



Research Activities



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Hysterectomy results in better outcomes than medicine for patients with abnormal uterine bleeding

After unsuccessful treatment with a common hormonal medication, women with abnormal uterine bleeding who underwent hysterectomies experienced greater improvement in their symptoms and expressed higher satisfaction with their overall health 6 months after treatment than women who were prescribed an alternate regimen of oral medication for the same condition, according to a recent study. The study, which was funded by the Agency for Healthcare Research and Quality (HS07373), was led by Miriam Kuppermann, Ph.D., M.P.H., of the Departments of Obstetrics, Gynecology, & Reproductive Sciences and Epidemiology & Biostatistics at the University of California, San Francisco.

Hysterectomy, or surgical removal of the uterus, is the most common major surgical procedure performed in the United States for nonobstetric reasons. In 2000, approximately 633,000 women had hysterectomies, 90 percent of which were performed prior to menopause for abnormal

uterine bleeding and other non-life-threatening reasons. In the United States, about 5.6 per 1,000 women have hysterectomies, a rate that is three to four times higher than that of Australia, New Zealand, and most European countries. This difference, as well as regional variations within the United States, has raised questions about whether so many hysterectomies are necessary.

This study was the first randomized controlled trial to compare hysterectomy with oral medical treatment for abnormal uterine bleeding. Dr. Kuppermann and her collaborators from UCSF and four clinical centers across the United States examined differences in outcomes and satisfaction for 63 women ages 30 to 50 years who had experienced abnormal uterine bleeding for an average of 4 years and were dissatisfied with treatment by medroxyprogesterone, a hormone that is commonly prescribed for this condition. Half of the women in the study were randomly selected to have hysterectomies,

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and the other half were treated with an alternate regimen of oral medication selected by the women's gynecologists. All of the women were followed for 2 years.

The women who had hysterectomies experienced greater improvements in mental health, sexual desire and functioning, sleep, and overall satisfaction with health. Most of the improvement was evident within 6 months. By the end of the study, half of the women originally assigned to medical treatment had elected to undergo

hysterectomies, and their improvement was similar to that of women who were assigned to have hysterectomies at the outset.

Women who were assigned to take the alternate medical regimen and who continued on medication for the entire 2-year study period also showed improvements, according to Dr. Kuppermann. She notes, however, that their improvements were smaller in magnitude than those of women who underwent hysterectomy.

The researchers had difficulty recruiting women for this trial due to the reluctance of many women to agree to be assigned randomly either

to have a hysterectomy or not. However, the researchers note that there were enough participants to reveal significant differences in quality-of-life outcomes.

For more information, see "Effect of hysterectomy vs. medical treatment on health-related quality of life and sexual functioning: The Medicine or Surgery (MS) Randomized Trial," by Dr. Kuppermann, R. Edward Varner, M.D., Robert L. Summitt, Jr., M.D., and others, in the March 24/31, 2004 *Journal of the American Medical Association* 291(12), pp. 1447-1455. ■

Minority Health/Disparities Research

Improving depression care has long-lasting benefits for blacks and Hispanics

Quality improvement programs that encouraged depressed patients to undergo standard treatments for depression (psychotherapy or

antidepressant medication) and gave them and their doctors up-to-date information and resources to increase access to treatments reduced depression rates among black and Hispanic patients from baseline to 5 years after the start of the 6 to 12 month programs. The study, which was supported by the National Institute of Mental Health and the Agency for Healthcare Research and Quality (HS08349), is published in the April issue of the *Archives of General Psychiatry*.

Nearly 19 million Americans suffer from a depressive disorder, and the cost in medical care and lost worker productivity is roughly \$44 billion a year. Studies have shown that black and Latino patients tend to have poorer quality of care for depression and worse outcomes compared with white patients.

At the start of the program, patients were randomly assigned to either standard primary care depression management or one of two quality improvement interventions, which included provider and patient education plus either practice therapists trained in providing cognitive behavior therapy—an effective psychotherapy for depression (QI-therapy)—or specially trained nurses to help patients manage their medications (QI-meds). These special programs lasted 6 to 12 months. However, in both programs, patients

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could have either treatment, both treatments, or no treatment, and that choice was left up to the patients and their primary care clinicians. The randomization was to resources for improved care, not mandated treatment. The study involved roughly 1,000 patients in community-based Medicaid and private managed care practices in California, Colorado, Texas, Maryland, and Minnesota.

When the patients were evaluated 4 years after the programs ended, the researchers found that, relative to standard care, the two special programs reduced the overall percentage of patients with a probable depressive disorder by 6.6 percentage points. The QI-therapy program reduced the percentage of black and Hispanic patients with depression, relative to those who received standard care only, by 20.2 percentage points, but the reduction was only 1.7 percentage points for non-Hispanic whites in the same program relative to those in standard care.

The QI-therapy program brought the rate of probable depressive disorder in black and Hispanic patients down to 35.6 percent, close to the 34.4 percent rate for non-Hispanic whites in the same program. In contrast, while the depression rate of non-Hispanic white patients receiving standard care also reached roughly 36 percent by the end of the study, almost 56 percent of the black and Hispanic patients who received standard care still suffered from depression. Further, both intervention programs reduced unmet

need for treatment—that is, the percentage of patients who were still depressed but not receiving either medication or psychotherapy 5 years later.

The study was led by Kenneth Wells, M.D. Dr. Wells is a senior scientist at RAND and professor of psychiatry and behavioral sciences at the David Geffen School of Medicine and Neuropsychiatric Institute of the University of California, Los Angeles. AHRQ funded the initial treatment phase of the study and also supported the development of toolkits and training resources for the program. These materials are available through the RAND Partners in Care Web site at www.rand.org/health/partners.care/portweb.

For more information, see “Five-year impact of quality improvement for depression: Results of a group-level randomized controlled trial,” by Dr. Wells, Cathy Sherbourne, Ph.D., Michael Schoenbaum, Ph.D., and others, in the April 2004 *Archives of General Psychiatry* 61(4), pp. 378-386. ■

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Racial disparities in use of coronary angiography are due in part to variation in physician referral patterns

Studies show that white patients are twice as likely as black patients to receive coronary angiography (CA), an imaging procedure to diagnose heart problems, and revascularization procedures to correct these problems (coronary bypass surgery or coronary angioplasty). Fewer angiographies among black heart disease patients may be due in part to less access of black patients to cardiologists, who are more likely to recommend

coronary angiography, suggests a new study.

In the study, which was supported in part by the Agency for Healthcare Research and Quality (HS11435), racial disparity in receipt of angiography was reduced among black and white patients who saw cardiologists. Racial differences in access to specialty care, such as cardiology consultations, and variation in referral patterns by physician

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Coronary angiography

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specialty must be eliminated in order to improve cardiac quality of care, suggests Thomas A. LaVeist, Ph.D. Dr. LaVeist is Professor of Health Services Research and Director of the Hopkins Center for Health Disparities Solutions at the Johns Hopkins Bloomberg School of Public Health.

Dr. LaVeist and his colleagues used data from the Cardiac Access Longitudinal Study, an ongoing study of medical care access, use, and quality of life among white and black cardiac patients from three Baltimore hospitals. They examined the medical records of patients

discharged from the hospitals in 1995 and 1997 with a cardiac-related diagnosis to determine if the patient was an appropriate candidate to receive CA.

Appropriate candidates for CA (2,623 patients) were interviewed to determine if they had a cardiac consultation during hospitalization, were referred for CA, and if they had CA. Patient reports were confirmed by medical records.

Cardiology consultation was associated with a substantially increased likelihood of referral for CA. White patients had 2.2 times greater odds than black patients of being seen by a cardiologist during their hospitalization. Compared

with white patients, black patients had 2.4 times greater odds than white patients of not obtaining a referral for CA, and 1.89 times greater odds of not receiving the procedure. However, this difference in receipt of CA was reduced to 1.4 among patients who received a referral for CA.

See "Explaining racial differences in receipt of coronary angiography: The role of physician referral and physician specialty," by Dr. LaVeist, Melanie Arthur, Ph.D., Athol Morgan, M.D., M.H.S., and others, in the December 2003 *Medical Care Research and Review* 60(4), pp. 453-467. ■

Researchers examine racial and ethnic disparities in emergency care

The Institute of Medicine's (IOM's) landmark report, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, documents the extent of racial and ethnic disparities in the U.S. health care delivery system and offers recommendations to address them. Several recent studies have described disparities in emergency care. They reveal, for example, poorer pain management among racial and ethnic minorities compared with whites seen in the emergency department (ED). Among children with asthma seen in the ED, African American urban

children receive less treatment according to nationally recognized guidelines than white children.

Prompted by the IOM report, the journal *Academic Emergency Medicine* convened a Consensus Conference on Disparities in Emergency Health Care on May 28, 2003. The Agency for Healthcare Research and Quality provided support for the conference (HS14030). An executive summary and seven papers presented at the conference are included in a special section of the November 2003 issue of *Academic Emergency Medicine* 10(11). The papers are summarized here.

Biros, M.H., Adams, J.G., and Cone, D.C. "Executive summary: Disparities in emergency health care," pp. 1153-1154.

In this executive summary, the authors describe the conference goal and objectives and explain the various sessions that took place at the conference.

Cohen, J.J. "Disparities in health care: An overview," p. 1155-1160.

The most important predictor of quality of health care across all racial and ethnic groups is access to care, especially insurance status and

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Disparities in emergency care

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the ability to pay for health care. Two groups emerge with differing qualities of health care: nonminority and minority populations. When researchers control for the stage of disease at presentation, coexisting illnesses, severity of illness, and other variables, substantial differences in health care based on race and ethnicity can still be found. Raising the consciousness about this issue is an important step toward recognizing and eliminating health care disparities, according to the author.

Connor, R.E., and Haley, L. **“Disparities in emergency department health care: Systems and administration,”** **pp. 1193-1198.**

This paper summarizes the conference proceedings. The goals of the conference were to examine the presence, causes, and outcomes related to health care disparities as they occur in EDs and determine the degree to which external forces have an impact on ED patients. Participants were asked to describe the means of defining, assessing, measuring, and investigating disparities that occur in emergency care.

Discussions were organized around several major questions, including: (1) Are only the vulnerable inadequately served by the current system? (2) Do inequities in care reflect systems limitations? and (3) What would the cost of providing equality in health care be?

Richardson, L.D., Irvin, C.B., and Tamayo-Sarver, J.H., “Racial and ethnic disparities in the clinical practice of emergency medicine,” **pp. 1184-1188.**

The emergency department milieu, which is characterized by time pressure, incomplete information, and high demands on attention and cognitive resources, increases the likelihood that stereotypes and bias will affect diagnostic and treatment decisions, note these authors. The potential for disparate treatment includes the timing and intensity of ED therapy as well as patterns of referral, prescription choices, and priority for hospital admission and bed assignment. Several strategies to address these disparities in ED care emerged from a roundtable discussion during the Academic Emergency Medicine conference.

