Research Activities

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Highlights

Departments

Regular Features

Adverse drug events occur frequently in long-term care facilities, and nearly half of them are preventable

A new study of two large, long-term care facilities in Canada and Connecticut identified nearly 10 adverse drug events (ADEs) per 100 resident-months. Over four ADEs per 100 resident-months (42 percent) were judged preventable. About 61 percent of the 225 serious, life-threatening, or fatal ADEs were deemed preventable compared with 34 percent of the 590 less serious ADEs. Over 70 percent of ADEs resulted in symptoms lasting more than 1 day. Six events resulted in permanent disability or death. Neuropsychiatric events (for example, oversedation, confusion, hallucinations, delirium) were the most common type of preventable event and second most common type of non-preventable event, according to the study which was supported by the Agency for Healthcare Research and Quality (HS10481).

The most frequently identified types of preventable ADEs included gastrointestinal (abdominal pain, diarrhea, constipation, impaction), hemorrhagic (bleeding events), renal/electrolytes (for example, dehydration and renal failure), and metabolic/endocrine (hypoglycemic events, thyroid abnormalities) events. Warfarin, atypical antipsychotics, loop diuretics, intermediate-acting benzodiazepines, opioids, and angiotensin-converting enzyme inhibitors were the medications most commonly involved in ADEs.

After adjusting for multiple factors, residents taking drugs in several drug categories were at increased risk of a preventable ADE (odds ratio, OR of 3.4 for those taking antipsychotics, 2.8 for anticoagulants, 2.2 for diuretics, and 2.0 for antiepileptics). These findings reinforce the need to focus on the ordering and monitoring of drug therapies to prevent ADEs in long-term care patients, notes lead researcher Jerry H. Gurwitz, M.D., of the University of Massachusetts Medical School. Study findings are based on analyses of ADEs over an 8-month period in one facility and a 9-month period in another facility during 2000 and 2001.

More details are in "The incidence of adverse drug events in two large academic long-term care facilities," by Dr. Gurwitz, Terry S. Field, D.Sc., James Judge, M.D., and others, in the March 2005 *American Journal of Medicine* 118, pp. 251-258. ■

Linking lab and pharmacy databases can help identify patients who don't undergo followup for abnormal tests

Although concerns about patient safety have mostly focused on medication errors, diagnostic errors represent an important and frequent problem. Timely followup of abnormal laboratory test results is critical to diagnosing medical problems. Linking laboratory and pharmacy databases could help to identify patients who don't undergo followup for abnormal test results, according to a recent study supported by the Agency for Healthcare Research and Quality (HS11552).

Researchers led by Gordon D. Schiff, M.D., of Rush-Presbyterian-St. Luke's Medical Center, downloaded thyroid stimulating hormone (TSH) test results for 2 consecutive years from a laboratory database. They then linked this database with a pharmacy database to screen for patients who were not receiving levothyroxine and had elevated TSH levels, indicating abnormally low levels of the thyroid hormone, thyroxine (hypothyroidism). Patients with elevated TSH levels lacking prescriptions for levothyroxine were followed up by telephone and record review.

During the 2-year period, 982 (2.7 percent) of 36,760 patients tested for TSH level had elevated TSH levels. Of these, 177 patients (18 percent) had no recorded levothyroxine prescriptions. The investigators were able to contact 123 of these patients and found that 12 patients in 2000 and 11 patients in 2001 were unaware of their abnormal test results or a diagnosis of hypothyroidism. The investigators were unable to reach another 5.5 percent of patients with elevated TSH levels, who also may have been unaware of their test results. Linking laboratory and pharmacy databases also uncovered other quality issues, such as undertreatment with levothyroxine (elevated TSH levels despite treatment), delays in therapy adjustment, and lack of patient adherence to treatment.

See "Missed hypothyroidism diagnosis uncovered by linking laboratory and pharmacy data," by Dr. Schiff, Seijeoung Kim, Ph.D., Nela Krosnjar, and others, in the March 14, 2005 *Archives of Internal Medicine* 165, pp. 574-577. ■

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Radiologists with more experience reading mammograms aren't necessarily more accurate in interpreting them

Radiologists differ in their ability to interpret screening mammograms accurately. However, accuracy is not associated with volume of mammograms read or years of experience. In fact, more experienced radiologists are more likely to call a mammogram positive than they are to have a keener ability to detect cancer, according to a study supported by the Agency for Healthcare Research and Quality (HS10591).

Training prior to practice may be the most important component of accuracy in mammogram interpretation. However, this conclusion requires further study, according to William E. Barlow, Ph.D., of the University of Washington, Seattle. Dr. Barlow and his colleagues investigated the relationship of radiologist

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Mammogram accuracy

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characteristics to the accuracy of mammogram interpretation from 1996 to 2001.

They linked nearly 500,000 screening mammograms interpreted by 124 radiologists with breast cancer outcomes data. The radiologists completed a survey on demographics, malpractice concerns, years of experience interpreting mammograms, and number of mammograms read annually. Within 1 year of mammography, 2,402 breast cancers were identified, a rate of 5.12 per 1,000 screening mammograms.

There was no significant association between accuracy and years interpreting mammograms or mammography volume, after adjusting for variables that affect the threshold for calling a mammogram positive (cancer). The researchers conclude that increasing volume requirements is unlikely to improve overall mammography accuracy.

See "Accuracy of screening mammography interpretation by characteristics of radiologists," by Dr. Barlow, Chen Chi, M.S., Patricia A. Carney, Ph.D., and others in the December 15, 2004 *Journal of the National Cancer Institute* 96(24), pp. 1840-1850. ■

Publicly reporting quality information may inadvertently reduce, rather than improve, care quality

Health care report cards publicly report information about physician, hospital, and health plan quality in an attempt to improve quality. The goal is to help patients, referring physicians, and health care purchasers to select high-quality physicians and to motivate physicians to improve their care quality. However, the value of publicly reporting quality information is largely undemonstrated. It may even inadvertently reduce, rather than improve, quality of care, caution University of Pennsylvania researchers, Rachel M. Werner, M.D., Ph.D., and David A. Asch, M.D., M.B.A., in a recent paper.

Unintended negative consequences include causing physicians to avoid sick patients in an attempt to improve their quality ranking, encouraging physicians to achieve "target rates" for health care interventions even when it may be inappropriate among some patients, and discounting patient preferences and clinical judgment. Given these limitations, the researchers believe it may be necessary to reassess the role of public quality reporting in quality improvement.

In a second paper, Drs. Werner and Asch and their colleague, Daniel Polsky, Ph.D., present the results of their study of the effects of report cards on racial disparities in coronary artery bypass graft (CABG) surgery. The researchers found that the publishing of CABG report cards in New York was associated with a widening of the disparity in CABG use between white versus black and Hispanic patients. This racial and ethnic disparity in CABG use in New York significantly increased after that State's CABG report card was released, whereas disparities did not change significantly in comparison States that did not release report cards. Over time, this increase in racial and ethnic disparities decreased to levels similar to those before the release of report cards.

The researchers suggest that including measures of the

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Quality information reporting

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appropriateness of care might improve report cards. In the case of CABG report cards, appropriateness criteria would diminish surgeons' incentive to substitute potentially less appropriate low-risk patients for potentially more appropriate high-risk patients. Focusing the attention of report cards on processes of care rather than patient outcomes would also reduce patient avoidance. Finally, releasing the information only to physicians who are being rated might encourage them to improve their performance without giving them an incentive to avoid patients they perceive as being high risk. Both studies were supported in part by the Agency for Healthcare Research and Quality (T32 HS00009).

For details, see "The unintended consequences of publicly reporting quality information," by Drs. Werner and Asch, in the March 9, 2005 *Journal of the American Medical Association* 293(10), pp. 1239-1244; and "Racial profiling: The unintended consequences of coronary artery bypass graft report cards," by Drs. Werner, Asch, and Polsky, in the March 15, 2005 *Circulation* 111, pp. 1257-1263. ■

Physicians should disclose financial incentives, address patients' reactions, and negotiate a fair plan to win trust

Many U.S. physicians receive financial incentives to limit their ordering of expensive tests and procedures, and most consumers want to know how these incentives affect their care. A new study reveals that some disclosure strategies are more likely to invoke patient trust, a clearer understanding of physician motivation, and a greater willingness to remain with the physician and health plan. The study was supported by the Agency for Healthcare Research and Quality (HS09982).

Ideally, the physician should disclose financial incentives to limit testing, address patients' reactions, and negotiate a fair plan to win their trust. This is particularly important among minority patients who are less quick to trust health care professionals in general, explains Wendy Levinson, M.D., of the University of Toronto.

Dr. Levinson and her colleagues analyzed responses from the 2002 General Social Survey of 2,765 English-speaking U.S. households. Those interviewed discussed their reaction to an audiotaped scenario of a physician discussing the impact of financial incentives on ordering a magnetic resonance imaging (MRI) exam. The subjects heard one of six randomly selected disclosure strategies. Nearly all respondents (95 percent) wanted to be told about incentives, and 80.5 percent wanted to be told at the time of enrollment in a health plan.

Patients were least likely to seek a second opinion about the necessity of an MRI with two strategies: "addressing emotions" (encouraging patients to share concerns, even if conflict surfaces) and "negotiation" (examining physician and patient perspectives and finding an acceptable plan for both). They perceived referring to a "common enemy" (that is, the health plan policies) and "denying influences" (of health plan incentives) most negatively.

See "The effect of physician disclosure of financial incentives on trust," by Dr. Levinson, Audiey Kao, M.D., Ph.D., Alma M. Kuby, M.B.A., and Ronald A. Thisted, Ph.D., in the March 28, 2005 *Archives of Internal Medicine* 165, pp. 625-630. ■

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New Web-based ICU safety reporting system may have the potential to reduce medical errors at ICUs across the country

The voluntary and anonymous Intensive Care Unit Safety Reporting System (ICUSRS), modeled after the Aviation Safety Reporting System that has been highly successful in identifying and rectifying safety problems in aviation, has the potential to do the same for intensive care units (ICUs). The Web-based system, developed with support from the Agency for Healthcare Research and Quality (HS11902), currently includes reports from 23 ICUs throughout the United States. During the first year, a total of 854 reports were submitted by 18 ICUs, according to Peter J. Pronovost, M.D., Ph.D., of the Johns Hopkins University School of Medicine, and his colleagues.

Reports revealed that inadequate training and education were major factors contributing to incidents. Team factors also contributed to incidents, particularly poor written and verbal communication among team members and flawed team structure. About 72 percent of reported incidents were due to more than one system factor. Most incidents did not lead to harm, although 21 percent of incidents led to physical injury, and 14 percent of incidents were anticipated to increase ICU length of stay.

On each report, an anonymous filer identifies system factors that contributed to a medical error or near-miss. These include training and education factors (lack of knowledge or skills or failure to follow an established protocol); team factors (verbal or written communication problems during patient hand-offs at shift changes, routine care, or crises); patient factors (for example, agitation or language barriers); ICU environment (staffing levels, workload, and availability of equipment); provider factors (for example, fatigue and attitude); task factors (availability of protocols or test results); and institutional environment (financial resources and time constraints). Data are reported back to the ICU site study teams and frontline staff through monthly reports, case discussions, and a quarterly newsletter to help them identify trends within their own ICU and other ICUs and learn ways to improve safety.

See "Creating the Web-based Intensive Care Unit Safety Reporting System," by Christine G. Holzmueller, Dr. Pronovost, Fern Dickman, M.P.H., and others in the March-April 2005 *Journal of the American Medical Informatics Association* 12, pp. 130-139. ■

Executive walk rounds are a promising tool for improving the safety climate of hospitals

Many hospitals are implementing the practice of executive walk rounds (EWRs). EWRs consist of visits by hospital executives to patient care areas to discuss patient safety issues with providers. The executive may ask providers to discuss specific events or general processes that could put patients at risk for harm, ask for suggestions to improve patient safety, and verbalize their commitment to improving safety at the hospital. Discussions between the executive and providers are documented and can lead to action, which is followed by feedback to participants.

EWRs are a promising tool for improving the safety climate of hospitals, according to a recent study that was supported in part by the Agency for Healthcare Research and Quality (HS11544). In the study, Eric J. Thomas, M.D., of the University of Texas Medical School at Houston, and his colleagues randomized 23 intensive care units or wards treating similar types of patients at a teaching hospital to receive EWRs or usual care. They administered the Safety Climate Survey prior to and after EWRs were begun to assess providers' attitudes about safety. EWRs were conducted at each EWR unit by one of six hospital executives once a month for three visits.

Before EWRs, the mean safety climate scores for nurses were similar in the control units and EWR units (78.97 vs. 76.78), the percent of positive safety attitude scores (64.6 vs. 61.1 percent) was similar as well. After EWRs, the mean safety climate scores were not significantly different for all providers. However, nurses in the control group had lower scores than nurses in the intervention group who participated in an EWR session (74.88 versus 81.01 and 52.5 vs. 72.9 percent). Nurses who participated in EWRs also responded more favorably to a majority of items on the survey.

