



RESEARCH ACTIVITIES

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Highlights

Departments

**Patient Safety and
Quality** 2

Child/Adolescent Health 7

Elderly/Long-Term Care 9

Chronic Disease 10

**Outcomes/Effectiveness
Research** 11

Clinical Decisionmaking . . . 12

Primary Care Research . . . 13

Mental Health 14

Pharmaceutical Research . . 17

End-of-Life Care 18

**Health Care Costs and
Financing** 18

Acute Care/Hospitalization . . 19

Regular Features

Agency News and Notes . . . 21

Announcements 23

Research Briefs 25

AHRQ and the Ad Council encourage men to take preventive steps in their health care

The Agency for Healthcare Research and Quality (AHRQ) joined with the Advertising Council to launch a national public service campaign designed to raise awareness among middle-aged men about the importance of preventive medical testing. The new campaign—"Real Men Wear Gowns"—encourages men over 40 to learn which preventive screening tests they need to get and when they need to get them. This campaign complements AHRQ's existing efforts toward improving the safety and quality of health care and promoting patient involvement in their own health care, including the "Questions are the Answer" campaign launched with the Ad Council in March 2007 and the "Superheroes" Spanish-language campaign launched in March 2008.

According to AHRQ's Medical Expenditure Panel Survey, men are 25 percent less likely than women to have visited the doctor within the past year and are 38 percent more likely than women to have neglected their cholesterol tests. Data from the Centers for Disease Control and Prevention indicate that men are 1.5 times more likely

than women to die from heart disease, cancer, and chronic lower respiratory diseases.

The campaign highlights the work of the AHRQ-sponsored U.S. Preventive Services Task Force, which is an independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness and develops recommendations for clinical preventive services. Created pro bono for the Ad Council by McCann Erickson Detroit, the public service advertising campaign includes new television, radio, print, and Web advertising that incorporates family as a key motivating factor for men to take a more active role in preventive health. They show the target audience that being a real man means taking care of themselves (and their health) in order to be there for their families and in the future. Ad Council research showed this was a strong motivating factor for men.

The campaign encourages men to visit a comprehensive Web site, www.ahrq.gov/realmen/. The site provides the recommended ages for

continued on page 2

Ad Council

continued from page 1

preventive testing (as well as a list of tests), a quiz designed to test knowledge of preventive health

care, tips for talking with the doctor, a glossary of consumer health terms, and links to online resources where men can find more medical information. ■

Patient Safety and Quality

When financially vulnerable rural hospitals become critical access hospitals, patient safety improves in several areas

It has been difficult for many small rural hospitals to recover their Medicare costs under the prospective payment system (PPS) rates. In order to protect these financially vulnerable hospitals and improve their quality of care, in 1997 Medicare began to allow some of them to convert to critical access hospitals (CAH) and to be reimbursed based on cost rather than PPS rates. Rural Iowa hospitals that converted to CAH showed improved patient safety in several areas, according to a new study.

The study authors examined the effect of CAH conversion on patient safety by analyzing secondary data on hospital patient safety indicators (PSIs), hospital CAH status, patient case-mix, and market variables for 89 Iowa rural hospitals from 1997 to 2004. PSIs are conditions that signal a problem with patient safety, such as bed sores, infections due to medical care, accidental puncture or laceration, and foreign body left in the body during surgery.

CAH conversion in the Iowa rural hospitals studied was linked to better performance in areas of care-related pneumothorax, selected infections due to medical care, accidental puncture or laceration, and the composite

score of four PSIs. However, CAH conversion had no significant impact on the observed rates of death in low-mortality diagnosis-related groups, foreign body left in a patient during surgery or other procedure, risk-adjusted rate of decubitus ulcer (bed sore), or composite score of six PSIs. The authors speculate that the most likely mechanism linking CAH conversion and improved care quality is the change in payment mechanism from prospective to cost-based. Under PPS, the marginal costs associated with quality improvement are not reimbursed and the hospital has to bear all the cost incurred by increased care intensity and quality. Under cost-plus reimbursement, marginal costs associated with increased quality are fully reimbursed. The study was supported by the Agency for Healthcare Research and Quality (HS15009).

See “Effect of critical access hospital conversion on patient safety,” by Pengxiang Li, Ph.D., John E. Schneider, Ph.D., and Marcia M. Ward, Ph.D., in the December 2007 *HSR: Health Services Research* 42(6), pp. 2089-2108. ■

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Also in this issue:

AHRQ patient safety indicators and potential adverse events, see page 4

Smoking in the home and lung problems among children, see page 7

Impact of systemic lupus erythematosus on employment, see page 10

Therapy for posttraumatic stress disorder through telepsychiatry, see page 14

FDA warnings and response by prescribing physicians, see page 17

Medical and surgical intensive care unit patients suffer from similar types of safety problems and related harm

When it comes to safety problems in the intensive care unit (ICU), the similarity in medical issues faced by critically ill surgical or medical ICU patients may be more important than their differences, suggests the largest ICU safety report project to date. Researchers found that both medical and surgical ICU patients suffered from similar types of safety incidents and related harm. Also, most of these incidents were due to lack of training and teamwork. The researchers analyzed 646 incidents involving adult medical patients and 707 incidents involving adult surgical patients at 20 ICUs. The incidents were reported to the voluntary and anonymous Web-based ICU Safety