Increased use of evidence-based guidelines might decrease uncertainty and minimize individual physician discretion. Use of continuous quality improvement programs to monitor adherence to clinical protocols could also be used to track clinical disparities at the individual or institutional level. In addition, zero tolerance for stereotypical remarks in the workplace, cultural competency training for emergency providers, enhanced linguistic services for patients who are not fluent in English, and increased workforce diversity would go a long way toward reducing disparities in the ED, according to these authors.

Cone, D.C., Richardson, L.D., Todd, K.H., and others. “Health

care disparities in emergency medicine,” pp. 1176-1183.

These authors discuss two strategies that are likely to reduce care disparities in the ED: workforce diversity and cultural competency training. First, workforce diversity is likely to result in a community of emergency physicians who are better prepared to understand, learn from, and collaborate with individuals from other racial, ethnic, and cultural backgrounds, whether these individuals are patients, fellow clinicians, or the larger medical and scientific community. Given the ethical and practical advantages of a more diverse ED workforce, continued and expanded initiatives to increase diversity within emergency medicine should be undertaken.

Second, emergency medicine educational programs need to equip emergency physicians with the skills and knowledge needed to serve an increasingly diverse population. These cultural competence skills should include an awareness of existing racial and ethnic health disparities, recognition of the risks of stereotyping and biased treatment, and knowledge of the incidence and prevalence of health conditions among diverse populations.

Hamilton, G., and Marco, C.A., “Emergency medicine education and health care disparities,” **pp. 1189-1192.**

One means of improving health care disparities is changing the behavior and understanding of key

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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.

Disparities in emergency care

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personnel in academic health centers. These individuals influence policy and procedure, design and evaluate health systems, and define curricular standards for graduate and undergraduate medical education. The broad issue of disparities in emergency health care may be addressed in part by cultural competency education at several levels.

The authors point out several barriers to educating medical providers about disparities in health care. For example, cultural issues are rarely central to decisions about accreditation, certification, or credentialing. They suggest making cultural competency a formal element of curriculum and residency assessment and encouraging emergency medicine faculty to become more involved with the community.

Richards, C.F., and Lowe, R.A., “Researching racial and ethnic disparities in emergency medicine,” pp. 1169-1175.

One of the goals of the Consensus Conference was to develop a research agenda for emergency medicine researchers working on disparities in health care. The authors of this article propose such an agenda. They call for more definitive clinical studies involving existing clinical datasets or primary data collection to more rigorously determine the extent of care disparities in emergency medicine.

They suggest that studies of ED health care disparities can be integrated into other research projects that involve large-scale primary data collection. Multicenter clinical trials of medications or other interventions could collect additional ED data that would enable researchers to examine questions about disparities. Different methods will be necessary to investigate the role of stereotypes and bias in clinical decisionmaking,

patient preferences, and the differences between stated values and those manifested in the clinical encounter.

Weinick, R.M. “Researching disparities: Strategies for primary data collection,” pp. 1161-1168.

Comparatively little disparities research to date has focused on emergency medicine. However, the body of disparities research developed in other areas of health care has identified a number of issues that are directly applicable. To promote research on disparities in emergency medicine, Robin M. Weinick, Ph.D., of AHRQ’s Office of Performance, Accountability, Resources, and Technology, addresses several of these issues related to collecting and classifying data on race/ethnicity and socioeconomic status and selected methodologic issues that are particularly important for examining and evaluating disparities. Reprints (AHRQ Publication No. 04-R013) are available from AHRQ.** ■

Diagnosis and treatment of depression in the elderly increased in the 1990s, but racial and other disparities persist

The problem of depression among the elderly became more recognized during the 1990s. The proportion of elderly Medicare patients diagnosed with depression more than doubled from 2.8 percent in 1992 to 5.8 percent in 1998, according to a study supported in part by the Agency for Healthcare Research and Quality (HS11825 and HS09566).

About two-thirds of those diagnosed with depression received treatment in each year, but those older than 75, those of “Hispanic or other” ethnicity, and those who did not have supplemental insurance coverage to augment Medicare were significantly less likely to receive treatment. For example, although blacks were as likely as whites to receive medication or psychotherapy, other racial/ethnic minorities were only half as likely as whites to receive any treatment, controlling for other characteristics.

Half of elderly patients who did not have additional coverage to supplement Medicare did not receive

treatment, compared with about one-third of those who did have supplemental coverage. If treated, those with low income or less than a college education and those older than age 75 were less likely to receive psychotherapy, notes Stephen Crystal, Ph.D., of Rutgers University. During this period, Medicare did not cover most prescription drug use, and there were high copayments for mental health specialty services such as psychotherapy (50 vs. 20 percent for other outpatient services).

Of all elderly Medicare patients treated for depression, 60 percent received antidepressants only, 14 percent received psychotherapy, and 26 percent received both. Overall, accounting for those receiving no treatment, only 17 percent of patients diagnosed with depression received both antidepressants and psychotherapy during the course of a year. These findings were based on an analysis of merged

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interview and Medicare claims data from 1992 through 1998 for nearly 21,000 elderly individuals included in the nationally representative Medicare Current Beneficiary Survey.

See “Diagnosis and treatment of depression in the elderly Medicare population: Predictors, disparities, and trends,” by Dr. Crystal, Usha Sambamoorthi, Ph.D., James T. Walkup, Ph.D., and Ayse Akincigil, M.A., in the December 2003 *Journal of the American Geriatrics Society* 51, pp. 1718-1728. ■

Clinical Decisionmaking

Physicians should give patients with kidney failure more information about the option of peritoneal dialysis

Few donor kidneys are available for transplantation in patients with kidney failure, also called end-stage renal disease (ESRD). Thus, most of these patients must choose between hemodialysis and peritoneal dialysis, procedures that remove toxins or wastes from the blood that the failed kidney can no longer remove.

Patients rate peritoneal dialysis care higher than hemodialysis care, according to a study supported in part by the Agency for Healthcare Research and Quality (HS08365). Since both approaches are effective in replacing kidney function, clinicians should give ESRD patients more information about the option of peritoneal dialysis, suggests lead author Haya R. Rubin, M.D., of Johns Hopkins University.

Patients who undergo hemodialysis usually must go to an outpatient dialysis facility three times a week for 3 to 4 hours each time. There, trained nurses and technicians carry out the prescribed treatment using a dialysis machine. In contrast, peritoneal dialysis is most commonly performed every day at home by the patient after he or she is trained by dialysis facility staff. Peritoneal dialysis can even be done at night while the patient is asleep.

In this study, the investigators examined patient satisfaction using survey responses from 656 patients an average of 7 weeks after starting dialysis at one of 37 dialysis centers participating in the Choices for Healthy Outcomes in Caring for End-stage Renal Disease (CHOICE) study, a national multicenter study of dialysis

outcomes (Neil R. Powe, M.D., principal investigator). Patients receiving peritoneal dialysis were much more likely than those receiving hemodialysis to give excellent ratings of dialysis care overall (85 vs. 56 percent), and they were significantly more likely to give excellent ratings for each specific aspect of care rated. These differences were not reduced after adjustment for patient characteristics, distance from the dialysis center, or time since starting dialysis.

See “Patient ratings of dialysis care with peritoneal dialysis vs. hemodialysis,” by Dr. Rubin, Nancy E. Fink, M.P.H., Laura C. Plantinga, Sc.M., and others, in the February 11, 2004 *Journal of the American Medical Association* 291(6), pp. 697-703. ■

Problems in self-management of congestive heart failure may contribute to ER visits and poor prognosis

Congestive heart failure (CHF) affects nearly 5 million Americans, and it is the most common reason for emergency room visits and hospitalizations among the elderly. Despite many studies showing the effectiveness of medications in improving survival and quality of life, the prognosis for individuals with CHF is poor; 75 percent of the men and 62 percent of the women die within 5 years

of diagnosis. Problems in self-management of the disease may contribute to this poor prognosis, according to a study supported in part by the Agency for Healthcare Research and Quality (HS10402).

CHF is characterized by breathlessness, usually due to fluid buildup in the lungs, and abnormal sodium and water retention, which results in swelling that

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slows blood flow out of the heart. Unfortunately, many patients don't see CHF symptoms as warning signs that they need treatment. Doctors should advise patients to regularly monitor early markers of fluid retention that signal a deterioration, including increases in weight, swelling (for example, in the legs and ankles), and shortness of breath. Ideally, patients should weigh themselves daily and contact their doctor if their weight changes by more than 3-5 pounds so that their diuretic dose can be adjusted.

Doctors should advise CHF patients to take their prescribed medications and follow a very low sodium diet to avoid fluid retention, suggests lead author Carol R. Horowitz, M.D., M.P.H., of Mount Sinai School of Medicine. Dr. Horowitz and her colleagues conducted interviews with 19 CHF patients at an urban hospital

to gauge their understanding of CHF and what underlies their self-care routines.

Most patients did not understand that symptoms such as swelling and shortness of breath were closely related to their salt intake or to an underlying problem with their heart. They also did not recognize that these symptoms worsened over time from their chronic baseline symptoms to an acutely severe state that required urgent care, thus landing them in the emergency room. As a result, they often did not routinely manage symptoms to prevent or minimize exacerbations of their condition.

See "A story of maladies, misconceptions and mishaps: Effective management of heart failure," by Dr. Horowitz, Stephanie B. Rein, M.D., and Howard Leventhal, Ph.D., in *Social Science & Medicine* 58, pp. 631-643, 2004. ■

Cervical cancer screening every 3 years after three or more normal Pap tests is a safe option

Current care guidelines recommend that Pap tests to screen for cervical cancer can be extended to once every 3 years, instead of every year, among low-risk women with three consecutive negative Pap tests. This is a safe option, given the minimal excess risk of cervical cancer associated with longer screening intervals, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS07373). The researchers found that, compared with annual screening for 3 years, screening performed once 3 years later after the last of three or more consecutive negative Pap tests in women 30 to 64 years of age was associated with an average excess risk of cervical cancer of 3 in 100,000.

To confirm the safety of this screening approach, researchers led by George F. Sawaya, M.D., of the

University of California, San Francisco, determined the prevalence of biopsy-proven cervical neoplasia (new and abnormal cell growth) among 938,576 nonelderly women. They stratified the women according to the number of previous consecutive negative Pap tests. Using a model that estimates the rate at which dysplasia (abnormal cell growth) will progress to cancer, they estimated the risk of cancer within 3 years after one or more negative Pap tests.

According to the model, the estimated risk of cancer with annual Pap tests for 3 years compared with Pap tests once 3 years later after the last negative test was 2 vs. 5 in 100,000 among women 30 to 44 years of age, 1 vs. 2 in 100,000 among women 45 to 59 years of age, and 1 vs. 1 in 100,000 among women 60 to 64 years of age.

More details are in "Risk of cervical cancer associated with extending the interval between cervical-cancer screenings," by George F. Sawaya, M.D., K. John McConnell, Ph.D., Shalini L. Kulasingam, Ph.D., and others, in the October 16, 2003 *New England Journal of Medicine* 349(16), pp. 1501-1509.

