



Research Activities



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Agency for Healthcare Research and Quality

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AHRQ and FDA to collaborate in the largest study ever of possible heart risks with ADHA medications

Two U.S. Department of Health and Human Services agencies will collaborate in the most comprehensive study to date of prescription medications used to treat attention deficit hyperactivity disorder (ADHD) and the potential for increased risk of heart attack, stroke, or other cardiovascular problems. Researchers supported by the Agency for Healthcare Research and Quality (AHRQ) and the Food and Drug Administration (FDA) will examine the clinical data of about 500,000 children and adults who have taken medications used to treat ADHD to determine whether those drugs increase cardiovascular risks.

Because medications used to treat ADHD can increase heart rate and blood pressure, there are concerns about the drugs' potential to increase cardiac risks. It is also thought these risks may be different for adults and children, but more evidence is needed about the

long-term effects of using ADHD medications. The planned analysis follows an FDA-sponsored preliminary study that compiled information from large health care databases on prescription drug use, inpatient care, outpatient treatment, and health outcomes, including death. Based on that effort, researchers identified people who took ADHD drugs during a 7-year period ending in 2005. AHRQ, which sponsors research on clinical effectiveness and safety, will team with FDA to complete the analysis of the data.

The study will be coordinated by Vanderbilt University researchers on contract through AHRQ's Effective Health Care program. Data analysis will be performed by researchers at Vanderbilt, Kaiser Permanente of California, the HMO Research Network and i3 Drug Safety, as well as from FDA and AHRQ. The analysis will

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ADHA medications

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take about 2 to 2 years to complete and will include all drugs currently marketed for treating ADHD. The study will analyze the risks of all the drugs as a whole, and risks of the drugs grouped by class. Results are expected to be important not only to patients, their families and health care providers, but also to government insurance programs. Medicaid, Medicare, and the State Children's Health Insurance Program provide reimbursement for drugs prescribed for ADHD. This information could also be used to inform product labeling, which is used by health care providers when making treatment decisions.

ADHD is a behavioral disorder that, in many patients, causes hyperactivity, and may have a significant impact on school performance and social functioning. According to the National Institute of Mental Health, ADHD affects approximately 3 percent to 5 percent of school-age children and about 4 percent of adults. Use of ADHD drugs has increased in recent years among children and adults. A recent AHRQ analysis of medication expenditures found three ADHD drugs—Concerta, Strattera, and Adderall—ranked among the top five drugs prescribed for children ages 17 years and younger. About \$1.3 billion was spent on those drugs in 2004, the study estimated.

For more information go to AHRQ's Effective Health Care Program at www.effectivehealthcare.ahrq.gov. ■

Primary Care Research

Primary care practice-based research networks are a young diverse group vital to translating research into practice

American primary care practice-based research networks (PBRNs) are comprised of predominantly young practices that serve a large group of poor and minority patients. Three-fourths of the practices are affiliated with universities

and half have only performed three or fewer clinical studies on their patients, according to a national 2003 survey of PBRNs. These PBRNs could be a vital national resource for improving primary care and translating research into practice. However, this potential resource will need to be cultivated for it to mature into a potent tool to link research to practice improvement and to speed dissemination of research findings to community practice settings.

David Lanier, M.D., of the Agency for Healthcare Research and Quality (AHRQ), and colleagues analyzed survey responses of 86 primary care PBRNs (including 46 AHRQ-funded PBRNs). The PBRNs included 1,871 practices, 12,957 physicians (mean of 152 per PBRN), and 14.7 million patients (mean of 229,880 per PBRN). The PBRNs commonly focused their research on prevention, diabetes, cardiovascular risk factors, and mental health. These practices had published more than 600 articles in peer-reviewed journals.

PBRNs studying clinical questions posed by outside researchers had more Federal funding than those studying questions posed by internal researchers (84 vs. 27 percent). PBRNs that cited funding as a weakness relied more on local resources to fund research projects (70 vs. 40 percent). Difficulty securing funding was by far the most commonly listed weakness, selected by one half of

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AHRQ
Office of Communications and Knowledge
Transfer
540 Gaither Road
Rockville, MD 20850
(301) 427-1360

Barbara L. Kass, MPH, CHES,
Managing Editor
Gail Makulowich, Contributing Editor
Joel Boches, Design and Production
Karen Migdail, Media Inquiries

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PBRNs

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the PBRNs that responded to the survey. PBRNs also expressed frustration over the difficulty of maintaining research infrastructure (space, personnel, and equipment) between funded studies. PBRNs merit further attention from private and public funding

agencies and researchers interested in studying the delivery of primary care, conclude the researchers.

More details are in "A national survey of primary care practice-based research networks," by William M. Tierney, M.D., Caitlin C. Oppenheimer, M.P.H., Brenda L. Hudson, M.A., and others, in the May 2007 *Annals of Family Medicine* 5(3), pp. 242-250. Reprints (AHRQ Publication No. 07-R068) are available from AHRQ.* ■

Studies funded by AHRQ's Primary Care Practice-Based Research Networks (PBRNs) identify ways to improve patient care and report medical errors

Primary care practice-based research networks (PBRNs) involve practicing clinicians with academic researchers in asking and answering clinical and organizational questions about primary health care. In 2000, AHRQ launched an initiative to support the growth and development of PBRNs, recognizing the importance of this work and the potential of PBRNs to improve the health of Americans by engaging clinicians in quality improvement activities and fostering an evidence-based culture in primary care practice. Since the inception of the program, AHRQ has awarded over \$16 million to more than fifty PBRNs across the country for studies focusing on a diverse range of health services issues and the care of a variety of medical conditions.

Four recent AHRQ-funded PBRN studies are summarized below. The first two studies focused on primary care patients and found that adults who were at risk for developing diabetes were more likely to be physically active when they made exercise a priority, and adults at risk for developing chronic illnesses could benefit from nutrition-related screening and services (HS13521). The third study revealed that physicians' use of electronic medical records

(EMRs) to print medication information did not seem to compromise counseling their patients verbally on medication indications and side effects (HS14406 and HS14552). Finally, according to the fourth study, error reporting systems in physicians' offices will need specific improvements to better motivate family physicians to report medical errors (HS13554).

Donahue, K.E., Mielenz, T.J., Sloane, P.D., and others. (2006, October). "Identifying supports and barriers to physical activity in patients at risk for diabetes." *Preventing Chronic Disease* 3(4), pp. 1-12.

Researchers at the North Carolina Family Practice-Based Research Network analyzed survey responses from several network practices of 258 patients who were considered at high risk for developing diabetes. The patients were asked about what helped and prevented them from engaging in physical activity.

High-risk patients scored 10 points or higher on the American Diabetes Association risk test. They typically were patients who were older, overweight or obese, had a family history of diabetes or history of gestational diabetes, and were sedentary. Only 56 percent of

these high-risk patients engaged in the recommended 150 minutes or more of moderate to vigorous activity per week. More individuals who had graduated from high school or attended college education met the recommended activity levels than those who did not graduate from high school (see Figure 1).

Individuals were 55 percent less likely to be physically active if they viewed activity as a low priority, 58

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Also in this issue:

Preventing medication errors in primary care, see page 6

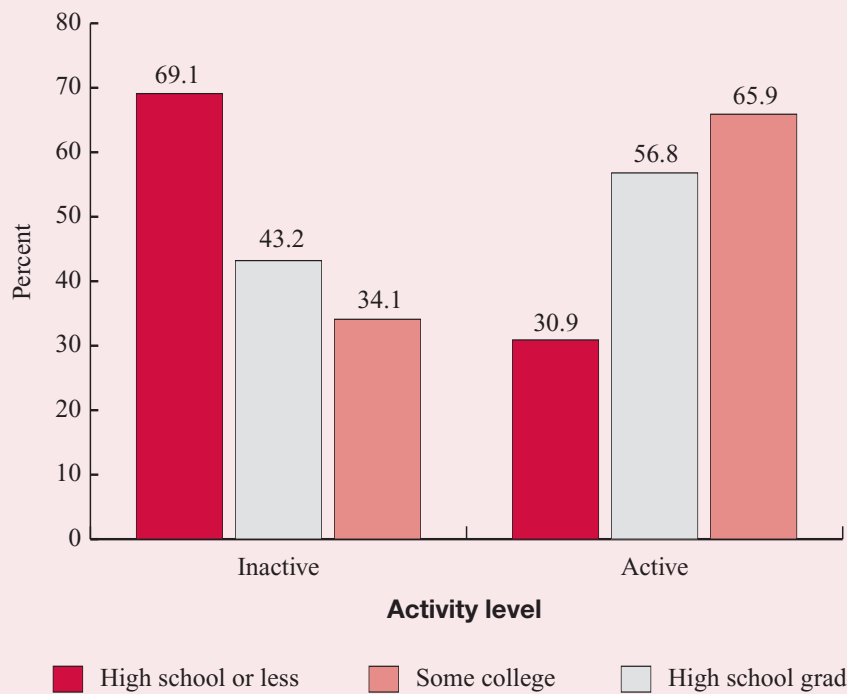
Trauma, alcohol, and cardiovascular risks among American Indians, see page 9

Timely diagnosis and treatment of prostate cancer, see page 12

Childbirth preferences after cesarean delivery, see page 14

Shorter hospital stays and reducing costs, see page 19

Figure 1. Comparisons between inactive and active patients at high risk for diabetes by education level



PBRN studies

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percent less likely to be active if they were worried about injury, and 62 percent less likely to be active if they had difficulty finding time for activity. Individuals most enjoyed walking (70 percent), gardening (39 percent), stretching (24 percent), swimming, (12 percent) and biking (11 percent). In the past year, 69 percent of this high-risk group had discussed physical activity with their health care provider.

Gaskins, N.D., Sloane, P.D., Mitchell, C.M., and others. (2007, March). "Poor nutritional habits: A modifiable predecessor of chronic illness? A North Carolina Family Medicine Research Network (NC-FM-RN) study."

Journal of the American Board of Family Medicine 20, pp. 124-134.

Researchers found that patients at known risk for chronic illness, such as those with prediabetes, were found to have poorer nutritional habits than those who had the disease. Therefore, patients in high risk categories may be particularly appropriate targets for nutrition-related screening and services.

Of the primary care patients cared for by four North Carolina Family practices in this study, 40 percent reported engaging in no regular physical activity, 24 percent were current smokers, 18 percent had diabetes, 42 percent had hypertension, and 13 percent had a history of heart disease. Forty-one percent were obese and 40 percent

scored as high-risk on a diabetes risk screen.