More details are in "The effect of executive walk rounds on nurse safety climate attitudes: A randomized trial of clinical units," by Dr. Thomas, J. Bryan Sexton, Ph.D., Torsten B. Neilands, Ph.D., and others, in the April 2005 *BMC Health Services Research* 5, online at www.biomedcentral.com. ■

Use of atypical antipsychotic drugs to treat children continues despite questions about their safety and efficacy in the young

Atypical antipsychotics such as risperidone and clozapine are approved to treat adult schizophrenia, but they are not approved for use in children. These medications work by altering brain chemistry; specifically, they work by blocking postsynaptic serotonin and dopamine receptors.

In children and adolescents, data supporting the safety and efficacy of atypical antipsychotics are limited. Some studies suggest more prevalent and serious side effects (such as weight gain and sedation) in children and adolescents than in adults. Despite these concerns, a recent study found that nearly one-fourth of children and adolescents with prescription claims for these drugs were aged 9 years or younger.

Understanding the long-term effects on the developing brain of early and prolonged exposure to atypical antipsychotics is crucial given their use in children, according to the researchers who conducted the study. Their work was supported in part by the Agency for Healthcare Research and Quality (HS10385) through the Agency's Centers for Education and Research on Therapeutics (CERTs) initiative. The investigators used a large U.S. national database of prescription drug claims to examine the use of atypical antipsychotics by children and adults from January through December 2001.

Antipsychotic use prevalence peaked at 594.3 prescription claims per 100,000 males aged 10 to 14 years and 291 per 100,000 females aged 15 to 19 years. Yet, nearly one-fourth of patients aged 18 or younger with a claim for an atypical antipsychotic were aged 9 years or younger, and nearly 80 percent of these were boys. Given that schizophrenia is seldom diagnosed before adolescence, it is likely that atypical antipsychotics were being prescribed to treat behavior disorders such as attention deficit hyperactivity disorder. Managed care plans that provide almost complete coverage for drug therapy and only limited reimbursement for psychiatric evaluation may create strong incentives to treat behavioral problems using drug therapy, suggest the researchers.

See "Prevalence of atypical antipsychotic drug use among commercially insured youths in the United States," by Lesley H. Curtis, Ph.D., Leah E. Masselink, Truls Østbye, M.D., Ph.D., and others, in the April 2005 *Archives of Pediatrics and Adolescent Medicine* 159, pp. 362-366. ■

Despite recent downward trends in antibiotic use among children, use of some broad-spectrum antibiotics has increased

Despite recent tends toward decreased antibiotic use among children to prevent growing bacterial resistance to antibiotics, the use of second-generation macrolides (for example, clarithromycin and azithromycin) among children has increased dramatically, according to a study conducted by researchers at the HMO Research Network Center for Education and Research on Therapeutics (CERT). The study was supported by the Agency for Healthcare Research and Quality (HS10391) as part of the Agency's CERTs initiative.

Experts generally do not recommend second-generation macrolides for initial treatment of infections in younger children. Nevertheless, these drugs have become popular because they are useful against a broad spectrum of bacteria, require less frequent dosing, and have fewer gastrointestinal side effects than other antibiotics, according to the researchers. They examined claims data on 25,000 children aged 3 months to 18 years treated as outpatients in nine U.S. health plans to assess trends in second-generation macrolide use from 1996 to 2000.

From 1995-1996 to 1999-2000, although overall antibiotic use decreased from 1.15 to 0.91 dispensings per person-year, use of second-generation macrolides increased from 0.022 to 0.063 dispensing per person-year. Also, second-generation macrolide use increased from 1.9 percent to 6.9 percent of all antibiotic dispensings.

For children under 6 years of age, second-generation macrolide use as initial therapy increased

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Antibiotic use among children

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from 0.9 percent to 5 percent for otitis media and from 5.2 percent to 24 percent for pneumonia (*Streptococcus pneumoniae* strains resistant to macrolides increased in the late 1990s). Prescribing rates varied among health plans, ranging during the last year of the study from 0.006 to 0.135 dispensing per person-year. The researchers call for continued efforts to promote the use of narrower-spectrum agents when appropriate.

More details are in "Increased use of second-generation macrolide antibiotics for children in nine health plans in the United States," by Christopher J. Stille, M.D., M.P.H., Susan E. Andrade, Sc.D., Susan S. Huang, M.D., M.P.H., and others, in the November 2004 *Pediatrics* 114(5), pp. 1206-1211. ■

Limited use of cephalosporins may reduce *E. coli* and *Klebsiella* bloodstream infections in hospitalized children

The increasing prevalence of bloodstream infections caused by certain *Escherichia* coli and *Klebsiella* species among hospitalized patients is a growing concern. Receipt of broad-spectrum cephalosporins in the 30 days before infection by an extended-spectrum Beta-lactamase-producing (ESBL) *E. coli* (E) or *Klebsiella* (K) species is significantly associated with having an ESBL-EK bloodstream infection in hospitalized children, according to a study supported in part by the Agency for Healthcare Research and Quality (HS10399). ESBLs are enzymes that mediate resistance to broad-spectrum cephalosporins (for example, ceftazidime, cefotaxime, and ceftriaxone).

Curtailed use of cephalosporins among high-risk groups may reduce the occurrence of these infections, conclude researchers at the Center for Education and Research on Therapeutics (CERT) at the University of Pennsylvania. They used laboratory data from the Children's Hospital of Philadelphia from May 1, 1999 to September 30, 2003 to identify children with ESBL-EK bloodstream infections and compared them with a random sample of children with non-ESBL-EK bloodstream infections to identify risk factors for such infections.

Overall, there were 35 cases and 105 controls. Patients with ESBL-EK infections were nearly six times as likely to have had exposure to a broad-spectrum cephalosporin in the 30 days before infection as those with non-ESBL-EK infections. Other independent predictors of ESBL-EK infection were female sex, infection with *Klebsiella* species, and steroid use in the 30 days before infection. All ESBL-EK isolates were susceptible to carbapenem antibiotics.

More details are in "Risk factors for and outcomes of bloodstream infection caused by extended-spectrum B-lactamase-producing *Escherichia coli* and *Klebsiella* species in children," by Theoklis E. Zaoutis, M.D., Monika Goyal, M.D., Jaclyn H. Chu, M.H.S., and others, in the April 2005 *Pediatrics* 115(4), pp. 942-949. ■

Fluoroquinolones were the most commonly prescribed class of antibiotics for adults in 2002

Despite the emergence of resistance to fluoroquinolone antibiotics among *Streptococcus pneumoniae* (which causes problems ranging from pneumonia and meningitis to ear and bloodstream infections), fluoroquinolones were the class of antibiotics most commonly prescribed for adults in 2002. Fluoroquinolone prescribing increased three-fold during visits to outpatient clinics and emergency departments (EDs) in the United States from 1995 (7 million visits) to 2002 (22 million visits). In addition, nearly half (42 percent) of these prescriptions were for conditions not approved by the FDA, such as acute bronchitis, otitis media, and acute upper respiratory tract infection, according to a study that was supported in part by the Agency for

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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.

Fluoroquinolones

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Healthcare Research and Quality (K08 HS14563 and HS11313).

The boost in fluoroquinolone prescribing was attributable to the introduction and use of newer, broader-spectrum fluoroquinolones with activity against *S. Pneumoniae* (for example, levofloxacin, gatifloxacin, and moxifloxacin). However, increased prescribing has led to the recent emergence of fluoroquinolone-resistant bacteria, according to Jeffrey A. Linder, M.D., M.P.H., of Brigham and Women's Hospital and Harvard Medical School, and his colleagues. They suggest that efforts to improve prescribing should focus on otorhinolaryngologists and urologists, who are most likely to prescribe fluoroquinolones for unapproved conditions.

The researchers analyzed data from the National Ambulatory Medical Care Survey and the National Hospital Ambulatory Medical Care Survey of adult visits to physicians in U.S. ambulatory clinics and EDs from 1995 to 2002. Fluoroquinolone prescribing increased as a proportion of overall antibiotic prescribing from 10 percent to 24 percent and as a proportion of the U.S. population from 39 to 106 prescriptions per 1,000 adults.

More details are in "Fluoroquinolone prescribing in the United States: 1995-2002," by Dr. Linder, Elbert S. Huang, M.D., M.P.H., Michael A. Steinman, M.D., and others in the March 2005 *American Journal of Medicine* 118(3), pp. 259-268.

Editor's note: Another AHRQ-supported study on a related topic found that fluoroquinolone use for outpatients with community-acquired pneumonia increased from 24 to 39 percent from 2000 to 2002, while macrolide use decreased from 55 to 44 percent. Results suggested a lack of selectivity in reserving fluoroquinolones for higher risk patients. For more details, see MacDougall, C., Guglielmo, B.J., Maselli, J., and Gonzales, R. (2005, March). "Antimicrobial drug prescribing for pneumonia in ambulatory care." (AHRQ grant HS13003). *Emerging Infectious Diseases* 11(3), pp. 380-384. ■

Patient education may reduce unnecessary use of antibiotics by adults

Over half of antibiotic prescriptions for acute respiratory infections (ARIs) such as sore throats (pharyngitis) and acute bronchitis are not necessary, since most of these infections are viral and do not respond to antibiotics. A recent study examined the effects of patient education on antibiotic prescribing for adults with acute bronchitis and children with pharyngitis. The study was supported in part by the Agency for Healthcare Research and Quality (HS13001).

Researchers led by Ralph Gonzales, M.D., M.S.P.H., of the University of California, San Francisco, found that adding patient education strategies to an existing physician education quality improvement (QI) program (doctors were given antibiotic prescribing profiles and practice guidelines) nearly doubled the decrease in unnecessary antibiotic prescribing for acute bronchitis in adults compared with the QI program alone (control practices). The intervention had a negligible effect on antibiotic prescribing for pediatric pharyngitis.

The researchers examined antibiotic prescription rates based on ARI office visit and pharmacy claims data from four Colorado managed care organizations during baseline (winter 2000) and study (winter 2001) periods. Antibiotic prescription rates for pediatric pharyngitis increased during the 1-year period from 38 to 39 percent at distant control practices, decreased from 39 to 37 percent at local control practices, and decreased from 34 to 30 percent at intervention practices. Antibiotic prescription rates for adult bronchitis decreased from 50 to 44 percent at distant control practices, from 55 to 45 percent at local control practices, and from 60 to 36 percent at intervention practices.

For pediatric pharyngitis, antibiotic treatment is recommended only when the infection is due to group A *Streptococcus.* Because the prevalence of group A *Streptococcus* in children has been estimated at 30 to 35 percent of all visits for pharyngitis, there appears to be little room for improvement in this group.

See "The `Minimizing Antibiotic Resistance in Colorado' project: Impact of patient education in improving antibiotic use in private office practices," by Dr. Gonzales, Kitty K. Corbett, Ph.D., M.P.H., Bonnie A. Leeman-Castillo, M.S., and others, in the February 2005 *Health Services Research* 40(1), pp. 101-116. ■

Both group and individual academic detailing can improve prescribing of antihypertensive medications

Academic detailing involves the use of trained individuals (usually physicians or clinical pharmacists) who conduct face-to-face visits with physicians and other prescribers to encourage adoption of a desired behavior (e.g., prescribing of a particular drug or treatment regimen). The use of individual or group academic detailing to address barriers to recommended prescribing of antihypertensive medications (use of beta-blockers and diuretics as first-line agents) improves antihypertensive prescribing practices, according to a recent study. The study was conducted by researchers participating in the HMO Research Network Center for Education and Research in Therapeutics (CERT), which is supported by the Agency for Healthcare Research and Quality (HS10391).

Steven R. Simon, M.D., M.P.H., of Harvard Medical School and Harvard Pilgrim Health Care, and his colleagues examined prescribing of antihypertensive medications for patients with newly treated hypertension who were treated at nine practice sites of a large HMO. The researchers randomly assigned three practice sites to group detailing (227 prescribers), three to individual detailing (235 prescribers), and three to usual care (319 prescribers). In the first year following academic detailing, absolute rates of use of diuretics or beta-blockers increased by 13.2 percent in the group detailing practices, 12.5 percent in the individual detailing practices, and 6.2 percent in the usual care practices (which received only a mailed practice guideline).

At 2 years after detailing, use of guideline-recommended medications over baseline was greater in the individual detailing practices (14.7 percent) than in group detailing practices (11.3 percent), which were not much different than increases in the usual care practices (10.1 percent). This may suggest a persistent effect of individual detailing but not group detailing. However, neither type of academic detailing had a clinically meaningful effect on blood pressure control.