Editor's Note: Researchers at the University of Pittsburgh recently published an article on a related topic. It shows that chronic pelvic pain after pelvic inflammatory disease is associated with reduced physical and mental health. For details, see: Haggerty, C.L., Schulz, R., Ness, R.B., and others. (2003, November). "Lower quality of life among women with chronic pelvic pain after pelvic inflammatory disease." (AHRQ grant HS08358). *Obstetrics & Gynecology* 102, pp. 934-939. ■

Hip fracture patients function better after hip repair surgery if they receive transfusions for anemia while in the hospital

People with better balance and mobility following surgery for hip fracture are less likely to be hospitalized, placed in a nursing home, or die. One way to improve early recovery of physical function after hip fracture repair is to treat anemia with transfusions that increase hemoglobin (Hb) concentration during the hospital stay, suggests a study supported in part by the Agency for Healthcare Research and Quality (HS07322). After adjusting for other factors associated with ability to walk, higher average postoperative Hb level was independently associated with the ability to walk a greater distance at the time of hospital discharge.

The researchers analyzed medical record data on 5,793 patients 60 years of age and older (mean age of 79 years) who underwent hip fracture repair at 20 academic and community hospitals between 1982 and 1993. They examined mean postoperative Hb concentration with distance walked at the time of hospital discharge. The predicted distance walked at

discharge in feet increased with higher average postoperative Hb levels (7 g/dL, 56 feet; 8 g/dL, 61 feet; 9 g/dL, 67 feet; 10 g/dL, 74 feet; 11 g/dL, 83 feet; 12 g/dL, 92 feet).

Independent predictors of greater distance walked at discharge were higher average postoperative HB and preoperative beta-blocker therapy. Predictors of less distance walked were older age, greater dependence in activities of daily living, neurologic disease, diabetes, and greater comorbidity (coexisting illnesses). These findings suggest that two modifiable factors, higher Hb concentrations and perioperative beta-blockers, may improve functional recovery in elderly patients following surgery and should be confirmed with clinical trials.

See "Higher Hb level is associated with better early functional recovery after hip fracture repair," by Valerie A. Lawrence, M.D., Jeffrey H. Silverstein, M.D., John E. Cornell, Ph.D., and others, in the December 2003 *Transfusion* 43, pp. 1717-1722. ■

Step-by-step procedures may help health care providers treat victims of intimate partner violence

One in three women is a victim of intimate partner violence (IPV). This violence causes serious mental and physical health problems ranging from alcohol and drug abuse to depression, gynecological problems, and gastrointestinal complaints. IPV may be emotional, physical, and/or sexual, and it involves coercion and control by one partner over the other. Unfortunately, many health care providers do not know how to intervene when an IPV victim discloses abuse. A new critical pathway that was developed with input from battered women may help them. It outlines step-by-step procedures for clinicians to follow when they encounter an IPV victim.

Several guidelines for the screening and management of IPV have been published. The critical pathway, developed with support from the Agency for Healthcare Research and Quality (HS10342),

is one way to integrate these guidelines by providing a visual summary of care processes, their timing, and the roles of each provider, explains lead author, Jacqueline Dienemann, Ph.D., R.N., of the University of North Carolina at Charlotte. Dr. Dienemann and her colleagues developed the pathway using information from the research literature and from five focus groups in which IPV survivors discussed their preferences for what nurses, physicians, or counselors should do when women disclose IPV. The pathway was validated through a three-round Delphi process with four researchers and 13 clinicians, including physicians, nurses, social workers, and one chaplain.

The pathway is organized into categories of physical assessment and treatment (for example, the presenting complaint, sexual trauma, or pain), psychiatric/mental

health assessment and treatment (for example, substance abuse or depression), and social assessment and treatment. Social assessment includes, for example, asking if the woman wants to see an IPV counselor; whether she is married to or stalked by the abuser; and whether she has children who have witnessed the violence, are traumatized, and are safe. Social treatment ranges from explaining police and legal services to advising women how to seek help or plan to leave the abuser.

See "A critical pathway for intimate partner violence across the continuum of care," by Dr. Dienemann, Jacquelyn Campbell, Ph.D., R.N., Nancy Wiederhorn, D.N.Sc., R.N., and others, in the *Journal of Obstetric, Gynecologic & Neonatal Nursing* 32(5), pp. 594-603, 2003. ■

Hospitals with low mortality rates for coronary bypass surgery also perform well in valve replacement

Heart valve replacement accounts for more than 20 percent of all cardiac procedures and more than 30 percent of all deaths after cardiac surgery. Individuals anticipating this surgery can find out about a hospital's performance of heart valve replacement surgery by looking up its coronary artery bypass graft (CABG) surgery mortality rate. That's because hospital mortality rates with CABG are closely correlated with mortality rates for valve replacement, according to a study supported in part by the Agency for Healthcare Research and Quality (HS10141).

The researchers studied operative mortality after CABG, aortic valve replacement (AVR), and mitral valve replacement (MVR) using the 1994 to 1999 national Medicare database. After excluding any hospitals that did not perform at least 50 CABG surgeries and 20 valve replacements per year, they examined the correlation between hospital mortality in CABG and hospital mortality in AVR and MVR at 684 hospitals.

When hospitals were grouped into deciles, the risk of death after AVR was about 6 percent when performed in hospitals with the lowest CABG mortality rates (lowest

decile), but the risk doubled to 13 percent when AVR was performed in hospitals with the highest CABG mortality rates (highest decile). Similarly, the mortality rate for MVR was 10 percent in hospitals in the lowest decile of CABG mortality rates and nearly 21 percent in hospitals with the highest CABG mortality rates.

These correlations persisted regardless of whether valve replacement was performed with or without concomitant CABG or whether valve replacement was performed in a high- or low-volume hospital. These similar results may be the result of shared personnel and infrastructure (for example, same operating rooms and intensive care units) as well as processes of care shared between the two procedures. Improving these shared processes of care will likely help to make both CABG surgery and valve replacement surgery safer.

See "Do hospitals with low mortality rates in coronary artery bypass also perform well in valve replacement?" by Philip P. Goodney, M.D., Gerald T. O'Connor, Ph.D., Sc.D., David E. Wennberg, M.D., M.P.H., and John D. Birkmeyer, M.D., in the *Annals of Thoracic Surgery* 76, pp. 1131-1137, 2003. ■

Pharmaceutical Research

Many medications are effective in managing atrial fibrillation

Atrial fibrillation, the most common type of heart arrhythmia in adults, increases the risk of thromboembolism and stroke. This rapid, irregular heart beat can be caused by a variety of conditions ranging from coronary artery disease and hypertension to surgery and hyperthyroidism. The good news is that many medications effectively treat this condition, and patients benefit similarly whether treated with a sinus rhythm-control strategy or a ventricular rate-control strategy. These are the findings from a comprehensive review of studies on the topic by

the Johns Hopkins University Evidence-based Practice Center, which is directed by Neil Powe, M.D., M.P.H., M.B.A., and supported by the Agency for Healthcare Research and Quality (contract 290-97-0006).

Warfarin, an anticoagulant, significantly reduces stroke risk in these patients, unless the risk of embolism (a blood clot that breaks loose and travels to another place in the body) is low or a contraindication to anticoagulation exists. Beta-blockers (atenolol and metoprolol) and calcium-channel blockers (verapamil and diltiazem) are superior to digoxin and placebo

to control heart rate, especially during exercise, when patients do not have contraindications to these therapies. Many antiarrhythmic agents are superior to placebo for acute conversion of abnormal to normal cardiac sinus rhythm. These include ibutilide, flecainide, dofetilide, propafenone, amiodarone, and quinidine.

The following medications are effective in maintaining sinus rhythm: amiodarone, propafenone, disopyramide, and sotalol. Echocardiography (ultrasound of the heart) is useful in estimating

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Atrial fibrillation

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risk for thromboembolism and potentially useful in estimating likelihood of successful cardioversion of atrial fibrillation

to normal cardiac sinus rhythm and maintenance of normal rhythm.

See "Management of atrial fibrillation: Review of the evidence for the role of pharmacologic therapy, electrical conversion, and echocardiography," by Robert L.

McNamara, M.D., M.H.S., Leonardo J. Tamariz, M.D., M.P.H., Jodi B. Segal, M.D., M.P.H., and Eric B. Bass, M.D., M.P.H., in the December 2003 *Annals of Internal Medicine* 139, pp. 1018-1033. ■

Clinicians and patients responded quickly to recent evidence of harms associated with hormone therapy

Evidence from two clinical trials published in July 2002, the Women's Health Initiative and the Heart and Estrogen/ Progestin Replacement Study, showed that oral estrogen combined with progestin increased the risk of cardiovascular disease and breast cancer in postmenopausal women. Based on these findings, new guidelines recommend against routine hormone therapy use for chronic conditions such as osteoporosis, and current users have been advised to taper their dose toward discontinuation. Clinicians responded quickly to this new evidence in their practices. Since July 2002, many women have discontinued hormone therapy or are tapering to lower doses, according to a study supported by the Agency for Healthcare Research and Quality (HS13405).

Researchers from Stanford University School of Medicine used two IMS Health databases to describe national trends in hormone therapy use from January 1995 to July 2003. The National Prescription Audit Plus database provided data on the number of hormone therapy prescriptions filled by retail pharmacies. The National Disease and Therapeutic Index database provided data on patient visits to office-based physicians during which hormone therapy was prescribed.

Annual hormone therapy prescriptions increased from 58 million in 1995 to 90 million in 1999,

representing about 15 million women per year, then remained stable through June 2002. Adoption of new oral estrogen/progestin combinations, primarily Prempro, accounted for most of this growth. Following publication of trial results in July 2002, hormone therapy prescriptions declined. Relative to January-June 2002, hormone therapy prescriptions from January-June 2003 declined by 66 percent for Prempro and 33 percent for Premarin. Small increases were observed in vaginal formulations and in new prescriptions for low-dose Premarin, suggesting a tapering to lower doses.

See "National use of postmenopausal hormone therapy: Annual trends and response to recent evidence," by Adam L. Hersh, M.D., Ph.D., Marcia L. Stefanick, Ph.D., and Randall S. Stafford, M.D., Ph.D., in the January 7, 2004 *Journal of the American Medical Association* 291(1), pp. 47-53.

Editor's Note: Findings from the second part of the Women's Health Initiative study were announced in March 2004. Those findings indicate that use of oral estrogen alone among women who have had hysterectomies increased the risk of stroke but did not affect heart attack or breast cancer risk during the 7-year study period. The study was stopped a year early because of the increased stroke risk. ■

Doctors substantially reduced their prescribing of alpha-blockers for hypertension after published trial results showed problems

In Spring 2000, significant changes in recommendations for alpha-blocker use occurred as a result of early, unfavorable results from the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). Trial results indicated

an increased risk and lower effectiveness of the alpha-blocker doxazosin mesylate compared with diuretics. These results, widely disseminated in news releases and journal publications, resulted in a substantial decline in alpha-blocker prescribing by U.S. physicians,

according to a study supported by the Agency for Healthcare Research and Quality (HS13405).

