993 to 1997, its use decreased by 6 percent among men aged 65 to 69 years, 34 percent among men aged 70 to 74 years, and 50 percent for men 75 years of age and older. However, by 1997, the RP + BT treatment rate again approached the 1992 levels of RP alone. BT was used twice as often as RP in men aged 75 or older. By 1997, the RP + BT + EBRT rate exceeded the 1993 rate for men aged 65 to 69 years and was again approaching the 1993 rate for men aged 70 to 74 years. From 1984 to 1997, the proportion of men with coexisting medical conditions who underwent RP gradually declined and accounted for more than 60 percent of the decrease in the short-term mortality during this period. The remaining 40 percent reduction in short-term mortality was most likely due to improvements in surgical technique, anesthesia, and supportive care.

The increased use of BT and decreased use of RP, especially in men 70 and older, suggests that during this 5-year period, treatment was less aggressively pursued among the very old, for whom benefits are likely to be much less and the complications substantially higher. There were also trends toward lower rates for 30-day hospital readmissions during this period. Finally, variations in RP use by geographic region also decreased, suggesting that urologists might be reaching a consensus about what they consider appropriate for RP. This study did not address the use of androgen deprivation therapy. ■

Primary care doctors suspect that one in five childhood injuries they see is due to physical abuse

Some childhood injuries are easily recognized as being caused by abuse, while others are not so clear cut. Yet primary care physicians (PCPs) suspect that 21 percent of the childhood injuries they evaluate are caused by abuse, according to a recent study supported by the Agency for Healthcare Research and Quality (HS09811).

Emalee Gottbrath Flaherty, M.D., of Northwestern University Medical School, and her colleagues examined data from 12,510 primary care office visits during a 1-month period. The PCPs evaluated 659 injuries. The Chicago-area urban and suburban PCPs described the injury type, reported causes and severity, and documented their assessment of the cause of injury. They also determined their level of suspicion that the injury was caused by abuse on a 5-point scale, with 1 being impossible and 5 being virtually certain.

The PCPs had "some suspicion" of abuse for 21 percent of injuries. Injuries not compatible with the child's medical history and parental delays in seeking medical care for the injury were red flags that raised doctors' suspicions of abuse. Suspicion of abuse was also more likely to be associated with higher injury severity, age less than 6 or 7 years, Medicaid or self-pay health care, family risk factors for abuse (such as domestic violence and substance abuse), and more recent physician education about child abuse.

PCPs also were more likely to suspect abuse of children who were Hispanic or black (vs. white) and for children whose mothers had less than a college education. PCPs said they had reported most, but not all, cases of suspected child abuse. They cited past negative experiences with child protection service (CPS) agencies and perceived lack of benefit for the child as reasons for not reporting abuse. However, recent education about child abuse increased the probability that they would report all suspected abuse. One study limitation was that data were collected from relatively few doctors from one geographic area and just one State CPS system.

More details are in "Assessment of suspicion of abuse in the primary care setting," by Dr. Flaherty, Robert Sege, M.D., Ph.D., Christine L. Mattson, B.S. and others, in the March 2002 *Ambulatory Pediatrics* 2(2), pp. 120-126. ■

Pediatricians often make referrals to specialists during telephone conversations with parents

Pediatricians use the telephone more than other primary care providers, typically spending 13 percent of their workday on the phone. According to a recent study, supported in part by the Agency for Healthcare Research and Quality (HS08430), referrals to specialists during telephone conversations with parents are a regular occurrence in pediatric practice. Pediatricians made one telephone referral every five practice days, which constituted 27.5 percent of all referrals they made during office hours. In other words, for every three referrals made during office visits, pediatricians made one referral during a telephone conversation. Pediatricians who saw more patients per day, saw more patients in gatekeeping health plans, and referred more during office visits made more telephone referrals than other pediatricians.

Changes in the health system that create greater demands on primary care physician productivity (seeing more patients per day) or put more patients in gatekeeping health plans will likely increase the number of pediatric referrals made during telephone conversations with parents, according to lead author Gordon B. Glade, M.D., of the Center for Child Health Research, American Academy of Pediatrics, and the University of Utah School of Medicine. The researchers prospectively studied a sample of 1,856 referrals made from the offices of 142 pediatricians in a national practice-based research network over 20 consecutive practice days, including pediatricians' assessments of referral outcomes 3 months later.

Telephone specialty referrals were more often made at the request of parents or because of insurance administrative guidelines than those made during office

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Referrals by pediatricians

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visits. Telephone referrals also were more likely to be for ongoing health problems rather than a new complaint and for a return visit to a specialist previously consulted by the patient. Referrals for advice on diagnosis and surgical procedures were more frequently made during office visits. Pediatricians were equally satisfied with the specialty care their patients received for telephone and office visit referrals.

See "Specialty referrals made during telephone conversations with parents: A study from the Pediatric Research in Office Settings Network," by Dr. Glade, Christopher B. Forrest, M.D., Ph.D., Barbara Starfield, M.D., and others, in the March 2002 *Ambulatory Pediatrics* 2(2), pp. 93-98. ■

Pneumonia vaccination rates remain low, and racial disparities exist

Unlike the annually recommended influenza vaccine, the pneumonia vaccine is a once (possibly twice) in a lifetime inoculation. Pneumonia vaccination is currently recommended for people who are elderly, nursing home residents, and those who are immunocompromised by HIV infection, splenic disorders, diabetes, renal failure, dialysis, alcoholism, cirrhosis of the liver, malignant diseases, or organ transplantation. Despite national goals to innoculate 90 percent of elderly adults and 60 percent of nonelderly at-risk adults against pneumonia by the year 2010, pneumonia vaccination rates remain low, and racial disparities persist, finds a study supported by the Agency for Healthcare Research and Quality (HS09874).

Researchers from the University of Pittsburgh School of Medicine and the University of Pittsburgh Medical Center reviewed the research literature between 1985 and 2000 regarding physician and patient knowledge, attitudes, practices, and characteristics related to pneumococcal polysaccharide vaccine (PPV) vaccination rates. The review revealed that many doctors were unsure about who should receive the vaccine. Doctors believed the vaccine to be efficacious, safe, and clinically relevant but said that other clinical priorities competed for their attention. Also, between 42 and 57 percent of doctors said it was difficult to determine patient immunization status, and many did not agree on what to do if a patient's vaccination status was unknown.

In 1996, over half (57 percent) of eligible unvaccinated adults were not aware of the benefit of the pneumonia vaccine, and many did not remember being advised to get vaccinated by their doctor. This is important, since physician reminders, standing vaccination orders for some patients, and hospital/emergency room interventions rank among the more effective strategies for increasing PPV rates. As late as 1999, racial disparities existed in pneumonia vaccination rates. In that year, the PPV rate for whites was 57 percent compared with 36 percent for blacks and 35 percent for Hispanics.

See "Adult pneumococcal vaccination: A review of physician and patient barriers," by Drs. Mieczkowski and Wilson, in the January 2002 *Vaccine* 20, pp. 1383-1392. ■

Obese patients have a greater illness burden than other patients and usually are less satisfied with their health care

Obesity contributes to almost 300,000 deaths in the United States each year. Obese patients often believe that doctors have a more negative attitude toward them than other patients, a perception that previous studies have validated.

A new study suggests that the higher illness burden of obese patients compared with normal weight patients may largely explain their lower satisfaction with the primary care they receive. In fact, the strong association between patient health status and patient satisfaction may have masked a weaker relationship between obesity and lower satisfaction in the study, explains Christina C. Wee, M.D., M.P.H., of Beth Israel Deaconess Medical Center. The study was supported in part by the Agency for Healthcare Research and Quality (National Research Service Award fellowship F32 HS00137).