See "Group versus individual academic detailing to improve the use of antihypertensive medications in primary care: A cluster-randomized controlled trial," by Dr. Simon, Sumit R. Majumdar, M.D., M.P.H., Lisa A. Prosser, Ph.D., and others, in the May 2005 *American Journal of Medicine* 118, pp. 521-528. ■

Higher copayments of 3-tier drug formularies reduce the likelihood that individuals will use certain medications

Health care costs for medications to treat attention-deficit/hyperactivity disorder (ADHD) have jumped substantially. In response to these rising costs, many employers and health plans have adopted 3-tier drug formularies with progressively higher copayments for generic drugs, preferred brand-name drugs, and nonpreferred brand-name drugs. According to a recent study, the switch from 1-tier to a 3-tier system resulted in lower total ADHD medication spending relative to a comparison group. However, the switch also substantially increased out-of-pocket expenditures for families of children with ADHD and significantly decreased their probability of using these medications.

Although the shift did not cause most current users to substantially change their patterns of medication use relative to a comparison group, costs were shifted onto families. More studies should examine the impact of incentive formularies on the educational outcomes, self-esteem, and family and peer relationships of children with ADHD, suggests Haiden A. Huskamp, Ph.D., of Harvard Medical School. For instance, the generic drug methylphenidate lasts for 3 to 6 hours, which means that a child would have to take multiple doses during the school day. By contrast, the brand-name Concerta® (with the same active ingredient) lasts about 12 hours.

These differences influence medication compliance, the possibility of breakthrough symptoms, the potential for medication abuse, as well as stigma due to medication use or symptom breakthrough during school. Under the 3-tier formula studied, copayments were $8 for generic drugs, $30 for preferred brand-name drugs, and $60 for nonpreferred brand-name drugs. The prior 1-tier system required a $7 copayment for all 30-day prescriptions and $15 for all 90-day prescriptions filled through the mail-order program. This study was supported in part by the Agency for Healthcare Research and Quality (HS10803).

See "Impact of 3-tier formularies on drug treatment of attention-deficit/hyperactivity disorder in children," by Dr. Huskamp, Patricia A. Deverka, M.D., M.S., Arnold M. Epstein, M.D., M.A., and others, in the April 2005 *Archives of General Psychiatry* 62, pp. 435-441. ■

Prenatal screening and treatment are needed to identify pregnant women with asymptomatic chlamydial infections

Chlamydia trachomatis is the most common bacterial sexually transmitted disease in the United States, and it occurs most often among young, sexually active women. As many as 60 to 70 percent of women with *Chlamydia* are asymptomatic.

Nine percent of pregnant women who have *Chlamydia* have no symptoms associated with the infection, according to a recent study of nearly 2,000 pregnant women with *Chalmydia*. The study was supported in part by the Agency for Healthcare Research and Quality (contract 290-92-0055). In 44 percent of the women, the infection resolved spontaneously, but most women with asymptomatic infection who were not treated had persistent infection.

Persistent *Chlamydia* infection has been implicated in preterm delivery and preterm rupture of membranes. This underscores the need for prenatal chlamydial screening and treatment, according to Jeanne S. Sheffield, M.D., of the University of Texas Southwestern Medical Center, Dallas.

Currently, annual *Chlamydia* screening is recommended for all sexually active women aged 24 and younger and older women with risk factors. It is also recommended for pregnant women at the first prenatal visit and again in the third trimester for those with risk factors for chlamydial infection. In the current study, the researchers examined spontaneous resolution of chlamydial infection in a large multicenter trial involving 140 women who screened positive for the infection (between the 16th and 23rd week of pregnancy) but had no symptoms of infection (9 percent).

Forty-four percent of the women had spontaneous resolution of chlamydial infection by the followup assay (between the 24th and 29th weeks of pregnancy). For every 5-year increase in maternal age, the odds of a positive result (lingering infection) on the followup assay decreased by 40 percent. A longer period (more than 5 weeks) from initial study enrollment to followup screening was also associated with spontaneous resolution. This is consistent with the theory that the immune system has a better chance of eliminating infections over time.

See "Spontaneous resolution of asymptomatic *Chlamydia trachomatis* in pregnancy," by Dr. Sheffield, Williams W. Andrews, Ph.D., M.D., Mark A. Klebanoff, M.D., and others, in the March 2005 *Obstetrics & Gynecology* 105, pp. 557-562. ■

Study finds that screening asymptomatic, low-risk pregnant women for hepatitis C virus is not cost effective

About 4 million people in the United States are infected with hepatitis C virus (HCV), including an estimated 1 to 4 percent of pregnant women. Nevertheless, it is not cost effective to screen asymptomatic low-risk pregnant women for HCV, according to a study supported in part by the Agency for Healthcare Research and Quality (T32 HS00078). This finding agrees with current recommendations.

Beth A. Plunkett, M.D., M.P.H., and William A. Grobman, M.D., M.B.A., of Northwestern University Feinberg School of Medicine, used decision analysis to assess the cost-effectiveness of HCV screening of asymptomatic pregnant women. They compared three approaches to HCV screening: no HCV screening; HCV screening and subsequent treatment for progressive disease; and HCV screening, subsequent treatment for progressive disease, and elective cesarean delivery to avert perinatal transmission of the virus.

In simulation trials of 10,000 women, 18 percent of the women in the unscreened population experienced liver cirrhosis over a 15-year period and 23 percent over a 30-year period; 3 and 4 percent suffered from liver cancer over 15 and 30 years, respectively. HCV screening and subsequent treatment of progressive disease was more costly and less effective than no screening. It resulted in an average total lifetime cost for mother and child of $4,552 and an incremental cost of $108 relative to the current policy of no screening, for a cost-effectiveness ratio of $1,170,000 per quality-adjusted life year (QALY). Compared with no screening, the marginal cost and effectiveness of screening, treatment, and cesarean delivery was $117 with a cost-effectiveness

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Screening for hepatitis C

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ratio of $1,170,000 per QALY. Medical interventions are typically considered cost effective at $50,000 or less per QALY.

See "Routine hepatitis C virus screening in pregnancy: A cost-effectiveness analysis," by Drs. Plunkett and Grobman, in the April 1, 2005 *American Journal of Obstetrics and Gynecology* 192, pp. 1153-1161. ■

Disparities/Minority Health

More minority and Medicaid-insured children experience perforated appendicitis than other children

In one-third of children suffering from appendicitis, the appendix perforates (ruptures) before surgery, resulting in more complications and longer hospital stays. Usually caused by delayed diagnosis and treatment, perforated appendicitis disproportionally affects both minority and Medicaid-insured children, irrespective of hospital volume of appendicitis cases, according to a recent study supported by the Agency for Healthcare Research and Quality (T32 HS00063).

To reduce these disparities, efforts should focus on the causes of delayed diagnosis and treatment of appendicitis in minority and Medicaid-insured children, suggests Douglas S. Smink, M.D., M.P.H., of Children's Hospital Boston. Dr. Smink and his colleagues analyzed the Kids' Inpatient Database (KID)—AHRQ's database of pediatric hospital discharges from 22 States in 1997—to determine patient and hospital characteristics predictive of perforated appendicitis among children admitted for acute appendicitis. The appendix had ruptured in one-third of the 33,183 children hospitalized for acute appendicitis.

After accounting for several factors affecting perforation, black and Hispanic children were 24 percent and 19 percent more likely, respectively, to have perforated appendicitis than white children. Perforation was also 30 percent more likely among Medicaid-insured than privately insured children. Although high hospital volume is usually associated with better patient outcomes, annual hospital volume of appendicitis cases was not significantly associated with perforation in this study.

See "Effects of race, insurance status, and hospital volume on perforated appendicitis in children," by Dr. Smink, Steven J. Fishman, M.D., Ken Kleinman, Sc.D., and Jonathan A. Finkelstein, M.D., M.P.H., in the April 2005 *Pediatrics* 115(4), pp. 920-925. ■

Some care disparities among blacks may be due to low technology use in hospitals that treat mostly black patients

Hospitals with more black patients are less likely to perform procedures involving new technologies such as dual-chambered pacemaker implantation and lumbar spinal fusion, according to a recent study supported in part by the Agency for Healthcare Research and Quality (T32 HS00028). Thus, a slower rate of technology diffusion at these hospitals may be a remediable cause of health care disparities among blacks, concludes Peter W. Groeneveld, M.D., M.S., of the University of Pennsylvania School of Medicine.

Dr. Groeneveld and his colleagues used Medicare data from 1989-2000 to examine use of one of five emerging medical technologies during the 12-year period among 2,348,952 hospitalized Medicare patients aged 65 or older. The five technologies were aortic valve replacement with a tissue valve (bioprosthesis), internal mammary artery coronary bypass grafting (IMA-CABG), dual-chamber pacemaker implantation, vena cava interruption, and lumbar/lumbosacral spinal fusion.

Compared with whites admitted to hospitals with a patient population comprising less than 9 percent black patients, whites and blacks admitted to hospitals with patient populations that included more than 20 percent blacks had lower rates, respectively, of bioprosthetic aortic valve replacement (odds ratio 0.66 and 0.70), IMA-CABG (OR 0.89, 0.78),

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Care disparities among blacks

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dual-chamber pacemaker implantation (OR 0.88, 0.70), and spinal fusion (OR 0.86, 0.88); on the other hand, they were more likely to receive vena cava interruption (OR 1.17, 1.23).

After adjustment for other factors such as age, sex, income level, and admission year, blacks at these hospitals had 17 percent to 57 percent lower procedure rates than whites for four of the five procedures. Blacks underwent 36 percent more vena cava interruption procedures (OR 1.36) than whites. This procedure is often the consequence of failed oral anticoagulation therapy and may be a marker for lower quality of care for thromboembolic disease, according to Dr. Groeneveld.

More details are in "Technology diffusion, hospital variation, and racial disparities among elderly Medicare beneficiaries 1989-2000," by Dr. Groeneveld, Sara B. Laufer, M.A., and Alan M. Garber, M.D., Ph.D., in the April 2005 *Medical Care* 43(4), pp. 320-329. ■

Efforts to help physicians improve care for underserved patients should address issues of communication and respect

Underserved patients are typically defined by poverty, transportation problems, poor literacy or limited English proficiency, and different race, ethnicity, or culture from their providers. Recent focus groups with these patients and their doctors revealed the importance to them of communication, respect, and cultural issues, as well as their frustration with health insurance, transportation, and health delivery systems. Medical curricula to teach care of the underserved, which currently focuses on medical diagnoses, should address these issues as well, according to lead study author Wendy L. Hobson, M.D., M.S.P.H., of the University of Utah.

In a study that was supported in part by the Agency for Healthcare Research and Quality (HS11826), the researchers conducted two patient focus groups, one for Spanish-speaking and one for English-speaking individuals, and one physician group of five pediatricians and three family practitioners. They addressed the question, "What does a physician need to know to care for the underserved?" to inform curriculua to train residents to care for the underserved.

Many participants said that their doctors did not listen and often interrupted them or offered a diagnosis before they had finished talking. Many also expressed concern about the rudeness of front desk office staff. Patients wanted to be able to see the same doctor each time, were concerned about the cost of medical care, did not know how to access public resources, and lacked knowledge about Medicaid and Medicare. On the other hand, physicians were concerned with language barriers and felt that underserved patients often did not know how to communicate. Doctors wanted to know better how to show respect for underserved patients (many felt they knew little about specific cultures), and they wanted more time to establish quality patient relationships.

More details are in "Caring for the underserved: Using patient and physician focus groups to inform curriculum development," by Dr. Hobson, Roberto Avant-Mier, Ph.D., Susan Cochella, M.D., M.P.H., and others in the March 2005 *Ambulatory Pediatrics* 5(2), pp. 90-95. ■

Outcomes/Effectiveness

Chiropractic care is more expensive but not more effective than medical care for the treatment of low back pain

Chiropractic care is more expensive than medical care for low back pain, but it is not more effective, according to findings from the first randomized trial to compare treatment costs for low back pain. However, the absence of medication cost data may have underestimated the costs of medical care, cautions Gerald F. Kominski, Ph.D., of the University of California, Los Angeles. In the study, which was supported in part by the Agency for Healthcare Research and Quality (HS07755), Dr. Kominski and his colleagues randomly assigned 681 HMO patients receiving care for low back

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Chiropractic care

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pain in a large group practice to one of four treatment groups. The researchers measured total outpatient costs, excluding medications and clinical outcomes for a period of 18 months following randomization.

The medical care without physical therapy (MD) group was instructed in proper back care and exercises and prescribed bed rest and various medications for symptom relief. The medical care with physical therapy (MDPt) group received medical care and treatment by a physical therapist, including instruction in proper back care and exercises, plus one or more of the following at the discretion of the physical therapist: heat, cold, ultrasound, electrical muscle stimulation, soft tissue and joint mobilization, mechanical traction, and supervised exercise. The chiropractic care (DC) group received spinal manipulation or another spinal-adjusting technique and instruction in proper back care and exercises. The chiropractic care with physical modalities (DCPm) group received chiropractic care plus one or more of the following at the discretion of the chiropractor: heat, cold, ultrasound, and electrical muscle stimulation.