There were steady increases in alpha-blocker new prescriptions, dispensed prescriptions, and physician drug use from 1996

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Alpha-blockers

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through 1999. However, between 1999 and 2002, new annual alpha-blocker prescription orders declined by 26 percent (from 5.15 million to 3.79 million), dispensed prescriptions by 22 percent (from 17.2 million to 13.4 million), and physician-reported alpha-blocker use by 54 percent (from 2.26 million to 1.03 million). Other potential influences did not appear to have contributed significantly to this decline, although cessation of alpha-blocker marketing may have

hastened the decline, explains Stanford University researcher, Randall S. Stafford, M.D., Ph.D.

Findings by Dr. Stafford and his colleagues were based on analysis of two national pharmaceutical market research reports (available from IMS Health, Plymouth Meeting, PA). These included the alpha-blocker prescription orders reported in the National Prescription Audit Plus—a random computerized sample of 20,000 to 29,000 retail, independent, and mail order pharmacies and mass merchandise and discount

houses—along with office-based physician alpha-blocker prescribing patterns reported in the National Disease and Therapeutic Index, a random sample of 3,500 physician offices.

See “Impact of clinical trial results on national trends in alpha-blocker prescribing, 1996-2002,” by Dr. Stafford, Curt D. Furberg, M.D., Ph.D., Stan N. Finkelstein, M.D., and others, in the January 7, 2004 *Journal of the American Medical Association* 291(1), pp. 54-62. ■

Health Care Quality

Researchers examine ways to measure the quality of health services for children and adolescents

Extensive quality problems have been documented across all sectors of health services for children and adolescents. For example, problems persist in asthma care, well-child and adolescent care, childhood immunization rates, and sexually transmitted disease screening for adolescents. Many other problems in children's health care delivery are not being adequately measured and monitored.

A January 2004 supplement to the journal *Pediatrics* 113(1) is focused on measuring the quality of children's health care as a key step in quality improvement. The supplement was edited by Denise Dougherty, Ph.D., Director of the Agency for Healthcare Research and Quality's Child Health Research Program, and Lisa Simpson M.B., B.Ch., M.P.H., F.A.A.P., formerly Deputy Director of AHRQ, and now the ACH Guild Endowed Chair, Child Health Policy, University of South Florida. The conference was sponsored in

part by the Agency for Healthcare Research and Quality. The four papers included in the supplement are briefly summarized here. Reprints of AHRQ staff-authored articles are available from the AHRQ clearinghouse as noted.

Dougherty, D., and Simpson, L.A., “Measuring the quality of children's health care: A prerequisite to action,” pp. 185-198.

The authors summarize the results of the 2-day invitational expert meeting that was informed by the other three commissioned papers in the journal supplement. The authors note that although substantial progress has been made in the development of quality measures and the implementation of quality improvement strategies for children's health care, interest in quality of care for children lags behind that for adult conditions and disorders. Quality measures for children are scarce in many areas, including patient

safety, end-of-life care, mental health care, oral health care, neonatal care, care for school-aged children, and coordination of care. Also, many of the available measures are not being applied regularly.

To improve the availability and use of quality measures, the meeting participants recommended that at least four activities be identified as national priorities: building public support for quality measurement and improvement in children's health care; creating an information technology infrastructure that can facilitate collection and use of data; improving the reliability, validity, and feasibility of existing measures; and creating the evidence base for measures development and quality improvement.

Reprints (AHRQ Publication No. 04-R026) are available from AHRQ.**

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Health services for children

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Beal, A.C., Co, J.P., Dougherty, D., and others, "Quality measures for children's health care," pp. 199-209.

These investigators identified and collected current health care quality measures for child health. Subsequently, they categorized and classified measures and identified gaps in child health care quality measures requiring additional development. Overall, they identified 19 measure sets and 396 measures to assess children's health care quality. The distribution of measures in health care quality domains was as follows: safety, 14.4 percent; effectiveness, 59.1 percent; patient-centeredness, 32.1 percent; and timeliness, 33.3 percent. The distribution of measures in the patient-perspective domains was: staying healthy, 24 percent; getting better, 40.2 percent; living with illness, 17.4 percent; end of life, 0 percent; and multidimensional 23.5 percent.

Most of the measures were meant for use in the general pediatric population (81.1 percent), with a significant proportion designed for children with special health care needs (18.9 percent). The majority of measures could be applied to children across all age groups, but there were few measures designed specifically for each developmental stage. The application of current measures to assess care disparities has been limited. These areas need additional research and

development for a more complete assessment of health care quality for children.

Reprints (AHRQ Publication No. 04-R025) are available from AHRQ.**

Kuhlthau, K., Ferris, T.G., and Iezzoni, L.I., "Risk adjustment for pediatric quality indicators," pp. 210-216.

One challenge in quality measurement is to ensure that quality comparisons among doctors, groups of doctors, hospitals, or health plans are not adversely affected by the likelihood that different types of patients seek care in different places. However, adjustment for patient risk factors in pediatric quality measures has received little scrutiny. The areas that have generated attention, such as neonatal intensive care unit (NICU) and pediatric intensive care unit (PICU) outcomes, represent acute, high-technology care that is needed by only some children.

In this paper, the investigators go beyond the NICU setting to consider risk adjustment for pediatric quality measures more broadly. In particular, they review the conceptual background for risk-adjusting quality measures, present policy issues related to adjusting pediatric quality measures, and catalog existing risk adjustment methodologies for these measures. They conclude with an overall assessment of the status of risk adjustment for pediatric quality measures and recommendations for additional research and application.

Shaller, D., "Implementing and using quality measures for children's health care: Perspectives on the state of the practice," pp. 217-227.

This author examined the issues, obstacles, and priorities related to implementing and using child health care quality measures from the perspective of four groups: funders of quality-measurement development and implementation; developers of quality measures; users of quality measures (for example, Medicaid, employer coalitions, and consumer groups); and health plans and providers. Funders and developers cite several major issues and challenges.

These range from a dearth of trained capacity in the field to conduct needed research and development to lack of clear and compelling evidence that quality measurement and improvement actually result in better outcomes for children. The three most common successes cited across all four groups are: the growing consensus and collaboration among diverse stakeholder groups involved in measurement development and implementation; the increasing collection and use of a few specific measures; and early documentation of tangible results in terms of improved quality of care. ■

Studies focus on care for respiratory tract infections in the elderly

Overuse of antibiotics for acute respiratory infections, particularly lower respiratory infections (LRIs), promote the spread of antibiotic-resistant strains of bacteria such as *Streptococcus pneumoniae*. Many of these infections are caused by viruses, which are not treatable by antibiotics. This is a problem, especially for elderly adults, who have much higher rates of infection with *S. pneumoniae*.

Indeed, LRI, including pneumonia, is the leading cause of hospitalization and death in nursing home residents. Yet, even after educating doctors and elderly Medicare patients about the proper use of antibiotics for respiratory infections, patients were often prescribed antibiotics for respiratory conditions unlikely to benefit from them, according to a study supported in part by the Agency for Healthcare Research and Quality (HS13001). A second AHRQ-supported study (HS08551) found that do-not-resuscitate (DNR) orders reduce the risk of hospitalization for LRI among nursing home residents. Both studies are discussed here.

Gonzales, R., Sauaia, A., Corbett, K.K., and others. (2004, January). "Antibiotic treatment of acute respiratory tract infections in the elderly: Effect of a multidimensional educational intervention." *Journal of the American Geriatrics Society* 52, pp. 39-45.

This study found that elderly Medicare patients were often prescribed antibiotics for conditions that are not responsive to antibiotic treatment, such as

bronchitis and upper respiratory infections, even after they and their doctors received educational materials about antibiotic resistance and the proper use of antibiotics for acute respiratory infections (ARIs). The researchers mailed these materials to households of Medicare managed care patients in the Denver, CO, metropolitan area who were diagnosed with ARIs during baseline (winter 2000/2001) and intervention (winter 2001/2002) periods. During the intervention period, the researchers also provided educational posters for waiting and examination rooms to four intervention practices but not to the 51 control practices. The goal was to reduce unnecessary antibiotic use for ARIs in the elderly.

The researchers analyzed antibiotic prescribing for ARIs for a total of 4,270 patient visits, including 341 patient visits in intervention practices. The educational intervention was not associated with greater reduction in antibiotic prescription rates for either total or condition-specific ARIs beyond a modest secular trend in reduced antibiotic use for ARIs. Furthermore, antibiotic prescribing for ARIs varied widely across practices, ranging from 21 to 88 percent.

Antibiotic prescription rates varied little by patient age, sex, or underlying chronic disease. However, prescription rates did vary by diagnosis: sinusitis (69 percent), bronchitis (59 percent), pharyngitis (50 percent), and nonspecific upper respiratory tract infection (26 percent). In the setting of an ongoing physician

intervention, the patient education intervention had little effect. This is in contrast to multiple studies in children and nonelderly adults which have found that patient education is a critical component of effective intervention strategies. This suggests that factors other than patient expectations and demands play a strong role in antibiotic treatment decisions for the elderly.

Zweig, S.C., Kruse, R.L., Binder, E.F., and others. (2004, January). "Effect of do-not-resuscitate orders on hospitalization of nursing home residents evaluated for lower respiratory infections." *Journal of the American Geriatrics Society* 52, pp. 51-58.

DNR orders are associated with a reduced probability of hospitalization for LRI among nursing home residents. Therefore, this study suggests DNR orders may also function as a marker for undocumented care limitations or a mandate to limit care unrelated to resuscitation, including hospitalization. The investigators examined the associations between resident, physician, and nursing home characteristics, as well as the presence of a DNR order, and hospitalization within 1 month after evaluation for an LRI among nearly 4,000 residents in 36 nursing homes in Missouri. Overall, 1,031 residents had an LRI.

Sixty percent of residents had a DNR order, and 2 percent had a do-not-hospitalize order. After controlling for other factors, residents with a DNR order before

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Respiratory tract infections

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the acute LRI episode were 31 percent less likely to be hospitalized. Residents with DNR orders were more likely to live in facilities with more licensed beds, a lower proportion of Medicaid recipients, and a higher prevalence of influenza vaccination. Also, older, white, and cognitively impaired residents were more likely

than other nursing home residents to have DNR orders.

Although the decision not to hospitalize individual residents may have reflected the preferences of residents or their surrogates, the available records did not support this conclusion. These data are consistent with clinical experience that DNR orders often serve as an unspoken proxy for limiting other care, even though much more explicit discussions and documentation about the use or withholding of medical

interventions, including hospitalization, is warranted, conclude the researchers.