Dr. Wee and her colleagues correlated patient weight with outpatient care satisfaction among 2,858 patients at 11 primary care practices in Boston. Compared with normal weight patients, whose body mass index (BMI, weight in

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Obese patients

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kilograms divided by height in meters squared) was 19 to 24.9 kg/m2, overweight (BMI 25-29.9 kg/m2) and obese patients (BMI 30 kg/m2 or more) reported lower overall satisfaction at their most recent outpatient visit. The scores were 85.5, 85.0, and 82.6 out of a possible 100, respectively.

After adjusting for other factors, including illness burden (health status and coexisting illnesses), obese patients still reported lower satisfaction scores, but the difference was no longer significant. Overall patient satisfaction with the usual care provider and their practice did not vary by BMI group, even after adjusting for other factors. One of the strongest correlates of lower patient satisfaction was poor health status which, in turn, was highly correlated with obesity. The researchers caution, however, that their measures may not have been sensitive to quality of care issues related to patient weight. For example, patients were not asked if they thought their body weight affected the way they were treated by health providers or resulted in inferior care.

See "Influence of body weight on patients' satisfaction with ambulatory care," by Dr. Wee, Russell S. Phillips, M.D., E. Francis Cook, Sc.D., and others, in the February 2002 *Journal of General Internal Medicine* 17, pp. 155-159. ■

Impaired nursing home residents may not get the end-of-life care they want, even if they have an advance directive

Nursing home residents with cognitive and/or functional impairments may not have their care preferences honored, even when they have completed a durable power of attorney and advance directives, according to a recent study. Nursing staff need to work closely with impaired residents' surrogates when residents are admitted to nursing homes to identify their advance directive preferences and ensure that their autonomy and dignity are respected, notes Linda E. Moody, Ph.D., of the University of South Florida. At the time of the study, Dr. Moody was Senior Nurse Scholar-in-Residence at the Agency for Healthcare Research and Quality.

Dr. Moody and her colleagues analyzed data from the 1996 Medical Expenditure Panel Survey-Nursing Home Component (MEPS-NHC) to examine advance directive preferences by level and type of resident impairment. Residents who were more cognitively impaired (score of 3-4 on a cognitive scale) were significantly more likely than less cognitively impaired residents (score of 1) to have advance directive preferences that were not completed for living wills (18.2 vs. 17.7 percent), do-not-resuscitate (DNR) orders (54.2 vs. 43.1 percent), and no hospitalization (5.0 vs. 3.4 percent) directives. For functionally impaired residents, there were significant differences only for DNR orders, with 53 percent of those with impairment in six activities of daily living not having preferred DNR orders versus 29 percent of those with no functional impairments.

Results also confirmed that nursing home residents with cognitive and/or functional impairment were more likely to suffer from adverse medical events, specifically infections. Three infectious-related conditions (urinary tract infections, pneumonia, and tuberculosis) were found more often among impaired nursing home residents, suggesting that impaired residents are more likely than nonimpaired residents to be undernourished and immunosuppressed. Because these infections are thought to be preventable, residents who are admitted with cognitive and/or functional impairment should be assessed for nutritional risk or for immunocompetence so that appropriate interventions can be applied early.

See "Advance directives preferences of functionally and cognitively impaired nursing home residents in the United States by Dr. Moody, Brent J. Small, Ph.D., and Cheryl B. Jones, Ph.D., in the March 2002 *Journal of Applied Gerontology* 21(1), pp. 103-118. ■

Depression in people with diabetes is associated with increased health care use and higher expenditures

About 3 percent of men and 5 to 9 percent of women in the United States suffer from depression. People who have diabetes are twice as likely as those who do not to suffer from clinical depression. When depression occurs in people with diabetes, it usually is associated with poor metabolic control, poor diet and adherence to treatment, and negative effects on quality of life.

A recent study found that people with diabetes who suffered from depression were more likely than those who were not depressed to report poor physical health (68 vs. 45 percent) and poor mental health (31 vs. 13 percent), use more outpatient care (12 vs. 7 visits), and fill more prescriptions (42 vs. 21). The study was supported in part by the Agency for Healthcare Research and Quality (HS11418 and HS10871) and led by Leonard E. Egede, M.D., M.S., of the Medical University of South Carolina.

Total health care expenditures for individuals with diabetes and depression were 4.5 times higher than for individuals without depression ($247 million vs. $55 million). The increased health care use and costs for people with both diabetes and depression remained even after adjusting for differences in age, sex, race/ethnicity, health insurance, and coexisting illnesses.

People with diabetes who also had depression were more likely than those without depression to be female, unmarried, and younger than 65 years of age. These groups, as well as people with diabetes who report poor physical or mental health, may benefit from screening for depression. This screening should be part of a plan of care that includes aggressive treatment and appropriate followup, suggests Dr. Egede. The researchers compared data on health care use and expenditures for 825 adults with diabetes and 20,688 adults without diabetes using data from the 1996 Medical Expenditure Panel Survey (MEPS).

More details are in "Comorbid depression is associated with increased health care use and expenditures in individuals with diabetes," by Dr. Egede, Deyi Zheng, M.B., Ph.D., and Kit Simpson, Dr.P.H., in the March 2002 *Diabetes Care* 25(3), pp. 464-470. ■

Primary care physicians often prescribe psychotropic drugs to treat hyperactivity and depression in children

A growing number of primary care doctors are prescribing psychotropic (mind-altering) medications for children with mood disorders or attention-deficit hyperactivity disorder (ADHD), even though primary care physicians typically have limited training in use of these drugs for these conditions.

During the early 1990s, it became more common for child psychiatrists to use more than one psychotropic medication for a child, for example, adding newer antidepressants such as serotonin selective reuptake inhibitors (SSRIs) to central nervous system stimulants (CNSSs, such as Ritalin) for children and adolescents with ADHD and coexisting depression. Because of the variability involved in treating ADHD and depression, the common presence of other conditions, and uncertainties about the effects of psychotropic drugs on the developing brain, there is concern about the appropriate use of these medications in children.

In a recent study, Deborah Shatin, A.C.S.W., Ph.D., and Carol R. Drinkard, M.P.H., Ph.D., of UnitedHealth Group in Minnesota, analyzed 1995-1999 claims data for children younger than age 20 in six independent practice association health plans from four different geographic regions affiliated with UnitedHealth Group. For the study, which was supported in part by the Agency for Healthcare Research and Quality (HS10397 to the University of North Carolina Center for Education and Research on Therapeutics [CERT]), Drs. Shatin and Drinkard calculated the prevalences of use of four psychotropic drug classes: CNSSs, SSRIs, tricyclic antidepressants

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Hyperactivity and depression in children

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(TCAs), and other antidepressants (OADs).

Over the 5-year period, use of CNSSs increased 26 percent, SSRI use increased 62 percent, use of other antidepressants increased 195 percent, and use of TCAs decreased 21 percent. Pediatricians made up half and family doctors 20 percent of the first prescribers of CNSSs in 1995 compared with 13 percent of psychiatrists (which increased to 18 percent by 1999). Psychiatrists were most likely to prescribe SSRIs (56 percent in 1995 declining to 44 percent by 1999). However, the proportion of pediatricians and family doctors prescribing this class of drugs increased from 7 and 13 percent, respectively, in 1995 to 23 and 28 percent, respectively, in 1999. These findings underscore the importance of training and expertise among primary care physicians in the use of psychotropic medications in youths, conclude the researchers.