There was little difference in clinical outcomes between the groups during followup, but chiropractic patients were more satisfied than medical care patients. The adjusted mean outpatient costs per treatment group were $369 for MD, $560 for DC, $579 for DCPm, and $760 for MDPt (physical therapy more than doubled the cost of medical care).

See "Economic evaluation of four treatments for low-back pain: Results from a randomized controlled trial," by Dr. Kominski, Kevin C. Heslin, Ph.D., Hal Morgenstern, Ph.D., and others, in the May 2005 *Medical Care* 43(5), pp. 428-435. ■

Stem cell transplant centers that have greater physician involvement in patient care have better patient outcomes

High-dose chemotherapy with or without radiotherapy followed by hematopoietic stem cell transplantation (HSCT) is widely used to treat malignant and nonmalignant diseases. However, treatment-related mortality following allogeneic HSCT (stem cells transplanted from genetically similar donors, usually a sibling) ranges from 20 to 50 percent in the first year, when most treatment-related deaths occur, and 5 to 15 percent for autologous HSCT (transplant of one's own previously harvested stem cells). Thus, HCST carries high risks of early morbidity and mortality.

A recent study examined the association between center effects (characteristics of the transplantation center and provider characteristics) and survival after HSCT for hematologic malignancies. The researchers found that patients treated at transplant centers where physicians treat a higher volume of patients and answer calls after hours are less likely to die within 100 days of transplantation. The study was supported in part by the Agency for Healthcare Research and Quality (HS13046).

Fausto R. Loberiza Jr. M.D., M.S., of the University of Nebraska Medical Center, and his colleagues surveyed 163 U.S. transplantation centers. The participating centers performed HLA-identical sibling HSCT for leukemia or autologous HSCT for lymphoma between 1998 and 2000 in patients aged 18 or older and reported to the Center for International Blood and Marrow Transplant Research. Patients who underwent transplantation in centers where physicians cared for more than 20 patients per year were 33 percent less likely to die than those treated in centers with lighter physician case loads.

Patients treated at centers where physicians answered after-office-hours or emergency calls were 28 percent less likely to die than those in centers where calls were answered by nurses or physician assistants. Medical school affiliation was not associated with increased 100-day mortality, except in centers where students/residents were present without fellows. The influence of these factors was greater among allogeneic HSCT patients than autologous HSCT patients and, if adopted by small-volume centers, may improve survival outcomes.

See "Association of transplant center and physician factors on mortality after hematopoietic stem cell transplantation in the United States," by Dr. Loberiza, Mei-Jie Zhang, Ph.D., Stephanie J. Lee, M.D., M.P.H., and others in the April 1, 2005 *Blood* 105(7), pp. 2979-2987. ■

Participation in a physically active lifestyle during mid-life helps to maintain high physical function in later years

A recent study of British civil servants shows that a physically active lifestyle around age 50, regardless of long-standing illness, is associated with maintenance of high physical function in early old age. Those who were physically active at recommended levels were nearly twice as likely as their sedentary counterparts to report high physical function nearly 9 years later. Overall, 51 percent of the men and 72 percent of women were not sufficiently active (that is, 30 minutes or more of moderate physical activity on 5 or more days of the week) at baseline.

The prevalence of maximum physical function scores (100) declined between baseline and followup in both men (38.7 vs. 22.3 percent) and women (26.4 vs. 15.9 percent). Sedentary participants tended to report more long-standing illness, poorer physical function, more obesity, and more smoking at baseline. However, 25 percent of participants classified as sufficiently active at baseline also reported prevalent long-standing illness and low physical function. The association between initial level of physical activity and high physical function at followup remained after adjustment for baseline level of physical function and the presence of long-standing illness. Further adjustment for body mass index, smoking, and socioeconomic status made little difference in this effect.

This research was supported in part by the Agency for Healthcare Research and Quality (HS06516). It included over 6,000 London-based civil service workers aged 39 to 63 years at baseline. A team led by Michael G. Marmot, Ph.D., of University College London, used the Short Form (SF-36) General Health Survey to measure physical function at baseline (1991-1993) and at followup an average of 8.8 years later (2001).

More details are in "Prospective study of physical activity and physical function in early old age," by Melvyn M. Hillsdon, Ph.D., Eric J. Brunner, Ph.D., Jack M. Guralnik, Ph.D., and Dr. Marmot, in the April 2005 *American Journal of Preventive Medicine* 28(3), pp. 245-250. ■

Clinical Decisionmaking

AHRQ study finds weight-loss surgeries quadrupled in 5 years

The number of Americans having weight-loss surgery more than quadrupled between 1998 and 2002—from 13,386 to 71,733—with part of the increase driven by a 900 percent rise in operations on patients between the ages of 55 and 64, according to a new study from the Agency for Healthcare Research and Quality. The study was led by William Encinosa, Ph.D., of AHRQ's Center for Delivery, Organization, and Markets.

During the same period, hospital costs for treating patients who underwent weight-loss surgery increased by more than six times—from $157 million a year to $948 million a year—and the average cost per surgery increased by roughly 13 percent, from $11,705 to $13,215.

To be considered medically eligible for weight-loss surgery, known technically as bariatric surgery, a patient must have a body mass index greater than 40 (or greater than 35 with serious obesity-related complications such as type 2 diabetes or obstructive sleep apnea). Approximately 395,000 Americans between 65 and 69 years of age will be medically eligible to have weight-loss surgery this year, and this number could increase by approximately 20 percent, to 475,000, by 2010. Such an increase would have important cost implications for the Medicare program, according to Dr. Encinosa and his colleagues.

The researchers estimate that future demand for weight-loss surgery could rise even more sharply as safety concerns diminish. To date, only a small fraction of people who are medically eligible for weight-loss surgery have actually had the procedure. In 2002, for example, only 0.6 percent of an estimated 11.5 million morbidly obese patients underwent weight-loss surgery. Meanwhile, in-hospital death rates among weight-loss surgery patients as a whole fell by 64 percent–from 0.89 percent to 0.32 percent between 1998 and 2002. In spite of the overall decline, the death rate for men, which dropped from 2.76 percent to 0.79 percent, was still three times as high as it was for women (0.24 percent).

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Weight-loss surgeries

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The authors further suggest that future use and costs of prescription weight-loss drugs also could increase significantly. Although 63 million Americans were medically eligible for weight-loss drugs in 2002, less than 2.4 percent actually received prescriptions for these drugs. The average spending on weight-loss drugs in 2002 was $304 per patient, with health plans paying roughly three-fourths of the expense and patients paying the balance. According to Dr. Encinosa and his colleagues, newer, more effective drugs now under development to block cravings or appetite will likely increase the demand for prescription weight-loss medications.

The authors based their estimates on data from the Nationwide Inpatient Sample, a database of the Healthcare Cost and Utilization Project sponsored by AHRQ in partnership with data organizations in 37 States. The Nationwide Inpatient Sample is the largest all-payer inpatient care database in the United States from which national estimates of inpatient care can be derived.

Data are also from the Medstat 2002 MarketScan Commercial Claims and Encounter Database. The MarketScan database contains claims for inpatient hospital care, outpatient care, and prescription drugs for enrollees under age 65 in employer-sponsored benefit plans for 45 large employers across the United States.

For more details, see "Use and costs of bariatric surgery and prescription weight-loss medications," by Dr. Encinosa, Didem M. Bernard, Ph.D., Claudia A. Steiner, M.D., M.P.H., and Chi-Chang Chen, Ph.D., in the July 12, 2005 *Health Affairs* 24(4), pp. 1039-1046. Reprints (AHRQ Publication No. 05-R059) are available from AHRQ.* ■

Certain clinical factors can accurately identify patients at low risk of active TB who don't need respiratory isolation

Transmission of tuberculosis (TB) by hospitalized patients has become a major concern in the United States, especially transmission of drug-resistant strains of TB. Current guidelines recommend respiratory isolation (single-bed, negative-pressure rooms) of all patients with suspected active TB, leading to isolation of patients at low risk for TB and significantly increasing hospital costs. Fortunately, a few clinical factors can accurately identify hospitalized patients at low risk of active TB who don't need to be put in isolation, according to a study supported by the Agency for Healthcare Research and Quality (HS11393).

Juan P. Wisnivesky, M.D., M.P.H., of Mount Sinai Medical Center, and his colleagues developed a decision rule that could have avoided about one-third of the unnecessary episodes of respiratory isolation for TB at two New York city hospitals. The rule assigned point scores to six clinical factors: TB risk factors or symptoms (for example, exposure to an individual with TB, institutionalization in the preceding 3 years, weight loss of 10 percent or more of body weight, and night sweats for 3 or more weeks); positive tuberculin skin test results; shortness of breath; fever of varying degrees (with more points for higher fever); crackles on physical examination, and upper lobe disease on chest x-ray.

The investigators conducted face-to-face interviews to identify the presence of these clinical factors among 516 individuals who were isolated on admission to two New York City hospitals for clinically suspected TB. Nineteen of the patients were found to have TB (3.7 percent). The prediction rule had a sensitivity of 95 percent and a specificity of 35 percent. This means that 35 percent of the TB-negative patients in the study might not have been isolated with use of the rule. The model, however, would have missed 1 of the 19 patients who did have TB.

More details are in "Prospective validation of a prediction model for isolating inpatients with suspected pulmonary tuberculosis," by Dr. Wisnivesky, Claudia Henschke, Ph.D., M.D., Jerry Balentine, D.O., and others, in the February 28, 2005 *Archives of Internal Medicine* 165, pp. 453-457. ■

Researchers examine prevalence of and testing for celiac disease

Celiac disease (CD) is an inflammatory disorder in which the lining of the small intestine is damaged in response to ingestion of gluten found in wheat, barley, rye, and possibly oats. This disease alters the intestine's ability to absorb nutrients, and it predisposes patients to intestinal lymphoma and a variety of other associated non-intestinal disorders. Although, patients with CD can have diarrhea, weight loss, and other intestinal symptoms, it is becoming increasingly evident that most patients have no symptoms. They are identified instead on the basis of iron deficiency or a number of other associated conditions. CD is effectively treated with a gluten-free diet (GFD) in the vast majority of patients.

Until recently, CD was thought to be a rare disease in the United States. However, a recent systematic review of the evidence revealed that CD is a common medical condition and actually is quite prevalent among certain high-risk groups. The review was conducted by researchers at the University of Ottawa Evidence-based Practice Center, which is supported by the Agency for Healthcare Research and Quality (contract 290-02-0021). Two other Center studies examined the diagnostic accuracy of blood tests for CD and the consequences of such testing. The three studies are described here.

Dube, C., Rostom, A., Sy, R., and others. (2005). "The prevalence of celiac disease in average-risk and at-risk Western European populations: A systematic review." *Gastroenterology* 128, p. S57-S67.

The prevalence of CD in general Western populations is close to 1 percent, but it is somewhat higher in certain Western European populations and much higher in certain high-risk groups, according to this study. For instance, CD affects 3-6 percent of people with type 1 diabetes, up to 20 percent of first-degree relatives of those with CD, 10-15 percent of people who have symptomatic iron-deficiency anemia (IDA), 3-6 percent of those with asymptomatic IDA, and 1-4 percent of individuals who have osteoporosis.

Given the prevalence of the disease, clinicians in a variety of specialties should have a high index of suspicion for the diagnosis of CD, particularly among identified high-risk groups, conclude the researchers. Their findings are based on a systematic review of studies on CD prevalence published from 1966 to December 2003.

Rostom, A., Dube, C., Cranney, A., and others. (2005). "The diagnostic accuracy of serologic tests for celiac disease: A systematic review." *Gastroenterology* 128, pp. S38-S46.

Small bowel biopsy is the historical gold standard for the diagnosis of CD. Recently, several tests that have high sensitivity and specificity for diagnosing CD have become available. The researchers conducted a systematic review of studies published from 1966 to December 2003 on the diagnostic accuracy of these serologic tests for CD.

Endomyseal antibody (EMA) and tissue transglutaminase antibody (tTG) were found to be the highest performing tests. Both of these tests demonstrated a specificity that was over 98 percent in most analyses in adults and children. The specificity of EMA appeared to be slightly higher (close to 100 percent) than that of tTG, but this did not reach statistical significance in the analyses. The sensitivity of both tests was over 95 percent in most analyses. However, the sensitivity of blood tests for CD appears to be lower for patients who do not have intestinal villous atrophy (below 90 percent), which typically defines the disease.