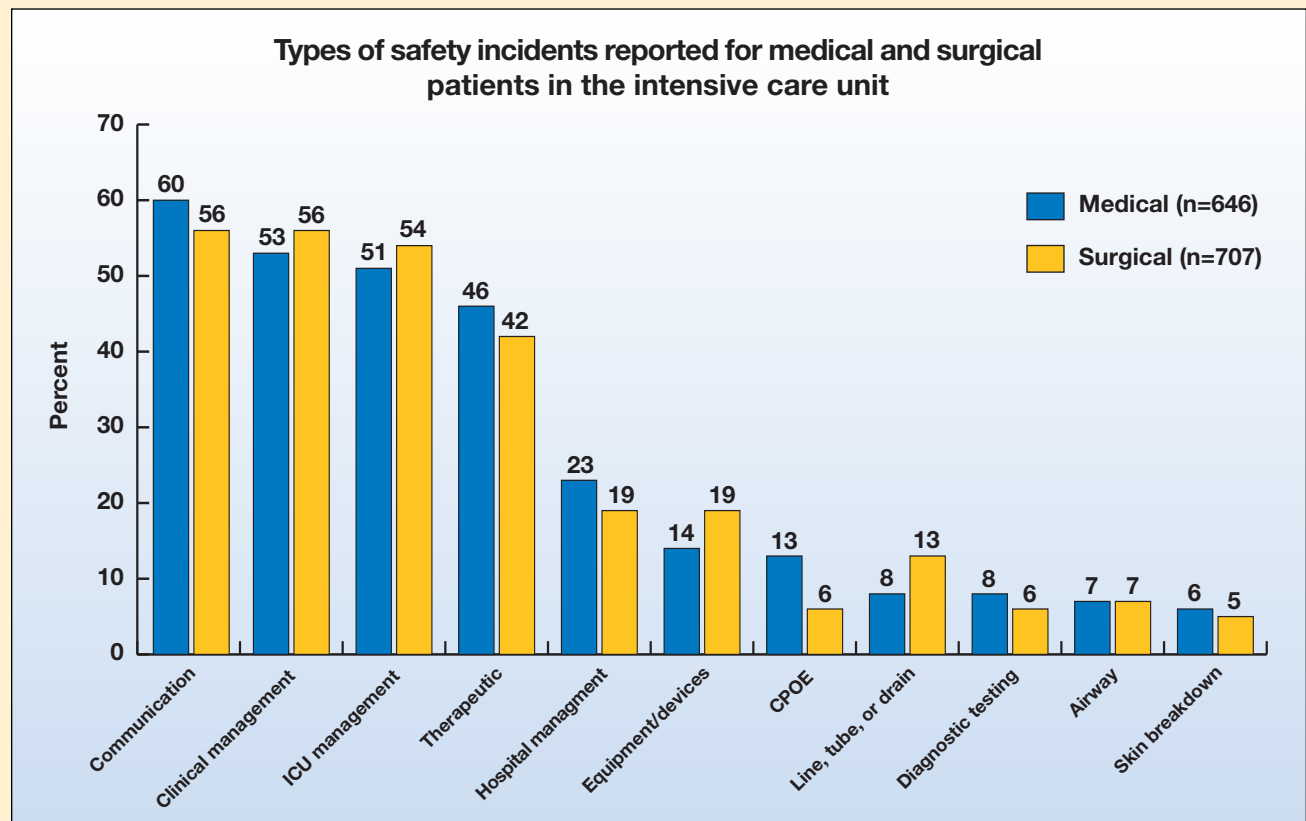
Reporting System from 2002 to 2004.

About 15 percent of incidents resulted in physical injury, 10 percent resulted in longer hospital stays (either expected or actual), 2 percent or fewer in death. Nurses reported more than 70 percent of incidents. About 80 percent of incidents were considered preventable and more than 40 percent caused harm. The incidents were reported to patients' family or friends in 18 percent of cases.

Problems related to communication, clinical management, and ICU management were factors in half of the safety incidents affecting both ICU groups. There were significant differences in only 3 of the 11 types of incidents between

the 2 groups (see Figure 1). Incidents involving problems with equipment/devices and a line, tube, or drain were less common in medical versus surgical patients, whereas incidents related to computerized physician order entry were more common in medical patients. The study was supported by the Agency for Healthcare Research and Quality (HS1902).

More details are in "Intensive care unit safety incidents for medical versus surgical patients: A prospective multicenter study," by David Sinopoli, M.P.H., M.B.A., Dale M. Needham, M.D., Ph.D., David A. Thompson, D.N.Sc., M.S., and others, in the September 2007 *Journal of Critical Care* 22, pp. 177-183. ■



AHRQ's patient safety indicators may be useful for comparing quality of care across delivery systems

A new study of Veterans Health Administration (VA) hospitals shows excess deaths, longer hospital stays, and higher costs in all groups of patients who experienced potentially preventable safety problems indicated by patient safety indicators (PSIs) developed by the Agency for Healthcare Research and Quality (AHRQ). PSIs indicate preventable care-related problems such as hospital-acquired infections or post-operative respiratory failure. The study's findings were similar to a previous study of nonfederal community hospitals. Thus, AHRQ's PSIs may be useful for comparing care quality across delivery systems.

AHRQ researcher, Anne Elixhauser, Ph.D., and colleagues applied 9 PSIs to all 439,537 acute inpatient hospitalizations at 125 VA hospitals. They then compared these findings with those based on similar data on PSIs and adverse events at U.S. community hospitals from AHRQ's Healthcare Cost and Utilization Project Nationwide Inpatient Sample. They controlled for patient and facility characteristics while predicting

the effect of the PSI on mortality, length of stay (LOS), and cost.

All nine PSIs were significantly associated with increased LOS, cost, and mortality in similar patterns among both VA and non-VA hospitals. The three PSIs that occurred most often – decubitus ulcer, postoperative pulmonary embolism/deep vein thrombosis, and accidental puncture/laceration – were associated with relatively smaller excess mortality, LOS, and cost. The three PSIs that occurred least often – postoperative sepsis (blood infection), respiratory failure, and dehiscence (disruption of the wound) were associated with the greatest excess mortality, LOS, and cost.

See "Using patient safety indicators to estimate the impact of potential adverse events on outcomes," by Peter E. Rivard, Ph.D., Stephen L. Luther, Ph.D., Cindy L. Christiansen, Ph.D., and others, in the February 2008 *Medical Care Research and Review* 65(1), pp. 67-87. Reprints (AHRQ Publication No. 08-R046) are available from AHRQ.* ■

Quality partnerships yield advances in collaboration

Partnerships for Quality (PFQ) is a 2002 Agency for Healthcare Research and Quality (AHRQ) initiative focused on improving health care safety and quality. PFQ projects are collaborations among researchers, health plans, medical facilities, employers, consumers, and professional organizations and lead to documented changes that can be rapidly disseminated to and implemented by practices. AHRQ funded 22 PFQ cooperative agreements in 2002 that covered a range of topics, including patient falls, bioterrorism preparedness, and home care.

In 2003, principal investigators (PIs) for 20 of the funded projects formed the AHRQ Council of Partners. The work completed by the Council's subcommittees on implementation, the science of partnerships, dissemination, evaluation, and sustainability is

highlighted in seven articles that appeared in the Volume 22, Number 12 supplement to the *Joint Commission Journal of Quality and Patient Safety* published in December 2007. The papers are briefly summarized here.

Mullican, C. and Clancy C. "Partnerships for Quality: Result of the AHRQ Council of Partners co-action across projects," pp. 4-6.

In 2002, with the adoption of a new, action-focused mission statement to improve the quality, safety, effectiveness, and efficiency of health care for all Americans, AHRQ funded PFQ projects to better identify barriers to putting research findings into practice. Though the PFQ projects hit on different topics, they shared common threads and their PIs were expected to participate in grantee meetings twice a year to explore

possibilities for collaboration. This article provides an overview of how the PFQs were established to better translate research into practice.