See "Ambulatory use of psychotropics by employer-insured children and adolescents in a national managed care organization," by Drs. Shatin and Drinkard, in the March 2002 *Ambulatory Pediatrics* 2, pp. 111-119. ■

Although a sense of control at work and home affects people's risk for depression and anxiety, social class also counts

A new study of British civil servants bursts the myth that men's identity is tied more to their role at work and women's to their role at home. It reveals that the level of control at home and work affect men and women differently, but social position affects the extent of the impact.

Women who had little latitude for decisionmaking at work had more than a 40 percent greater risk for depression. Men with the same lack of control had 50 percent greater risk for depression than women and other men who had greater latitude for decisionmaking at work. However, this risk for emotional problems was not evenly distributed across social position. Both men and women in the middle employment grade with low job control were at significantly greater risk for depression than those in the lowest and highest grades. The same pattern was found for anxiety.

Both men and women with low control at home were at substantially greater risk for depression and anxiety. Women with low control at home had over twice the risk for depression of women with high control, even after adjusting for marital status, number of children, and caregiving status. In addition, women in the lowest employment grade with low control at home had significantly higher risk for depression than men across all grades and women in higher grades. Men in the highest grade with low control at home were at higher risk for anxiety than men in lower grades, while women in the lowest grade had a higher risk for anxiety than women in higher grades.

Overall, men and women in the lowest civil service grades had the highest risk for depression and anxiety. This suggests that factors such as social support, life events, and material problems may be influential, according to the University College of London researchers who conducted the study. The study was supported in part by the Agency for Healthcare Research and Quality (HS06516) and led by Michael Marmot of University College London. They analyzed data on demographics, work characteristics, and physical and mental health of a large sample of British civil servants (aged 35 to 55 years) who participated in the Whitehall II study which was carried out initially from 1985 to 1988 and then in four subsequent 2-year phases. Data from phases three (1991-1993) and five (1997-1999) were used in this study.

See "The importance of low control at work and home on depression and anxiety: Do these effects vary by gender and social class?" By Joan M. Griffin, Rebecca Fuhrer, Stephen A. Stansfeld, and Michael Marmot, in *Social Science & Medicine* 52, pp. 783-798, 2002. ■

Expanding income eligibility for State Children's Health Insurance Programs would not burden the program

As States consider including children from higher income families for eligibility for their State Children's Health Insurance Programs (SCHIPs), they need to know if the need for services among higher income (HI) children (more than 200 percent of the Federal poverty limit [FPL]) will be different from that of traditional, low-income (LI) Medicaid participants (less than 133 percent of the FPL) or those currently enrolled in SCHIP expansions (134-200 percent of the FPL).

Based on a study of a Massachusetts program similar to SCHIPs, HI children had similar unmet needs for health care at the time of enrollment as children targeted under SCHIP expansions (middle-income or MI children), and fewer unmet needs than those of traditional LI children. Thus, inclusion of HI children would benefit a larger group of children without substantially changing health service use in the program, conclude Emily Feinberg, Sc.D., and her Harvard University colleagues. This study was supported by the Agency for Healthcare Research and Quality (HS10207).

The researchers evaluated a State-financed health insurance program in Massachusetts, the Children's Medical Security Plan (CMSP), which provided coverage to children regardless of income before implementation of SCHIPs. They examined responses to a telephone survey in 1998 and 1999 to assess the program's effects on reported need for different types of health services and unmet need or delays in receiving needed services.

Before enrollment in the program, MI and HI children were significantly less likely than LI children to have unmet needs or delays in care. After CMSP enrollment, there were significant reductions in unmet need among children in all income groups and no significant differences in unmet need by income. After program enrollment, less than 1 percent of enrollees reported unmet needs or delays in care for medical services, and 3 percent reported unmet need or delay for prescription drugs.

More details are in "Family income and the impact of a children's health insurance program on reported need for health services and unmet health need," by Dr. Feinberg, Kathy Swartz, Ph.D., Alan Zaslavsky, Ph.D., and others, in the February 2002 *Pediatrics* 109(2), available online at www.pediatrics.org/cgi/content/full/109/2/e29. ■

New case study indicates that mental health parity did not raise costs for a large employer who used a managed care arrangement

Using a managed care "carve-out" arrangement to provide equal coverage for mental health services did not raise costs for one large employer, according to the findings of a case study published in the May/June issue of *Health Affairs.*

Researchers, led by Samuel H. Zuvekas, Ph.D., of the Agency for Healthcare Research and Quality, examined the impact of a State's mental health parity mandate on a large employer group that simultaneously implemented a managed care "carve-out" for its mental health and substance abuse benefits. Carve-outs are services provided within a standard health benefit package but delivered and managed by a separate organization. The researchers, who included current and former researchers at the National Institute of Mental Health, compared plan costs, use patterns, and access in the year prior to the changes with those in the 3 years following the changes. Due to confidentiality issues, the name of the large employer group, the State in which it is located, and the specific years of the study cannot be provided.

Although the number of people treated for mental health problems increased nearly 50 percent, the costs to the plan for mental health services declined by almost 40 percent over the 4-year study period. Costs for employees and spouses together remained flat over the study period, while costs for children and

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Mental health parity

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adolescents declined by 64 percent. Most of this decline was due to reducing the lengths of stay for inpatient mental health treatment.

Managed care did not limit access to outpatient treatment. There was nearly a 50 percent increase in the number of people using outpatient treatment with no change in the average number of visits.

Details of this study are in "The impacts of mental health parity and managed care in one large employer group," by Dr. Zuvekas, Darrel A. Regler, M.D., M.P.H., Donald S. Rae, M.A., and others, in the May/June 2002 *Health Affairs* 21(3), pp. 148-159. ■

Shifting to Medicaid managed care in New Mexico increased barriers for rural residents and burdened safety-net providers

Most States have implemented programs requiring some or all of their Medicaid recipients to enroll in managed care plans. The shift to Medicaid managed care in New Mexico created some barriers to care for rural residents and increased the workload and financial burdens of community health centers, emergency departments, and other safety-net institutions where the uninsured seek care. These are the findings of a study supported in part by the Agency for Healthcare Research and Quality (HS09703) and led by Howard Waitzkin, M.D., Ph.D., of the University of New Mexico.

Dr. Waitzkin and his colleagues conducted a long-term study of Medicaid managed care in New Mexico, which mandated managed care for most Medicaid recipients in July 1997, when 22 percent of the State's population were uninsured and 22 percent were living in poverty. The researchers conducted a telephone survey of low-income households in the summer of 1998 (670 responded) to assess the effects of Medicaid managed care on access to care, satisfaction, use, and costs, as well as perceived health status. The survey data did not demonstrate major effects of the transition to Medicaid managed care on access to care for Medicaid-eligible or non-Medicaid-eligible individuals.

On the other hand, ethnographic research suggested certain specific barriers for patients and problems for safety-net providers. Particularly in rural areas, transportation (and in some cases, language) became a barrier to care because some recipients were assigned to more distant primary care providers and pharmacies. Also, patients with mental health problems received less intensive care than they did prior to the shift to managed care. The administrative burdens and delays created by Medicaid managed care sufficiently strained the staff and finances of safety-net providers so that their future capacity to offer services for both Medicaid recipients and the low-income uninsured was threatened.

More details are in "Safety-net institutions buffer the impact of Medicaid managed care: A multi-method assessment in a rural state," by Dr. Waitzkin, Robert L. Williams, M.D., M.P.H., John A. Bock, Ph.D., M.S., and others, in the April 2002 *American Journal of Public Health* 92(4), pp. 598-610. ■

Accreditation of managed care health plans does not necessarily ensure high quality care or higher enrollment rates

Managed care health insurance plans can voluntarily undergo accreditation by the National Committee on Quality Assurance (NCQA). However, plans that receive such accreditation do not necessarily provide high quality care, and plans denied NCQA accreditation do not appear to suffer enrollment losses. These are the conclusions of a study supported in part by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00055).