Antigliadin antibody (AGA) was inferior to that of EMA and tTG, and its use should be limited to certain clinical circumstances such as possibly in the diagnosis of young children and monitoring of adherence to a GFD in some patients. Lastly, the authors suggest that in testing of average risk individuals wherein the expected prevalence of CD is close to 1 percent, the positive predictive value of serological testing (that is the chance that a positive test really means the patient has CD) can drop below 90 percent. Since a diagnosis of CD means a lifelong GFD, the authors suggest that a confirmatory biopsy is warranted to avoid inappropriately placing patients on a GFD.

Cranney, A., Rostom, A., Sy, R., and others (2005). "Consequences of testing for celiac disease." *Gastroenterology* 128, pp. S109-S120.

Recent large screening programs for CD have revealed that two-thirds of those who test positive for the disease have no symptoms. The consequences of testing for CD in symptomatic individuals appears to have a positive impact on patient-relevant outcomes, but the data are less clear for those without symptoms, conclude these researchers. They systematically reviewed studies published from 1990 to December 2003 on the expected consequences of testing for CD in patients with symptoms suggestive of CD, asymptomatic

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Celiac disease

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at-risk populations, and the general population.

The review supports the idea that the consequences of testing CD patients who are symptomatic will result in improvements in nutritional status, body mass index, bone mass density, and reduced risk of death and fractures. The data are less clear for those with asymptomatic CD who are identified by screening, especially those with low-grade tissue lesions (on small bowel biopsy) and lower dietary compliance rates. Long-term outcomes have not been extensively studied in those with asymptomatic CD. Although the overall strength of the evidence for this topic was fair to good, the researchers recommend further high-quality studies. ■

Poor diets of urban men with paraplegia underscore the importance of screening these patients for chronic diseases

More than 200,000 people in the United States live with spinal cord injury (SCI), and about 10,000 more of these injuries occur each year. The numerous physiologic and metabolic changes that accompany SCI increase the risk of affected individuals for developing cardiovascular disease (CVD), type 2 diabetes, insulin resistance, and hypertension. Diet is a cornerstone of prevention and treatment of both CVD and diabetes, but city-dwelling males with paraplegia often do not get recommended levels of several key nutrients in their diets. Many of these individuals have a body mass index (BMI) and waist circumference outside recommended ranges, according to a recent study.

The researchers examined findings from a survey of 95 healthy urban men aged 20 to 59 with paraplegia. They found that these men had diets that included too much total and saturated fat and lacked adequate fiber, calcium, fruit, and dairy intake. Most participants met calorie and protein recommendations, but only 12 percent of participants met the recommendations for fiber intake.

By using standard BMI and waist circumference cut-points for the able-bodied, about half of the men were overweight, 19 percent were obese, 7.5 percent were underweight, and more than one-third had a large waist circumference. Men at significantly higher risk for lower quality diets were those who lived alone, smoked, had low family incomes, little nutritional knowledge, and high BMI. Black men had the poorest diets of all.

Such poor diets among men with SCI are particularly problematic, given their increased risks for cardiac disease and insulin resistance and their difficulty in losing weight due to activity limitations. In addition, these men have fewer energy requirements than others due to a loss of lean body mass. Clinicians should provide nutritional guidance to individuals in this at-risk group, conclude the researchers who conducted the study, which was supported by the Agency for Healthcare Research and Quality (HS11277).

More details are in "Dietary intake and nutritional status of urban community-dwelling men with paraplegia," by Kristin M. Tomey, M.S., David M. Chen, M.D., Xin Wang, Ph.D., and Carol L. Braunschweig, Ph.D., in the April 2005 *Archives of Physical Medicine and Rehabilitation* 86, pp. 664-671. ■

Primary Care Research

Clinician training and charting tools can improve primary care screening and counseling of adolescents about risky behaviors

The majority of adolescent illnesses and deaths are due to preventable behaviors such as substance abuse, unsafe sexual practices, and risky vehicle use. Certain approaches by primary care clinicians can improve screening and counseling of adolescents for these and other risky behaviors, concludes a study supported primarily by the Agency for Healthcare Research and Quality (HS11095). Researchers from the University of California, San Francisco, and Kaiser Permanente of Northern California analyzed reports from adolescents about the screening and counseling they received during a well visit at an intervention clinic (two clinics) or a usual care pediatric clinic (two clinics) in the same health maintenance organization.

In the first phase of the intervention, 37 pediatric primary

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Adolescent screening for risky behavior

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care providers attended a training workshop to increase screening and counseling of adolescents in six areas: tobacco, alcohol, drugs, sexual behavior, seatbelt use, and helmet use. In the second phase, intervention clinics integrated screening and charting tools, such as prompts, cues, and charting forms to document screening and counseling. In the comparison sites, 39 providers continued to provide the usual standard of care to their adolescent patients.

In the intervention sites, risky behavior screening rates increased on average from 58 to 83 percent across the six targeted areas and counseling rates increased from 52 to 78 percent. There were no significant increases in screening and counseling at the usual care clinics during the same period. The training component seemed to account for most of the increase at intervention clinics, with the screening and charting tools sustaining the effects of the training.

More details are in "Increasing the screening and counseling of adolescents for risky health behaviors: A primary care intervention," by Elizabeth M. Ozer, Ph.D., Sally H. Adams, Ph.D., Julie L. Lustig, Ph.D., and others in the April 2005 *Pediatrics* 115(4), pp. 960-968. ■

Alcohol-based hand gel use may reduce respiratory illness transmission in homes with young children enrolled in day care

Over 7 million children younger than age 5 were enrolled in child care in the United States in 1999. These children introduced over half of viral upper respiratory and gastrointestinal (GI) infections into their homes.

Use of alcohol-based hand gels may reduce the rate of transmission of respiratory infections from these young children to other family members, suggests a study that was supported in part by the Agency for Healthcare Research and Quality (T32 HS00063). Illness transmission typically occurs when family members kiss sick children, touch objects they have touched, and/or change their diapers, notes Grace M. Lee, M.D., M.P.H., of Harvard Pilgrim Health Care and Harvard Medical School.

Dr. Lee and her colleagues analyzed transmission rates for respiratory and GI illnesses among 208 ethnically diverse families with children enrolled in child care who were treated at five suburban practices in the Boston area. The researchers mailed the families a survey and symptom diary to record the timing and duration of respiratory and GI illnesses that occurred among family members within 2 to 7 days after a primary illness was introduced into the home. A total of 1,545 respiratory and 360 GI illnesses occurred in the 208 families from November 2000 to May 2001.

Of these, 71 percent of respiratory and 83 percent of GI illnesses were considered primary illnesses introduced into the home, and children younger than 5 were responsible for introducing 54 percent of the illnesses. The secondary transmission rates for respiratory and GI illnesses were 0.63 and 0.35 illnesses per susceptible person-month, respectively.

Twenty-two percent of respondents reported use of alcohol-based hand gels, and 33 percent reported always washing their hands after blowing or wiping a nose. After adjusting for several factors, including education and insurance status, use of alcohol-based hand gels had a protective effect against respiratory illness transmission in the home.

See "Illness transmission in the home: A possible role for alcohol-based gels," by Dr. Lee, Joshua A. Salomon, Ph.D., Jennifer F. Friedman, M.D., M.P.H., and others in the April 2005 *Pediatrics* 115(4), pp. 852-860. ■

Trauma center patients are much more likely to have experienced previous traumas than the general population

The 2.5 million individuals admitted to U.S. hospitals after traumatic injury are far more likely to have suffered multiple traumas in their lives than the general population, according to a study supported in part by the Agency for Healthcare Research and Quality (HS11372). Traumatic life events including traumatic injury appear to be a chronic and recurring problem for these patients. Many of them have experienced a broad spectrum of prior traumas—such as childhood abuse and neglect and physical assault—which predate the current injury hospitalization, according to researchers from the University of Washington School of Medicine.

The researchers used a trauma history screen, developed for the National Comorbidity Survey (NCS), to assess prior trauma in a representative sample of injured acute care patients hospitalized at two level I trauma centers. The researchers compared the trauma histories of 66 intentionally injured (injuries such as physical assaults) and 185 unintentionally injured (injuries due to motor vehicle crashes or those sustained on the job) trauma patients with 5,873 NCS participants from the general population.

Only 11 percent of NCS general population respondents reported four or more lifetime traumas, but 61 percent of intentionally injured patients and 40 percent of unintentionally injured patients reported four or more lifetime traumas prior to the event that brought them to the trauma center. After adjusting for other factors, trauma patients were more likely to report all types of trauma except combat. Compared with the general population NCS sample, people in the intentionally injured group were more likely to be male, unmarried, unemployed, minority, uninsured, have a high school education, and use drugs and alcohol. People in the unintentionally injured group were more likely to be male, older, uninsured, and of lower income.

Details are in "Is it an accident? Recurrent traumatic life events in level I trauma center patients compared to the general population," by Sarah M. Ramstad, B.A., Joan Russo, Ph.D., and Douglas F. Zatzick, M.D., in the December 2004 *Journal of Traumatic Stress* 17(6), pp. 529-534. ■

National advisory committee on children and terrorism makes first recommendations for preparedness

Integrating the special needs of children into Federal, State, regional, and local disaster planning for terrorist events is critical. The National Advisory Committee on Children and Terrorism, created by the 2002 Public Health Security and Bioterrorism Preparedness and Response Act, issued its first report in June 2003. The committee's recommendations, based on those developed at a consensus conference of a multidisciplinary group of experts, were outlined in a recent article by David Markenson, M.D., F.A.A.P, E.M.T.P., and Irwin Redlener, M.D., F.A.A.P., of the National Center for Disaster Preparedness.

The recommendations address the particular vulnerabilities of children to terrorist attacks and disasters and represent a first step in improving disaster and terrorism preparedness for children. The recommendations focus on eight major areas: emergency and prehospital care; hospital care; terrorism preparedness and response to biological, chemical, and radiological agents; physical protection; decontamination; and the Strategic National Stockpile (SNS).

For example, it is recommended that the SNS stock and deploy pediatric forms and dosing schedules for medications to counteract bioterrorism agents. The recommendations also define chemotherapy and chemoprophylaxis protocols for specific scenarios ranging from attacks with smallpox or hemorrhagic fever to nerve agents like sarin. They also call for the study of investigational vaccines in children (the

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Disaster preparedness

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current anthrax vaccine is approved only for people 18-65), development of a pediatric preparation of potassium iodide for exposure to radioactive iodine, and design of decontamination systems so that they can be used for children of all ages, including infants.

This work was supported in part by the Agency for Healthcare Research and Quality (HS13855).

See "Pediatric terrorism preparedness national guidelines and recommendations: Findings of an evidence-based consensus process," by Drs. Markenson and Redlener, in *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science* 2(4), pp. 301-319, 2004. ■

Long-Term Care

Nursing homes vary widely in their hospitalization of residents, particularly those with Alzheimer's disease

Nursing homes vary more in their nonpsychiatric discretionary hospital admission rates for Alzheimer's disease (AD) than non-AD residents, according to a recent study supported by the Agency for Healthcare Research and Quality (HS07585). Nursing home factors clearly influence decisions to hospitalize nursing home residents in general. However, this is particularly true for more vulnerable AD residents, such as those with behavioral problems, in the poorest health, and with the greatest daily nursing care needs, note Frank W. Porell, Ph.D., of the University of Massachusetts, and Mary Carter, Ph.D., of West Virginia University.

For example, Drs. Porell and Carter found no evidence that discretionary hospitalization rates of Medicaid residents without AD varied with the proprietary status of a nursing home. Yet, AD residents with behavioral problems in for-profit nursing homes were more likely to be admitted to the hospital than those in non-profit homes. Furthermore, the expected discretionary hospital admission rates of the sickest, high-cost AD residents were much lower in nursing homes with more registered nurses (RNs), while no such relationship was found for similar residents without AD. Hospital transfer rates were also lower for AD patients in nursing homes using nurse practitioners.

Future research should focus on subpopulations of residents, like those with AD, where there is a greater likelihood that hospital admissions can be prevented through good nursing home practices, suggest the researchers. Their findings are based on an analysis of hospital transfers among 19,217 and 18,399 Medicaid residents with and without AD, respectively, from 546 nursing homes in Massachusetts between 1991 and 1993.

For more details, see "Discretionary hospitalization of nursing home residents with and without Alzheimer's disease: A multilevel analysis," by Drs. Porell and Carter, in the April 2005 *Journal of Aging and Health* 17(2), pp. 207-238. ■

Rural Health

Access to transportation substantially influences rural residents' use of health care services

A recent study supported by the Agency for Healthcare Research and Quality (HS09624) underscores the critical importance of transportation to care access for rural residents. The researchers found, for example, that people living in rural areas who had a driver's license had double the number of chronic care and regular care visits in a year than other rural residents who were unlicensed. Having family or friends provide regular transportation and use of public transportation also increased health care use.

In this study, the median distance to care was only about 6.5 miles. Yet the findings indicate that without transportation, even short distances can be an

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Access to transportation

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insurmountable problem, explains Thomas A. Arcury, Ph.D., of Wake Forest University School of Medicine.