Savitz, L.A. "Managing effective participatory research partnerships," pp. 7-15. (AHRQ grant HS13706)

Using experiences from the partnership science subcommittee, this article gives tools for managing organizational-based participatory research partnerships. These alliances share resources to advance a common purpose. The author presents basic tenets of research partnerships, including collaborative circles, social capital, modes of belonging, and partnership synergy. These concepts permit an understanding of the factors contributing to successful research partnerships. RTI International's Integrated Delivery

continued on page 5

Quality partnerships

continued from page 4

System Research Network is described as an example of a research partnership that offers its counterparts a wealth of lessons learned on the value of internal and external communication and periodic surveys.

Sharek, P., Mullican, C., Lavanderos, A., and others. "Best practice implementation: Lessons learned from 20 partnerships," pp. 16-26.

This article explores barriers to partnerships and solutions to resolve those barriers. After surveying PIs from the 20 PFQ organizations, the top 4 barriers were categorized as partnership challenges (difficulties developing or maintaining a partnership), practitioner and local organization variables (difficulties engaging physicians at the local level or barriers in the local practice environment), timeframe challenges (difficulties developing the partnership within a timeframe to keep up momentum), and financial concerns (difficulties getting local funding). A second survey explored how PIs countered challenges. The successful (98) and unsuccessful (33) interventions were recorded, and many of the interventions in both categories centered on communication strategies. Single reprint copies (Publication No. AHRQ 08-R038) are available from AHRQ.*

Donaldson, N., Horn, S., Edwards, J., and others. "Evaluating the impact of partnerships to improve clinical quality," pp. 27-36.

This article summarizes the ability of PFQ's Evaluation Framework and Tool to assess the impact of partnerships and their effect on translating research into practice. The customizable tool asks

investigators to consider their project methods, processes, and products. Products can be considered as having impacts on four different levels: the knowledge base or future research, policies and procedures, clinical practice, and health outcomes. The goal of addressing these impacts is to ensure none are overlooked and to view them from the vantage point of those who will either fund or implement products to improve health care. Single reprint copies (Publication No. AHRQ 08-R039) are available from AHRQ.*

Edwards, J., Feldman, P., Sangl, J., and others. "Sustainability of partnership projects: A conceptual framework and checklist," pp. 37-47.

Reporting on the work of the AHRQ Council of Partners' sustainability subcommittee, the authors explain the steps planners must take to ensure a project endures, such as defining what it means for a project to continue and the elements needed for it to do so. Elements identified to assist in sustainability include infrastructure (people, technical, and financial resources), incentives, opportunities for participation, and integration. The subcommittee developed a checklist for partnership leaders to consider sustainability during project design so it would not be an afterthought. Single reprint copies (Publication No. AHRQ 08-R040) are available from AHRQ.*

Boratgis, G., Broderick, S., Callahan, M., and others. "Disseminating QI interventions," pp. 48-65.

This article presents three partnership case studies that were selected using the PFQ Dissemination Planning Tool. The tool, created by the AHRQ Council of Partners' dissemination and

impact subcommittee, provides a systematic method for researchers from different backgrounds to plan the dissemination portion of their projects. Commonalities among three quality improvement partnerships were explored to mine information on why they were successful: Catholic Healthcare Partners Heart Failure Partnership, the Center for Value Purchasing, and the New York State Information Dissemination project. The RE-AIM model (Reach, Efficacy/Effectiveness, Adoption, Implementation, and Maintenance) was used to assess the role partnerships played in the three partnerships' successes in dissemination and impact. Single reprint copies (Publication No. AHRQ 08-R041) are available from AHRQ.*

Lannon, C., Dolins, J., Lazorick, S., and others. "Partnerships for Quality Project: Closing the gap in care of children with ADHD," pp. 66-74. (AHRQ grant HS13721)

One of the Partnerships for Quality projects addressed closing the gap between knowledge and care for children diagnosed with attention-deficit hyperactivity disorder (ADHD). The American Academy of Pediatrics, the American Board of Pediatrics, Children and Adults with Attention Deficit/Hyperactivity Disorder (an advocacy organization), and the Center for Health Care Quality came together as partners to improve care for children with ADHD. The project collaborators used workshops, online modules, technical assistance from the project team, routine call-in meetings, and dissemination plans to advance their goal. Participation resulted in improved care outcomes and involvement in quality improvement activities. ■

Study shows value and limitations of voluntary error reporting systems

The Institute of Medicine, in its 1999 *To Err is Human* report, recommended that health care organizations establish medical error reporting systems. A team of researchers, led by Chunliu Zhan, M.D., Ph.D., of the Agency for Healthcare Research and Quality, conducted a study to explore the value and limitations of voluntary medical error reports, using common errors in warfarin use as a case study. The researchers analyzed warfarin medication errors reported by hospitals and clinics participating in the MEDMARX voluntary medication errors reporting system.

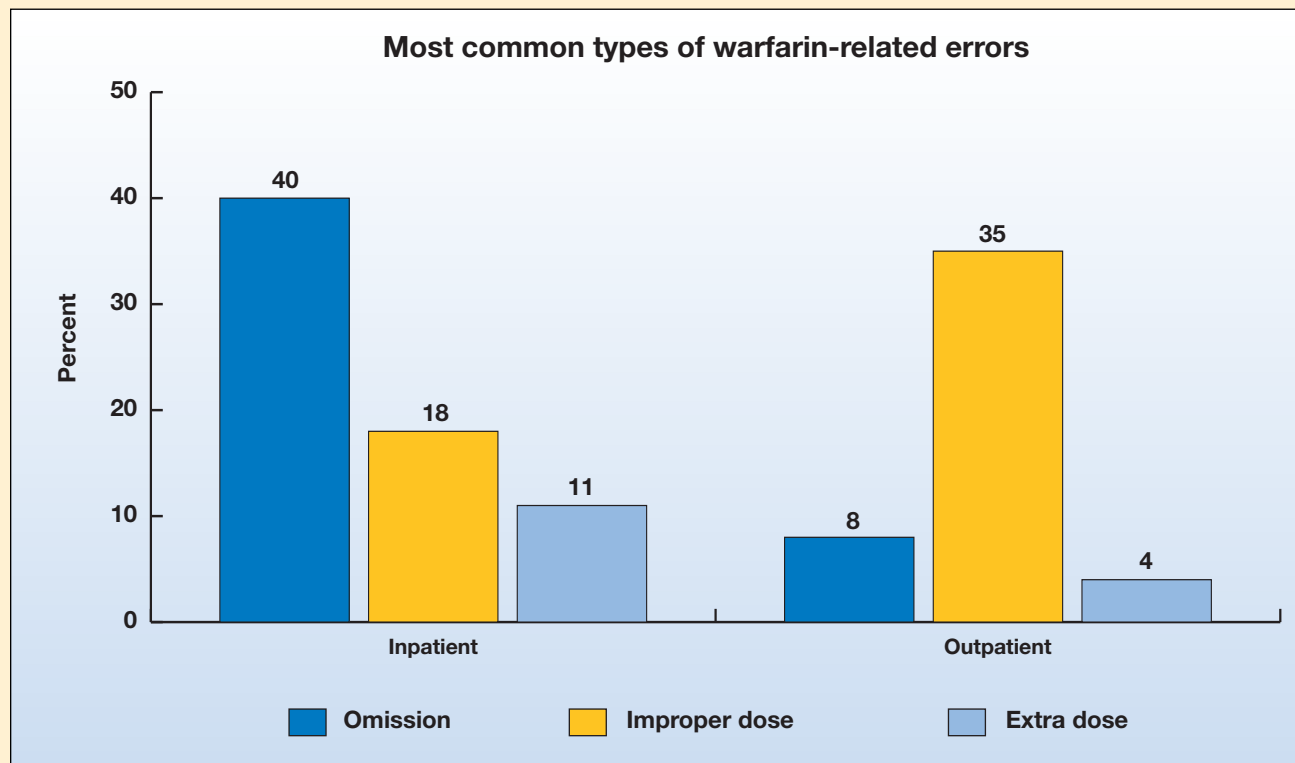
A total of 8,837 inpatient warfarin errors were reported by 445 hospitals from 2002 to 2004, ranging from 1 to 289 errors per hospital; 820 outpatient warfarin errors were reported by 192