Harvard University researchers Nancy Dean Beaulieu, Ph.D., and Arnold M. Epstein, M.D., M.A., analyzed 1996 data on health plans' NCQA accreditation status, organizational characteristics, and Health Plan Employer Data and Information Set (HEDIS) scores on quality performance (mostly preventive screening measures). They then linked these data to patient-reported quality and satisfaction scores.

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Accreditation of health plans

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Fully accredited plans performed significantly better on seven of nine HEDIS measures (which ranged from childhood and adolescent immunizations and breast cancer screening to diabetic eye exams) than plans denied accreditation. However, these differences were modest. In addition, a substantial number of the plans in the bottom 10 percent of quality performance were accredited.

Accredited plans significantly outperformed nonaccredited plans on only two of the eight measures of patient-reported quality of care and overall satisfaction. Nonaccredited plans outperformed accredited plans on one measure (choice of specialist), with an overall small difference between the plans on all measures. Also, enrollment changes for plans denied accreditation were not significantly different from enrollment changes for nonaccredited plans. Changes in 1999 NCQA accreditation standards to incorporate plan performance on CAHPS® (Consumer Assessment of Health Plan Study) and HEDIS may capture more dimensions of health care quality that consumers think are important, conclude the authors.

See "National Committee on Quality Assurance health-plan accreditation: Predictors, correlates of performance, and market impact," by Drs. Beaulieu and Epstein, in the April 2002 *Medical Care* 40(4), pp. 325-337. ■

Health plans can work toward eliminating racial and ethnic health disparities by developing better data

Racial and ethnic disparities in health outcomes and quality of care have been consistently observed among people who have similar health insurance, are within the same system of care, and even within the same health plan. Unfortunately, national efforts to eliminate these disparities are hampered by the lack of race/ethnicity data. Health insurance plans can play a critical role in reducing these disparities by developing and using viable data for quality improvement, asserts Arlene S. Bierman, M.D., M.S., of the Center for Outcomes and Effectiveness Research, Agency for Healthcare Research and Quality.

In a recent paper, Dr. Bierman and her colleagues provide an overview of issues related to the use, collection, and interpretation of racial and ethnic data in health care settings. The paper reports on discussion at a June 1999 meeting sponsored by the U.S. Department of Health and Human Services and the Commonwealth Fund, as well as ongoing activities in this area. Participants from managed care organizations, purchasers, and Federal agencies underscored the value of these data to efforts to eliminate health disparities and the importance of consensus-building among patients, providers, insurers, and public and private purchasers about data collection and use.

Managed care plans can use data on the race and ethnicity of enrollees to: (1) inform program development, planning, and priority setting; (2) target quality improvement efforts; (3) understand differences in performance within a plan; (4) understand the health needs of specific populations and develop appropriate interventions; (5) identify the need for and deploy resources to provide culturally and linguistically appropriate services; and (6) evaluate and monitor the effectiveness of interventions.

Lacking a uniform data collection infrastructure, health plans use a variety of strategies to collect race/ethnicity data: electronic medical records, administrative data, enrollee surveys, data linkages, and Federal and State enrollment files for Medicare and Medicaid beneficiaries, respectively. Perceived barriers to routine collection of race/ethnicity data include uneven data quality, legal issues, concerns about confidentiality and privacy, potential for misuse, public reporting, and cost. Nevertheless, various strategies are available to overcome these barriers, and collection of racial and ethnic data may be considered an integral component of activities targeting the elimination of disparities in health care.

See "Addressing racial and ethnic barriers to health care: The need for better data," by Dr. Bierman, Nicole Lurie, M.D., Karen Scott Collins, M.D., and John M. Eisenberg, M.D., M.B.A., in the May 2002 *Health Affairs* 21(3), pp. 91-102. Reprints (AHRQ Publication No. 02-R065) are available from AHRQ.** ■

Collaborations between medical informatics and health services research are a natural bridge to improved health care quality

Three studies by researchers at the Agency for Healthcare Research and Quality and a fourth AHRQ-supported study (National Research Service Award training grant T32 HS00028) recently examined the role of medical informatics in clinical research and practice. They addressed issues such as bridging the gap in medical informatics and health services research, the benefits of integrating training between the two disciplines, computer applications in health care, and the role of health information management in monitoring patient safety. The studies are described here.

Corn, M., Rudzinski, K.A., and Cahn, M.A. (2002, March). "Bridging the gap in medical informatics and health services research." ***Journal of the American Medical Informatics Association*** **9, pp. 140-143.**

In January 2000, AHRQ and the National Library of Medicine (NLM) cosponsored an invitational workshop, "Medical Informatics and Health Services Research: Bridging the Gap." It was attended by researchers and educators from AHRQ- and NLM-sponsored training programs in medical informatics and health services research. Attendees addressed ways to increase the pool of people interested, trained, and experienced in either of the two fields. Both fields emphasize the application of decision sciences to health care delivery, but each has developed sets of different and complementary tools. For example, medical informatics expertise in computer sciences (database and health information system design, including vocabulary and terminology, data confidentiality, security, and modeling) can be used to translate clinical practice information into data systems.

Biostatistical, evaluative, quality management, economic, epidemiologic, and survey skills of health services research can all contribute to the use of data systems to assess and improve the delivery of health care. Workshop participants proposed a series of training and research options for individuals engaged in these fields, ranging from development of innovative curricula in areas that support both disciplines; internships in applied settings; and masters, doctoral, and postdoctoral positions (intersecting both disciplines) in some training programs supported by NLM or AHRQ. Reprints (AHRQ Publication No. 02-R060) are available from AHRQ.**

Shortliffe, E.H., and Garber, A.M. (2002, March). "Training synergies between medical informatics and health services research: Successes and challenges." ***Journal of the American Medical Informatics Association*** **9(2), pp. 133-139.**

This paper describes lessons that can be learned about training in medical informatics and health services research from Stanford University, where these two areas have been closely linked via administrative, curriculum, and clinical activities for almost two decades. Both curricula draw on diverse course offerings throughout the university, and the training and research overlap in such areas as outcomes research, large database analysis, and decision analysis/decision support.

The Stanford experience suggests that the design of integrated programs requires a mixture of casual and structured contact among students from both disciplines, including social interactions; the offering of common classes with joint projects that bring trainees together to work as colleagues; physical proximity when possible among the training sites; shared colloquia, research seminars and social events; and scientific retreats that build esprit, understanding, and a sense of shared commitment.

Fitzmaurice, J.M., Adams, K., and Eisenberg, J.M. (2002, March). "Three decades of research on computer applications in health care." ***Journal of the American Medical Informatics Association*** **9, pp. 144-160.**

Many computerized interventions that are commonplace today, such as drug interaction alerts, had their genesis in early AHRQ initiatives, according to this review of AHRQ's investment in medical informatics research. Grants provided by AHRQ have produced achievements that range from advancing automation in the clinical laboratory and radiology and assisting in technology development (computer languages, software, and hardware) to facilitating the evolution of computer-aided decisionmaking and computer-initiated quality assurance programs.

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Medical informatics

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There are four major driving forces for more medical informatics research. First is understanding how links between clinical information and health information on the Internet can affect patient-physician relationships and patient understanding, compliance with treatment, and health status. Second is reducing the cost of computing, storage, and communication and increasing computing speed and communication bandwidth. Along with this, we need to develop research findings that show where the most productive information technology investments are to be made in health care.