The researchers surveyed 1,788 ethnically diverse adult patients (mean age of 48) in the practice waiting rooms, which included a 7-item nutrition screen. In addition, the study gathered data on disease and functional status, race/ethnicity, health habits, and demographic factors. Overall, 30 percent of those surveyed reported eating three or more fast food meals weekly; 29 percent drank three or more high-sugar beverages weekly; 22 percent ate three or more high-fat snacks weekly; 36 percent ate three or more desserts weekly; 11 percent reported eating "a lot" of margarine, butter, or meat fat; 62 percent ate two or fewer fruits or vegetables daily; and 42 percent reported consuming protein less than two times a week.

Total scores were worse for patients with prediabetes than those with diabetes, for young adults than older persons, and for persons reporting good/excellent health versus fair/poor health. These results probably indicate better nutritional awareness and motivation among people who suffer from chronic diseases, note the researchers. As family medicine focuses more on chronic disease care and prevention, the role of the family medicine office in promoting nutritional health, physical activity, and other healthy habits may well increase. This study's results indicate that the primary care office may be a particularly appropriate place for nutrition education to prevent chronic illness, since persons at high risk tend to have particularly poor nutritional habits.

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Note: Only items marked with a single (*) asterisk are available from the AHRQ Clearinghouse. Items with a double asterisk (**) are available from the National Technical Information Service. 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.

PBRN studies

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Kuo, G.M., Mullen, P.D., McQueen, A., and others. (2007, March). "Cross-sectional comparison of electronic and paper medical records on medication counseling in primary care clinics: A Southern Primary-care Urban Research Network (SPUR-Net) study." *Journal of the American Board of Family Medicine* 20, pp. 164-173.

Physicians' use of electronic medical records (EMRs) to print medication information does not seem to compromise their oral counseling of patients on medication indications and side effects compared with paper medical records (PMRs). With PMRs, physicians typically write medication prescriptions and give them to patients to fill at the pharmacy. In contrast, an EMR with computerized physician order entry can print the prescription and store all medical-related records in the computer. Many can print medication information handouts for patients. In this study, the researchers compared the frequency of oral counseling and written information by primary care physicians at two PMR clinics and two EMR clinics.

There was less written plus oral counseling for medication indications and side effects in PMR clinics (2 percent) than EMR clinics (20 percent). Rates of oral counseling were similar in PMR

and EMR clinics. However, PMR clinics provided more oral counseling only for indications (69 percent) than EMR clinics (53 percent). The impact of receiving oral or written counseling on patients' reports of having questions about their medications was inconclusive. The researchers call for more studies to address patient recall and to evaluate the quality and content of medication counseling.

Elder, N.C., Graham, D., Brandt, E., and Hickner, J. (2007, March). "Barriers and motivators for making error reports from family medicine offices: A report from the American Academy of Family Physicians National Research Network (AAFP NRN)." *Journal of the American Board of Family Medicine* 20, pp. 115-123.

Researchers conducted 18 focus groups with 139 physicians, nurse practitioners, physician assistants, nurses, and staff of 8 family medicine practices that were part of the American Academy of Family Physicians National Research Network. The groups focused on testing process errors, since tests are ordered during 39 percent of primary care visits.

The focus groups revealed that staff and physicians at busy family practice offices across the U.S. were willing to identify and submit reports of testing process errors. When they perceived benefits to themselves, their practices, and

their patients, they were willing to take the time to submit reports. However, the time needed to complete the reports, as well as confusion about what information and what type of error should be reported, were barriers to the usefulness and quality of the reports.

Many participants said they learned about errors just by making the reports. Making the reports also helped some deal with the frustration and guilt of having made or discovered errors. For an error reporting system to maintain itself, it will have to provide ongoing benefits such as emotional support, regular feedback, and perceived quality improvement to those reporting errors. Also, the system should make clear what is needed in a report and who should make reports. It should also provide feedback useful to error reporters and take into account error severity and personal responsibility for the error. Assurance of reporters' anonymity and confidentiality are also important issues.

Editor's note: In addition to funding opportunities, AHRQ is supporting PBRNs through a national resource center, an annual national conference, peer learning groups, an electronic PBRN research repository, and a dedicated community extranet. More information on AHRQ's PBRN initiative can be found at <http://www.ahrq.gov/research/pbrn/pbrninit.htm>. ■

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Questions? Please send an e-mail to Nancy Comfort in AHRQ's public affairs office at nancy.comfort@ahrq.hhs.gov

Studies examine dispensing of sample medications and preventing medication errors in primary care practices

Primary care doctors often distribute sample medications to their patients. Yet a new study of 17 primary care practices revealed that none of them followed guidelines for the safe dispensing of medication samples. Another study found that a safety culture in primary care practices, which encourages patients and staff to ask questions and be vigilant, can prevent medication errors from harming patients. Both studies were supported by the Agency for Healthcare Research and Quality (HS11878) and are summarized here.

Hansen, L.B., Saseen, J.J., Westfall, J.M., and others. (2006, December). "Evaluating sample medications in primary care: A practice-based research network study." *Journal on Quality and Patient Safety* 32(12), pp. 688–692.

When doctors give patients medication samples, the samples should be labeled and include the patient's name, the reason for the medication, the dose and how often the medicine should be taken, special precautions for use, and any significant side effects that can be expected. Yet none of 17 urban and rural primary care practices studied in 2004 complied with all of these recommendations. Only 7 practices followed the recommendation for sample labeling, and only 12 practices had policies for dispensing sample medication.

Overall, 58 sample medications were dispensed during 9 percent of 585 patient visits. Doctors cited sample availability and the need for a short-term trial of a chronic medication as common reasons for

using sample medications. Most of the time, they only verbally communicated to patients the appropriate sample medication use and potential side effects that could increase the risk for medication errors.

The most commonly used sample medications were antihypertensives (17.7 percent) and cough/cold/allergy agents (9 percent). According to 27 patient surveys, instructions on how to use the sample medications were provided only through verbal communication from the doctor or nurse in 70 percent of cases, verbal and written instructions in 30 percent of cases, and only written instructions in 4 percent of cases. Some patients received no information about special instructions or side effects.

Parnes, B., Fernald, D., Quintela, J., and others. (2007, February). "Stopping the error cascade: A report on ameliorators from the ASIPS collaborative." *Quality and Safety in Health Care* 16, pp. 12–16.

A pervasive culture of safety in primary care practices, which builds on simple acts and electronic safety systems, may improve patient outcomes. Medical staff and patients who were encouraged to be vigilant, ask questions, and seek solutions were able in many cases to catch medical errors before they could harm the patient. Over a 3-year period, clinicians and staff in two primary care practice-based research networks voluntarily reported medical errors to a safety reporting system. The researchers found a number of reports where the error was corrected before it

had an adverse impact on the patient. For example, of 754 reported events, 60 were classified as ameliorated events.

In these cases, an ameliorator identified the error and took corrective action to prevent the error from reaching and harming the patient. For example, if the patient was given a written prescription in which the dosage was unclear, the pharmacy called the clinic to clarify and ensure the proper dosage. In another situation, a physician noticed that a patient's hip x-ray abnormality did not correspond to the hip side the patient was complaining about, which led to identification of an incorrectly labeled x-ray. Ameliorators included doctors, nurses, pharmacists, diagnostic laboratories, and office staff. In 15 percent of cases, patients or family members acted as ameliorators by recognizing an error and taking action.

Amelioration likely occurs routinely as clinicians and staff correct errors as a matter of course. This study examined how they take action to interrupt the cascade before it affects the patient. System fixes can be effective in stopping cascades by catching mistakes and directing action. However, chance plays a role in uncovering other problems. Even in cases in which errors are detected, there must be enough time to correct them before they affect patients, and potential ameliorators must have the resolve to follow through with corrective action. These findings reinforce the need for a medical culture that empowers all stakeholders to ask questions and act to prevent errors. ■

Primary care doctors should encourage colorectal cancer screening and clarify that screening is not just for those with symptoms

Colorectal cancer (CRC) is the second leading cause of cancer-related deaths in the United States. Due to low CRC screening rates, only 37 percent of these cancers are detected before they spread to other parts of the body. The content of a doctor's CRC screening recommendation is a critical determinant of whether a patient follows the recommendation, concludes a new study. Primary care doctors should clarify that CRC screening is for patients without symptoms and tell patients about the benefits of screening and risks of not being screened, suggest researchers at the University of Kentucky.

The researchers asked 65 primary care doctors (via interview and questionnaire) how they typically communicate to patients their recommendation for CRC screening. Most of the physicians (77 percent) said they followed clinical guidelines for CRC screening. For example, 94 percent of doctors brought up CRC screening to patients aged 50 or older, when beginning such testing is recommended. The screening alternatives doctors most often recommended were colonoscopy and fecal occult blood testing (FOBT). Many doctors provided some type of screening, such as stool cards (for the FOBT), digital rectal exam, or

flexible sigmoidoscopy in their office. Most doctors said they would need to refer patients to a specialist to receive more invasive screening such as a colonoscopy.

Over one-fourth of physicians (28 percent) told patients that their screening recommendation was supported by authoritative groups such as the American Cancer Society. However, few physicians (12 percent) explained that a person does not have to be experiencing symptoms to undergo screening, and only 6 percent mentioned insurance coverage for screening. About half of doctors (52 percent) described the benefits of CRC screening, but only 15 percent explained the downsides of foregoing screening. Very few doctors (6 percent) assessed patients' understanding of screening or explored patients' screening preferences (1.5 percent). The study was supported in part by the Agency for Healthcare Research and Quality (HS11845).

See "Physician colorectal cancer screening recommendations: An examination based on informed decision making," by Sarah B. Wackerbarth, Ph.D., Yelena N. Tarasenko, Ph.D., Jennifer M. Joyce, M.D., and Steven A. Haist, M.D., in the April 2007 *Patient Education and Counseling* 66, pp. 43-50. ■

Health Literacy

Strategies to improve health literacy for diverse populations should address literacy, language, and cultural barriers

Persons who find it difficult to obtain, process, and understand health information and navigate the health care system are considered to have limited health literacy. Racial and ethnic minority adults are more likely to have limited health literacy than white non-Hispanic adults. Several strategies have been developed to improve health literacy for individuals with limited health literacy, such as using simpler language and picture-driven media. However, materials should be relevant to the patient's language and culture as well. Health literacy

strategies must be integrated with those targeted to culturally diverse individuals and those with limited English proficiency (LEP), recommend Dennis P. Andrulis, Ph.D., M.P.H., of Drexel University School of Public Health, and Cindy Brach, M.P.P., of the Agency for Healthcare Research and Quality, in a recent paper.