outpatient facilities during that same period. The most common types of warfarin errors were related to dosing (see chart below). The most commonly reported cause of errors in hospitals were prescription transcribing/documenting (35 percent) and drug administering (30 percent) and in outpatient settings, drug prescribing (31 percent) and dispensing (39 percent). The causes of errors were often multiple. The most frequent cause was the failure to do what is known to be right, which is often related to a distracting work environment, heavy work load, and understaffing. Corrective interventions, therefore, need to be multidimensional, suggest the researchers.

They pointed out that voluntary reporting systems are limited by lack of details, incomplete

reporting, underreporting, and various reporting biases; also, they cannot yield a true error rate. However, such systems nevertheless provide useful information to guide patient safety improvements. For example, in this study, 17 percent of inpatient and 13 percent of outpatient warfarin errors resulted in changes in patient care.

See “How useful are voluntary medication error reports? The case of warfarin-related medication errors” by Dr. Zhan, Scott R. Smith, Ph.D., Margaret A. Keyes, M.A., and others in the January 2008 *Joint Commission Journal on Quality and Patient Safety* 34(1), pp. 36-45. Reprints (AHRQ Publication No. 08- R047) are available from AHRQ.* ■



Child/Adolescent Health

Pediatric autopsies shed more light on cause of death in more than half of cases

Bereaved parents are often reluctant to allow autopsies of their children. However, a new study finds that pediatric autopsies often shed light on the actual cause of death, and can affect parents' decisions about their living and future children. Researchers at the University of Pennsylvania School of Medicine studied autopsy records of 100 children between the age of 1 and 24, who died at the Children's Hospital of Philadelphia between 2003 and 2004. In more than half the cases (53 percent), autopsies were able to clarify why the child died. For example, when a child died of a metabolic disorder (50 percent) or cancer (40 percent), the autopsy gave parents a clearer explanation for why their child died. Having this information also enabled 20 percent of the parents to make more informed decisions about having future children and to discuss the implications of having children with their surviving children.

Hospitals also benefited from autopsy results, especially in cardiac cases or when a metabolic or genetic diagnosis was difficult. In those cases, autopsy data provided insight into quality assurance and quality control processes (36 percent) or resulted in published

articles that expanded the knowledge base about a condition (7 percent). The authors state that clinicians and pathologists, by partnering routinely to review autopsy results and communicating the results to parents, may also be able to identify ways to improve care quality at their institution.

The authors recommend that when clinicians are in the uncomfortable position of recommending an autopsy, they rely less on cold percentages and communicate in ways parents understand, such as natural frequencies. For example, clinicians should say one of every two — not 50 percent of — autopsies give parents more information on the cause of their child's death. This study was funded in part by the Agency for Healthcare Research and Quality (HS00002).

See "What new information pediatric autopsies can provide: A retrospective evaluation of 100 consecutive autopsies using family-centered criteria," by James A. Feinstein, M.D., Linda M. Ernst, M.D., Jaya Ganesh, M.D., and Chris Feudtner, M.D., Ph.D., M.P.H., in the December 2007 *Archives of Pediatric and Adolescent Medicine* 161(12), pp. 1190-1196. ■

Smoking in the home leads to more emergency visits and hospitalizations for lung problems among young children

Smoking inside the home may more than double the risk of a young child having an emergency department (ED) visit and more than triple their risk of hospitalization for respiratory conditions, finds a new study. Agency for Healthcare Research and Quality investigators Lan Liang, Ph.D., and Stephen C. Hill, Ph.D., examined health care use,

expenditures, and bed days among 2,759 children up to age 4 from the 1999 and 2001 Medical Expenditure Panel Surveys. They then linked these data to reports of smoking inside the home from the National Health Interview Survey.

Indoor smoking increased by 5 percent the probability of ED visits for respiratory conditions and the probability of hospitalization for

these conditions by 3 percent. Indoor smoking was also associated with an 8 percent increase in the probability that a child would be laid up in bed because of respiratory illness. Similarly, among children visiting the ED for respiratory problems, roughly 18 percent may have had at least one visit related to smoking inside the

continued on page 8

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.

Smoking in the home

continued from page 7

home. Also, among children with at least one hospital stay for respiratory problems, roughly 36 percent may have had at least one stay related to smoking inside the home.

Indoor smoking was also costly. It was associated with \$117 in additional health care expenditures for each child exposed to indoor smoking. Extrapolating this figure to the U.S. population, smoking inside the home adds roughly \$415 million to annual health care expenditures for young children. There were no significant effects of

living with adult smokers who smoked outside the home.

More details are in “Smoking in the home and children’s health,” by Drs. Hill and Liang, in the February 2008 *Tobacco Control* 17, pp. 32-37. Reprints (AHRQ Publication No. 08-R050) are available from AHRQ.* ■

Community-wide interventions prove modestly successful in reducing antibiotic use among Medicaid-insured children

Much attention has been drawn to the threat to public health posed by high rates of antibiotic use. The rapid increase in antibiotic resistance among common bacterial pathogens is widely believed to be fueled by the high use of antibiotics, especially among young children. In order to reduce their antibiotic use and the use of broad-spectrum antibiotics that target several types of bacteria, the research team tested an educational intervention in 16 small and large towns. They conducted an educational program during three successive cold and flu seasons (2000–2003) in collaboration with three private insurers and a State Medicaid program.