Overcoming vocabulary and coding barriers and other data incompatibilities that have long hindered easy transfer and consolidation of clinical information across sites of care and health enterprises is a third driving force. Fourth is the demand for medical informatics tools to improve patient safety by preventing inappropriate actions and reducing errors of omission. In response to these priorities, AHRQ is funding two initiatives through 2002 and 2003. One supports medical informatics research on improving the delivery of evidence-based information to health decisionmakers and enhancing the collection of patient and practitioner data as an integral part of patient care. The second initiative supports clinical informatics research focusing on the role of computers and communication in improving patient safety. Reprints (AHRQ Publication No. 02-R059) are available from AHRQ.**

Romano, P.S., Elixhauser, A., McDonald, K.M., and Miller, M.R. (2002, March). "HIM's role in monitoring patient safety." ***Journal of the American Health Information Management Association*** **73(3), pp. 72-74.**

The administrative data that health information management professionals generate in coding medical records have long been used for reimbursement. More recently, these data have been used for research and quality assessment, and they hold promise for identifying potential patient safety problems. The AHRQ-supported Evidence-based Practice Center at the University of California, San Francisco-Stanford is developing and testing a set of patient safety indicators (PSIs) that focus on potentially preventable instances of harm to patients, such as surgical complications and other iatrogenic events.

This article describes the development and testing of the AHRQ PSIs, which are expected to be released later this year. The authors, including AHRQ researchers Anne Elixhauser, Ph.D., and Marlene Miller, M.D., also discuss the steps health information management professionals can take to make a contribution to the national effort of monitoring and preventing medical errors through the application and ongoing refinement of ICD-9-CM and, eventually, ICD-10-CM codes for diagnoses, procedures, and complications. In conclusion, they point out the need for continuing improvements in the precision and accuracy of coding so that the data can be used to better identify potential patient safety events. Reprints (AHRQ Publication No. 02-R056) are available from AHRQ.** ■

Agency News and Notes

Joint Commission and National Quality Forum establish the John M. Eisenberg Patient Safety Awards

The National Quality Forum and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) have announced the establishment of the John M. Eisenberg Patient Safety Awards. The awards, which are named in memory of the director of the Agency for Healthcare Research and Quality, will recognize individuals and health care organizations that have made significant contributions to improving patient safety.

Dr. Eisenberg, who died this past March, was a leader and pioneer in promoting patient safety, and played a central role in launching the National Quality Forum (NQF). He was a strong advocate as well for the Joint Commission's patient safety initiatives.

Up to four John M. Eisenberg Patient Safety Awards will be presented each year, one to recognize individual lifetime achievements in patient safety and three in the categories of advocacy, system innovation, and research. Awards will be made only to those who meet the award criteria and, thus, will not necessarily be

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John M. Eisenberg Patient Safety Awards

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given in each category every year. An expert panel will select the recipients.

To be eligible for the lifetime achievement award, nominees must have demonstrated exceptional leadership and scholarship in patient safety during their careers. Nominees for the categorical awards may be individuals or organizations who have made significant contributions to patient safety through:

Advocacy—the promotion of efforts to intercede on the patient's behalf through legislation, the media, ombudsman activities, or other similar initiatives.

System innovation—the introduction of system changes or interventions that make the environment of care safer through attention to organizational culture, education of staff and/or patients, or technology, or procedural innovations, among others.

Research—scholarly or scientific investigation of patient safety-related issues that might focus on systems theory, technology, or data analyses, among others.

Nomination forms for the John M. Eisenberg Patient Safety Awards are available at www.jcaho.org and www.qualityforum.org, or from JCAHO's Customer Service Center by calling 630-792-5800, between 8 a.m. and 5 p.m. CT, weekdays. Completed forms should be mailed to John M. Eisenberg Patient Safety Awards, c/o Division of Research, JCAHO, One Renaissance Boulevard, Oakbrook Terrace, IL 60181. The deadline for receipt of nominations is July 15.

The 2002 awards will be presented at the NQF annual meeting on October 1-2 in Washington, DC. Thereafter, presentation of the awards will rotate between the annual meetings of the two sponsors. Questions may be e-mailed to EisenbergAward@jcaho.org.

The NQF is a private, nonprofit public benefit corporation created in 1999 to develop and implement a national strategy for health care quality measurement and reporting. The NQF has broad participation from all parts of the health care industry. Dr. Eisenberg served on the NQF Board of Directors.

Founded in 1951, the Joint Commission on Accreditation of Healthcare Organizations is an independent, not-for-profit organization that provides health care accreditation and related services to support performance improvement in health care organizations. The Joint Commission evaluates and accredits nearly 18,000 health care organizations and programs in the United States, including almost 11,000 hospitals and home care organizations and 7,000 other organizations that provide long-term care, assisted living, behavioral health care, laboratory services, and ambulatory care services. The Joint Commission also accredits health plans, integrated delivery networks, and other managed care entities. ■

AHRQ launches GOLD on the Web

GOLD—Grants Online Database—is now live on the AHRQ Web site. It gives users instant access to information about AHRQ's ongoing research grants. It is a work in progress. Currently, you can search for information on grants funded by AHRQ in FY 2001. Over the next several months, we will be expanding the database to include projects funded in FY 2000 and FY 2002, as well as adding additional search capabilities. Go to www.gold.ahrq.gov to begin using this new resource. ■

AHRQ announces a new recommendation on screening for depression and other materials from the U.S. Preventive Services Task Force

The U.S. Preventive Services Task Force (USPSTF) is an independent panel first convened in 1984 by the U.S. Department of Health and Human Services to develop evidence-based recommendations for clinicians about preventive health care. The Task Force recommends which screening tests, immunizations, preventive medications, and counseling interventions doctors should routinely incorporate into clinical practice. The third USPSTF was convened in late 1998 by the Agency for Healthcare Research and Quality.

The Task Force's newly released recommendation on screening for depression, as well as other new materials, are described here. Previous recommendations and other prevention materials are available online at www.preventiveservices.ahrq.gov.

Pignone, M.P., Gaynes, B.N., Rushton, J.L., and others. (2002, May 21). "Screening for depression in adults: A summary of the evidence for the U.S. Preventive Services Task Force. (Contract 290-97-0011). ***Annals of Internal Medicine*** **136(10), pp. 765-776.**

According to the Task Force, there now is sufficient evidence to encourage primary care clinicians to screen their adult patients for depression. Formal screening can make it easier to identify depression, a common and treatable condition that often is not recognized by patients or their doctors. In releasing this recommendation, the Task Force noted that clinicians should have systems in place to assure accurate diagnosis, effective treatment, and followup if patients are to benefit from screening.

This recommendation updates the Task Force's 1996 recommendation. In 1996, the Task Force identified depression as an important clinical problem and encouraged clinicians to remain alert for signs of depression in their patients, but it concluded that there was insufficient evidence to recommend for or against regular formal screening. Since then, the Task Force has reviewed new evidence from randomized trials that tested various screening tools and interventions for depression. Task Force members found that patients fared best when clinicians recognized the symptoms of depression and made sure that patients received appropriate treatment.

Although there are many tools available to screen for depression, there is little evidence to recommend one over another. Clinicians can choose tools that are appropriate for their patients and practice setting. According to Task Force chairman Alfred Berg, M.D., M.P.H., Chair of the Department of Family Medicine, University of Washington, Seattle, the panel found that asking two simple questions, "Over the past 2 weeks, have you ever felt down, depressed, or hopeless?" and "Have you felt little interest or pleasure in doing things?" may be as effective as using longer screening instruments. An affirmative response to these questions may indicate a need for the use of more in-depth diagnostic tools.