Editor's Note: A related study shows that older adults' preferences for life-sustaining medical treatment remain stable over time and across changes in life condition. For more details, see Ditto, P.H., Smucker, W.D., Danks, J.H., and others. (2003). "Stability of older adults' preferences for life-sustaining medical treatment." (AHRQ grant HS08180). *Health Psychology* 22(6), pp. 605-615. ■

Health Care Costs and Financing

Medicare drug benefit bill will increase physicians' exposure to drug formularies

Congress recently passed legislation that will add prescription drug benefits to Medicare in 2006. Currently, 27 to 35 percent of Medicare beneficiaries have no drug coverage. The Medicare drug benefits program will likely adopt a drug formulary to help control costs and use. A drug formulary lists drugs that generally are less expensive to the health plan and to consumers but are therapeutically equivalent to more expensive medications.

Enacting a Medicare drug benefit that incorporates formularies will greatly expand physicians' exposure to them, according to a survey of physicians involved in direct patient care that was conducted in 2000 and 2001 before passage of the Medicare drug benefit bill. The analysis of the survey, which was supported in part by the Agency for Healthcare Research and Quality (HS10803), showed that nearly two-thirds of doctors obtain one-fourth or more of their practice revenue from Medicare. Physicians whose practices received the majority of revenue from Medicare reported that 51 percent of their patients had formularies compared with 62 percent of physicians

with less than 25 percent of practice revenue from Medicare.

The number of managed care contracts a physician's practice had (which was presumably correlated with the number of formularies the physician must deal with) was associated with negative feelings toward formularies. Physicians who used information technology to write prescriptions and check formulary information had more positive attitudes toward formularies than those who used neither technology. The authors suggest that Medicare impose limits on the number of competing Medicare formularies operating in a particular area, promote the adoption and use of information technology to make it easier to obtain information on drug formularies, and incorporate financial incentives for physicians to adhere to formularies.

See "Physicians' views of formularies: Implications for Medicare drug benefit design," by Bruce E. Landon, M.D., M.B.A., James D. Reschovsky, Ph.D., and David Blumenthal, M.D., M.P.P., in the January 2004 *Health Affairs* 23(1), pp. 218-226. ■

Medicare enrollees in for-profit plans are no less likely to receive high-cost procedures than those in non-profit plans

There is widespread concern that the financial incentives of managed care will lead health plans, particularly for-profit health plans, to restrict Medicare enrollees' access to important health care services, such as high-cost surgeries. However, a new study found no evidence that enrollees in for-profit health plans were less likely to receive 12 high-cost operative procedures than those in not-for-profit plans.

Indeed, the rates of carotid endarterectomy, cardiac catheterization, coronary artery bypass graft surgery, and coronary angioplasty were higher in for-profit plans than they were in not-for-profit plans. The rates of use of other common and costly operative procedures such as total hip or knee replacement were similar in the two types of plans. After adjusting for

enrollee case mix and other plan characteristics, the for-profit plans had significantly higher rates of use than the not-for-profit plans for 2 of the 12 procedures studied, and they had lower rates for none.

The authors speculate that the higher rate of use of some procedures in for-profit plans may be related to differences in plan leadership. Leaders of for-profit plans may focus primarily on obtaining price discounts or trimming ancillary services rather than on reducing the number of procedures. They also may be more sensitive to adverse publicity or legal liability that might arise if they restrict the use of high-cost procedures.

For procedures with similar rates, for-profit and not-for-profit plans may perceive similar incentives to control costs and use

similar approaches, suggests Alan M. Zaslavsky, Ph.D., of Harvard Medical School. In a study that was supported in part by the Agency for Healthcare Research and Quality (HS10803), the researchers analyzed 1998 data from the Centers for Medicare & Medicaid Services Health Plan Employer Data and Information Set (HEDIS) on nearly 4 million elderly Medicare enrollees who were enrolled in 254 health plans during 1997.

See "Use of high-cost operative procedures by Medicare beneficiaries enrolled in for-profit and not-for-profit health plans," by Eric C. Schneider, M.D., Dr. Zaslavsky, and Arnold M. Epstein, M.D., in the January 8, 2004 *New England Journal of Medicine* 350(2), pp. 143-150. ■

Health plan use of gatekeepers may improve use of recommended cancer screening

There is widespread debate over whether health plans should require enrollees to use "gatekeepers," primary care providers who coordinate care and control access to specialists. Opponents believe these gatekeepers restrict access to care. However, a recent study found an increase in recommended cancer screening among women enrolled in gatekeeper plans. These women had 22 percent higher odds of obtaining mammography screening, 39 percent higher odds of having a clinical breast examination, and 33 percent higher odds of having a Pap smear than women not in gatekeeper plans. In contrast, gatekeeper requirements were not associated with prostate cancer screening among men, which is less uniformly recommended.

There was no association between screening use and plan type (health maintenance organization, point of service, preferred provider organization, and fee-for-service). Insurers and policymakers should consider the potential benefits of gatekeepers with respect to preventive care when designing health plans

and legislation, suggest the University of California, San Francisco, researchers who conducted the study. Their work was supported in part by the Agency for Healthcare Research and Quality (HS10771 and HS10856).

The researchers linked three data sources to examine whether gatekeeper requirements were associated with use of cancer screening for breast, cervical, and prostate cancer. The sources included the 1996 Medical Expenditure Panel Survey (MEPS) Household Survey, a nationally representative, ongoing survey; the 1996 MEPS Health Insurance Plan Abstraction, which codes data from health plan booklets obtained from privately insured respondents, and the 1995 National Health Interview Survey.

For details, see "Are gatekeeper requirements associated with cancer screening utilization?" by Kathryn A. Phillips, Ph.D., Jennifer S. Haas, M.D., M.S.P.H., Su-Ying Liang, Ph.D., and others, in the February 2004 *Health Services Research* 39(1), pp. 153-178. ■

State reforms in the 1990s to guarantee health insurance for employees of small firms had little effect on offer rates

In the early 1990s, over 40 States passed laws designed to limit a number of exclusionary practices by insurers in the small group market. Included in such legislation were measures to guarantee the issue and renewal of health insurance policies to small firms, regulate premiums and their rate of increase, constrain the time limits associated with preexisting condition exclusions, and ensure continuity of coverage for small firm employees and their families.

It is difficult to predict the impact of small group reform on insurance coverage because the overall effect of reform will depend on the behavior of individuals who initially lack coverage relative to individuals who currently have coverage, explains Barbara Schone,

Ph.D., of the Center for Financing, Access, and Cost Trends, Agency for Healthcare Research and Quality. Dr. Schone and Alan C. Monheit, Ph.D., of the University of Medicine and Dentistry of New Jersey, used several econometric tests to investigate the effects of reforms. Overall, they found that these reform efforts had little effect on insurance offer rates. However, in States with the most stringent reforms, employment-based coverage and policyholder rates increased for workers at high risk for health care use (less healthy workers) relative to low-risk workers.

In their research, Drs. Schone and Monheit used variation in reforms across States and changes in insurance outcomes over time to

identify the effects of the policy among employees in small firms. In other models, they used large firm employees as an additional control group under the assumption that they were unaffected by the reforms. Further, they tested their results using alternative definitions of reform. They found that the effects of reform varied significantly by the extent to which States adopted guaranteed issue.

See “How has small group market reform affected employee health insurance coverage?” by Drs. Monheit and Schone, in the *Journal of Public Economics* 88, pp. 237-254, 2003. Reprints (AHRQ Publication No. 04-R030) are available from AHRQ.** ■

HIV/AIDS Research

Incidence of hepatitis C virus is low among HIV-infected women and usually is linked to drug use

The incidence of hepatitis C virus (HCV) is low among women infected with the human immunodeficiency virus (HIV) that causes AIDS and among women at risk of HIV infection. For the majority of women, HCV infection is linked to drug use, according to a new study from the Women’s Interagency HIV Study (WIHS). WIHS is a multicenter study of the natural history of HIV infection in women, which is jointly funded by the Agency for Healthcare Research and Quality, the National Institutes of Health, and the Centers for Disease Control and Prevention.

For this study, the investigators studied HCV antibody and viremia (presence of virus) in blood samples obtained during 1994-1999 from two groups: initially HIV-infected HCV-uninfected women and HIV-HCV-uninfected women. Over a mean of 3.5 years, 22 (1.5 percent) of 1,517 women seroconverted (developed HCV antibodies in their blood). Of these, 14 (64 percent) truly acquired a new infection as indicated by HCV antibodies and new-onset viremia.

The incidence rate in HIV-infected women was 2.7 cases per 1,000 person-years, and among HIV-negative women, it was 3.3 cases per 1,000 person-years.

For the majority of women in the study who became HCV seropositive, acquisition of HCV infection was associated with any history of drug use, distant or current, injection or not. For example, 86 percent of women who acquired HCV infection reported a history of or current drug use compared with 22 percent of HCV-seronegative women.

This supports the contention that, with the screening of the blood supply, the use of drugs, primarily via injection, is the single most important risk factor for HCV infection. Sexual transmission of HCV is plausible, but the association is weak. Although most HCV exposed individuals will predictably develop HCV antibodies, a certain proportion may not do so for quite some time. Also, many will clear infection, particularly if they are not immunosuppressed, and for those who do so, it will happen soon after infection.

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Hepatitis C virus

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Thus, clinicians should maintain a high index of suspicion of HCV infection among individuals at risk and consider repeated antibody testing, as well as HCV RNA testing, when such individuals have negative results of a single antibody study.

See "Incident hepatitis C virus in women with human immunodeficiency virus infection," by Michael Augenbraun, M.D., James J., Goedert, David Thomas, and others, in the November 15, 2003 *Clinical Infectious Diseases* 37, pp. 1357-1364. ■

Agency News and Notes

Task Force recommends that primary care clinicians screen and counsel adults to prevent alcohol misuse

Primary care clinicians should screen all adults and pregnant women for alcohol misuse and refer them for counseling if necessary, according to an updated recommendation issued recently by the U.S. Preventive Services Task Force. The recommendation is published in the April 6 issue of the *Annals of Internal Medicine*.

Women who drink more than seven drinks per week or more than three drinks per occasion and men who drink more than 14 drinks per week or more than four drinks per occasion are considered to be risky or hazardous drinkers, according to the Task Force. The term alcohol misuse includes risky drinking as well as harmful drinking, which is behavior by individuals who are experiencing physical, social, or psychological harm from alcohol but do not meet criteria for alcohol dependence as outlined in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*.

Alcohol misuse is strongly associated with more than 100,000 preventable deaths per year, and it is linked to health problems, anxiety and depression, tobacco use, disability, motor vehicle crashes, accidents, injury, social disruption, and violence. Higher levels of alcohol consumption are linked to increased cirrhosis, diseases of the central nervous system, high blood pressure, and cancers of the head and neck, digestive tract, liver, and breast. Excessive alcohol use during pregnancy can cause fetal alcohol syndrome, which can lead to growth retardation, facial deformities, and central nervous system dysfunction. In the United States, alcohol abuse costs nearly \$185 billion annually.