For example, a patient's low score on a health literacy assessment could be due to low literacy, LEP, or lack of familiarity with Western health terms and concepts. Thus, clinicians need to integrate health literacy techniques,

such as having patients explain back to the clinician what they have been told, with culturally competent communication practices, such as asking a patient what she thinks caused the illness and what type of treatment she thinks she should receive to reveal cultural barriers, use of folk medicine, or culturally dictated family involvement in medical decisions.

For clinicians to successfully overcome barriers related to literacy, language, and cultural vulnerabilities, health care

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Improving health literacy

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organizations have to make corresponding changes in the delivery system. Leadership and senior management must be willing to invest in training, staffing, and physical plants to improve care for diverse patients with limited health literacy. The authors present a vision for an integrated approach to health literacy and cultural and linguistic competence that illustrates the important roles that both clinicians and health care organizations play.

See “Integrating literacy, culture, and language to improve health care quality for diverse populations,” by Drs. Andrulis and Brach, in the *American Journal of Health Behavior* 31(Suppl 1), pp. S122-S133, 2007. Reprints (AHRQ Publication No. 07-R079) are available from AHRQ.*

Editor’s note: October is Health Literacy Month. Low health literacy affects more than 90 million adults in the United States, and it limits a patient’s ability to engage in, and benefit from, health care advances. Low health literacy is likely to be a major contributor of adverse health outcomes.

Research has linked low or limited health literacy with such adverse outcomes as poorer self-management of chronic diseases, less healthy behaviors, higher rates of hospitalizations, and overall poorer health. AHRQ supports research that addresses health literacy as it pertains to prevention, healthy living, chronic disease management, patient-based health care, cultural competence, and health disparities. For more information about the Agency’s efforts to promote health literacy go to www.ahrq.gov/browse/hlitix.htm. ■

Health literacy is not associated with how minorities perceive their physical or mental health status

Health literacy – the ability to read and understand health information and navigate the health care system, as well as perceived health status, is related to patient outcomes such as adherence to medication and hospitalizations. However, health literacy is not associated with how minorities perceive their health status, suggests a study of blacks and Latinos receiving care at five urban health clinics. This group of Medicaid and/or Medicare-insured patients had worse physical and mental health than population norms. Although 70 percent of them had adequate health literacy, 30 percent had inadequate or marginal health literacy. Yet, level of health literacy had no relationship to how these individuals perceived their health, note Carmen E. Guerra, M.D., M.S.C.E., and Judy A. Shea, Ph.D., of the University of Pennsylvania School of Medicine.

The researchers administered the group questionnaires on demographics and health literacy (based on reading skills), an index of coexisting conditions, and the SF-12 health status questionnaire.

In comparison to the population norm mean score of 50 on the SF-12 and Charlson Comorbidity Index, this group scored a mean of 41.5 on the SF-12 Physical Component Summary (PCS) and a mean of 44.0 on the Mental Component Summary (MSC). This indicates overall poorer physical and mental health status for this group.

Older age, Medicaid insurance, and more coexisting medical conditions were associated with lower PCS scores. Higher education was associated with higher MSC scores, while coexisting conditions were associated with lower MSC scores. Although health literacy entered the model, its impact on PCS and MCS was not significant, after adjusting for sociodemographic factors and coexisting conditions. The study was supported in part by the Agency for Healthcare Research and Quality (HS10299).

See “Health literacy and perceived health status in Latinos and African Americans,” by Drs. Guerra and Shea, in the Spring 2007 *Ethnicity & Disease* 17, pp. 305-312. ■

Disparities/Minority Health

Researchers examine link between trauma and alcohol problems as well as cardiovascular risk factors among American Indians

Growing evidence suggests a link between trauma and the development of alcohol disorders. American Indians experience more traumas and alcohol disorders than the general population. A recently published study found that 16 percent of American Indian adolescents and young adults have suffered from three or more traumas and 26 percent were diagnosed with alcohol use disorders. The same study linked exposure to severe trauma with alcohol use disorders among this group. A second study of older American Indians found that several risk factors for developing cardiovascular disease (CVD) increase as older American Indians age. Both studies were supported by the Agency for Healthcare Research and Quality (HS10854) and are summarized here.

Boyd-Ball, A.J., Manson, S.M., Noonan, C., and Beals, J. (2006, December). "Traumatic events and alcohol use disorders among American Indian adolescents and young adults." *Journal of Traumatic Stress* 19(6), pp. 937-947.

Researchers analyzed interviews with 432 American Indian adolescents and young adults between the ages of 15 and 24. The participants were enrolled tribal members living on or near two closely related Northern Plains Indian reservations. As part of a larger survey on mental health, interviewers asked the participants if they had experienced any of 16 types of traumatic events and about their use of alcohol. The traumatic

events were categorized as noninterpersonal trauma (disaster, life-threatening accidents); interpersonal trauma (combat, rape, sexual abuse, physical assault/abuse); witnessed trauma (seeing violence perpetrated upon others or observing a serious accident or disaster that resulted in harm or death of others); hearing traumatic news about a close other (life-threatening illness, rape, suicide, of a family member or friend), and other trauma.

Over one-fourth (26 percent) of those interviewed were diagnosed with alcohol use disorders. Overall, 21 percent had experienced one severe traumatic event, 10 percent had experienced two, and 16 percent had experienced three or more. Young adults (aged 20-24) experienced more traumatic events than adolescents (aged 15-19), as did participants in both age groups who reported that their parents used alcohol while they were growing up.

The odds for alcohol use disorders increased from nearly twofold for one trauma to somewhat less than fourfold for three or more traumas compared with no trauma. These results held after adjusting for age, gender, and parental alcohol use, suggesting a dose-response effect of trauma on alcohol disorders among American Indians living on or near reservations.

Rhoades, D.A., Welty, T.K., Wang, W., and others. (2007, January). "Aging and the prevalence of cardiovascular disease risk factors in older American Indians: The strong heart study."

***Journal of the American Geriatric Society* 55, pp. 87-94.**

Although mortality rates from CVD in the United States continue to decrease, rates are rising among Native American Indians and are now likely exceed those of the general population. Also, CVD is the leading cause of death in American Indians beginning at age 45 compared with age 65 for the U.S. general population. As older American Indians age, more of them develop hypertension, diabetes, and low levels of high density lipoprotein cholesterol (HDL-C), all risk factors for developing cardiovascular disease, according to this study. The researchers examined the development of major CVD risk factors among a rural group of 4,549 American Indians aged 45 to 74 during initial examination in 1989 to 1991 and 8 years later. Their work was part of the Strong Heart Study of 13 predominantly poor tribes of American Indians.

This aging group had decreased prevalence of smoking and no consistent changes in adverse HDL-C and low-density lipoprotein-cholesterol (LDL-C) profiles. However, the group had substantial increases in the prevalence of hypertension and diabetes, two of the most important CVD risk factors. For example, prevalence of hypertension increased from 42.2 percent at the initial examination to 61.3 percent among men 8 years later and from 36.4 percent to 60.3 percent among women. The prevalence of hypertension in this group (aged 40-59) was comparable with the 65

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Trauma and alcohol problems

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percent hypertension rate among an older group (60 years and older) that participated in the National Health and Nutrition Examination Survey (NHANES).

Diabetes remained markedly and disproportionately high in this age group of Native American Indians. Prevalence increased from 41.4 to 47.4 percent among men and from 48.4 to 55.8 percent among women during the study period — three times higher than the 16.4 percent of people with diabetes among a

similar age group in the 1994 NHANES. Men had a nonsignificant decrease in LDL-C and men and women initially had rapid increases in the prevalence of low HDL-C, which may have been affected by factors such as diabetes or insulin resistance that were also associated with this group. ■

Black, Hispanic, and white patients with diabetes differ in performance of self-care behaviors to manage their disease

Blacks and Hispanics are more likely to suffer from diabetes than whites. They are also more likely to suffer from diabetes-related complications such as kidney and eye disease and limb amputations (due to poor circulation and wound healing). Diabetes self-management tasks such as exercise, proper diet, and foot care can improve control of blood sugar (glycemic) levels and reduce complications and deaths from diabetes. Yet few people with diabetes engage in multiple diabetes self-care behaviors at the recommended levels. There are also significant racial/ethnic differences in the performance of these self-care behaviors, according to a new study.

Researchers assessed four diabetes self-care behaviors: physical activity, fruit and vegetable consumption, glucose (HbA1c) testing, and foot examination, among 21,459 ethnically diverse patients with diabetes who participated in the 2003 Behavioral Risk Factor Surveillance Survey. About 90 percent of patients performed at least one self-care behavior. However, only 6 percent of patients studied engaged in all four self-care behaviors, a number that ranged from 5 percent in noninsulin users to 8 percent in insulin users.

Blacks were 37 percent less likely to exercise than whites. Hispanics and patients from other races (others) were not significantly different from whites. Hispanics were 36 percent less likely and others 31 percent less likely to do home glucose testing, while blacks were not significantly different from whites. Blacks were 42 percent more likely to do home foot examinations, while Hispanics and others were not significantly different from whites. Blacks were 44 percent less likely to engage in all four behaviors, while Hispanics and others were not significantly different from whites. There were no significant racial/ethnic differences in fruit and vegetable consumption. Interventions tailored to the diverse needs of diabetics from different ethnic groups are needed, such as addressing barriers to physical activity in blacks. The study was supported in part by the Agency for Healthcare Research and Quality (HS11418).

See “Racial/ethnic differences in multiple self-care behaviors in adults with diabetes,” by Chiagozie Nwasuruba, M.D., Mokbul Khan, Ph.D., and Leonard E. Egede, M.D., M.S., in the January 2007 *Journal of General Internal Medicine* 22, pp. 115-120. ■

Studies show lower colorectal cancer screening rates and access to surgery among the poor, minority, and uninsured

Colorectal cancer (CRC) is the second leading cause of cancer-related deaths in the United States. It is curable, if detected at an early stage through colonoscopy or other screening methods. Early detection and treatment can also prevent potentially fatal complications of CRC, including bowel perforation and obstruction and peritonitis

(inflammation of the stomach lining). Yet use of CRC screening remains low, with only half of those 50 years and older obtaining recommended screening. Three studies supported by the Agency for Healthcare Research and Quality examined trends in CRC screening as well as access to CRC surgery. The first study (HS10771 and HS10856) reveals that CRC

screening increased a modest 3 percent from 2000 to 2003, but primarily among high- and middle-income groups. The second study (T32 HS00059) shows that poor, minority, and uninsured patients are more likely than others to need emergency surgery for CRC-related problems such as bowel obstruction. According to the third

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study (HS09869), improving access of sicker, poorer, and minority patients to high-quality hospitals for CRC surgery may improve their outcomes. The studies are briefly discussed here.