Dr. Arcury and his colleagues used survey data from a sample of 1,059 households in 12 western North Carolina counties to examine the relationship between direct access to transportation and health care use. Individuals who had a driver's license had 2.29 times as many health care visits for chronic care and 1.92 times as many visits for regular checkups as those who did not have a license.

People whose family or friends could provide transportation had 1.58 times as many visits for chronic care as those who did not have such help. The small number (48 individuals) who used public transportation had four more chronic care visits per year as those who did not. Older age and poorer health were also associated with more health care visits. The researchers conclude that greater emphasis needs to be placed on ensuring that transportation resources are available to rural residents.

See "Access to transportation and health care utilization in a rural region," by Dr. Arcury, John S. Preisser, Ph.D., William M. Gesler, Ph.D., and James M. Powers, M.Sc., in the Winter 2005 *Journal of Rural Health* 21(1), p. 31-38. ■

Health Care Costs and Financing

Older people in HMOs and PPOs use more outpatient and preventive services than those in fee-for-service plans

Although the market share of managed care plans such as health maintenance organizations (HMOs) and preferred provider organizations (PPOs) continues to rise, many believe that these plans reduce costs by cutting back on the health care services they provide to patients. Yet, results from a new study of near-elderly individuals (those aged 55 to 64) should help calm concerns that managed care necessarily restricts use of health care services.

The age range 55 to 64 years is when many chronic conditions such as heart disease and diabetes begin to emerge, and it is a critical period for optimal disease management. According to the study, individuals in this age range who are in HMOs and PPOs use more outpatient and preventive services than similar adults in traditional fee-for-service (FFS) plans.

The study was conducted by Xiao Xu, Ph.D., of the University of Michigan, and Gail A. Jensen, Ph.D., of Wayne State University, and was supported by the Agency for Healthcare Research and Quality (HS13992). The investigators used data from the ongoing Health and Retirement Study, a nationally representative household survey that began in 1992 and targets individuals born between 1931 and 1941. Participants were reinterviewed about their demographics, health status, insurance, and health care use in 1994, 1996, 1998, 2000, and 2002.

Overall, 39 percent of 3,833 individuals in the sample (average age 58.5) had FFS coverage, 28 percent had PPO coverage, and 33 percent were covered by HMOs. Compared with FFS enrollees, HMO enrollees were 1.47 times and PPO enrollees were 1.57 times as likely to visit a doctor. The likelihood of having a blood test for cholesterol was 26 percent and 44 percent higher for HMO and PPO enrollees, respectively, than for FFS enrollees and 32 percent higher for a Pap smear to screen for cervical cancer. The effects of managed care on the use of mammography to screen for breast cancer and prostate cancer screening were also positive but not statistically significant. Enrollment in a managed care plan had no effect on the probability of hospitalization or on length of hospital stay.

See "Utilization of health care services among the near-elderly: A comparison of managed care and fee-for-service enrollees," by Drs. Xu and Jensen, in the March 2005 *Managed Care Interface*, pp. 60-70. ■

Study questions whether competition among HMOs will inherently improve care quality

For many years, proponents of health maintenance organizations (HMOs) have touted their potential through competition to reduce health care costs and improve quality of care. However, a recent study found that in 1999, plans in more competitive markets did not achieve better quality on half of the quality dimensions measured. On the other hand, plans in markets with greater HMO penetration did achieve better quality on some performance measures. The study was led by Dennis P. Scanlon, Ph.D., of Pennsylvania State University, and supported by the Agency for Healthcare Research and Quality.

Dr. Scanlon and his colleagues used several models to simultaneously estimate six quality variables from 35 Health Plan Employer Data and Information Set (HEDIS) and Consumer Assessment of Health Plans Study (CAHPS®) survey measures. They then examined the relationship of these variables to HMO competition and HMO market penetration, while controlling for other health plan and market characteristics. CAHPS surveys the opinions of health plan members about the quality of care and services provided by their plans and physicians seen through the plans. HEDIS is a set of clinical process and outcome measures derived from scientific evidence and measured for relevant health plan populations.

Based on the models, greater competition was associated with inferior health plan performance on three of six quality dimensions. Plans in markets with greater HMO penetration performed better on HEDIS- but not CAHPS-based dimensions of performance. Providers in these markets may be under greater pressure from plans to improve performance on the HEDIS indicators, suggest the researchers. Also, the lack of a relationship between HMO penetration and the CAHPS domains might reflect less receptivity of individuals to HMO care in such markets. And finally, plans that made their data available publicly performed significantly better on both the HEDIS and CAHPS domains than plans that did not make their results public, underscoring the importance of plan disclosure.

See "Competition and health plan performance: Evidence from health maintenance organization insurance markets," by Dr. Scanlon, Shailender Swaminathan, Ph.D., Michael Chernew, Ph.D., and others, in the April 2005 *Medical Care* 43(4), pp. 338-346. ■

Agency News and Notes

Task Force recommends HIV screening for all pregnant women

The U.S. Preventive Services Task Force issued a new recommendation calling for all pregnant women, not just those identified as at risk for contracting HIV, to be screened for the infection. This recommendation is based on evidence that currently available tests accurately identify pregnant women who are HIV infected and that recommended treatment strategies can dramatically reduce the chances that an infected mother will transmit HIV to her infant.

The Task Force also reaffirmed its earlier recommendation that all adolescents and adults at increased risk for HIV infection be screened and has broadened its definition of high risk. In addition to patients who report high-risk behaviors, all patients receiving care in high-risk settings—such as homeless shelters or clinics dedicated to the treatment of sexually transmitted diseases—should be tested. The Task Force found at least fair evidence that screening adolescents and adults who are not at increased risk can improve health outcomes, but they concluded that the balance of benefits and harms is too close to justify a general recommendation. The new recommendations were published in the July 5 issue of the *Annals of Internal Medicine.*

In 1996, the Task Force recommended a targeted strategy of routine counseling and screening of high-risk pregnant women and those who live in communities with a higher than average rate of HIV-positive newborns. However, recent evidence indicates that prenatal counseling and HIV testing have gained wider acceptance among pregnant women, and that universal testing increases the number of women diagnosed and treated for HIV prior to delivery. Currently recommended treatment of HIV-infected pregnant women has been shown to significantly reduce the

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HIV screening for pregnant women

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number of women who pass the virus to their newborns.

Treatment includes combination drug therapies taken during pregnancy that have been found safe for both mothers and infants. In addition, elective cesarean section and avoidance of breastfeeding have been shown to further reduce the chances that a mother will pass HIV infection to her infant. Infected mothers who receive treatment can reduce the chance that their infants will be infected to as low as 1 percent, as opposed to 25 percent of infants born to HIV-positive mothers who aren't treated during pregnancy.

Since 1995, advancements in treating HIV-positive patients with highly active antiretroviral therapy (HAART), a treatment regimen that combines three or more medications, have been shown to slow the progression of the disease and reduce HIV-related death rates.

There are an estimated 850,000 to 950,000 Americans infected with HIV who are unaware that they have the virus. If left untreated, almost all infected individuals will develop acquired immune deficiency syndrome (AIDS). AIDS is the seventh leading cause of death in Americans between the ages of 15 and 24 and the fifth leading cause of death among those 25 to 44 years old. People who are or have been intravenous drug users, have had sex with an HIV-infected partner, and men who have had sex with men after 1975 are among the groups at high risk for contracting HIV.

In addition, data from AHRQ's Healthcare Cost and Utilization Project indicate that 6,300 of the approximately 4.7 million women who were hospitalized for pregnancy or childbirth in 2002 were infected with HIV.

The Task Force, which is sponsored by the Agency for Healthcare Research and Quality, is the leading independent panel of private-sector experts in prevention and primary care. Task Force recommendations are considered the gold standard for clinical preventive services. The Task Force conducts rigorous, impartial assessments of the scientific evidence for a broad range of preventive services.

For more information, see "Prenatal screening for HIV: A review of the evidence for the U.S. Preventive Services Task Force," by Roger Chou, M.D., Ariel K. Smits, M.D., M.P.H., Laurie H. Huffman, M.S., and others in the July 5, 2005 *Annals of Internal Medicine* 143(1), pp. 38-54. In the same issue of the journal, see also "Screening for HIV: Recommendation statement," by the U.S. Preventive Services Task Force, pp. 32-37; and "Screening for HIV: A review of the evidence for the U.S. Preventive Services Task Force," by Dr. Chou, Ms. Huffman, Rongwei Fu, Ph.D., and others, pp. 55-73.

The recommendations and materials for clinicians are available on the AHRQ Web site. Go to www.ahrq.gov and click on "Clinical Information" and then "Preventive Services." Previous Task Force recommendations and summaries of the evidence and related materials are available from the AHRQ Publications Clearinghouse. See the back cover of *Research Activities* for ordering information. Clinical information is also available from AHRQ's National Guideline Clearinghouse™ at www.guideline.gov. ■

First phase of reviews are beginning under AHRQ's new research program on the effectiveness of health care interventions

The Agency for Healthcare Research and Quality has announced the first phase of research reviews that will be performed under the Agency's new Effective Health Care Program. The program will largely include work funded under Section 1013 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003.

The essential goals of the Section 1013 mandate are to develop evidence on the comparative effectiveness of different treatments and appropriate clinical approaches to difficult health problems. To achieve these goals, AHRQ will support projects to review, synthesize, and translate published and unpublished scientific evidence, as well as identify important issues for which existing scientific evidence is insufficient to inform decisions about health care. This evidence will be made readily available to all health care decisionmakers in a wide range of formats.

This initial set of 10 research reviews will provide science-based information on the effectiveness of health care interventions—including prescription drugs—to enhance decision making by Medicare policymakers, beneficiaries and providers. The reviews will address questions on the priority conditions of the Medicare program established by the Secretary of Health and Human Services in 2004. The priority conditions, which were selected by a steering committee made up of representatives from AHRQ, the Centers for Medicare & Medicaid Services, the Food

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Research on health care interventions

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and Drug Administration, and the HHS Office of the Secretary, are:

- Ischemic heart disease.
- Cancer.
- Chronic obstructive pulmonary disease/asthma.
- Stroke, including control of hypertension.
- Arthritis and non-traumatic joint disorders.
- Diabetes mellitus.
- Dementia, including Alzheimer's disease.
- Pneumonia.
- Peptic ulcer/dyspepsia.
- Depression and other mood disorders.

Future reviews will address issues that relate to Medicaid and the State Children's Health Insurance Program. The results will be made available to the three public programs as well as to health plans, prescription drug plans, other health care providers, and the public.

AHRQ's Evidence-based Practice Centers (EPCs) will conduct the reviews, and the Oregon EPC at Oregon Health & Science University and Kaiser Permanente Center for Health Research in Portland will serve as the Methodology Resource Center for AHRQ's Effective Health Care Program. The reviews will take 7 to 12 months to complete, and they are expected to be available beginning in October 2005. The set of initial topics will address:

- Management strategies for gastroesophageal reflux disease.
- Benefits and safety of analgesics for osteoarthritis.
- New diagnostic technologies for evaluation of abnormal breast cancer screening.
- Epoetin and darbepoetin for managing anemia in patients undergoing cancer treatment.
- Off-label use of atypical antipsychotic medications.
- Renal artery stenting compared with aggressive antihypertensive medical therapy for mild renal artery stenosis.
- Therapies for localized prostate cancer.
- Oral medications for diabetes management.
- Medications for depression management.
- Drug therapies and behavioral interventions (exercise, diet, and vitamin supplementation) for osteoporosis and osteopenia.

The EPCs will review and analyze all the scientific literature relating to key questions under each topic, and they will produce a set of high-quality reviews that concisely synthesize the evidence, clearly state conclusions about the evidence, and identify research gaps. The Resource Center will translate identified gaps into suggestions for priority studies to fill critical information needs. ■

Announcements

New grants focus on helping primary care providers promote healthy behaviors in their patients

The Robert Wood Johnson Foundation and the Agency for Healthcare Research and Quality have awarded $3 million to fund the second round of grants for the "Prescription for Health: Promoting Health Behaviors in Primary Care Research Networks" initiative, which is supported by both organizations. The program is aimed at developing effective, practical strategies for changing Americans' unhealthy behaviors through primary care.

Through the Prescription for Health program, primary care practices are concentrating on four leading health risk factors: lack of physical activity, unhealthy diet, tobacco use, and alcohol abuse. The projects are conducted by practice-based research networks, which are groups of medical practices that work together to investigate a variety of questions about how health care is managed or delivered.

During the first phase of the Prescription for Health initiative, 17 practice-based research networks received grants for projects designed to develop creative and practical strategies to improve health behavior counseling that can help patients adopt healthier lifestyles. The goal of the second round of funding is to further understand and measure the extent to which more comprehensive health behavior counseling strategies are effective in improving patients' behaviors

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New grants

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and result in improved practice. All second round projects will evaluate outcomes using a common set of patient and practice measures, and they will assess the strategies for reach, effectiveness, adoption, implementation, and maintenance.