As many as one-fourth of all patients seen by primary care clinicians in some settings may be risky drinkers, according to studies reviewed by the Task Force. The Task Force noted that several clinical screening tools for alcohol-related problems are

currently available for adults and pregnant women. These tools can be found online at the National Institute on Alcohol Abuse and Alcoholism's Web site, www.niaaa.nih.gov/publications.

According to the Task Force, effective counseling sessions for adults identified as risky drinkers should consist of multicontact behavioral interventions. These include a 15-minute initial session with advice to reduce current drinking; feedback about current drinking patterns; explicit goal-setting, usually for moderation; assistance in achieving the goal; and followup through telephone calls, repeat visits, and repeat monitoring. Counseling sessions can be delivered in the primary care setting by one or more members of the health care team, including physicians and other health practitioners, as well as health educators and others trained in alcohol-specific counseling methods. Primary care office-level system supports such as prompts, reminders, step-by-step counseling procedures, and patient education materials are helpful, according to the Task Force.

In a separate finding, the Task Force concluded that at this time, there is insufficient rigorous scientific evidence to recommend for or against screening and counseling interventions in primary care settings to curb alcohol misuse by adolescents. Although young adults ages 18-25 have the highest rates of binge and heavy drinking, the Task Force found few adequate-quality studies on interventions to reduce alcohol misuse aimed at adolescents in the primary care setting. They noted the need for additional research in this area.

The Task Force, sponsored by the Agency for Healthcare Research and Quality, is the leading independent panel of private-sector experts in prevention and primary care. The Task Force conducts

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Screening for alcohol misuse

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rigorous, impartial assessments of the scientific evidence for a broad range of preventive services. Task Force recommendations are considered the gold standard for clinical preventive services. The Task Force based its conclusions on a report from a research team led by Evelyn P. Whitlock, M.D., M.P.H., at AHRQ's Oregon Evidence-based Practice Center, a consortium of clinicians and researchers from Oregon Health & Science University, Kaiser Permanente's Center for Health Research, and the Portland Veterans Affairs Medical Center.

The Task Force grades the strength of the evidence from "A" (strongly recommends), "B" (recommends), "C" (no recommendation for or against), "D" (recommends against) or "I" (insufficient evidence to recommend for or against screening). The Task Force recommends screening and counseling for adults and pregnant women (a "B" recommendation). The Task Force found insufficient evidence to recommend screening and counseling of adolescents (an "I" recommendation).

The screening and counseling recommendations for alcohol and materials for clinicians are available on the AHRQ Web site at www.ahrq.gov/clinic/uspstf. Previous Task Force recommendations, summaries of the evidence, easy-to-read fact sheets explaining the recommendations, and related materials are available from the AHRQ Publications Clearinghouse. See the back cover of *Research Activities* for ordering information. Clinical information is also available at AHRQ's National Guideline Clearinghouse at www.guideline.gov.

For more details, see "Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: Recommendation statement," by the U.S. Preventive Services Task Force, in the April 6, 2004, *Annals of Internal Medicine* 140(7), pp. 554-556; and "Behavioral counseling interventions in primary care to reduce risky/harmful alcohol use by adults: A summary of the evidence for the U.S. Preventive Services Task Force," by Dr. Whitlock, Michael R. Plen, M.A., Carla A. Green, Ph.D., and others, in the same issue, pp. 557-568. ■

Announcements

AHRQ issues new evidence reports on health literacy and other topics

The Agency for Healthcare Research and Quality recently published four new evidence reports. One of the reports focuses on the impact of health literacy problems on clinical outcomes.

The Nation's estimated 90 million adults with lower-than-average reading skills are less likely than other Americans to get potentially life-saving screening tests such as mammograms and Pap smears. They also are less likely to get flu and pneumonia vaccines or to take their children for well child care visits, according to the new evidence report. The report was requested by the American Medical Association.

People with a low level of literacy have difficulty reading

newspapers and other simple information such as directions for taking medications or hospital discharge instructions. They also are more likely to be hospitalized, which may be because physicians are concerned about the patients' abilities to follow basic instructions and care for themselves at home when they are sick.

According to Surgeon General Richard H. Carmona, M.D., M.P.H., F.A.C.S., health literacy is the currency of success for everything that we do in primary and preventive medicine. It can save lives, save money, and improve the health and well-being of millions of Americans. In addition, low literacy plays an important role in health disparities and may contribute to lower quality

of care and even medical errors, according to AHRQ director Carolyn M. Clancy, M.D.

Last year, AHRQ, the AMA, and the American Hospital Association launched a campaign to help educate clinicians and patients about the importance of effective communication. As part of the 5 Steps to Safer Health Care campaign, posters with five simple tips to encourage dialogue between patients and providers were distributed to doctors' offices and hospitals nationwide.

The AHRQ-supported evidence review also found that people with lower literacy skills are more likely to have difficulty understanding informed consent forms and comprehending their children's

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New evidence reports

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diagnoses and medication instructions. They also are less likely to be knowledgeable about the health effects of smoking, diabetes, asthma, AIDS, and postoperative care. In addition, the review found evidence suggesting that well-conceived interventions, such as easy-to-read guides and other comprehension aids, can at least improve the outcome of knowledge for both lower and higher literacy patients.

Dr. Clancy noted that AHRQ has developed several low-literacy publications aimed at helping people avoid medical errors, take medications safely, and obtain appropriate preventive services. These publications can be found on AHRQ's Web site at www.ahrq.gov/consumer/pathqpack.htm.

In addition, the AMA and the AMA Foundation have developed a health literacy kit for physicians and other health professionals called "Health Literacy: Help Your Patients Understand," which contains a 48-page manual for health professionals, a video, patient information, and buttons for

physicians and their office staff to wear that say simply: "Ask me – I can help." The AMA kit is available online at www.amafoundation.org.

The AHRQ report calls for more research on health literacy to examine whether poor reading ability is really the cause of adverse health outcomes or whether it is a marker for other problems, such as low socioeconomic status, impaired access to care, and low trust in medical providers. It recommends that a patient-centered research design would help identify the challenges associated with navigating the health care system.

The Department of Health and Human Services is addressing health literacy in many ways through its Healthy People 2010 initiative. For example, HHS worked with the Department of Education to develop the first-ever national assessment of health literacy, called the Health Literacy Component of the National Assessment of Adult Literacy. The first data from the new survey will be available in late 2004.

The new evidence report, *Literacy and Health Outcomes*, Evidence Report/Technology Assessment No. 87, was prepared by AHRQ's Evidence-based Practice

Center at RTI International-University of North Carolina at Chapel Hill. The full report (AHRQ Publication No. 04-E007-2)* and a summary of the report (AHRQ Publication No. 04-E007-1)** are available from AHRQ. See the back cover of *Research Activities* for more information.

Other evidence reports and summaries published recently by AHRQ include the following:

Total Knee Replacement. Evidence Report/Technology Assessment No. 86. Summary (AHRQ Publication No. 04-E006-1)** and full report (AHRQ Publication No. 04-E006-2).*

Strategies for Improving Minority Healthcare Quality. Evidence Report/Technology Assessment No. 90. Summary (AHRQ Publication No. 04-E008-1)** and full report (AHRQ Publication No. 04-E008-2).*

Effectiveness of Antimicrobial Adjuncts to Scaling and Root-Planing Therapy for Periodontitis. Evidence Report/Technology Assessment No. 88. Summary (AHRQ Publication No. 04-E014-1)** and full report (AHRQ Publication No. 04-E014-2).* ■

New AHRQ publications focus on hospital nurse staffing and a research agenda for health and the humanities

The following two reports were published recently by the Agency for Healthcare Research and Quality. Copies are now available from AHRQ. Please see the back cover of *Research Activities* for ordering information.

Hospital Nurse Staffing and Quality of Care. Research in Action Issue 14. Stanton, M.A., and Rutherford, M.K. AHRQ Publication No. 04-0029.

This Research in Action summarizes the findings of research funded by AHRQ and others on the relationship of nurse staffing levels to adverse patient outcomes. Hospitals with low nurse staffing levels tend to have higher rates of poor patient outcomes such as pneumonia, shock, cardiac arrest, and urinary tract infections. Avoidable adverse outcomes such as pneumonia can raise treatment costs by up to \$28,000. There is a nationwide gap between the

number of available positions and the number of registered nurses (RNs) qualified and willing to fill them, as evidenced by an average vacancy rate of 13 percent. Meanwhile new technologies and a declining average length of stay have led to higher acuity patients who require more care while they are in the hospital. Despite this, the skill levels of the nursing staff have declined. Moreover, higher acuity

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patients and added responsibilities have increased nurse workloads. Higher levels of nurse staffing could have a positive impact on both quality of care and nurse satisfaction, and research shows that hiring more RNs does not decrease profits.*

Setting a Research Agenda for Health and the Humanities. Conference Summary Report. Abel, E., Bosk, C.L., Jennings, B., and others. AHRQ Publication No. 04-0003.

In March 2002, the National Endowment for the Humanities and

AHRQ convened a conference to explore how expanded interaction between health services researchers and scholars in the humanities might broaden the horizons of health care in America. This report summarizes the recommendations from the conference. The majority of the participants felt that a collaborative research agenda depends on finding ways to introduce and fund truly interdisciplinary rather than multidisciplinary research. Interdisciplinary research—with cooperative analysis and shared understanding that starts from the distinctly different modes of analysis, kinds of evidence, and bodies of explanation employed in

scientific research and the humanities—was contrasted with multidisciplinary research, in which people might work on a common project but be independent, guided by the terminology and culture of their own discipline. In addition to the group as a whole, the conference had four specific workgroups: end-of-life issues, family caregivers, patient safety, and access to care. Two overarching conference recommendations were to initiate a “big picture” analysis of health care and to empower a national summit conference or continuing task force to identify and examine major issues. ■

Research Briefs

Aragon, S.J., and Gesell, S.B. (2003, November). “A patient satisfaction theory and its robustness across gender in emergency departments: A multigroup structural equation modeling investigation.” (AHRQ training grant T32 HS00032). *American Journal of Medical Quality* 18(6), pp. 225-228.

This study offers an alternative paradigm for measuring and achieving emergency department satisfaction that is based on a hierarchy of patient expectations, with physician service, waiting time, and nursing service being most important to satisfaction. The investigators studied the Primary Provider Theory, which holds that patient satisfaction occurs at the nexus of provider power and patient expectations, in national random samples of emergency patients. Physician service, waiting time, and nursing satisfaction explained 48 percent, 41 percent, and 11 percent, respectively, of overall

satisfaction plus 92 percent and 93 percent of female and male satisfaction, respectively.

Ballard, D.J. (2003). “Indicators to improve clinical quality across an integrated health care system.” (AHRQ grant HS10970). *International Journal for Quality in Health Care* 15, Suppl.1, pp. i13-i23.