The multifaceted intervention was aimed primarily at parents of children younger than 6 years and their physicians. The parents were sent an initial letter and brochure, followed by two newsletters each winter, and were provided access to a Web site. All physician practices in the intervention communities received a range of patient-education materials and information about antibiotic use rates and antibiotic resistance in the community.

There was a substantial downward trend in antibiotic prescribing, even in the absence of the educational program. The program had no additional effect among

children aged 3 to less than 24 months of age, but was responsible for a 4.2 percent decrease in antibiotic prescribing among children from 24 to 48 months and a 6.7 percent decline among those from 48 to 72 months.

The only significant intervention effect experienced among privately insured children was a 5.1 percent decrease for those older than 4 years. However, Medicaid-insured children experienced modest decreases of 4.5 percent among those from 3 to 24 months of age, 5.5 percent among children from 24 to 48 months and 9.0 percent among children from 48 to 72 months. Medicaid-insured children are an important group, because they had higher baseline rates of antibiotic use. The intervention also significantly reduced the rate of increase in the use of broad-spectrum antibiotics (macrolides). The study was supported by the Agency for Healthcare Research and Quality (HS10247).

See “Impact of a 16-community trial to promote judicious antibiotic use in Massachusetts,” by Jonathan A. Finkelstein, M.D., M.P.H., Susan S. Huang, M.D., M.P.H., Ken Kleinman, Sc.D., and others in *Pediatrics* 121(1), pp. 15-23, 2008. ■

Visit the AHRQ Patient Safety Network Web Site

AHRQ’s national Web site—the AHRQ Patient Safety Network, or AHRQ PSNet—continues to be a valuable gateway to resources for improving patient safety and preventing medical errors and is the first comprehensive effort to help health care providers, administrators, and consumers learn about all aspects of patient safety. The Web site includes summaries of tools and findings related to patient safety research, information on upcoming meetings and conferences, and annotated links to articles, books, and reports. Readers can customize the site around their unique interests and needs through the Web site’s unique “My PSNet” feature. To visit the AHRQ PSNet Web site, go to <http://psnet.ahrq.gov/>.

Elderly/Long-Term Care

Several factors can quickly identify mortality risk among frail elderly persons living in the community

Community-based long-term care programs such as PACE (Program of All-Inclusive Care for the Elderly) can help frail, chronically ill elderly people who would ordinarily enter nursing homes stay in the community. Asking about certain risk factors during routine clinical care can identify which of these frail community-dwelling elderly are at risk of dying, according to a new study. Kenneth E. Covinsky, M.D., M.P.H., of the University of California at San Francisco, and colleagues developed an index to identify mortality risk among this fragile group. The researchers studied a total of 3,899 enrollees at 11 PACE sites; they studied 2,232 participants to develop the index and 1,667 participants to validate it.

The researchers predicted time to death using data on risk factors (demographic characteristics, coexisting medical conditions, and functional status), which they obtained from a geriatric assessment performed at the time of study enrollment. The risk scoring system scored male sex as 2 points; age 75-84, 2 points; 85 and older, 3 points; dependence for help with toileting, 1 point; dependence for partial or full help with dressing, 1 and 3 points, respectively; cancer, 2 points; congestive heart failure, 3 points; chronic obstructive pulmonary disease, 1 point; and renal insufficiency, 3 points.

In the validation group, respective 1 and 3-year mortality rates were 7 and 18 percent in the lowest risk group (0-3 points), 11 and 36 percent in the middle-risk

group (4-5 points), and 22 and 55 percent in the highest-risk group (more than 5 points). The eight-variable index is easy to use and includes variables that can be obtained in the course of a routine clinical exam. The ability of the index to predict mortality risk among the frail elderly reinforces the importance of considering multiple domains in assessing the prognosis of older patients. The study was supported in part by the Agency for Healthcare Research and Quality (HS00006).

More details are in "Prediction of mortality in community living frail elderly people with long-term care needs," by Elise C. Carey, M.D., Dr. Covinsky, Li-Yung Lui, M.A., M.S., and others, in the January 2008 *Journal of the American Geriatric Society* 56(1), pp. 68-75. ■

Use of dementia treatments is similar in community and long-term care settings

The prevalence of Alzheimer's disease and related dementias is much larger in long-term care facilities (57.2 percent) than in the community (5.1 percent), but similar proportions (about one-fourth) of both groups receive antidementia drugs, according to a new study. Ann L. Gruber-Baldini, Ph.D., from The University of Maryland School of Medicine, and colleagues used the 2002 Medicare Current Beneficiary Survey to estimate the prevalence and use of antidementia drugs for treating Alzheimer's disease and dementia. Of the estimated 3.4 million Medicare beneficiaries with Alzheimer's disease and related dementias in 2002, nearly 60 percent lived in the community and approximately 40 percent resided in long-term care facilities.

Cholinesterase inhibitors, which are medications used to improve memory, judgment, and thought, are commonly prescribed to both community and long-term care residents with dementia. Donepezil,

galantamine, and rivastigmine are the most common cholinesterase inhibitors and are prescribed fairly similarly to patients living in community (24.7 percent) and long-term care settings (26.3 percent). The authors expected to find lower prescribing rates for these drugs in long-term care settings, because many patients with dementia in those facilities have severe symptoms, and the drugs were indicated at the time (2002) for mild to moderate symptoms. One explanation offered is that no drugs were available in 2002 for moderate to severe dementia, so clinicians were hesitant to remove patients from these medications without providing an alternative.

When dementia is accompanied by behavioral symptoms, such as agitation and combativeness, the antipsychotics olanzapine, quetiapine, and risperidone were sometimes prescribed, most often in long-term care than in community settings (11.9 vs. 4.0 percent,

continued on page 10

Dementia treatments

continued from page 9

7.1 vs. 2.3 percent, and 21 vs. 5.1 percent).

Haloperidol, an antipsychotic that has serious side effects that include impaired control of movement, was seldom used. The study was conducted by the University of Maryland DEcIDE (Developing Evidence to Inform Decisions about Effectiveness) Center and

funded by the Agency for Healthcare Research and Quality (contract no. 290-2005-0039).