The 24-month innovation grants are each for $300,000. Examples of innovations include:

- PDA-based assessment of health risks for adolescents with tailored in-office counseling, and followup through community referrals and Web-based resources.
- Creation of new types of staff positions, such as a community health educator and referral liaison who will serve as a bridge between the practice, patient, and community in the form of a one-stop-shopping health behavior referral service.
- Interactive voice response system used to conduct risk assessment and deliver tailored counseling over the phone.
- Electronic health record prompts for providers with different options for counseling and followup including Web-based, telephone-based, and group visits.
- Reframing the 2-year-old well-child visit to focus on family lifestyle risk assessment and behavior change for the entire family through referrals to lifestyle counselors.

For more information about the grant awards and the Prescription for Health program, go to www.prescriptionforhealth.org. ■

AHRQ releases the *2005 Guide to Clinical Preventive Services* and other new publications

The Agency for Healthcare Research and Quality recently released the *Guide to Clinical Preventive Services, 2005*, which highlights current recommendations from the U.S. Preventive Services Task Force. These evidence-based recommendations for clinicians address preventive services including screening tests, counseling, and preventive medications for adults and children in the primary care setting.

The guide includes the Task Force's recommendations on prevention and early detection for cancer; heart and vascular diseases; infectious diseases; injury and violence; mental health and substance abuse; metabolic, nutritional, and endocrine conditions; musculoskeletal conditions, and obstetric and gynecologic conditions.

The guide contains recommendations that have been adapted for a pocket-size book, making it easier for clinicians to consult the recommendations in their daily practice. Recommendations are presented inn an indexed, easy-to-use format, with at-a-glance charts. Go to the Agency's Web site at www.ahrq.gov to access recommendation statements and supporting statements from the Task Force.

The guide is one of several resources that provide access to the Task Force's recommendations. Task Force recommendations are also available as a clinical decision support tool for persosnal digital assistants (PDAs), called the Interactive Preventive Services Selector. This free application is available for download from the AHRQ Website at www.ahrq.gov.

The Task Force, which is supported by AHRQ, is the leading independent panel of private-sector experts in prevention and primary care. The Task Force conducts rigorous, impartial assessments of the scientific evidence for a broad range of preventive services. Task Force recommendations are considered the gold standard for clinical preventive services.

A single free copy of the *Guide to Clinical Preventive Services: Recommendations of the U.S. Preventive Services Task Force* (AHRQ Publication No. 05-0570) is available from AHRQ.*

Three other new publications are also available from AHRQ, as follows.

Chronic Care for Low-Income Children with Asthma: Strategies for Improvement.* Research in Action No. 18, by Mark W. Stanton, Denise Dougherty, and Margaret Rutherford (AHRQ Publication 05-0073).

Many children with asthma do not get the care they need despite the existence of asthma care guidelines and evidence about effective treatment. This report provides strategies to help policymakers and purchasers of health care and health insurance improve care for children with asthma. Increasing the use of controller medications—which are underused by children with asthma and especially by low-income and

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New publications

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minority children—improves outcomes. Processes of asthma care for children enrolled in Medicaid managed care vary more by practice site than by health plan. Clinic-based organizational changes can help to improve asthma care for children. Cultural competence policies are associated with better quality asthma care for Medicaid-insured children.

Cost-Effectiveness Analysis in U.S. Healthcare Decision-Making. Where Is it Going? **Supplement to Medical Care, Volume 43, Number 7, July 2005 (AHRQ Publication No. 05-M000).***

This AHRQ-sponsored supplement describes recent developments in the use of cost-effectiveness analysis (CEA) in U.S. health care decisionmaking. Although cost-effectiveness is frequently invoked as a desirable goal—and is a formal input to heath care decisions in many other countries—cost-effectiveness information has not been widely employed in U.S. health care. Nonetheless, there has been a noticeable evolution in its use over the past several years. The articles in this supplement present a range of views on the utility of CEA, obstacles to its wider use, the potential of new and emerging systems for incorporating CEA in decisionmaking processes, and necessary future steps. Included are an analysis by authors from the United Kingdom and an update from Ontario to provide context and contrast, discussions of recent U.S. efforts in both the public and private sectors, and commentary on these developments. Emphasis is placed on pharmaceutical decisions, reflecting the strong interest in economic analysis in this sector. The supplement provides a resource for policymakers, researchers, and administrators working to develop better ways of integrating information on the value of health care interventions into U.S. health care decisions. (**Editor's note:** AHRQ has a limited supply of single, free copies of this journal supplement).*

Hospitalization in the United States, 2002. **HCUP Fact Book No. 6, by Chaya T. Merrill and Anne Elixhauser (AHRQ Publication No. 05-0056).***

This publication describes hospital care in the United States in 2002. It presents an overview of hospitals and discussion and tabular data on factors associated with hospital care, including sex and age of patients, common diagnoses, sources of admissions, hospital charges, payers of care, and disposition status (e.g., discharges to other institutions, in-hospital mortality, and patients leaving against medical advice. ■

AHRQ releases evidence reports on depression among heart attack patients and three other topics

The Agency for Healthcare Research and Quality recently released evidence reports and summaries on the incidence of depression following a heart attack, management of chronic insomnia in adults, acute bacterial rhinosinusitis, and recruitment of underrepresented populations to cancer clinical trials.

The reports were prepared by Evidence-based Practice Centers (EPCs) supported by AHRQ. There are 13 AHRQ-supported EPCs. They systematically review the relevant scientific literature on topics assigned to them by AHRQ and conduct additional analyses when appropriate prior to developing their reports and assessments.

The goal is to inform health plans, providers, purchasers, and the health care system as a whole by providing essential information to improve health care quality. All of AHRQ's EPC reports, as well as several technical reviews, that have been published to date are available online and through the AHRQ clearinghouse. Visit the AHRQ Web site at www.ahrq.gov and click on "Clinical Information" or see the back cover of *Research Activities* for ordering information.

Post-Myocardial Infarction Depression. **Evidence Report/Technology Assessment No. 123 (AHRQ Publication Nos. 05-E018-1, summary and 05-E018-2, full report).***

One in five patients hospitalized for heart attack suffers from major depression, and these patients may be more likely than other heart attack patients to need hospital care again within a year for a cardiac problem. They also are three times as likely as other heart attack patients to die from a future attack or other heart problems, according to a new evidence report by the Agency for Healthcare Research and Quality. The American Academy of Family Physicians, which requested the evidence review, plans to use the report to develop evidence-based clinical practice guidelines.

The scientific evidence review on which the report is based suggests that 60 percent to 70 percent of individuals who become depressed when hospitalized for heart attack

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Evidence reports

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continue to suffer from depression for 1 month to 4 months or more after discharge. Major depression lasts 2 weeks or longer and is accompanied by five or more symptoms—including feelings of sadness, hopelessness, pessimism, and a general loss of interest in life—that hinder a person's ability to carry out normal, everyday activities.

The reviewers also found that during the first year following a heart attack, those with major depression can have a delay in returning to work, worse quality of life, and worse physical and psychological health compared with heart attack survivors who do not have major depression. In fact, some studies show that depression that begins while the patient is hospitalized can continue to affect his or her psychological and physical health for as long as 5 years after discharge. Approximately 765,000 Americans were discharged following treatment for heart attacks in 2002, according to national hospital data from AHRQ.

The reviewers found strong evidence that both counseling and certain antidepressants, such as selective serotonin reuptake inhibitors, are effective at reducing symptoms of depression in patients following a heart attack, but there is no evidence that either therapy reduces the likelihood of suffering future cardiac events or the odds of dying from them.

Reviewers at the AHRQ-supported Johns Hopkins University Evidence-based Practice Center in Baltimore, led by David E. Bush, M.D., and Roy C. Ziegelstein, M.D., could not determine whether depression influences the frequency of needing prescription medicines for cardiac problems or cardiac procedures. However, they did find relatively strong evidence that patients with post-heart attack depression are less likely than other heart attack survivors to take their medications as instructed or to follow doctors' advice for helping to prevent future heart attacks by losing weight, reducing salt consumption, or exercising, for example.

The reviewers found insufficient evidence to adequately assess the performance of methods used to screen patients for depression while they are hospitalized for heart attack. However, the reviewers found that most of the commonly used screening instruments and rating scales are accurate enough to identify depression when used within 3 months after the patient's initial hospitalization for heart attack.

The reviewers call for additional research to expand the evidence base, including studies to determine the major causes of death among depressed post-heart attack patients, whether treatment improves their outcomes relative to similar patients not suffering from depression, and the definition of the most clinically relevant measure of depression during initial heart attack hospitalization.

Other recent reports have been issued on the following topics:

Knowledge and Access to Information on Recruitment of Underrepresented Populations to Cancer Clinical Trials. **Evidence Report/Technology Assessment No. 122 (AHRQ Publication No. 05-E019-1, summary and 05-E019-2, full report).***

Update on Acute Bacterial Rhinosinusitis. **Evidence Report/Technology Assessment No. 124 (AHRQ Publication No. 05-E020-1, summary and 05-E020-2, full report).***

Manifestations and Management of Chronic Insomnia in Adults. **Evidence Report/Technology Assessment No. 125 (AHRQ Publication No. 05-E021-1, summary and 05-E021-2, full report).*** ■

New report analyzes the use and potential for improvement of hospital discharge databases

The Agency for Healthcare Research and Quality has published a new report, *The Value of Hospital Discharge Databases,* which focuses on the use and improvement of hospital discharge data and databases. This report is the culmination of an AHRQ-sponsored research project conducted by the National Opinion Research Council (NORC) and the National Association of Health Data Organizations (NAHDO).

Drawing from multiple sources of information—including an extensive review of published literature, Web sites, key informant interviews, and in-person meetings with representatives from State-wide data organizations (SDOs)—the report documents the ways in which hospital discharge databases are used and identifies ways to improve them. The study concludes that hospital discharge databases vary in their content and capacity for research and support a diverse set of constituents who use the data for a wide variety of applications and analyses, including:

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Hospital discharge databases

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- Injury surveillance (e.g., tracking suicides and suicide attempts in North Carolina).
- Public health and disease registries (e.g., examining the impact of motor vehicle exhaust and air quality on childhood asthma in Georgia).
- Quality assessment and performance improvement (e.g., using a public report on coronary artery bypass graft surgery to justify changes in policies and clinical practices in Pennsylvania).
- Policy deliberations and legislation (e.g., demonstrating to the State legislature that a bill mandating acceptance of all neonatal intensive care unit (NICU) transfers was unnecessary in Connecticut).

The report catalogs and analyzes the primary applications of hospital discharge data and outlines recommendations for developing databases in response to the unique needs of those who use the information. The report draws two central conclusions: one, there is a need for more comprehensive and linkable hospital discharge databases, and two, SDOs are in need of greater support as they develop their abilities in advanced analysis and reporting.

The Value of Hospital Discharge Databases is available online. Go to the HCUP-US Web site at www.hcup-us.ahrq.gov/reports to find it. ■

AHRQ research trainee in the spotlight

Anthony T. LoSasso, Ph.D., of the University of Chicago, was honored recently by AcademyHealth. Dr. LoSasso received the organization's Article-of-the-Year award at the 2005 annual AcademyHealth meeting held this year in Boston, MA.

This award recognizes the best scientific work produced and published during the previous calendar year in the fields of health services research and health policy. Dr. LoSasso received the award for his lead authorship of "The effect of the State Children's Health Insurance Program on health insurance coverage," which appeared in the September 2004 issue of the *Journal of Health Economics.*

Dr. LoSasso is the recipient of an AHRQ Independent Scientist (K02) award. He is in the final year of his 5-year AHRQ project entitled "Employer Health Benefits and Employee Health. Dr. LoSasso credits his K grant as being a critical element in his progression to becoming an independent health services researcher. ■

Research Briefs

Alison, J.J., Kiefe, C.I., Wall, T., and others. (2005). "Multicomponent Internet continuing medical education to promote chlamydia screening." (AHRQ grant HS11124). *American Journal of Preventive Medicine* 28(3), pp. 285-290.

A multicomponent Internet-based continuing medical education (mCME) intervention can favorably influence chlamydia screening for at-risk women seen in primary managed care offices, according to this study. The intervention, consisting of four case-based learning modules, was tailored in real time to each physician and included office-level feedback of chlamydia screening rates. Screening rates for comparison offices declined from 18.9 percent before the intervention to 12.4 percent after the intervention, while screening rates for intervention offices declined only slightly, from 16.2 percent to 15.5 percent.

Arcury, T.A., Gesler, W.M., Preisser, J.S., and others. (2005, February). "The effects of geography and spatial behavior on health care utilization among the residents of a rural region." (AHRQ grant HS09624). *Health Services Research* 40(1), pp. 135-155.