According to the Task Force, 5 percent to 9 percent of adult patients in primary care settings suffer from depression. Depression is often disguised by other problems, and up to 50 percent of these cases go undetected and untreated. Women, people who have a family history of depression, the unemployed, and people with chronic disease are among those at increased risk for depression. Depression increases use of health care services and costs $17 billion in lost workdays each year.

The Task Force concluded that the evidence is insufficient to recommend for or against routine screening of children or adolescents for depression. Although up to 2 percent of children and 4.5 percent of adolescents in primary care settings suffer from depression, there is not enough research about screening or treating this population in the clinical setting. Research in progress at the Agency for Healthcare Research and Quality will add to the currently limited evidence base for children and adolescents.

Miller, J., Chan, B.K., and Nelson, H.D. (2002, May). "Postmenopausal estrogen replacement and risk for venous thromboembolism: A systematic review and meta-analysis for the

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USPSTF recommendations

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U.S. Preventive Services Task Force. *Annals of Internal Medicine* 136(9), pp. 680-690.

Postmenopausal estrogen replacement is widely used in the United States but poses important health risks, including venous thromboembolism. The authors used literature review and meta-analysis to assess this risk. They identified 12 relevant studies (three randomized controlled trials, eight case-control studies, and one cohort study). Their conclusion is that postmenopausal estrogen replacement is associated with an increased risk for venous thromboembolism, and this risk may be highest in the first year of use.

U.S. Preventive Services Task Force. (2002, May). "Aspirin for the primary prevention of cardiovascular events: Recommendations and rationale." *American Family Physician* 65(10), pp. 2107-2110.

Cardiovascular disease—including ischemic coronary heart disease (CHD), stroke, and peripheral vascular disease—is the leading cause of death in the United States. Each year, over 1 million Americans experience new or recurring heart attack or fatal CHD. The success of aspirin in preventing further clinical disease in some patients with known heart disease has been clearly documented. Based on its review of the literature, the Task Force strongly recommends that clinicians discuss aspirin chemoprevention with adults who are at increased risk of CHD. Physicians should discuss both the potential benefits and harms—increased risk of gastrointestinal bleeding and hemorrhagic stroke—of aspirin therapy with patients. The USPSTF found good evidence that aspirin decreases the incidence of CHD in adults who are at increased risk for heart disease. These risk groups include men over 40, postmenopausal women, and younger people with risk factors for CHD (e.g., high blood pressure, diabetes, or smoking). Although the optimal dose of aspirin for chemoprevention has not been established, dosages of approximately 75 mg per day appear as effective as higher doses.

U.S. Preventive Services Task Force. (2002, March). "Screening for bacterial vaginosis in pregnancy: Recommendations and rationale. *American Family Physician* 65(6), pp. 1147-1150.

Research has consistently shown an association between bacterial vaginosis and adverse pregnancy outcomes, including preterm delivery, premature rupture of the membranes, and preterm labor. Controlled trials have been conducted to determine whether treating bacterial vaginosis with a short course of antibiotic therapy will also improve pregnancy outcomes. Based on its review of the literature, the USPSTF concluded that the evidence is insufficient to recommend for or against routinely screening high-risk pregnant women for bacterial vaginosis. The Task Force recommended against routinely screening average-risk asymptomatic pregnant women for bacterial vaginosis.

U.S. Preventive Services Task Force. (2002, February). Screening for chlamydial infection: Recommendations and rationale. *American Family Physician* 65(4), pp. 673-676.

Chlamydia trachomatis is the most common sexually transmitted bacterial pathogen in the United States. There are an estimated 3 million new infections each year, and most people with chlamydial infection are asymptomatic. Chlamydial infection in women can cause urethritis, cervicitis, and pelvic inflammatory disease (PID) and result in ectopic pregnancy, infertility, chronic pelvic pain, and, in pregnant women, adverse pregnancy outcomes. Age is the most important risk marker for chlamydial infection; women and adolescents through age 25 years are at highest risk. Other risk factors include black race, being unmarried, having a prior history of STD, having new or multiple sexual partners, and inconsistent use of barrier contraceptives. The USPSTF recommends that clinicians routinely screen all sexually active women, including pregnant women, 25 years of age and younger for chlamydial infection, as well as other asymptomatic women at increased risk of infection.

U.S. Preventive Services Task Force. (2002, January). "Screening for lipid disorders in adults: Recommendations and rationale." *American Family Physician* 65(2), pp. 273-276.

The USPSTF found good evidence that lipid measurement can identify asymptomatic middle-aged people at increased risk of coronary heart disease. They also found that lipid-lowering drug therapy substantially decreases the incidence of coronary heart disease in people with abnormal lipid levels, and it causes few major harms. The Task Force recommends that clinicians routinely screen younger adults

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USPSTF recommendations

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(men 20 to 35 years of age and women 20 to 45 years of age) for lipid disorders if they have other risk factors for coronary heart disease. These risk factors include diabetes, a family history of cardiovascular disease (before age 50 in men or age 60 in women), a family history suggesting high lipid levels among family members, and multiple risk factors for coronary heart disease (e.g., tobacco use, high blood pressure).

U.S. Preventive Services Task Force. (2002, April). "Screening for skin cancer: Recommendations and rationale." ***American Family Physician*** **65(8), pp. 1623-1626.**

Between 1973 and 1995, the incidence of melanoma increased from 5.7 per 100,000 population to 13.3 per 100,000. The elderly, especially elderly men, bear a disproportionate burden of illness and death from melanoma and nonmelanoma skin cancer. Men older than 65 are diagnosed with 22 percent of the new cases of malignant melanoma each year. Women older than 65 are diagnosed with 14 percent of new cases. Basal cell and squamous cell carcinomas, in contrast to melanoma, are very common, especially in the elderly. However, they are infrequently associated with illness and death, even in the absence of formal screening. The USPSTF concluded that the evidence is insufficient to recommend for or against routine screening for skin cancer using a total-body skin examination and that the benefits from screening are unproven, even in high-risk patients. Clinicians should be aware that fair-skinned people older than 65, patients with atypical moles, and those with more than 50 moles constitute known groups at substantially increased risk for melanoma. Clinicians should be alert for skin lesions with malignant features—such as asymmetry, border irregularity, diameter greater than 6 mm, or rapidly changing lesions—noted in the context of physical examinations performed for other purposes. ■

Web conference on child health scheduled for mid-July

Mark your calendars now for July 17, 2:00 p.m., E.D.T., if you would like to participate in an AHRQ-sponsored Web conference on pediatric patient safety. The presenters will be Rainu Kaushal, M.D., Ph.D., from Harvard Medical School, and Marlene Miller, M.D., M.Sc., of AHRQ's Center for Quality Improvement and Patient Safety. You can participate in this live online event right at your desk. To register, send an e-mail to childweb@ahrq.gov with your name and organization. For more information, contact Nancy Comfort at ncomfort@ahrq.gov or 301-594-6391. ■

AHRQ releases nine new evidence reports, including one on methods used to rate the strength of scientific evidence

A new report sponsored by the Agency for Healthcare Research and Quality identifies and compares systems that rate the quality of evidence in individual research studies and compilations of studies addressing a common scientific issue. The report also presents guidance on the leading approaches currently in use for improving the quality of scientific evidence.

In 1999, Congress mandated AHRQ to identify and disseminate "methods or systems to rate the strength of the scientific evidence underlying health care practice, recommendations in the research literature, and technology assessments." To address this charge from Congress, AHRQ commissioned researchers at the Agency's Evidence-based Practice Center (EPC) at RTI International-University of North Carolina to review these methods and systems and produce a report on their findings, *Systems to Rate the Strength of Scientific Evidence.*

In the review, EPC researchers identified 121 sources that deal with systems used to rate the quality of individual studies—systematic reviews, randomized clinical trials, observational studies, and studies of diagnostic tests—or to grade the strength of bodies of evidence, including 12 reports from AHRQ-supported EPCs. The investigators then evaluated the systems used to rate the quality of individual studies using criteria based on findings from previous studies and best practices from clinical research for each of the four study designs. The EPC

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Evidence reports

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researchers also evaluated the systems for grading the bodies of evidence using three criteria: quality, quantity, and consistency.