See "Treatment of dementia in community-dwelling and institutionalized Medicare beneficiaries," by Dr. Gruber-Baldini, Bruce Stuart, Ph.D., Ilene H. Zuckerman, Pharm. D., Ph.D., and others in the October 2007 *Journal of the American Geriatric Society* 55(10), pp. 1508-1516. ■

Chronic Disease

Patient factors, not physician or clinic factors, account for most of the variance in blood sugar levels among adults with diabetes

Many adult patients with type 2 diabetes have blood sugar levels above those recommended by evidence-based diabetes care. If more patients achieved the recommended levels, the incidence of heart attacks, strokes, amputations, end-stage renal disease, and blindness may be lowered. Many factors, patient and provider-related, can affect blood sugar levels. However, a new study finds that more than 95 percent of variance in HbA1c values is related to patient factors.

The researchers examined the effects of patient, physician, and clinic factors on HbA1c levels of 2,589 adult patients with diabetes. The HbA1c test measures how well the patient's blood sugar level has been managed over the previous several months. Lower HbA1c levels correlate with lower blood sugar levels. Patients were treated

over a 3-year period at 18 clinics (parts of a multispecialty group practice) by 120 primary care physicians. Patient variables included in the study were age, sex, coexisting medical conditions, whether the doctor was a family physician or internist, and medication intensification. Medication intensification was measured by the number of glucose-lowering classes of drugs the patient was prescribed in each year. At the time of the study (1995–1997), there were three classes of drugs for diabetes: insulin, sulfonylurea, and metformin. Physician variables included age, sex, specialty, and number of diabetes patients per physician.

The research team found that more than 95 percent of variance in HbA1c values was attributable to the patient. However, the overall

model explained only 11.8 percent of the change in HbA1c values over time. Intensification of medication (a patient factor in which physicians play a major role) was related to favorable change in HbA1c. Neither clinic assignment nor other specific patient and physician factors predicted changes in HbA1c levels. The study supports the hypothesis that medication intensification may be the final common pathway that leads to better glycemic control. This study was supported by the Agency for Healthcare Research and Quality (HS09946).

See "Variation in quality of diabetes care at the levels of patient, physician, and clinic," by Patrick J. O'Connor, M.D., M.P.H., William A. Rush, Ph.D., Gestur Davidson, Ph.D., and others in *Preventing Chronic Disease* 5(1), pp. 1-9, 2008. ■

Severe memory impairment substantially reduces employability of persons with systemic lupus erythematosus

Systemic lupus erythematosus (SLE), a chronic autoimmune disease, can cause a variety of symptoms ranging from joint pain and heart and lung problems to depression, seizures, stroke, and cognitive impairment. Severe cognitive impairment among patients with SLE can affect their employability, concludes a new study. These findings underscore the need to assess cognitive function among patients with

SLE and to develop strategies to either reverse cognitive impairment or to overcome the obstacles it creates in everyday life, suggest the University of California, San Francisco (UCSF) researchers.

They surveyed 832 patients in the UCSF Lupus Outcomes Study about demographics, SLE symptoms and activity, health status, depression, medications,

continued on page 11

Memory impairment

continued from page 10

health care use, and employment status. While 54.2 percent of those with intact memory and 40.6 percent of those with mild to moderate impairment were employed, less than one-third (31 percent) of the severely impaired group was employed.

Individuals with memory impairment were also 36 percent more likely to report being unable to work, and twice as many of those with severe impairment were more likely to report being unable to work than those with intact memories. Future studies should help define

the specific neurocognitive deficits in patients with SLE that lead to work disability, suggest the researchers. Their study was supported in part by the Agency for Healthcare Research and Quality (HS13893).

See "Impact of memory impairment on employment status in persons with systemic lupus erythematosus," by Pantelis Panopalis, M.D., Laura Julian, Ph.D., Jinoos Yazdany, M.D., M.P.H., and others, in the December 15, 2007 *Arthritis Care & Research* 57(8), pp. 1453-1460. ■

Outcomes/Effectiveness Research

Chest pain 6 months after a heart attack is linked to patient dissatisfaction

Patients who experienced persistent chest pain 6 months after having heart attacks were more likely to say they were unsatisfied with their care, a recent study finds. Researchers studied the questionnaire responses of 1,815 patients who were admitted with heart attacks at 19 U.S. hospitals between January 1, 2003, and June 28, 2004. The questionnaires, completed at 1 and 6 months after the heart attack, asked respondents if they still suffered from chest pain and if they were satisfied with their treatment.

Twenty-four percent of the respondents had angina, which is

chest pain that feels like squeezing or pressure, at the 6-month mark. The more pervasive the respondents' angina was, the less satisfied they reported they were with their treatment. For example, patients who still had angina at 1 and 6 months were 2.7 times more likely to disagree that everything possible was being done for them, 2.3 times more likely to be dissatisfied with their clinicians' explanations, 3 times as likely to be dissatisfied with their current treatment, and 2.1 times more likely to report that taking their pills was a bother.

The authors suggest these results indicate a need to improve

surveillance for angina after heart attacks to improve patient satisfaction, which can lead to improved care and management. This study was funded in part by the Agency for Healthcare Research and Quality (HS11282).

See "Association between angina and treatment satisfaction after myocardial infarction," by Mary E. Plomondon, Ph.D., M.S.P.H., David J. Magid, M.D., M.P.H., Frederick A. Masoudi, M.D., M.S.P.H., and others in the October 23, 2007 *Journal of General Internal Medicine* 23(11), pp. 1-6. ■

Minor complications, common after carotid endarterectomy, are associated with higher postoperative risk of death and stroke

Most studies of carotid endarterectomy (CEA; surgery to prevent stroke by removing atherosclerotic plaque from the carotid artery in the neck) have focused on the major complications of death and stroke. Less is known about the frequency or clinical significance of minor surgical complications such as hematoma (bleeding inside the surgical repair site), cranial nerve (CN) palsy (numbness of the face,

inability to swallow, or other type of paralysis due to cranial nerve injury), and wound infection. Researchers from the Mount Sinai School of Medicine in New York report that these minor complications of CEA are common, occurring in 1 in 10 cases, and are associated with three- to four-fold greater odds of postoperative death or stroke and longer hospital stays.

continued on page 12

Carotid endarterectomy

continued from page 11

Using clinically detailed, population-based data from the New York Carotid Artery Surgery Study on 9,308 CEAs performed by 482 surgeons in 167 hospitals, they examined associations between minor (cranial nerve palsies, hematoma, and wound infection) and major complications (death and stroke) within 30 days of surgery. Overall, 10 percent of patients suffered a minor surgical complication (cranial nerve palsy, 5.5 percent; hematoma, 5 percent; and wound infection, 0.2 percent). About 3.9 percent of patients endured cardiac complications, such as myocardial infarction, unstable angina, or ventricular tachycardia. The occurrence of any minor surgical complication, cranial nerve palsy alone, or hematoma alone was associated with three- to four-fold greater odds of postoperative stroke or

combined risk of death and nonfatal stroke. Patients with cardiac complications had four- to five-fold increased odds of stroke or combined risk of death and stroke.