Geographic and spatial behavior factors play an important role in rural health care use, concludes this study. The researchers surveyed 1,059 adults in 12 rural North Carolina counties about their health care visits in the preceding year across geographic, sociodemographic, cultural, and health variables. After accounting

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Research briefs

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for several factors, having a driver's license and distance traveled for regular care were significantly related to health care use for regular check-ups and chronic care, as were age, sex, and ethnicity; household income; and medical need. Geographic measures were related to regular check-ups and chronic care but not to acute care visits.

Aujesky, D., Auble, T.E., and Yealy, D.M. (2005). "Prospective comparison of three validated prediction rules for prognosis in community-acquired pneumonia." (AHRQ grant HS10049). ***American Journal of Social Medicine*** **118, pp. 384-392.**

The Pneumonia Severity Index is better at predicting 30-day mortality among patients with community-acquired pneumonia (CAP) than two other prediction rules, concludes this study. The investigators compared three prediction rules in their ability to predict 30-day mortality among 3,181 patients with CAP in 2001: the Pneumonia Severity Index, CURB (confusion, urea nitrogen, respiratory rate, and blood pressure), and CURB-65 (for patients aged 65 or older). The Pneumonia Severity Index classified a greater proportion of patients as low risk (68 percent) than either a CURB score less than 1 or a CURB-65 score less than 2 (61 percent). Also, these patients had a slightly lower mortality rate than those identified as low risk by CURB scores (1.4 vs. 1.7 percent).

Barnato, A.E., Labor, R.E., Freeborne, N.E., and others. (2005, January). "Qualitative analysis of Medicare claims in the last 3 years of life: A pilot study." AHRQ grant HS10561. ***Journal of the American Geriatrics Society*** **53, pp. 66-73.**

The goal of this study was to examine whether qualitative interpretation of administrative claims could yield insights into patient care for older people nearing the end of life, including continuity, errors, and cause of death. Two independent clinicians analyzed Medicare claims for 100 fee-for-service enrollees without disability or end-stage renal disease who died during the period 1996-1999 and had at least 36 months of continuous Part A and Part B enrollment before death. They found that most patients were chronically ill and received many health care services during the 3 years before death. Three-quarters of the patients lacked continuity of care, and a medical error was identified in 13 percent of cases. The clinician abstracters disagreed about assignment of a single cause of death in 28 percent of cases. The researchers conclude that qualitative claims analysis can illuminate many problems in the care of chronically ill older people at the end of life and deserves further study.

Beach, M.C., Price, E.G., Gary, T.L., and others. (2005, April). "Cultural competence: A systematic review of health care provider educational interventions." (AHRQ contract 290-02-0018). ***Medical Care*** **43(4), pp. 356-373.**

Cultural competence training shows promise as a strategy for improving the knowledge, attitudes, and skills of health professionals. However, there is no evidence to show that it improves patient adherence to therapy, health outcomes, and/or equity of services across racial and ethnic groups, according to this review of relevant studies published from 1980 through June 2003. Overall, 17 of 19 studies showed such training improved the knowledge of health professionals, 21 of 25 studies showed that it improved their attitudes, and 14 of 14 studies showed a beneficial effect on skills. There also was good evidence that this training improved patient satisfaction, but evidence was poor on its ability to influence treatment adherence.

Bourgeois, J.A., Maddock, R.H., Rogers, L., and others. (2005, March-April). "Neurosarcoidosis and delirium." AHRQ grant HS11540. ***Psychosomatics*** **46(2), pp. 148-150.**

Sarcoidosis is a systemic inflammatory disease, which may involve multiple organ systems such as lungs, liver, bones, lymph nodes, skin, eyes, and muscles. Neurosarcoidosis, which means involvement of the nervous system, is seen in less than 10 percent of cases. This paper describes the case of a 39-year-old woman who came to a psychiatric hospital with incoherent speech, auditory hallucinations, and distractibility that had begun months earlier and worsened over 2 weeks. Her case was complicated by long-term cocaine and alcohol use. She was put on the antipsychotic, risperidone, and tested for numerous infectious diseases. Eventually, neurosarcoidosis was diagnosed through computed tomography and an open brain biopsy. Treatment of neurosarcoidosis includes higher doses of corticosteroids than are used for sarcoidosis. Cyclosporine, methotrexate, cranial irradiation, and neurosurgical intervention may also be indicated.

DeLong, E.R., Lytle, B.L., Cowper, P.A. and others. (2005, March). "Research, managed care, and patient privacy: Challenges to successful

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collaboration." (AHRQ grant HS09940). *Journal of Clinical Outcomes Management* 12(3), pp. 151-156.

Managed care organizations (MCOs) can collaborate with an academic research organization (ARO) to examine the clinical and economic impact of new programs, such as chronic disease management, particularly over the long-term. However, the process of obtaining funding and executing a successful study would benefit from specific safeguards and sufficient incentives to offset the risks to MCOs, concludes this study. The investigators analyzed a government-funded collaborative research project on coronary artery disease involving an ARO and the electronic files of several MCOs. Fear of negative publicity for MCOs and increased patient privacy concerns created barriers to patient contact, which could dramatically affect study duration and response rates.

Fremont, A.M., Bierman, A., Wickstrom, S.L., and others. (2005, March). "Use of geocoding in managed care settings to identify quality disparities." (AHRQ contract 290-00-0012). *Health Affairs* 24(2), pp. 516-526.

Tracking quality-of-care measures is essential to improve care, particularly for vulnerable populations. Although managed care plans routinely track quality measures, few examine whether their performance differs by enrollee race/ethnicity or socioeconomic status (SES), in part because plans do not collect that information. These investigators show that plans can begin examining and targeting potential disparities using indirect measures of enrollee race/ethnicity and SES based on geocoding. Using such measures, they demonstrate disparities within both Medicare+Choice and commercial plans on Health Plan Employer Data and Information Set (HEDIS) measures of diabetes and cardiovascular care.

Hahn, H.D., and Belt, T.L. (2004, December). "Disability identity and attitudes toward cure in a sample of disabled adults." *Journal of Health and Social Behavior* 45, pp. 453-464.

These researchers interviewed disabled activists who were members of the organization ADAPT, Americans Disabled for Assistance Programs Today. They surveyed a total of 156 demonstrators with disabilities during two ADAPT social action events in 1995 and 1998. Participants were asked to rate their response to the statement, "Even if I could take a magic pill, I would not want my disability to be cured," on a scale from one (strongly disagree) to seven (strongly agree). Forty-seven percent agreed with the statement (score of 5-7), 45 percent disagreed (score of 1-3), and 8 percent were ambivalent (score of 4). Only two factors predicted that a person would not want a cure for their disability: positive sense of personal identity with the disability and early age of onset of disability.

Leeper, N.J., Werner, L.S., Dhaliwal, G., and others. (2005, April). "One surprise after another." AHRQ grant HS11540. *New England Journal of Medicine* 352(14), 1474-1479.

This paper chronicles the emergency department presentation, hospital care, and eventual diagnosis of a 22-year-old man with a history of cocaine use and current alcohol use who arrived at the hospital with abdominal pain and symptoms of lung infection. The eventual diagnosis was myocarditis, with a potential underlying cocaine-induced or alcohol-related cardiomyopathy with a superimposed viral infection. Following treatment, this patient's followup echocardiogram showed some early signs of improved heart wall motion, but a substantial minority of patients with this condition never regain normal cardiac function.

Marcus, M., Maida, C.A., Freed, J.R., and others. (2005). "Oral white patches in a national sample of medical HIV patients in the era of HAART." (AHRQ grant HS08578). *Community Dentistry and Oral Epidemiology* 33, pp. 99-106.

The development of oral soft tissue lesions (oral white patches [OWP]) in patients with HIV is often a sign of declining local and systemic immune function. Based on interviews with 2,109 participants in the HIV Cost and Services Utilization Study (HCSUS), these researchers estimated that 35 percent of individuals with HIV disease reported at least one incident of OWP. Compared with those on highly active antiretroviral therapy (HAART), patients on other regimens or taking no antiviral medications were 23-46 percent more likely to report an incident of OWP. Compared with whites, blacks were 32 percent less likely to report OWP, while current smokers were 62 percent more likely to do so than nonsmokers. AIDS diagnosis and CD4 counts less than 500 significantly increased the likelihood of reporting OWP.

Needham, D.M., Bronskill, S.E., Calinawan, J.R., and others. (2005). "Projected incidence of mechanical ventilation in Ontario to 2026: Preparing for the aging

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baby boomers." (AHRQ grant HS11902). *Critical Care Medicine* 33(3), pp. 574-579.

Due to aging baby boomers (individuals born between 1946 and 1966), use of mechanical ventilation will steadily increase to the year 2026, outpacing population growth that occurred in the 1990s, concludes this study. The authors project that 34,478 patients will be ventilated in 2026, representing an 80 percent increase from 2000. Given already limited intensive care unit resources and heavy use of acute care resources by ventilated patients, planning for this continued growth is necessary, advise the researchers. They standardized population-based, sex-specific, and age-specific mechanical ventilation incidences for adults for the year 2000 to population projections to estimate the incidence of mechanical ventilation in 5-year intervals from 2006 to 2026.

Phillips, L.S., and Langer, R.D. (2005, March). "Postmenopausal hormone therapy: Critical reappraisal and a unified hypothesis." (AHRQ grant HS07922). *Fertility and Sterility* 83(3), p. 558-566.

These authors hypothesize that hormone therapy initiated at the time of menopause should produce a decrease in coronary heart disease (CHD) over time. In contrast, hormone therapy begun years after menopause should produce an increase in CHD events shortly after therapy is begun, followed later by benefit. In women who require progestogens for endometrial protection, there should be greater CHD benefit from use of progestogens with less systemic activity. This unified hypothesis is consistent both with plausible biologic mechanisms and with evidence from animal studies, human observational studies, and human clinical trials such as the Women's Health Initiative, note the authors. They reviewed the literature to reconcile apparently conflicting evidence on the CHD benefit of postmenopausal hormone therapy.

Sinaiko, A.S. (2004, October). "Employers' responses to a play-or-pay mandate: An analysis of California's Health Insurance Act of 2003." (AHRQ grant HS10803). *Health Affairs*, online at www.healthaffairs.org.

California, with 20 percent of its population uninsured and an unemployment rate of 6.2 percent, enacted the Health Insurance Act (known as SB2) in May 2004. The legislation, scheduled to be phased in starting in 2006, mandates that employers either provide employee health benefits that meet a minimum standard or pay a fee to the State to cover workers under a State-sponsored program. This author applies findings from the literature and an economic analysis to California data to estimate the potential reduction in wages, quantify the dispersion of risk across employers, and discuss other employment effects. The study found that although SB2 will bring eligibility for health coverage to a portion of the uninsured in California, it will be lower than the estimated 1.07 to 1.56 million individuals that researchers have projected.

Sulkowski, M.S., Mehta, S.H., Torbenson, M., and others.(2005, March). "Hepatic steatosis and antiretroviral drug use among adults coinfected with HIV and hepatitis C virus." AHRQ grant HS07809. *AIDS* 19, pp. 585-592.

The goal of this study was to determine the prevalence and severity of hepatic steatosis (fatty liver) among patients coinfected with HIV and hepatitis C virus (HCV) who had been taking antiretroviral therapy (ART). Steatosis was assessed among a randomly selected subset of HIV-HCV coinfected patients who had received at least 2 years of ART. Liver histology was assessed in 112 patients, 74 percent of whom were taking ART at the time of biopsy. Steatosis was observed in 40 percent of HIV-HCV coinfected patients with extensive ART exposure and was associated with more severe HCV-related liver disease. Metabolic abnormalities (excess weight and hyperglycemia) and stavudine use were modifiable risk factors for steatosis in this population.

Watts, D.H., Fazarri, M., Minkoff, H., and others. (2005, April). "Effects of bacterial vaginosis and other genital infections on the natural history of human papillomavirus infection in HIV-1-infected and high-risk HIV-1-uninfected women."(cosponsored by AHRQ, NIH, and CDC). *Journal of Infectious Diseases* 191, pp. 1129-1139.

Bacterial vaginosis (BV) and *Trichomonas vaginalis* (TV) infection may increase the risk of acquiring or reactivating human papillomavirus (HPV) infection, concludes this study. This conclusion is consistent with the hypothesis that the local cervicovaginal milieu plays a role in susceptibility to HPV infection. The finding that BV did not affect persistence of HPV infection and that TV infection may shorten the duration of HPV infection helps explain the lack of effect that BV and TV infection have on development of squamous intraepithelial lesions (SIL). These findings are based on semiannual assessment of 1,763 HIV-infected and 494 high-risk HIV-uninfected women for BV, TV, type-specific HPV, and SIL. ■

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