Phillips, K.A., Liang, S-Y., Ladabaum, U., and others. (2007, February). "Trends in colonoscopy for colorectal cancer screening." *Medical Care* 45(2), pp. 160-167.

CRC screening increased a modest 3 percent from 2000 to 2003, primarily due to increases in use of colonoscopy. However, increased use of colonoscopy was primarily among high- and middle-income groups. Among Medicare enrollees with high and middle incomes, colonoscopy use increased 14 percent from 2000 to 2003 compared with an increase of only 7 percent among low-income groups, a significant difference. Similarly, among insured, non-Medicare enrollees with high and middle incomes, colonoscopy use increased 11 percent compared with 4 percent among low-income groups, also a significant difference.

Nevertheless, screening rates remained modest, and lower income individuals continued to be screened less, even after Medicare coverage for screening began in 2001. Low-income individuals had both lower rates of all types of CRC screening initially and lower rates of increase in screening. Many low-income individuals may not have access to colonoscopy. For example, publicly funded clinics may only offer fecal occult blood testing (testing of a stool sample for traces of blood).

Thus, study results should not be construed to imply that

colonoscopy is the only preferred screening method and should be offered to all individuals, note the researchers. They recommend making efforts to facilitate CRC screening among low-income individuals a major priority. Their findings were based on data analysis of the 2000 and 2003 National Health Interview Surveys.

Diggs, J.C., Xu, F., Diaz, M., and others. (2007, March). "Failure to screen: Predictors and burden of emergency colorectal cancer resection." *The American Journal of Managed Care* 13(3), pp. 157-164.

Poor, uninsured, and minority patients are less likely to be screened for CRC. Thus, they are more likely to end up needing emergency CRC-related surgery for such problems as bowel perforation, peritonitis, or bowel obstruction. Patients undergoing CRC-related emergency surgery had a threefold greater risk of dying in the hospital, hospital stays that were 4 days longer, and over \$19,000 in excess hospital charges when compared with nonemergency patients, even after adjusting for other factors such as cancer stage and demographics.

Among younger patients, Medicaid-insured persons were twice as likely and the uninsured were nearly three times as likely to undergo emergency CRC surgery. Among older patients, those dually eligible for Medicare and Medicaid had 37 percent higher risk for emergency CRC surgery. In 2002, the mean excess length of stay and hospital charges associated with emergency compared with nonemergency CRC surgery amounted to 54,979 excess hospital days and more than \$250 million in hospital charges.

Increased CRC screening among these vulnerable subgroups would

reduce the substantial patient and societal burden associated with failure to screen, conclude the researchers. Their findings were based on analysis of the 2002 Nationwide Inpatient Sample of the Healthcare Cost and Utilization Project.

Zhang, W., Ayanian, J.Z., and Zaslavsky, A.M. (2007, February). "Patient characteristics and hospital quality for colorectal cancer surgery." *International Journal for Quality in Health Care* 19(1), pp. 11-20.

Improving access of sicker, poorer, and minority patients to high-quality hospitals for CRC surgery may improve their outcomes, concludes this study. The researchers examined characteristics of California hospitals where CRC patients underwent CRC-related surgery. CRC patients who were Hispanic or Asian, less affluent, or with more advanced cancer were less likely to undergo CRC surgery at hospitals that conducted a high volume of CRC surgeries. They were also treated at hospitals with above average mortality rates (30 days after surgery) than hospitals that treated the less severely ill, white, or more affluent. Black patients also underwent CRC surgery at hospitals with above average mortality rates.

Among elderly Medicare beneficiaries, managed care members were more likely than fee-for-service beneficiaries to enter hospitals with high patient volume. However, adjusted mortality rates were similar for hospitals used by the two groups. Most of the racial variation in outcomes within individual hospitals stemmed from patients' clinical status, yet racial differences in hospital selection were substantial. There are still racial

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barriers to high-quality surgical care for CRC patients, independent of other patient characteristics, conclude the researchers.

Their study demonstrated disparities in hospital selection across racial groups and across clinical and socioeconomic strata. Their findings were based on analysis of a population-based cancer registry in California for a total of 38,237 patients diagnosed

with stage I-III (nonmetastatic) colorectal cancer between 1994 and 1998. The researchers linked registry data to hospital discharge abstracts, U.S. census data, and Medicare enrollment data. ■

Barriers to timely diagnosis and treatment of prostate cancer in black men arise from lower socioeconomic status

Black men have over twice the rate of prostate cancer as white men, and it tends to develop at a younger age in black men. A study in North Carolina among men diagnosed with prostate cancer found that, despite less education, black men are aware of their increased risk of prostate cancer, the importance of treatment, and their responsibility for their health. Obstacles to their timely diagnosis and appropriate care appear more likely to arise from reduced access to and continuity of care resulting from their worse socioeconomic position rather than less information or culturally based misunderstanding. Black men have less complete insurance coverage, less convenient health care settings, and less flexible work circumstances which create barriers that their knowledge and intentions do not overcome.

Researchers, supported in part by the Agency for Healthcare Research and Quality (HS10861), identified 207 black men and 348 white men recently diagnosed with prostate cancer from the North Carolina Cancer Registry. Black men were younger, and had less education, job status, and income than white men. Black men were no further than white men

from medical care. Nevertheless, they had less access to care. They had poorer medical insurance coverage, more use of public clinics and emergency wards, less continuity of care with a primary care doctor, and more often omitted physician visits they felt they needed. Black men also expressed less trust in doctors.

Yet, black men accepted greater responsibility for their health than their white counterparts. For example, black men more often requested the tests that diagnosed their cancers, which resulted more often from routinely ordered screening tests for white men. Also, black men expressed less interest in nontraditional treatments for their cancer. The majority of men in both groups reported an abnormal prostate-specific antigen (PSA) test as the first evidence of prostate cancer.

More details are in "Hidden barriers between knowledge and behavior: The North Carolina prostate cancer screening and treatment experience," by James A. Talcott, M.D., S.M., Pamela Spain, Ph.D., Jack A. Clark, Ph.D., and others, in the April 15, 2007 *Cancer* 109(8), pp. 1599-1606. ■

Asian Pacific American ethnic groups vary in their adherence to antihypertensive drug therapy

Adherence to antihypertensive medications can markedly reduce the incidence of stroke, heart attack, and congestive heart failure. Certain Asian Pacific American groups, such as the Japanese, have a high rate of hypertension (nearly three-fourths of men aged 71 to 93). A new study found that Japanese people living in Hawaii are more likely

than whites to adhere to their antihypertensive medication, yet the disparities in adherence among Asian Pacific Americans indicates that subgroups need to be studied separately.

Researchers studied compliance with antihypertensive medication using a prescription database for 28,395 members with hypertension, all of whom were enrolled in a large health plan in Hawaii from

1999 to 2003. Even after adjusting for physician and patient characteristics, the Japanese in Hawaii were 21 percent more likely than whites to adhere to antihypertensive therapy (possessing the medication 80 percent or more of the time). Yet Filipinos, Koreans, and Hawaiians were 31 percent, 21 percent, and 16 percent, respectively, less likely than whites to adhere to the

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Antihypertensive drug therapy

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medication regimen prescribed for their high blood pressure. These results did not differ by type of medication. However, 70 percent of patients in the study were only on one antihypertensive agent, when combination therapy (usually a diuretic and another antihypertensive agent) is typically recommended.

Several other patient factors were associated with lower adherence, including younger age, history of heart disease, and higher number of coexisting illnesses. Physician characteristics were also strongly associated with adherence. Patients of female physicians, Chinese or Filipino physicians, and cardiologists or other specialists were less likely to adhere to treatment. Even Filipino patients seeing Filipino physicians and Chinese patients seeing Chinese physicians were less likely to

consistently take their medication. This suggests that provider-patient ethnic congruency alone will not solve the medication adherence problem. The study was supported by the Agency for Healthcare Research and Quality (HS11627).

More details are in “Antihypertensive adherence and drug class among Asian Pacific Americans,” by Deborah A. Taira, Sc.D., Rebecca P. Gelber, James Davis, and others, in the June 2007 *Ethnicity and Health* 12(3), pp. 265-281. ■

Patient Safety and Quality

Accurate laboratory detection of bladder cancer requires close follow-up with repeated testing

Urine cytology is generally accurate for screening and diagnosing bladder cancer. For example, a study of patients at one hospital showed that not a single patient in a 2-year period suffered severe harm on the basis of a test failure to diagnose bladder cancer. However, nearly half (48.6 percent) of patients with discrepancies in their cytologic (cell) and followup histologic (tissue) samples had a delayed diagnosis of one month or longer and/or repeated, unnecessary testing. This suggests that maintaining a high level of vigilance in bladder cancer detection is costly and requires close follow-up with repeated testing, concludes Stephen S. Raab, M.D., of the University of Pittsburgh School Of Medicine.

The study found that in 41 percent of cases, analysis of bladder cells via urine, lower urinary tract specimens, or upper urinary tract specimens differed from followup tissue analysis. Sample interpretation problems and inadequate samples were the cause of 35 percent and 63 percent of discrepancies, respectively.

False-negative results can be due to the inability to sample some lesions (for example, voided urine specimens may not contain shed cancer cells or may contain obscuring debris such as blood or inflammation) or to difficulties in diagnosing some entities (for example, low-grade cancers cytologically resemble non-cancerous urinary tract lining). False-positive test results are often due to mimics of cancerous bladder cells (for example, polyoma virus).

Study findings were based on histologic followup in 6.2 percent of 361 voided urine, 19.5 percent of 636 lower tract instrumented, and 33 percent of 69 upper tract urinary cytologic specimens from one institution laboratory during a 2-year period. Cytologic diagnoses were initially classified as unsatisfactory, benign, atypical, suspicious, or malignant. The study was supported by the Agency for healthcare Research and Quality (HS13321).

More details are in “Urine cytology discrepancies: Frequency, causes, and outcomes,” by Dr. Raab, Dana Marie Grzybicki, M.D., Ph.D., Colleen M. Vrbic, and Kim R. Geisinger, M.D., in the *American Journal of Clinical Pathology* 127(6), pp. 946-953, 2007. ■

Women's Health

Three-fourths of low-income black women are dissatisfied with their body size 6 months after giving birth

Studies suggest that black women tend to have a more positive body image overall than other women. Yet three-fourths of low-income black women are dissatisfied with their body image 6 months after giving birth, according to a new study. Over half of the women (56 percent) thought that they were too large and 20 percent thought they were too small and wanted to gain weight.