Using clinical indicators to establish baseline performance and to assess the effectiveness of proposed quality improvements provides quantitative and qualitative means to identify and disseminate best care practices, conclude these authors. To develop a health care quality improvement strategic plan, their integrated health care delivery organization in Texas, which includes 11 hospitals and 47 primary care and senior centers, undertook a system-wide effort to improve care. The effort was supported by the use of clinical quality indicators focused

on measures of health care underuse, overuse, and misuse. These indicators demonstrated the accomplishments of specific process of care improvements throughout the system. However, its indicators of medication misuse remain in a formative stage.

Bender, R.H., Lance, T.X., and Guess, L.L. (2003, Fall). “Including disenrollees in CAHPS® managed care health plan assessment reporting.” (AHRQ grant HS09218). *Health Care Financing Review* 25(1), pp. 67-79.

Initially, the Consumer Assessment of Health Plans Study (CAHPS®) survey was completed by a sample of current plan enrollees. Concern arose that evaluating health plans by surveying only their enrolled membership would not be accurate because the members who are most dissatisfied with the plan have

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disenrolled and are no longer eligible for the survey. Indeed, the evidence suggests that including disenrollee feedback improves accuracy of health plan assessment, according to these researchers. They found that including disenrollee data when calculating the CAHPS® scores reported in health plan assessments significantly decreased the scores.

Borders, T.F., Rohrer, J.E., Xu, K.T., and Smith, D.R. (2004, February). “Older persons’ evaluations of health care: The effects of medical skepticism and worry about health.” (AHRQ grant HS11606). *Health Services Research* 39(1), pp. 35-52.

Consumers who are skeptical of medical care tend to give lower ratings to the care they receive, according to this study. The researchers surveyed about 5,000 elderly residents in one region about their views on health care. They measured the subjects’ evaluation of health care using the Consumer Assessment of Health Plans Study (CAHPS®) survey, an overall care rating, and a personal doctor rating and examined the association of medical skepticism and other factors with the ratings. Consumers who were skeptical of prescription drugs relative to home remedies, those who believed they understood their health better than most doctors, and those who worried about their health had worse ratings of overall care and personal doctors.

Burke, L.E., Dunbar-Jacob, J., Sereika, S., and Ewart, C.K. (2003). “Development and testing of the cholesterol-lowering diet self-efficacy scale.” (AHRQ grant HS08891). *European Journal of*

Cardiovascular Nursing 2, pp. 265-273.

The cornerstone of treatment for high cholesterol is dietary therapy. However, most patients find it difficult to adhere to the therapeutic diet. This study reports on the development and initial psychometric evaluation of the Cholesterol-Lowering Diet Self-Efficacy Scale in a sample of 44 cardiac rehabilitation patients. It also describes the establishment of the scale’s psychometric properties using a sample of 228 patients being treated for high cholesterol. The scale showed good reliability and validity. Reported self-efficacy was related to prior persistence and past success in modifying and maintaining dietary changes and also to concurrent measures of dietary adherence behaviors. The scale seemed adequate in identifying success in achieving and maintaining a cholesterol-lowering eating plan.

Dhaliwal, G., Schmidt, K.E., Gilden, D.J., and Saint, S. (2004, January). “True, true, and related.” (AHRQ HS11540). *New England Journal of Medicine* 349, pp. 2253-2257.

This article recounts the diagnostic journey of a clinician treating a 51-year-old woman admitted to a community hospital with a 6-week history of progressive shortness of breath. She had initially noted shortness of breath when climbing stairs at work, and by the time of admission, it prevented her from walking more than 15 feet. The patient reported no fever, chills, weight loss, or night sweats, and she had no cough, chest pain, dizziness, or lower-extremity edema. Although she took no prescription medications, she did take five types of herbs. On the basis of the patient’s chief symptom of labored

breathing, the doctor anticipated a cardiac or pulmonary disorder. However, there was no history of cardiac or respiratory problems. The blood work (no reticulocyte count) and a lung x-ray showing mild hyperinflation and possible fullness in the anterior mediastinum, suggested thymoma, but getting to the diagnosis was not clearcut in this case.

Gould, C.V., Fishman, N.O., Nachamkin, I., and Lautenbach, E. (2004, February). “Chloramphenicol resistance in vancomycin-resistant enterococcal bacteremia: Impact of prior fluoroquinolone use?” (AHRQ grant HS10399). *Infection Control and Hospital Epidemiology* 25, pp. 138-145.

From 1989 to 1997, the percentage of hospital-acquired enterococci resistant to vancomycin, a broad-spectrum antibiotic, increased from 0.3 to 15.4 percent among hospitalized patients in the United States. Chloramphenicol is one of the few effective treatment options for vancomycin-resistant enterococci (VRE) infections. However, significant increases in the prevalence of chloramphenicol-resistant VRE may limit the future utility of chloramphenicol in the treatment of VRE infections, warns this study. The investigators examined trends in the prevalence of chloramphenicol resistance in VRE blood isolates of patients at two hospitals from 1991 through 2002. During this period, the annual prevalence of chloramphenicol-resistant VRE increased from 0 to 12 percent. Independent risk factors for chloramphenicol-resistant VRE were prior chloramphenicol use and prior fluoroquinolone use.

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Lee, S.D., Arozullah, A.M., and Cho, Y.I. (2004). "Health literacy, social support, and health: A research agenda." (AHRQ grant HS13004). *Social Science & Medicine* 58, pp. 1309-1321.

Research is needed to determine the impact of social support that people can draw on when problems arise due to their health literacy limitations, according to these authors. They propose a research agenda to accomplish this. First, they cite the need to gain a better understanding of the causal effects of health literacy and identify missing links in the delivery of care for patients with low health literacy. Second, if social support buffers the adverse effects of low health literacy, more effective interventions can be designed to address differences in individuals' social support systems in addition to individual differences in reading and comprehension.

Lohr, K.N. (2004). "Rating the strength of scientific evidence: Relevance for quality improvement programs." (AHRQ contract 290-97-0011). *International Journal for Quality in Health Care* 16(1), pp. 9-18.

Drawing on an extensive review of checklists, questionnaires, and other tools in the field of evidence-based practice, this author discusses clinical, management, and policy rationales for rating strength of evidence in a quality improvement (QI) context. After a review of 121 systems for grading the quality of articles, 19 systems, mostly study-design specific, met a priori scientific standards for grading systematic reviews, randomized controlled trials, observational studies, and diagnostic tests. Eight systems out

of 40 that were reviewed met similar standards for rating the overall strength of evidence. The author concludes that formally grading study quality and rating overall strength of evidence, using sound instruments and procedures, can produce reasonable levels of confidence about the scientific base of QI programs.

Muntner, P., Coresh, J., Klag, M.J., and others. (2003, December). "Exposure to radiologic contrast media and an increased risk of treated end-stage renal disease." (AHRQ grant HS06978). *American Journal of the Medical Sciences* 326(6), pp. 353-359.

Repeated use of radiologic contrast media may accelerate progression of chronic kidney disease to end-stage renal disease (ESRD), that is, kidney failure, suggests this study. The investigators compared 716 treated ESRD patients with 361 age-matched control subjects drawn from the general population. They interviewed participants by telephone about previous exposure to various imaging procedures. After adjusting for ultrasound exams and several possible confounders, those who had a history of one, two or three, or four or more radiocontrast exams were at progressively higher risk of treated ESRD than people who had no such procedures. However, these findings must be confirmed in future prospective studies.

Murray, M.E., Brennan, P.F., and Moore, S.M. (2003, November). "A model for economic analysis." (AHRQ grant HS10667). *Nursing Economics* 21(6), pp. 280-287.

Using a production process model, these authors provide an approach to performing an economic assessment of innovative

patient care initiatives involving technology. They examine the "cost per unit" of innovation within the context of a clinical trial involving the use of a computer-based home care program for postsurgical cardiac patients. The production process model involves the examination of variables such as economic efficiency, economics of scale, marginal productivity, and the influence of time on short- and long-term production costs. The authors suggest that when defining initial cost variables, consideration should be given to less-obvious costs such as fringe benefits, consultation fees, printing costs, secretarial support, and training time for staff during implementation.

Patient Safety Supplement. A special supplement to the journal *Quality and Safety in Health Care* (12, suppl. II, December 2003) is devoted to issues related to the most appropriate methods for conducting patient safety research. Four articles and an overview from the supplement were authored by AHRQ staff or AHRQ-funded researchers. The papers were prepared initially for presentation at the first United States/United Kingdom Patient Safety Research Methodology Workshop, which was held in September 2002, in Iceland. The workshop was jointly sponsored by AHRQ and the Patient Safety Research Program of the United Kingdom's Department of Health. Reprints of staff-authored articles are available as noted (***) from AHRQ. The articles are as follows.

Battles, J.B. (2003). "Patient safety: Research methods for a new field," pp. ii.

This overview describes the supplement and an international workshop on the topic.

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Battles, J.B., and Lilford, R.J., “Organizing patient safety research to identify risks and hazards,” pp. ii2-ii7.

The authors suggest that patient safety research initiatives can be considered in three different stages: identification of the risks and hazards; design, implementation, and evaluation of patient safety practices; and maintaining vigilance to ensure that a safe environment continues and patient safety cultures remain in place. No single method (for example, use of medical records, focus groups, or safety culture assessment) can be universally applied to identify risks and hazards. Reprint (AHRQ Publication No. 04-R034) includes the overview.**

Henriksen, K., and Kaplan, H., “Hindsight bias, outcome knowledge and adaptive learning,” pp. ii46-ii50.

A major challenge of individuals who investigate adverse events is understanding how knowledge of the outcome of the event influences their thinking and assessment of the event. This paper examines the influence of outcome knowledge in relation to reconstructive memory and legal testimony, ways for reducing the impact of outcome knowledge, and an adaptive learning framework that places hindsight bias in a broader context of rapid updating of knowledge. Reprint (AHRQ Publication No. 04-R036).**

Zhan, C., and Miller, M.R., “Administrative data based patient safety research: A critical review,” pp. ii58-ii63.

Despite coding irregularities and limited clinical details, administrative data—supplemented by tools such as AHRQ’s patient

safety indicators—could serve as a screen for potential patient safety problems that merit further investigation. These data also offer valuable insights into adverse impacts and risks of medical errors and, to some extent, provide benchmarks for tracking progress in patient safety efforts at local, State, and national levels. Reprints (AHRQ Publication No. 04-R035).**

Mackenzie, C.F., and Xiao, Y. “Video techniques and data compared with observation in emergency trauma care,” pp. ii51-ii57.

Video records are a rich source of data for documenting clinician performance and revealing safety and systems issues not identified by observation. These authors report their experiences with using video recording techniques in a trauma center, including how to gain cooperation of clinicians for video recording of their workplace performance, identify strengths of video compared with observation, and suggest processes for consent and maintenance of confidentiality of video records. Using video recording, they were able to identify patient safety, clinical, quality assurance, and ergonomic issues, as well as systems failures.

Editor’s Note: See the supplement for more details on these articles as well as other ones that deal with various aspects of conducting patient safety research.