Because they are more common, tracking minor complications (along with major ones) might be a useful strategy for measuring and improving the quality of surgical care. The study was supported in part by the Agency for Healthcare Research and Quality (HS09754).

See "Association between minor and major surgical complications after carotid endarterectomy: Results of the New York Carotid Artery Surgery Study," by Alexander J. Greenstein, M.D., Mark R. Chassin, M.D., M.P.P., M.P.H., Jason Wang, Ph.D., and others in the December 2007 *Journal of Vascular Surgery* 46(6), pp. 1138-1146. ■

Clinical Decisionmaking

Radiologists vary in how accurately they interpret diagnostic mammograms

Women who need diagnostic mammograms to diagnose or rule out breast cancer may be best served when their radiologist's primary affiliation is with an academic medical center, a new study finds. A radiologist's years of experience and focus on breast imaging were also beneficial in diagnosis. Researchers explored radiologists' variability in interpreting diagnostic mammograms, which are taken when a woman has a clinical sign or symptom such as a breast lump. The researchers linked survey responses of 123 radiologists from 72 facilities to their performance in reading 35,895 diagnostic mammograms from January 1, 1996, to December 31, 2003, by using 3 mammography registries in Washington, New Hampshire, and Colorado.

The median sensitivity for detecting breast cancer was 79 percent for 54 radiologists who read at least 10 mammograms associated with a cancer diagnosis. The median rate for false positives (recommendation for a biopsy when there was no cancer) for the 118 radiologists who read at least 10 mammograms not associated with a cancer diagnosis was 4.3 percent. The seven radiologists affiliated with academic medical centers had the highest sensitivity (88 percent) in the study with slightly higher false positive rates (7.8 percent). The authors suggest that working in a teaching hospital and following up with patients may allow this group to better identify lesions likely to be cancerous.

Thresholds for what radiologists considered abnormal varied. For example, radiologists with less than 10 years of reading diagnostic

mammograms were more apt to recommend a biopsy than radiologists with a decade or more of experience. The annual volume of mammograms that a radiologist reviewed did not affect sensitivity or false positive rates. The authors suggest that future studies should determine whether mammography readings may be improved through double reading of mammograms, continuing medical education, and direct feedback to radiologists. This study was funded in part by the Agency for Healthcare Research and Quality (HS10591).

See "Radiologist characteristics associated with interpretive performance of diagnostic mammography," by Diana L. Miglioretti, Ph.D., Rebecca Smith-Bindman, M.D., Linn Abraham, M.S., and others in the December 19, 2007 *Journal of the National Cancer Institute* 99(24), pp. 1854-1863. ■

Clinical practice guidelines in musculoskeletal disorders are often based on expert opinion

The development of clinical practice guidelines began in the 1950s and continues to evolve.

These guidelines recommend courses of action to help medical practitioners treat the average patient. However, a new study looking at clinical practice guidelines for musculoskeletal disorders found they were often based on expert opinion rather than systematic reviews of scientific studies. Maria A. Lopez-Olivo, M.D., Ph.D., and Maria E. Suarez-Almazor, M.D., Ph.D., of the University of Texas M.D. Anderson Cancer Center for Education and Research in Therapeutics (CERT), examined the history of clinical practice guideline development and focused on guidelines dealing with rheumatology conditions, such as arthritis and osteoporosis.

The authors found 276 clinical practice guidelines addressing rheumatology. After selecting guidelines from three sources (the American College of Rheumatology, the European League Against Rheumatism, and the National Guideline Clearinghouse), they narrowed their field to 61 guidelines. Slightly more than half of the studied guidelines were based on expert opinion. For the most part, guidelines did not offer background on the

process used to develop them, leaving readers without information to determine whether the guidelines were based on evidence and were without bias. This shortcoming made many guidelines fall short of the researchers' requirement that authors of clinical practice guidelines ensure the process for developing guidelines is transparent to anyone reading them.

Consumers are relying on clinical practice guidelines more frequently to guide their health care, and decisionmakers are using the guidelines to improve the quality of health care. This increased popularity has spurred many programs across the globe to create guidelines. In turn, this has caused redundant efforts. The authors suggest collaborative development and review as a means to curb much of the duplication. Finally, they state that for guidelines to be truly useful, they must be disseminated and implemented quickly once they are sanctioned. This study was funded in part by the Agency for Healthcare Research and Quality (HS16093).

See "Developing guidelines in musculoskeletal disorders," by Drs. Lopez-Olivo and Suarez-Almazor in *Clinical and Experimental Rheumatology* 25 (Suppl 47), pp. S28-S36, 2007. ■

Primary Care Research

Antidepressants and therapy may be cost-effective for patients with medically unexplained symptoms

Individuals complaining of physical problems for which there is little or no disease explanation (somatization) make up 5 to 10 percent of primary care patients. These individuals, many of whom are depressed, often embark on a quest to find a disease that they fear but do not have. This typically results in numerous laboratory tests and consultations, as well as treatments of nonexistent conditions. Not only is this a costly enterprise, but physicians often ignore these patients' emotional distress, note Michigan State University researchers. They hypothesized that use of

antidepressants and cognitive-behavioral therapy, combined with a focus on a strong provider-patient relationship, may be of some help to these patients.

The researchers randomized 206 HMO patients with medically unexplained symptoms to usual care or this multimodal approach (treatment). This reduced patient depression and improved satisfaction with providers, decreased physical disability, increased use of antidepressants, and reduced use of addicting agents such as painkillers. In addition, this treatment approach resulted in insignificantly higher care costs

(\$1,071) over the 1-year period for the treatment versus the usual care group and no significant difference in care costs (\$341) in the year after the treatment. The treatment group also missed one less work day per month 6 months after the treatment, an insignificant improvement in productivity.

Given the other findings from this study, this approach may be cost-effective, suggest the researchers. The study was supported in part by the Agency for Healthcare Research and Quality (HS14206).

continued on page 14

Antidepressants

continued from page 13

See “Costs of an intervention for primary care patients with medically unexplained symptoms: A randomized controlled trial,” by

Zhehui Luo, Ph.D., M.S., John Goddeeris, Ph.D., Joseph C. Gardiner, Ph.D., and Robert C. Smith, M.D., Sc.M., in the August 2007 *Psychiatric Services* 58(8), pp. 1079-1086. ■

Primary care practices can perform very well in several quality areas

Primary care practices can achieve high performance across a number of quality indicators, concludes a study of primary care practices in the Practice Partner Research Network (PPRNet). In fact, these top performers can serve as a benchmark for primary care performance, note the study authors. They analyzed data from the electronic medical records of 87 PPRNet practices in 35 States representing more than 700,000 patients to calculate Achievable Benchmarks of Care™ (ABCs) for 54 primary care quality indicators. ABCs ranged from certain diabetes measures for patients with that condition, prescribing of certain drugs for heart failure patients, various cancer screenings, adult immunizations, and counseling for substance abuse and obesity.