Body image dissatisfaction is associated with negative self-esteem and depression. All three can be intensified during the postpartum period. In fact, black mothers are twice as likely to suffer from postpartum depression as white mothers, note the Shaw University researchers.

The researchers used a culturally sensitive figure rating scale to examine body perceptions among black women at four inner city clinics at 2 and 6 months postpartum. The scale of nine silhouette drawings was arranged in size from thin to obese. The women were

asked which figure represented their current body size, a healthy body size for women their age, which they would prefer to look like, and which figure they thought represented a typical woman their age.

At 6 months postpartum, 79 percent of the women thought that they did not meet what they considered to be a healthy size for women their age. About 40 percent of them thought that they had equaled or exceeded the size of a typical woman their age, which most considered to be larger than their healthy or preferred sizes. The study was supported in part by the Agency for Healthcare Research and Quality (HS13353).

See "Dissatisfaction with body size among low-income postpartum black women," by Josephine Boyington, Ph.D., M.P.H., R.N., Allan Johnson, Ph.D., L.N. and Lori Carter-Edwards, Ph.D., M.P.H., in the March 2007 *Journal of Obstetric, Gynecologic, and Neonatal Nursing* 36(2), pp. 144-151. ■

Information women receive in pregnancy affects their childbirth preferences after prior cesarean delivery

Cesarean delivery rates account for 29 percent of births in the United States. However, vaginal birth after cesarean (VBAC) rates declined from 28 percent in 1996 to 9 percent in 2004. According to a new study, many women who undergo VBAC or cesarean delivery receive little or no information about the risks of both procedures, including forceps or vacuum delivery, future urinary or fecal incontinence problems, and risk of fetal death or injury. Researchers asked 92 women who had a previous cesarean to complete questionnaires 1-4 days after either a VBAC or repeat cesarean at a large teaching hospital.

Overall, 44 percent had scheduled cesareans, 28.8 percent had VBAC, and 27.1 percent had a cesarean following an attempted VBAC. Women who had a repeat

cesarean were more likely than women who chose a trial of labor to report that risk of uterine rupture, forceps or vacuum delivery, recovery time, and bleeding and blood transfusion after a trial of labor were not addressed. Women who chose a trial of labor were more likely to report that possible urinary or fecal incontinence was not addressed.

There was no difference in information received by the two groups of women for the following additional topics: infection following cesarean or vaginal delivery, spontaneous or induction of labor, need for urgent cesarean, bleeding or blood transfusion for cesarean, plans for future children, pain relief during and after delivery, and fetal death or injury. Although the majority of women reported receiving insufficient information, 92 percent were satisfied with the

information they did get. All women who chose a trial of labor, but only 80 percent of women who chose a cesarean, felt involved in the decision. Women who felt involved in the delivery decision were more likely to have received information on uterine rupture (89.7 vs. 16.7 percent), bleeding after cesarean (89.7 vs. 50 percent) or vaginal delivery (79.3 vs. 33.3 percent), and recovery after vaginal delivery (78.9 vs. 33.3 percent). Women who felt more informed felt more satisfied with care. The study was supported by the Agency for Healthcare Research and Quality (HS11338).

See "Informational factors influencing patients' childbirth preferences after prior cesarean," by R.M. Renner, M.D., M.P.H., K.B. Eden, Ph.D., P. Osterweil, B.S., and others, in the May 2007 *American Journal of Obstetrics & Gynecology* 196(5), pp. e14-e16. ■

Elderly/Long-Term Care

Elderly blacks' higher hospitalization rates for certain conditions suggest worse quality of outpatient care

When individuals are hospitalized for ambulatory care sensitive (ACS) conditions such as asthma exacerbations or diabetes complications, it may be a signal of poor outpatient care. A recent study found that elderly blacks in North Carolina are hospitalized for ACS conditions more than elderly whites, suggesting poorer outpatient quality of care among blacks. However, it is unclear what factors underlie these ethnic differences, notes Daniel L. Howard, Ph.D., of Shaw University.

Dr. Howard and colleagues used Medicare data from 1999 to 2002 to examine differences in hospitalization rates for eight ACS conditions among elderly persons: bacterial pneumonia, congestive heart failure (CHF), diabetes, chronic obstructive pulmonary disease (COPD), dehydration, urinary tract infection (UTI), angina, and asthma. Blacks were hospitalized at higher rates than whites for five of the eight conditions. Hospital admission rates for diabetes were nearly three times higher for blacks than whites, a difference that remained fairly consistent for all 4 years. Blacks were also 43 percent more likely to be hospitalized for primary dehydration, 47 percent more

likely to be hospitalized for UTI, and 51 percent more likely to be admitted to the hospital for asthma.

Even though admission rates for CHF declined between 2001 and 2002 for both whites and blacks, blacks were 41 percent more likely to be admitted for CHF than whites. However, blacks had a 14 percent lower rate of hospitalization for bacterial pneumonia, 33 percent lower rate for COPD, and 10 percent lower rate for angina. Proactive and early treatment of ACS conditions can lead to fewer trips to the emergency room and inpatient hospitalizations, note the researchers. They call for more studies to explore the many social and economic factors that may underlie racial differences in hospitalization for ACS conditions. Their study was supported in part by the Agency for Healthcare Research and Quality (HS13353).

See "Racially disproportionate admission rates for ambulatory care sensitive conditions in North Carolina," by Dr. Howard, Farrukh B. Hakeem, Ph.D., Christopher Njue, Ph.D., and others, in the May 2007 *Public Health Reports* 122, pp. 362-372. ■

Elderly women in the early stages of lung cancer live longer than elderly men, regardless of the type of treatment they receive

Elderly women with early lung cancer live longer than elderly men, regardless of the type of treatment they receive, concludes a national population-based study of Medicare patients. Whether this is due to women's better response to treatment, different tumor biology, or longer life expectancy is not well understood. However, this study found that women's longer survival was independent of sex differences in life expectancy between men and women due to unrelated causes of death. It also showed improved survival advantages even among untreated women. This suggests that lung cancer in women has a

different natural history and, potentially, a different tumor biology, note Juan P. Wisnivesky, M.D., M.P.H., and Ethan A. Halm, M.D., of Mount Sinai School of Medicine.

The researchers examined sex differences in the natural history of lung cancer, after controlling for unrelated causes of death and type of treatment among 18,967 elderly Medicare patients with stage I and II non-small-cell lung cancer. The patients were diagnosed between 1991 and 1999. The researchers grouped patients into three treatment categories: surgery,

radiation or chemotherapy but no surgery, and untreated.

Adenocarcinomas were more common among women, who were also more likely to be diagnosed with stage IA disease than men. Women had a 22 to 26 percent lower risk of dying from lung cancer regardless of type of treatment received. They also had a 22 to 27 percent decreased risk of dying from all causes. Even potential sex differences in smoking did not explain the findings. Median cancer-specific survival for women was 51 months compared with 37 months for men. Also, the 5-year survival rates were

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Lung cancer

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significantly higher in women than men (46 vs. 38 percent). The survival advantage of women was specific to adenocarcinoma and large-cell carcinoma cases. There were no gender differences in survival from squamous cell carcinoma. The study was supported by

the Agency for Healthcare Research and Quality (HS13312).

More details are in “Sex differences in lung cancer survival: Do tumors behave differently in elderly women?” by Drs. Wisnivesky and Halm, in the May 2007 *Journal of Clinical Oncology* 25(13), pp. 1705-1712. ■

Low blood levels of omega-3 fatty acids predicts increased risk for acute coronary syndrome

Evidence suggests that higher intakes of long-chain omega-3 fatty acids (FAs) decrease the risk of dying from coronary heart disease. However, trans FAs have been linked to higher risk for developing coronary heart disease. This study examined the extent to which blood levels of omega-3 FAs and/or trans FAs are associated with risk for hospital admission for an acute coronary syndrome (ACS, heart attack or unstable angina pectoris).

The researchers analyzed the FA composition of whole blood from 94 patients with ACS and 94 age-, gender-, and race-matched control patients without ACS, after adjusting for smoking status, alcohol use, diabetes, body mass index, blood lipids, and history of heart attack or revascularization (angioplasty or bypass surgery). Whole blood long-chain omega-3 FA (eicosapentaenoic acid, EPA, plus docosahexaenoic acid, DHA) content was 29 percent lower in ACS patients than in control patients, whereas trans FA

content, although tending to be higher, was not statistically different. Thus, low blood EPA + DHA content was an independent predictor of increased risk for ACS. This difference remained significant after adjusting for other factors, including serum lipid levels, such as cholesterol and triglycerides. Low blood levels of EPA + DHA may serve as a new, modifiable risk factor for ACS, conclude the researchers. Several factors were associated with lower omega-3 FA levels: smoking, no college education, male gender, low high-density lipoprotein cholesterol levels, and high triglyceride levels. The study was supported in part by AHRQ (HS11282).

See “Blood omega-3 and trans fatty acids in middle-aged acute coronary syndrome patients” by William S. Harris, Ph.D., Kimberly J. Reid, M.S., Scott A. Sands, Ph.D., and John A. Spertus, M.D., M.P.H., in the January 2007 *American Journal of Cardiology* 99, pp. 154-158. ■

Outcomes/Effectiveness Research

Studies examine medication adherence and group medical visits among persons with high blood pressure

Only 37 percent of American adults have normal blood pressure (BP) or hypertension control (systolic BP less than 140 mm Hg and diastolic BP less than 90 mm Hg). Even among patients treated with antihypertensive medications, hypertension control remains suboptimal at about 54 to 59 percent. Poor medication adherence

may contribute to low hypertension control rates. Certain individuals are less likely to comply with antihypertensive medication regimens than others, according to a new study. A second study indicates that underserved patients are willing to attend group visits for hypertension treatment, which may be a viable approach to their chronic disease care. Both studies were

supported by the Agency for Healthcare Research and Quality (HS11834). They are briefly discussed here.

Hyre, A.D., Krousel-Wood, M.A., Muntner, P., and others. (2007, March). “Prevalence and predictors of poor antihypertensive medication

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High blood pressure

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adherence in an urban health clinic setting.” *Journal of Clinical Hypertension* 9(3), pp. 179-186.

Researchers found that few individuals with high blood pressure take their antihypertensive medication exactly as prescribed. A survey of 295 patients with hypertension (mean age of 56 and who were taking antihypertensive medication) from an urban medical clinic assessed patients’ sociodemographics, medical history, BP knowledge, experiences with health care, and antihypertensive medication adherence. Nearly all patients had a family history of hypertension. Only about one-third of patients had good (35.6 percent) or medium (36 percent) medication adherence, and slightly over a fourth (28.4 percent) had poor medication adherence. For example, these patients may not have taken their medicine when they weren’t feeling well or forgot to take doses.