Using well-specified criteria, the researchers identified 19 study-quality and 7 strength-of-evidence grading systems that people conducting systematic reviews and technology assessments can use as starting points for future evidence-based research projects.

The full report, Systems to *Rate the Strength of Scientific Evidence*, Evidence Report/Technology Assessment No. 47 (AHRQ Publication No. 02-E016), and a report summary (AHRQ Publication No. 02-E015), are available from AHRQ.* The report also is available in a downloadable zipped file at http://www.ahrq.gov/clinic/evrptfiles.htm#strength. The summary is available online at www.ahrq.gov/clinic/epcsums/strengthsum.htm.

Eight other evidence reports were issued recently by AHRQ. Copies are available from the AHRQ Clearinghouse and online at the Agency's Web site. They provide organizations with comprehensive, science-based information on common, costly medical conditions and new health care technologies.

There are 12 AHRQ-supported EPCs; they systematically review the relevant scientific literature on topics assigned to them by AHRQ and conduct additional analyses when appropriate prior to developing their reports and assessments. The goal is to inform health plans, providers, purchasers, and the health care system as a whole by providing essential information to improve health care quality. These evidence reports and summaries are available now from AHRQ, and most are also available online. The following list identifies the EPC that prepared each report. See the back cover of Research Activities for ordering information.

Management of Chronic Asthma, Report No. 44. Blue Cross and Blue Shield Technology Evaluation Center (290-97-0015). Report (AHRQ Publication No. 01-E044)*; Summary (AHRQ Publication No. 01-E043).**

Management of Neurogenic/ Neuropathic Pain Following Spinal Cord Injury, Report No. 45. McMaster University EPC (contract 290-97-0017). Report (AHRQ Publication No. 01-E063)*; Summary (AHRQ Publication No. 01-E062).**

Cardiovascular Effects of Epinephrine in Hypertensive Dental Patients, Report No. 48. Research Triangle Institute–University of North Carolina at Chapel Hill EPC (contract 290-97-0011). Report (in press); Summary (AHRQ Publication No. 02-E005).**

Endoscopic Retrograde Cholangiopancreatography, Report No. 50. Blue Cross/Blue Shield Technology Evaluation Center EPC (290-97-0015). Report (in press); Summary (AHRQ Publication No. 02-E008)**

Training of Clinicians for Public Health Events Relevant to Bioterrorism Preparedness, Report No. 51. Johns Hopkins University EPC (contract 290-97-0006). Report (AHRQ Publication No. 02-E011)*; Summary (AHRQ Publication No. 02-E007).**

Criteria for Determining Disability in Speech-Language Disorders, Report No. 52. Research Triangle Institute–University of North Carolina at Chapel Hill EPC (contract 290-97-0011). Report (AHRQ Publication No. 02-E010)*; Summary (AHRQ Publication No. 02-E009).**

Management of Prolonged Pregnancy, Report No. 53. Duke University EPC (contract 290-97-0014). Report (AHRQ Publication No. E018)*; Summary (AHRQ Publication No. 02-E012).**

Management of Clinically Inapparent Adrenal Mass, Report No. 56. New England Medical Center EPC (contract 290-97-0019). Report (AHRQ Publication No. 02-E014)*; Summary (AHRQ Publication No. 02-E013).** ■

AHRQ schedules MEPS users' workshops

AHRQ will conduct two workshops to facilitate use of the Medical Expenditure Panel Survey Household Component (MEPS-HC) by the health services research community. The workshops, designed for those with an interest in using national health surveys, will be held at the AHRQ Conference Center, Rockville, MD, August 19 and August 20-21, 2002. At both workshops, participants will have the opportunity to bring up their own specific research and policy questions.

The first workshop to be held August 19 will be a 1-day overview of the MEPS-HC. A maximum of 50 participants can be accommodated, and the cost is $50. This lecture workshop will provide practical information about the survey design, file content, and the construction of analytic files by data users, as well as the knowledge necessary to formulate research plans using the various MEPS-HC files and linkage capabilities.

The 2-day, hands-on workshop to be held August 20-21 can accommodate a maximum of 40 participants. The cost is $100. It will provide both practical information about MEPS-HC files and an opportunity to construct analytic files with the assistance of AHRQ staff. A PC will be available for each participant. Attendees should have some exposure to MEPS and the ability to use SAS.

Go to http://www.meps.ahrq.gov/workshop/wsschedule02.htm for program descriptions, registration forms, and other information. ■

New publications now available from AHRQ

Three new publications, two research reports and a chartbook, are now available from the Agency for Healthcare Research and Quality. See the back cover of *Research Activities* for ordering information.

Managing Osteoarthritis: Helping the Elderly Maintain Function and Mobility. **Research in Action Issue 4 (AHRQ Publication No. 02-0023).**

This report is a synthesis of AHRQ research on osteoarthritis in the elderly. For example, AHRQ research has shown that the disabling effects of osteoarthritis can be reduced or prevented through the use of patient self-management of the kind promoted by the Chronic Disease Self-Management Program. Occupational therapy to evaluate a person's ability to perform daily activities and recommend devices to help them perform these activities also can be useful. In addition, AHRQ studies indicate that nonsteroidal antiinflammatory drugs (NSAIDs), used to control pain associated with osteoarthritis, can cause complications such as upper gastrointestinal bleeding or peptic ulcer disease. AHRQ researchers have indicated that acetaminophen is the recommended drug of choice for arthritis. Finally, although the elderly suffer proportionately more complications and adverse effects from surgical therapy than younger patients, knee replacement surgery can provide pain relief and functional improvement for elderly patients with osteoarthritis. Complication rates are lower for surgical procedures performed by surgeons who do more than 20 knee replacements per year and in hospitals that perform at least 40 knee replacement operations per year.*

Expanding Patient-Centered Care to Empower Patients and Assist Providers. **Research in Action Issue 5 (AHRQ Publication No. 02-0024).**

This report describes tools developed through AHRQ sponsorship that are currently available to help patients and their providers make better health care decisions. Patient-centered measures of health are most applicable for non-emergency, non-life-threatening conditions. For example, the American Urological Association's Prostate Symptom Index, which is used to choose treatment for benign prostatic hypertrophy, and the Visual Function-14 Index, often used to decide whether to perform cataract surgery, are based on patients' everyday activities. The report also discusses a consumer survey to help people choose health plans (the Consumer Assessment of Health Plans Study or CAHPS®) and several AHRQ publications about choosing health plans, obtaining quality care, avoiding medical errors, and getting preventive care.*

The Uninsured in America: 1996-2000. **MEPS Chartbook No. 9. (AHRQ Publication No. 02-0027), by Rhoades, J.A., Vistnes, J.P., and Cohen, J.W.**

This report presents charts and data from AHRQ's Medical Expenditure Panel Survey (MEPS). It shows changes over time in the

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New publications

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non-elderly population's risk of being uninsured. The number of uninsured Americans under age 65 varied up to two-fold depending on the time period used to define being uninsured. Numbers were highest for Americans uninsured at some point during the year, lowest for those uninsured all year, and in between for those uninsured throughout the first half of the year. The percent of the population uninsured at some point during the year declined from 27.0 percent in 1996 to 25.1 percent in 1999. Of all age groups, young adults (ages 18-24 years) are the mostly likely to be uninsured. In each year 1996-99, about 11 million young adults were uninsured at some point during the year. Hispanics were the racial/ethnic group most at risk of lacking coverage. Although estimates for whites and blacks show an improvement from 1996 to 1999, Hispanics did not experience any improvement. Finally, the chartbook shows that wage earners with low hourly wages and those working in small establishments had a greater risk of being uninsured.* ■