Meyer, G.S., Battles, J., Hart, J.C., and Tang, N. (2003). “The U.S. Agency for Healthcare Research and Quality’s activities in patient safety research.” *International Journal for Quality in Health Care* 2003 15(S1), pp. i25-i30.

The purpose of this paper is to update the international community

on AHRQ’s recent and current activities in improving patient safety by presenting a representative sample of patient safety studies from those recently funded by AHRQ. In fiscal year 2002, the Agency spent \$55 million on patient safety research in six research areas: health systems error reporting, analysis, and safety improvement research demonstrations; clinical informatics to promote patient safety; centers of excellence for patient safety research and practice; developmental centers for evaluation and research in patient safety; the effect of health care working conditions on quality of care; partnerships for quality; and patient safety research dissemination and education. Reprints (AHRQ Publication No. 04-R032) are available from AHRQ.**

Peleg, M., Boxwala, A.A., and Tu, S. (2004, January). “The InterMed approach to shareable computer-interpretable guidelines: A review.” (Cofunded by AHRQ and the National Library of Medicine). *Journal of the American Medical Informatics Association* 11(1), pp. 1-10.

These authors discuss lessons learned from InterMed, a collaboration among research groups from Stanford, Harvard, and Columbia Universities to develop a shareable language that could serve as a standard for modeling computer-interpretable guidelines (CIGs). They describe six lessons: a work process for multi-institutional research and development that considers different viewpoints; an evolutionary life cycle process for developing medical knowledge representation formats; the role of cognitive methodology to evaluate

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and assist in the evolutionary development process; development of an architecture; design principles for shareable medical knowledge representation formats; and a process for standardization of a CIG modeling language.

Pronovost, P.J., Weast, B., Holzmueller, C.G., and others (2003). "Evaluation of the culture of safety: Survey of clinicians and managers in an academic medical center." (AHRQ grant HS11902). *Quality and Safety in Health Care* 12, pp. 405-410; and **Pronovost, P.J., Weast, B., Bishop, K., and others. (2004, February).** "Senior executive adopt-a-work unit: A model for safety improvement." (AHRQ grant HS11902). *Joint Commission Journal on Quality and Safety* 30(2), pp. 59-68.

The first study included two surveys. One survey asked physicians, nurses, pharmacists, and other intensive care unit (ICU) staff at one hospital about their perceptions of a strong organizational commitment to patient safety. The other survey asked clinical and administrative leaders to evaluate the extent to which safety was a strategic priority for the organization. Staff perceived that supervisors had a greater commitment to safety than senior leaders. Management perceived safety efforts to be further developed than members of the Patient Safety Committee. Both groups gave strategic planning for safety the lowest scores, suggesting that this area needs improvement. Based on these results, the Johns Hopkins Hospital patient safety committee created a program to encourage staff to identify and eliminate potential errors in the patient care environment, which is described in the second article. As

part of this program, senior hospital executives each adopted an ICU and worked with the staff to identify issues and empower them to address safety issues. This approach was successful in identifying and eliminating hazards to patient safety and in creating a culture of safety.

Quality Improvement Research. Nelson, E.C., Splaine, M.E., Plume, S.K., and Batalden, "Good measurement for good improvement work;" Speroff, T., and O'Connor, G.T., "Study designs for PDSA quality improvement research;" and Speroff, T., James, B.C., Nelson, E.C., and others, "Guidelines for appraisal and publication of PDSA quality improvement." (2004, January). (AHRQ grant HS10086). *Quality Management in Health Care* 13(1), pp. 1-16, 17-32, 33-39.

Three papers from the same journal focus on quality improvement (QI) research methods. The first paper provides guidance on using measurement to support the conduct of local QI projects in order to strengthen the evaluation of results and increase their potential for publication. The authors offer eleven procedures to promote intelligent measurement in QI studies that may become publishable. The second paper discusses the strengths and weaknesses of quasiexperimental designs used in health care QI research. It is directed at investigators in plan-do-study-act (PDSA) QI initiatives who want to improve the rigor of their methodology and publish their work and at reviewers who evaluate the quality of research proposals or published work. A primary purpose of PDSA QI research is to establish a functional relationship between process changes in systems of

health care and variation in outcomes. The third paper provides guidelines for appraisal and publication of PDSA QI findings. The authors address four questions to determine the value of a QI study and provide a set of guidelines to help answer them.

Tang, N., Eisenberg, J.M., and Meyer, G.S. (2004, January). "The roles of government in improving health care quality and safety." *Joint Commission Journal on Quality and Safety* 30(1), pp. 47-55.

In this article, the authors provide a framework for understanding the 10 roles that government plays in improving health care quality and safety in the United States. They present examples of proposed Federal actions to reduce medical errors and enhance patient safety to illustrate the 10 roles. They note that achieving the ultimate goal of high quality health care will require strong partnerships among Federal, State, and local governments and the private sector. Translating general principles regarding the appropriate role of government into specific actions within a rapidly changing, decentralized delivery system will require the combined efforts of the public and private sectors. Reprints (AHRQ Publication No. 04-R029) are available from AHRQ.**

Sawalha, A.H., Bronze, M.S., and Saint, S. (2003, December). "Step by step." (AHRQ grant HS11540). *New England Journal of Medicine* 349(23), pp. 2253-2257.

These authors describe the diagnosis and treatment in a difficult case involving a 63-year-old man who arrived at the ER for

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evaluation of acute, mild rectal bleeding. He reported a 2-week history of shortness of breath on exertion and generalized weakness, as well as mild pain and fullness in the abdomen and weight loss of 30 pounds over a 1-year period. Rectal bleeding in patients in this age group is usually due to diverticulosis, benign anorectal disease, colorectal cancer, or angiodysplasia of the bowel. Despite the presentation with hepatosplenomegaly, the absence of classic symptoms typically ascribed to mastocytosis made its diagnosis particularly difficult in this patient. A bone marrow biopsy, which showed focal infiltration of mast cells, finally led to the diagnosis.

Small, S.D. (2004, January). “Medical device-associated safety and risk: Surveillance and strategems.” (AHRQ grants HS11905 and HS11553). *Journal of the American Medical Association* 291(3), pp. 367-370.

The author of this editorial comments on a study of various ways to identify medical-device-related harms such as computer-based flags and clinical engineering logs. He points out that the taxonomy used by computer-based flags may be too broad to provide useful information. For example, the loosening of a hip prosthesis might be due to a choice of the patient to engage in an ill-advised activity following surgery or to the design of the device. A classification system that considers usability issues, costs, and the potential for harm is preferred. Clinical engineering logs are an underused, rich resource for capturing and understanding device usability and safety issues. Determining whether equipment

actually malfunctioned or its operation was not understood by the user would facilitate specific interventions to enhance device usefulness and safety.

Strauss, R., Mofidi, M., Sandler, E.S., and others. (2003, November). “Reflective learning in community-based dental education.” (AHRQ training grant T32 HS00032). *Journal of Dental Education* 67(11), pp. 1234-1242.

These authors describe how structured reflection assignments and methods are incorporated in the University of North Carolina School of Dentistry’s Community-based Dentistry in Service to Communities Program. They discuss several strategies to enrich community-based learning experiences for dental students: photographic documentation; written narratives; critical incident reports; and mentored, postexperiential small group discussions. Fieldwork and course-related examples are drawn from community-based dental experiences to illustrate how reflective teaching approaches can enhance student learning.

Tsai, A.C. (2003). “Conflicts between commercial and scientific interests in pharmaceutical advertising for medical journals.” (NRSA training grant T32 HS00059). *International Journal of Health Services* 33(4), pp. 751-768.

Medical journals and their parent societies rely to a substantial degree on advertising sales for financial support. This can be substantial, given the over \$4,000 base annual rate for a black-and-white full-page advertisement in the early 1990s. For many years, opinionated readers have been writing letters of complaint about

the quality of pharmaceutical advertisements circulated in U.S.-based medical journals. The author cites examples of increasingly diverging interests between medical journal editors and publishers. In the decade since this issue first gained prominence, observers have continued to cite deficiencies in medical journal pharmaceutical advertisements. For example, a recent study documented a 36 percent rate of numeric distortion in the graphs of a sample of 484 pharmaceutical advertisements. A 1995 survey of North American journal editors revealed that of the journals that sold pharmaceutical advertisements, two-fifths of the editors reported having a great deal of control, while one-fifth reported having no control over advertising content. About one-third of the editors had staff who regularly screened pharmaceutical advertisements for accuracy and truthfulness.

Tye, S., Phillips, K.S., Liang, S., and Haas, J.S. (2004, February). “Moving beyond the typologies of managed care: The example of health plan predictors of screening mammography.” (AHRQ grants HS10771 and HS10856). *Health Services Research* 39(1), pp. 179-206.

It is important to examine the effect of individual health plan components on the use of health care, rather than use the traditional broader categorizations of managed vs. nonmanaged care or simple health plan typologies, conclude these authors. They analyzed plan characteristics that predicted screening mammography using data from the 1996 Medical Expenditure Panel Survey (MEPS). Women ages 40 years and over with private insurance and no history of breast cancer were

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included in the study. The researchers found no significant differences in reported mammography use when they compared women enrolled in managed care with those in indemnity plans. However, women in health plans with a defined provider network were more likely to report having received a mammogram in the previous 2 years than those without networks, as were women in gatekeeper plans compared with those in plans without gatekeepers.

Watt, A., Williams, S., Lee, K., and others. (2003, November). “Keen eye on core measures.” (AHRQ grant HS13728). *Journal of the American Health Information Management Association* 74(1), pp. 20-28.

In July 2002, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) required that accredited U.S. hospitals collect and report data on

evidence-based, standardized performance measures in certain areas: acute myocardial infarction, heart failure, community-acquired pneumonia, and pregnancy and related conditions. Beginning in January 2004, the majority of JCAHO-accredited hospitals will be required to report on three of these core measures based on the services they provide. The JCAHO is conducting a research project to assess the completeness and accuracy of the data flowing into the national comparative core measures database and to evaluate improvement actions taken by health care organizations. The authors of this article summarize results to date.

Whitney, S.N., McGuire, A.L., and McCullough, L.B. (2003). “A typology of shared decision making, informed consent, and simple consent.” (AHRQ grant HS11289). *Annals of Internal Medicine* 140, pp. 54-59.

Enhancing patient choice is a central theme of medical ethics and law. Informed consent is the legal

process used to promote patient autonomy, and shared decisionmaking is a widely promoted ethical approach. The approach outlined in this article uses a model that arrays all medical decisions along two axes—risk and certainty—at the extremes of which four decision types are produced. Shared decisionmaking is most appropriate in situations of uncertainty in which two or more clinically reasonable alternatives exist. When there is only one realistic choice, patient and physician may gather and exchange information; however, the patient cannot be empowered to make choices that do not exist. When a clinical decision contains both risk and uncertainty, shared decisionmaking and informed consent are both appropriate. For decisions of lower risk, consent should still be present, but it can be simple rather than informed. ■

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