Certain individuals were less likely than others to take their medication as prescribed. Adults younger than 50 years and those ages 51 to 60 years were 39 percent and 53 percent, respectively, more likely to not follow their medication regimens compared with their counterparts who were older than 60 years. Also, blacks were 4.3 times

and men were 2.4 times more likely not to follow their medication regimens. Finally, patients who cared for dependents, those initially diagnosed with hypertension within the past 10 years who were uncomfortable about asking the doctor questions, and those who wanted to spend more time with the doctor were more likely to have poor medication adherence.

People with a history of heart attack or stroke and those who could see their primary care doctor when needed were more likely to take their medication as prescribed. Also, patients reporting better access to care, satisfaction with their care, and good patient-doctor relationships were significantly less likely than their counterparts to omit taking medications.

Kawasaki, L., Muntner, P., Hyre, A.D., and others. (2007, May). “Willingness to attend group visits for hypertension treatment.” *The American Journal of Managed Care* 13(5), pp. 257-262.

Group visits for management of chronic disease have improved patient satisfaction and clinical outcomes, while reducing use of care. However, patients must be willing to attend group visits. This study found that a group of disadvantaged patients with hypertension were willing to attend group medical visits. The patients

met regularly for routine medical care in groups of 10 to 15 for visits which were led by their regular physician and a registered nurse. The group visits lasted 1 to 1.5 hours and met every 2 to 3 months.

Although the effectiveness and cost savings of these visits need further study, the researchers note that the visits may prove to be a desirable chronic disease care approach for underserved groups. They surveyed 296 patients with hypertension from an urban public hospital’s primary care clinic in 2004 and 2005. Most respondents were black women with a monthly income of \$1,000 or less and a mean age of 56. After a brief description of the group medical visit, 68 percent of respondents said they were willing to attend the group visits for hypertension management.

Offering three incentives—reduced waiting time to see their physicians, having more time with their physicians, and parking or transportation subsidies—increased willingness to participate to 80 percent. In the survey, 63 percent of patients wanted to spend more time with their physician. This was significantly correlated with willingness to attend group visits, and may reflect a strong patient-physician relationship. It may also indicate patients’ desire for more social or emotional support, which group visits can provide. ■

Health Care Costs and Financing

Educational outreach to individual physicians to improve antihypertensive drug prescribing can reduce drug costs

Low-dose thiazide diuretics are recommended as the initial medication for patients with hypertension (unless they have contraindications to the drugs). Educational outreach to individual physicians (individual academic detailing) to improve recommended prescribing of antihypertensive medications can reduce drug costs. Academic detailing

involves the use of trained “detailers”—usually doctors or clinical pharmacists—who conduct face-to-face visits with prescribers to encourage use of guideline-recommended medications. However, due to the perception of the costs of this face-to-face intervention, academic detailing has not been widely adopted.

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Antihypertensive drug prescribing

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Researchers at the HMO Research Network Center for Education and Research in Therapeutics randomized three HMO practice sites to individual academic detailing (a single clinical visit from a trained physician, at a cost of \$7,200), three sites to group academic detailing (detailers delivered 45-minute academic detailing sessions to seven or eight clinicians, at a cost of \$5,500), and three sites to usual care (receiving antihypertensive prescribing guidelines only, at a cost of \$1,000).

The group detailing intervention resulted in no change in the average daily cost of antihypertensive agents. However, only 55 percent of eligible physicians participated in the educational sessions. Estimated annual cost savings (after the cost of the program) for

the three centers randomized to individual detailing was \$21,711 or \$289 in savings per physician. Extrapolating these results to the plan level (7,600 newly diagnosed and treated hypertensive patients in a typical year) would result in an estimated \$155,000 savings in the cost of antihypertensive medications with universal adoption of the individual detailing intervention. The study was supported in part by the Agency for Healthcare Research and Quality (HS12019 and HS10391).

More details are in "Economic analysis of a randomized trial of academic detailing interventions to improve use of antihypertensive medications," by Steven R. Simon, M.D., M.P.H., Hector P. Rodriguez, M.P.H., Ph.D., Sumit R. Majumdar, M.D., M.P.H., and others, in the January 2007 *Journal of Clinical Hypertension* 9(1), pp. 15-20. ■

Acute Care Hospitalization

One-third of patients with acute coronary syndrome and diabetes do not have their blood sugar assessed before hospital discharge

Many patients with acute coronary syndrome (ACS, unstable angina or heart attack) also suffer from diabetes, which worsens their prognosis and increases their risk of death. Clinical guidelines recommend aggressive treatment of diabetes and other risk factors for heart problems. Yet nearly one-third of patients with diabetes hospitalized for ACS do not have their blood sugar levels assessed before hospital discharge, according to a new study. In addition, although more than 60 percent of patients with diabetes assessed had poor blood-sugar control, many did not have their diabetic medications adjusted. Novel strategies to improve diabetes care at the time of hospitalization for ACS are needed, suggest the study authors.

Out of 968 patients with ACS, researchers examined the 235 who also had diabetes (24 percent) to calculate the proportion of patients whose glycemic control (HbA1c) was assessed at the time of an ACS hospitalization. They also analyzed characteristics associated with HbA1c assessment and physicians' responses to poor glycemic control. HbA1c values were known or obtained in 69 percent of the ACS patients with diabetes. Of these patients, 60 percent were poorly controlled (HbA1c greater than 7). Patients 60 to 69 years of age were 9 percent less likely and those aged 70 years and older were 29 percent less likely to have their HbA1c assessed than patients younger than 60 years.

Among patients without an HbA1c assessment, consultation by an endocrinologist increased by 60

percent the likelihood of obtaining a subsequent assessment. Among ACS patients with diabetes whose HbA1c was elevated, only 42 percent of those with an HbA1c of 7 to 9 and 69 percent of those with an HbA1c greater than 9 had their diabetic medication regimen intensified. The study was supported by the Agency for Healthcare Research and Quality (HS11282).

More details are in "Assessment of and physician response to glycemic control in diabetic patients presenting with an acute coronary syndrome," by Darcy L. Green Conaway, M.D., Jonathan R. Enriquez, M.D., Jaime E. Barberena, M.D., and others, in the December 2006 *American Heart Journal* 152, pp. 1022-1027. ■

Studies show shorter hospital stays for coronary bypass surgery reduce costs without harm to patients

During the 1990s, postoperative stays after coronary artery bypass graft surgery (CABG) became substantially shorter as hospitals took patients off assisted ventilation earlier and mobilized them earlier. A study of New York hospitals found that postoperative length of stay (LOS) for CABG patients declined by 2 days between 1992 and 1998. A second study of New York hospitals concluded that the trend toward early discharge of CABG patients decreased cumulative 60-day costs without adversely affecting patient outcomes. Both studies were led by Patricia A. Cowper, Ph.D., of the Duke Clinical Research Institute, and were supported by the Agency for Healthcare Research and Quality (HS10279). They are briefly described here.

Cowper, P.A., DeLong, E.R., Hannan, E.L., and others. (2006, December). "Trends in postoperative length of stay after bypass surgery." *American Heart Journal* 152, pp. 1194-1200.

The median postoperative length of stay for CABG patients with similar health risks declined 30 percent (about 2 days) at New York hospitals between 1992 and 1998, according to this study. The downward shift was observed across the entire distribution of postoperative LOS and was achieved in part by an increase in transfer of patients to nonacute care settings following surgery.

For example, the probability of transfer to nonacute settings increased from 4 percent in 1992 to

12 percent in 1998. Older patients were more likely to be transferred to nonacute care facilities. Other factors that increased the likelihood of transfer to nonacute care instead of discharge home were female gender, black race, urgency of procedure, severity of cardiac illness, impaired kidney function, diabetes, and prior stroke. This shifting of care to the less expensive nonacute setting may well represent more efficient care patterns, assuming clinical outcomes are not compromised, note the researchers.

They also found that hospitals accounted for 13 to 20 percent of the variation in postoperative LOS that was unexplained by patient characteristics. During the period of declining stays, hospital variability in CABG postoperative LOS first increased sharply and then fell to lower levels than initially observed, suggesting a new standard for the hospital care of bypass surgery patients. The findings were based on analysis of data from the New York Cardiac Surgery Reporting System and New York Statewide Planning and Research Cooperative System.

Cowper, P.A., DeLong, E.R., Hannan, E.L., and others. (2007, January). "Is early too early? Effect of shorter stays after bypass surgery." *Annals of Thoracic Surgery* 83, pp. 100-107.

This study of New York hospitals suggests that early discharge (postoperative stay below the 15th percentile for patients with similar risk profiles) did not adversely affect the outcomes of

elderly CABG patients, but did lower cumulative 60-day costs. From 1995 to 1998, New York hospitals varied in their tendency to discharge CABG patients early. Although 17 percent of patients overall were discharged early, early discharge varied from 2 percent of CABG patients at some hospitals to 42 percent at other hospitals. Patients who were discharged home early were no more likely to die or be readmitted to the hospital within 60 days of discharge than those with more typical lengths of stay.

In addition, CABG patients who were discharged early had lower postdischarge costs (mean of \$3,491 vs. \$5,246). This resulted in average cumulative savings of \$6,309. Early discharge patients had lower rates of physician, home health, and skilled nursing use than those with typical postoperative stays. Only outpatient hospital costs were higher among patients discharged early, owing to their greater use of physical therapy services. These results suggest that physicians are successfully identifying appropriate candidates for early discharge. The study was based on analysis of clinical data from the New York Cardiac Surgery Reporting System and claims and mortality data from Medicare and New York State for 55,889 New York CABG patients discharged home from 1995 to 1998. ■

Agency News and Notes

AHRQ's free notification service brings news and information to your e-mail inbox

The Agency for Healthcare Research and Quality (AHRQ) has launched a free user-friendly service on its Web site (www.ahrq.gov) allowing subscribers to receive automatic e-mail notices when there is new information about the Agency, its publications, data, and research results. AHRQ's customizable service offers up to 44 subscription items in 10 categories, so subscribers will receive notices only on topics in which they are interested. As a current subscriber to AHRQ's Electronic Newsletter, you will continue to receive the newsletter and also will be able

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New HCUP statistical report on hospital-based care is available online

The Agency for Healthcare Research and Quality has released a new Web-based statistical report entitled *HCUP Facts and Figures: Statistics on Hospital-Based Care in the United States, 2005*. Using the Nationwide Inpatient Sample (NIS) databases, this report presents information about hospital care in 2005, as well as trends in care from 1993 to 2005.