Research Briefs

Miskulin, D.C., Meyer, K.B., Athienites, N.V., and others. (2002, February). "Comorbidity and other factors associated with modality selection in incident dialysis patients: The CHOICE Study." (AHRQ grant HS08365). ***American Journal of Kidney Diseases*** **39(2), pp. 324-336.**

The increased survival of peritoneal dialysis (PD) patients reported in recent studies may simply reflect the self- or physician-directed selection of healthier patients to PD, according to this study. The authors assert that case-mix factors influence both the selection of dialysis modality and outcomes in patients with end-stage renal disease (ESRD). They compared the baseline characteristics of 279 PD and 750 hemodialysis (HD) patients. The number and severity of coexisting medical conditions at the onset of ESRD were significantly lower in patients choosing PD, independent of other factors influencing selection of dialysis type. The authors conclude that adjustment for case-mix differences in patients treated with PD versus HD is essential to the assessment of the independent effects of the dialysis modality on outcomes.

Patrician, P.A. (2002). "Focus on research methods: Multiple imputation for missing data." (AHRQ grant HS08603). ***Research in Nursing & Health*** **25, pp. 75-84.**

Missing data poses a problem in survey and longitudinal research. In surveys, individuals may not respond to certain questions for a variety of reasons. In longitudinal studies, participants relocate, die, or drop out for other reasons. Recent theoretical and computational advances, most notably multiple imputation methods, enable the researcher to use the existing data to generate, or impute, values approximating the "real" value, while preserving the uncertainty of the missing values. This article reviews the problems associated with missing data, options for handling missing data, and recent multiple imputation methods. It informs researchers' decisions about whether to delete or impute missing responses and the method best suited to doing so. The authors use an empirical investigation of AIDS care data to illustrate the process of multiple imputation.

Sherman, K.J., Hogeboom, C.J., Cherkin, D.C., and Deyo, R.A. (2002). "Description and validation of a noninvasive placebo acupuncture procedure." (AHRQ grant HS09989). ***Journal of Alternative and Complementary Medicine*** **8(1), pp. 11-19.**

This study found that using a toothpick inside a guidetube (to hide the toothpick) to "poke" a person is a reasonable control treatment for acupuncture-naive individuals in trials assessing the efficacy of acupuncture for low back pain. In the first experiment, a group of low back pain patients received six insertions of needles while another group received six pokes with a toothpick in a guidetube. Then the groups were switched. In the second experiment, low back pain patients were randomly assigned to receive either a complete treatment with real acupuncture needles or a simulated treatment using a toothpick in a guidetube. In the first experiment, the toothpick insertions were perceived as slightly more like real needling than the real needling. In the second experiment, 52 percent of those receiving the simulated

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Research briefs

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needling versus 65 percent of those receiving real acupuncture believed they were "definitely" or "probably" receiving real acupuncture.

Weinger, M.B., and Ancoli-Israel, S. (2002, February 27). "Sleep deprivation and clinical performance." (AHRQ grants HS11521 and HS11375). ***Journal of the American Medical Association*** **287(8), pp. 955-957.**

In this study of sleep deprivation and clinical performance, researchers reviewed laboratory and clinical studies and found that patient care may be compromised if a fatigued, sleep-deprived doctor is allowed to operate, administer an anesthetic, manage a medical crisis, or deal with an unusual or cognitively demanding clinical case. Two meta-analyses of recent laboratory studies revealed that sleep-deprived people performed well below those who were not sleep-deprived. Sleep deprivation had the greatest impact on mood and cognitive tasks and less, but still significant, impact on motor tasks. Clinical studies found that sleep-deprived medical interns detected fewer cardiac arrhythmias and complained of feeling sad, fatigued, and unsure of themselves when compared with rested interns. Compared with well-rested surgical residents, those deprived of sleep all night or due to on-call interruptions made more errors and were slower to complete electrocoagulation of bleeding tissue in a virtual reality simulation of laparoscopic surgery. One study found that sleep-deprived anesthesiologists needed more time to monitor patient physiology, a routine clinical task, while another found that some of them fell asleep while administering anesthesia in a simulated surgery. ■

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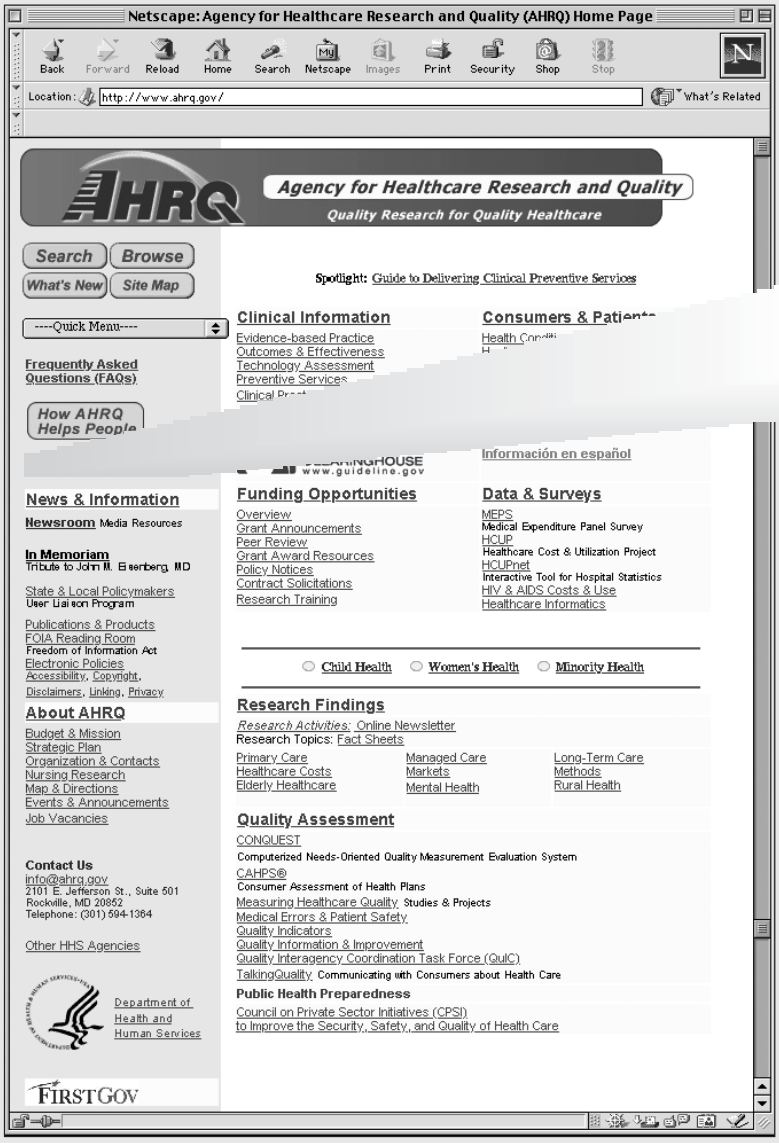
AHRQ's Web site—http://www.ahrq.gov/—makes practical, science-based health care information available in one convenient location. You can tap into the latest information about the Agency and its research findings and other initiatives, including funding opportunities and job vacancies. *Research Activities* is also available and can be downloaded from our Web site. Do you have comments or suggestions about the site? Send them to info@ahrq.gov.



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