The *HCUP Facts and Figures* report showcases the wealth of statistics available from the HCUP NIS database. It features an overview of numerous hospital-related topics including general

characteristics of U.S. hospitals and the patients being treated; information about the most common diagnoses, conditions, and procedures associated with inpatient stays; data focusing on the costs and charges associated with hospitalizations; and a discussion of uninsured hospitalizations. Highlights of hospital care in 2005 include the fact that 6 of the 20 most costly conditions associated with hospitalizations were related to the heart and that 6 percent of all hospital discharges involved a blood transfusion. Examples of trend information presented in the report

include findings that the total number of inpatient bariatric surgeries increased 15-fold from 1995 to 2004, but stabilized in 2005; the number of hospital stays for septicemia (sepsis) rose 30 percent from 1997 to 2005; and the number of C-sections grew 67 percent between 1996 and 2005. *HCUP Facts and Figures* can be found in the Reports section of the HCUP-US Web site at www.hcup-us.ahrq.gov. A description of the NIS is also available on that site in the Databases section. ■

AHRQ releases a new guide to help consumers make health insurance decisions

The Agency for Healthcare Research and Quality and America's Health Insurance Plans released "Questions and Answers about Health Insurance," a new guide designed to help consumers make important health insurance decisions. The guide explains how different types of health insurance work, including network-based plans, non-network based coverage, and consumer-directed health plans. It also provides a glossary of health insurance terms as well as additional resources to obtain more information.

This guide is a critically important resource because today's more complex health care system requires consumers and employers to be more informed about their choices. Choosing and understanding how to use a health plan may be the key to helping consumers get the care they need when they need it.

To see or download a free copy of "Questions and Answers about Health Insurance," visit www.ahrq.gov/consumer/insuranceqa/. ■

Announcements

MEPS and HCUP workshops will be offered at APHA annual meeting

The Agency for Healthcare Research and Quality (AHRQ) will be conducting two separate workshops at the American Public Health Association (APHA) Learning Institute, in Washington, D.C., on two of its data resources. On November 3, there will be a 1-day lecture workshop on the Medical Expenditure Panel Survey (MEPS). The purpose of this workshop is to facilitate the use of the MEPS Household Component public use data files by the health services research community. On November 4, there will be a half-day workshop on the Healthcare Cost and Utilization Project (HCUP), to introduce health services and policy researchers to HCUP and to resources that will enable them to apply HCUP data to their research interests. Attendees will receive a CD with information about HCUP that includes research examples using HCUP and instructions on obtaining HCUP data and tools.

Both the MEPS and HCUP workshops are approved for CME, CHES, and nursing contact hours credits. Neither workshop requires SAS experience. Both workshops require registration. See www.apha.org/programs/education/APHA-Learning+Institute.htm for registration materials and more information. (MEPS is LI #1007 and HCUP is LI #2015.) The fee for the MEPS workshop is \$50, and the fee for the HCUP workshop is \$240. Please contact workshopinfo@ahrq.hhs.gov if you have questions about the MEPS workshop, and hcup@ahrq.gov if you have questions about the HCUP workshop.

Additionally, on November 5 from 12:30 p.m.-1:30 p.m., within the "Statistical Analysis: Financing Health Care Cost" poster session, AHRQ will present a poster entitled "Using Administrative Data for Disease Surveillance." This poster will showcase how HCUP resources can be used in disease surveillance efforts. ■

AHRQ announces new grant awards for Health Services Research Dissertation (R36)

The Agency for Healthcare Research and Quality (AHRQ) supports dissertation research undertaken as part of an academic program to earn a research doctoral degree. Through this program, AHRQ seeks to expand the number of researchers who address its mission "to improve the quality, safety, efficiency and effectiveness of

health care for all Americans." Recently, the Agency awarded two dissertation grants to the following individuals from universities across the country:

Vallire Hooper
1R36HS017386-01
Medical College of Georgia
The Relationship of Type of
Healthcare Provider to Clinical
Practice Guidelines

Advisor: Lucy N. Marion, PhD,
RN, FAAN

Anthony Waddimba
1R36HS016831-01A1
Boston University
Provider Attitudes and
Performance: Responses to Pay –
for- Quality Incentives
Advisor: Jim Burgess, PhD ■

Research Briefs

Beyea, S.C., Simmons, D., Hicks, R.W. (2007, March). "Caution: Tubing misconnections can be deadly." (AHRQ grant HS11544). *AORN Journal* 85(3), pp. 633–635.

Tubing misconnections occur when one end of a tube or catheter is unintentionally connected to the wrong tube or device. The U.S. Pharmacopeia has collected over 300 incident reports identifying many misconnection errors, including the connection of intravenous (IV) fluids to indwelling urinary catheters, epidural catheters, nasogastric tubes, the distal port of a pulmonary artery catheter, and external dialysis catheters. One factor allowing misconnection errors to occur is that there are no published manufacturing standards to guide manufacturers in their use of varied connections. The Joint Commission considered the problem serious enough to issue an alert in 2006. It recommends prevention strategies such as: avoiding the purchase of non-IV equipment that can connect with IV line connectors; testing new tubing and catheter purchases for performance, safety, and usability; and tracing tubes and catheters to the point of origin before connecting a new device or infusion.

Butt, A. A., Tsevat, J., Ahmad, J., and others. (2007, May). "Biochemical and virologic parameters in patients co-infected with hepatitis C and HIV versus patients with hepatitis C mono-infection." (AHRQ grant HS13220). *American Journal of the Medical Sciences* 333(5), pp. 271–275.

Liver fibrosis and disease is accelerated in patients co-infected

with HIV and hepatitis C virus (HCV) compared with patients infected only with HIV. Previous studies of the effects of HIV co-infection on serum alanine aminotransferase (ALT), a biochemical marker of liver injury, and HCV RNA levels have had conflicting results. This study examined ALT and HCV RNA levels among 390 patients; 315 were HCV mono-infected and 75 were HCV-HIV co-infected. In contrast to previous studies that found no difference in ALT levels or higher ALT levels in co-infected patients, this study found that co-infected patients had lower ALT levels, but were more likely to have detectable HCV RNA and to have HCV RNA levels greater than 6 log 10. The authors concluded that criteria for performing liver biopsy (not often performed in HIV-infected patients) and treating HCV infection in co-infected patients may need to be revisited.

Califf, R.M. (2007, January). "Benefit assessment of therapeutic products: The Centers for Education and Research on Therapeutics." (AHRQ grant HS10548). *Pharmacoepidemiology and Drug Safety* 16 (1), pp. 5–16.

Payers, providers, and patients increasingly are expressing concern that research is not geared toward producing information needed to guide medical decisionmaking. This Center for Education and Research on Therapeutics workshop, held at Duke University Medical Center, brought together experts from industry, academia, practice, and government to design a research agenda of benefit assessment of medications and medical devices. The issues discussed included those that can

be identified before a study begins, those that commonly arise after a study is completed, biomarkers and surrogates, use of benefit findings in defining quality and performance indicators, implementation of findings into health systems and formularies, and methods of comparative trials. The workshop participants concluded that a research agenda for improving benefits assessment should investigate a number of issues. These issues include how therapeutic benefit should be communicated to a variety of audiences, key methodological issues in study design, key methods of assessing biomarkers, and the use of formularies and coverage decisions to provide information linking benefit assessment to clinical practice.

Chamberlain, J.M., Joseph, J.G., Patel, K.M., and others. (2007, June). "Differences in severity-adjusted pediatric hospitalization rates are associated with race/ethnicity." (AHRQ grant HS10238). *Pediatrics* 119, pp. e1319–e1324.

This study tested whether severity-adjusted emergency department pediatric admission rates are associated with race/ethnicity in a 13-site sample of 8,952 children (3,112 white, 3,288 black, and 2,552 Hispanic). The sickest children (those in the two highest illness-severity quintiles) in all three groups were admitted at similar rates; yet, white patients in the two lowest illness-severity quintiles were admitted at 1.5 to 2 times the expected rate. The Pediatric Risk of Admission (PRISA) score, developed by the study authors, revealed that white children were overadmitted when

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not severely ill rather than that black and Hispanic patients were being denied essential admissions.

Clancy, C. (2007, June). "Putting the patient in patient safety." *Journal of Patient Safety* 3(2), pp. 65–66.

This commentary by the director of the Agency for Healthcare Research and Quality (AHRQ) emphasizes the need to include the patient as a participant in efforts to improve the safety of health care. To help achieve this goal, AHRQ, in partnership with the Ad Council, has launched the campaign "Questions are the Answer: Get More Involved With Your Health Care." Its goal is to get patients to become partners in their health care by asking questions of their clinicians, including physicians, nurses, pharmacists, and others. A key feature of the campaign is a Web site (www.ahrq.gov/questionsaretheanswer) that features a "Question Builder," allowing patients to select from a series of targeted questions. Patients can then bring their personalized list to their clinician to make their care more efficient. AHRQ is also asking clinicians to establish systems and practices that include the patient as an active participant. Reprints (AHRQ Publication No. 07-R076) available from AHRQ.*

Fan, M. and Zhou, X. (2007, June). "A simulation study to compare methods for constructing confidence intervals for the incremental cost-effectiveness ratio." (AHRQ grant HS13105). *Health Services & Outcomes Research Methodology* 7, pp. 57–77.

The incremental cost-effectiveness ratio (ICER) measures

cost-effectiveness in the health sciences. Since a ratio of random variables is complex, constructing an appropriate confidence interval for the ICER is challenging. This paper contains an extensive simulation to compare the most commonly used methods of constructing confidence intervals as well as new methods that have not been previously evaluated. The researchers simulated samples from a wide range of distributions, and considered the less desired scenarios when the true standardized incremental effect was near zero. The results suggest that confidence methods based on Fieller's method, bootstrap-percentile method, and bootstrap-standard method consistently yield reasonable coverage percentages across different sample distributions.

Hayward, R.A., Heisler, M., Adams, J., and others. (2007, August). "Overestimating outcome rates: Statistical estimation when reliability is suboptimal." (AHRQ grant HS11540). *Health Services Research* 42(4), pp. 1718–1738.

Up to 100,000 Americans die in hospitals each year due to medical errors. Using this statistic as a case study, the researchers demonstrate how and why ignoring measurement error can result in a large bias in estimating the prevalence of an outcome. They outline several ways to recognize and avoid such bias in future work. For example, most estimates of the rate of preventable deaths in U.S. hospitals rely upon classifying cases using one to three physician reviewers (implicit review), a method with low to moderate statistical reliability. When the true outcome rate is low (less than 20 percent), using an outcome measure that has low-to-moderate reliability

will generally result in substantially overestimating the proportion of the population having the outcome, unless statistical methods that adjust for measurement error are used. With reference to the preventable deaths literature, the researchers believe that implicit review finds very few clear-cut "preventable deaths" in which a majority of reviewers would rate the case as "preventable." Yet, there are many deaths in which a substantial proportion of reviewers would rate the death as "preventable."

Henggeler S. W. (2007, May). "Juvenile drug courts: Emerging outcomes and key research issues." (AHRQ grant HS10871). *Current Opinions in Psychiatry* 20, pp. 242–246.

The purpose of this review was to examine the effectiveness of juvenile drug courts and suggest priorities for juvenile drug court research. The author describes the emergence of juvenile drug courts (400 of them operate in the United States), their critical components, and findings from both the adult and juvenile drug court research. The author also summarizes the findings of a randomized controlled trial study in which the juvenile drug court was more effective than the family court in decreasing substance abuse and criminal behavior. However, rearrest rates and incarceration rates were similar. The author suggests that the intensive and continuous surveillance experienced by drug court participants increased the probability that their fewer transgressions would be identified and receive consequences. The author outlines priorities for future research on juvenile drug courts and concludes that the integration

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of evidence-based treatments of adolescent substance abuse holds the potential to further enhance the effectiveness of juvenile drug courts.

Hermann, R.C., Rollins, C.K., and Chan, J.A. (2007, March/April). "Risk-adjusting outcomes of mental health and substance-related care: A review of the literature." (AHRQ grant HS10303). *Harvard Review of Psychiatry* 15(2), pp. 52–69.

Assessing outcomes of mental health and substance abuse problems requires adjustment for patient risk factors. However, risk adjustment for these conditions lags behind other areas of medicine. These researchers reviewed 72 models on risk adjustment addressing utilization, 74 models of expenditures, and 15 models of clinical outcomes. Models based on diagnostic and sociodemographic information derived from administrative data sets explained on average 6.7 percent of variance in patient outcomes, whereas models using more detailed sources of data explained a more robust 22.8 percent. The low explanatory power of models based on administrative data sets suggests that clinically richer sources of data will be needed for risk adjustment. The researchers conclude that further development of methods for risk adjustment, along with broader application and testing of models for mental health and substance abuse conditions, constitutes a substantial agenda for the future.

Ho, K., Kelley, E., Brady, J., and Clancy, C. (2007, July/August). "Missed opportunities for quality improvement." *American Journal of Medical Quality* 22(4), pp. 296–299.

In January 2007, AHRQ released two companion reports, the 2006 National Healthcare Quality Report and the 2006 National Healthcare Disparities Report. These reports have been published annually for the last four years. The quality report tracks quality measures such as the proportion of heart attack patients who receive recommended care when they arrive at a hospital and the disparities report summarizes differences in quality and access experienced by different racial, ethnic, and income groups. These two volumes show that progress has been made since 2005, but also that more can be done prevent the occurrence and progression of illness. The quality report shows that of the 40 core measures with trend data, 26 showed significant improvement. However, the use of proven prevention strategies such as colorectal cancer screenings and diabetes screenings lagged significantly behind other gains in health care. The disparities report shows that blacks, Hispanics, and low-income people received poorer quality of care in more than 70 percent of the measures. Disparities in access to care for Hispanics are increasing, whereas they are decreasing among other racial and ethnic groups. The authors further urge patients and their caregivers to become partners in their health care through the "Questions are the Answer: Get More Involved With Your Health Care" campaign (www.ahrq.gov/questionsaretheanswer). Reprints (AHRQ publication no. 07-R075) are available from AHRQ.*

Jordan, H.S., Pine, M., Elixhauser, A., and others. (2007, June). "Cost-effective enhancement of claims data to improve comparisons of patient data." (AHRQ contract no. 233-

02-0088). *Journal of Patient Safety* 3(2), pp. 82–90.

This study was designed to examine the cost-effectiveness of incremental additions of clinical data to an administrative data set to improve the usefulness of the Agency for Healthcare Research and Quality's Patient Safety Indicators (PSIs) for risk-adjustment of hospitals' adverse-event outcome rates. PSIs are an administrative data-based tool that is increasingly being used to measure potential in-hospital patient safety problems. The authors of this study constructed a series of risk-adjustment models, using progressively more complex data elements. They used hospital discharge data from 188 Pennsylvania hospitals gathered between July 2000 and June 2003 and supplied by the Pennsylvania Health Care Cost Containment Council. In general, adding a "present on admission" (POA) code to secondary diagnoses resulted in modest improvements in predictive power, whereas numerical laboratory data produced substantial improvements. Adding both of these elements resulted in relatively small cost increases per unit increase in effectiveness. This result contrasts with the relatively high cost and low return of abstracting clinical findings from medical charts. Reprints (AHRQ publication no. 07-R063) are available from AHRQ.*

Levine, R.S., Briggs, N.C., Hollar, D. and others. (2007, Spring). "Descriptive and analytic epidemiologic studies to identify modifiable determinants of disparities in mortality rates between blacks and whites." (AHRQ grant HS11131). *Ethnicity and Disease* 17, pp. 280–283.

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Epidemiological studies have shown no sustained proportional decrease in the disparity in national mortality rates between blacks and whites since World War II, despite Federal, State, and local Healthy People 2010 efforts. The authors of the study examined 41 mid-sized geographic areas with similar demographic characteristics but dissimilar health outcomes to see if this approach could lead to the formulation of hypotheses regarding modifiable determinants of disparities in mortality rates between blacks and whites. Although 39 of the 41 areas had a black-white mortality rate ratio (MRR) of greater than 1.0, there were 4 distinct black-white mortality patterns: relatively high mortality rates for both blacks and whites and a low black-white MRR; high mortality rates for blacks but low mortality rates for whites, with a high black-white MRR; low mortality rates for both blacks and whites with equal MRR; and low mortality rates for blacks but relatively high mortality rates for whites with a MRR approximating unity.

Nyman, J.A., Barleen, N.A., Dowd, B.E., and others. (2007, July). "Quality-of-life weights for the US population. Self-reported health status and priority health conditions, by demographic characteristics." (AHRQ grant HS014097). *Medical Care* 45, pp. 618–628.

The purpose of this study was to produce nationally representative Quality-of-Life (QOL) weights for self-reported health status and for 10 "priority" health conditions by demographic characteristics. The researchers used Medical Expenditures Panel Survey data on health status and data from a recent

study that calculated QOL weights. The researchers suggest that these QOL weights would be useful for conducting cost-utility analyses for the impact of government policies or other "large" interventions on the health of populations. For example, prevention studies could assess population level interventions such as reducing the availability of soft drinks in schools as a way of reducing the incidence of diabetes among school children. If the intervention prevented diabetes in this group, the researchers could then calculate the difference in QOL between children with and without diabetes throughout their expected lifetimes.

Saag, K. (2007, June). "Mend the mind, but mind the bones! Balancing benefits and potential skeletal risks of serotonin reuptake inhibitors." (AHRQ grant HS014097). *Archives of Internal Medicine* 167, pp. 1231–1232.

In the treatment of depression, selective serotonin reuptake inhibitors (SSRIs) have long surpassed tricyclic antidepressants (TCAs) in the marketplace and now rank third among all drug classes in U.S. prescription drug sales. Two new studies in this issue raise concerns about a reduction in bone mineral density (BMD) in persons receiving SSRIs but not among persons receiving TCAs. These studies were based on unique national cohorts; one was a cross-sectional study of men and the other a longitudinal analysis of women. These studies, along with other research, provide sufficient evidence to support a preliminary recommendation that depression, and in particular SSRIs, be added to the list of risk factors that prompt clinicians to more carefully consider a patient's bone health.

Schmittiel, J., Vijan, S., Fireman, B., and others. (2007, April). "Predicted quality-adjusted life years as a composite measure of the clinical value of diabetes risk factor control." (AHRQ contract no. 290-00-0015). *Medical Care* 45(4) pp. 315–321.

This study explored the use of quality-adjusted life years (QALYs) as a composite measure of the clinical value attributable to better control of the three major physiological risk factors (hemoglobin A1c, low-density lipoprotein-cholesterol (LDL-c), and systolic blood pressure). The researchers used a Markov model to simulate risk factor and case-mix variables among a large group of diabetic patients insured by one health insurance group. The effect of systolic blood pressure control on an increase in QALYs is substantially larger than that of the other two clinical markers, especially at higher levels of blood pressure. As measures of care quality, weighted QALYs might drive health plans, providers, and patients toward focusing on the most effective interventions or self-management changes.

Wren, T. A. L., Sheng, M., Hara, R., and others. (2007, March). "Agreement among three instruments for measuring functional health status and quality of life in pediatric orthopaedics." (AHRQ grant HS014169). *Journal of Pediatric Orthopaedics* 27(2), pp. 233–240.

Three instruments are commonly used to measure function and quality of life for pediatric orthopedics patients: the Child Health Questionnaire (CHQ), the Pediatric Outcomes Data Collection Instrument (PODCI), and the Pediatric Evaluation and Disability Inventory (PEDI). This

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study compared answers to specific questions from the CHQ, PODCI, and the PEDI to determine how consistent parents are in answering the same or similar questions, the impact of variations in wording, and if these results are influenced by language (English or Spanish). The parents of 66 children with cerebral palsy completed all three questionnaires within a 1-day period. Of the eight questions that overlapped between the CHQ and PODCI, six had poor to fair agreement for parental responses. Only the two questions with nearly exact wording had similar parental responses. All five questions

addressed by both the PODCI and the PEDI had poor agreement in parental responses. The results suggest that differences in wording have unpredictable and significant effects on parental responses to questionnaires.

Zhan, C., Elixhauser, A., Friedman, B., and others. (2007, April). "Modifying DRG-PPS to include only diagnoses present on admission. Financial implications and challenges. *Medical Care* 45 (4), pp. 288–291.

Quality and safety research has been hindered by the inability to distinguish between present on admission (POA) comorbid conditions and those conditions

acquired in the hospital. Pay-for-performance initiatives and new Medicare legislation requiring reduced payment for hospital-acquired infections increase the need for POA coding. By analyzing Health Care and Utilization Project (HCUP) data for 2003 from California and New York, the only two States currently requiring date-stamping for secondary diagnosis codes, the researchers determined that Medicare could have saved \$56 million in California, \$51 million in New York, and \$800 million total in the United States, if Medicare had reimbursed hospitals only for POA conditions. Reprints (AHRQ publication no. 07-R081) are available from AHRQ)* ■

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