At the practices studied, ABCs ranged from 25 percent to 99 percent. High ABCs (90 percent or greater) were achieved for blood pressure screening,

lipid screening, and avoiding prescription of antibiotics in upper respiratory infection. The summary of ABCs on a broad range of evidence-based quality indicators can be applied to other primary care practices.

Although ABCs offer realistic benchmarks for performance in individual practices, they may also be considered by insurers in pay-for-performance initiatives and by national stakeholders as targets for health care quality, note the researchers. Their study was supported by the Agency for Healthcare Research and Quality (HS13716).

See “Achievable benchmarks of care for primary care quality indicators in a practice-based research network,” by Andrea M. Wessell, Pharm.D., B.C.P.S., C.D.E., Heather A. Liska, M.D., M.S.C.R., Paul J. Nietert, Ph.D., and others, in the January/February 2008 *American Journal of Medical Quality* 23, pp. 39-46. ■

Mental Health

Telepsychiatrists and in-person therapists deliver similar therapy to veterans suffering from posttraumatic stress disorder

Therapists can conduct cognitive behavioral therapy (CBT) with veterans suffering from posttraumatic stress disorder (PTSD) equally well via videoconferencing (telepsychiatry) or in person, concludes a new study. This finding can help address the shortage of access to mental health care by veterans in rural and other underserved areas, notes B. Christopher Frueh, Ph.D., of the University of Hawaii at Hilo. Dr. Frueh and colleagues compared the quality of CBT for combat-related

PTSD by a therapist in the same room as affected male veterans with the quality of CBT by the same therapist via telepsychiatry. Overall, 21 of 38 male veterans seeking treatment for PTSD at a Veterans Affairs medical center were randomized to in-room treatment and 17 were randomized to telepsychiatry.

The researchers used independent raters to assess therapist competence and adherence to CBT best practices. For example, they looked at the therapist's ability

to structure the therapeutic sessions; implement session activities such as social skills training, role playing, or anxiety management training; provide feedback to the patient; deal with difficulties that emerge during therapy; develop rapport with the patient; and convey empathy. CBT treatment for combat-related PTSD targets interpersonal difficulties commonly associated with combat-related PTSD, such as social anxiety, social alienation, and

continued on page 15

Posttraumatic stress disorder

continued from page 14

withdrawal, excessive anger and hostility, explosive episodes, and marital and family conflict.

The active treatment phase consisted of weekly, 90-minute group treatment sessions over the course of 14 weeks, with three followup sessions over the 3 months after the active treatment

phase. There was no significant difference in therapist adherence to the CBT treatment manual for both groups. Also, the teletherapist and in-person therapist were rated good to excellent for rapport and empathy, which are considered critical components of successful psychotherapy. The study was funded in part by the Agency for Healthcare Research and Quality (HS11642).

See “Therapist adherence and competence with manualized cognitive-behavioral therapy for PTSD delivered via videoconferencing technology,” by Dr. Frueh, Jeannine Monnier, Ph.D., Anouk L. Grubaugh, Ph.D., and others, in the November 2007 *Behavior Modification* 34(6), pp. 856-866. ■

Diagnosis of bipolar disorder among youth skyrockets

Diagnosis of bipolar disorder among U.S. youth jumped fortyfold during office visits between 1994 and 2003, according to a new study. Bipolar disorder is a mood disorder in which individuals suffer both depressive episodes and manic or hypomanic episodes. The number of visits in which youth were diagnosed with bipolar disorder rose from 25 to 1,003 visits per 100,000 population between 1994 and 2003. Similarly, the proportion of office visits with a bipolar diagnosis among youth rose from 0.01 percent in 1994 to 0.44 percent by 2003. The comparable rise in proportion of office visits with a bipolar diagnosis among adults was from 0.31 percent in 1994 to 0.50 percent by 2003.

The researchers analyzed annual data from the National Ambulatory Medical Care Survey to determine the differences in bipolar disorder diagnostic patterns between youth and adults. They examined 154 youth visits to physicians and 808 adult visits to physicians in which this diagnosis was received, which represented 763 visits per 100,000 population for youth and 1,602 visits per 100,000 population for adults. Two-thirds of youth visits were by males, while two-thirds of adult visits were by females. Both youth and adults were equally likely to have coexisting mental disorders, but youth were 10 times as likely to be also diagnosed with attention deficit hyperactivity disorder (ADHD). Visit duration

and frequency of psychotherapy were also similar for youth and adults. Nearly two-thirds of youth and adults were likely to receive a combination of drugs such as a mood stabilizer and antidepressant or a mood stabilizer and antipsychotic. Anticonvulsants were the most frequently prescribed mood stabilizer in both groups.

The increase in the diagnosis of bipolar diagnosis in youth indicates a shift in clinical diagnostic practices. This could be explained by either a historic underdiagnosis, which is now being rectified, or a current overdiagnosis in this group. The authors call for a consensus among researchers and clinicians concerning diagnostic criteria and assessment methods and for studies to examine the accuracy of bipolar disorder diagnoses in community practice. Diagnosis of bipolar disorder in youth can be more difficult due to the overlap of symptoms with other more prevalent psychiatric disorders. This research was supported in part by the Agency for Healthcare Research and Quality (HS16097).

See “National trends in the outpatient diagnosis and treatment of bipolar disorder in youth” by Carmen Moreno, M.D., Gonzalo Laje, M.D., Carlos Blanco, M.D., and others in the September 2007 *Archives of General Psychiatry* 64 (9), pp. 1032-1039. ■

Serious mood disorders may be underdiagnosed or undertreated among impoverished blacks

Nearly all adults who commit suicide suffer from major psychiatric illness, predominantly serious mood disorders such as bipolar disorder. Yet, in the year preceding their suicide, blacks insured by Tennessee's Medicaid program (TennCare) were less likely than their white counterparts to have been treated for mood disorders, reveals a new study. These findings suggest underdiagnosis or undertreatment of blacks with serious mood disorders, notes Wayne Ray, Ph.D., of the Vanderbilt Center for Education and Research on Therapeutics. Dr. Ray and colleagues examined the medical records of adults who had committed suicide between 1986 and 2004. The researchers also examined their use of antidepressants in the year prior to

their suicide. All patients were insured by TennCare.

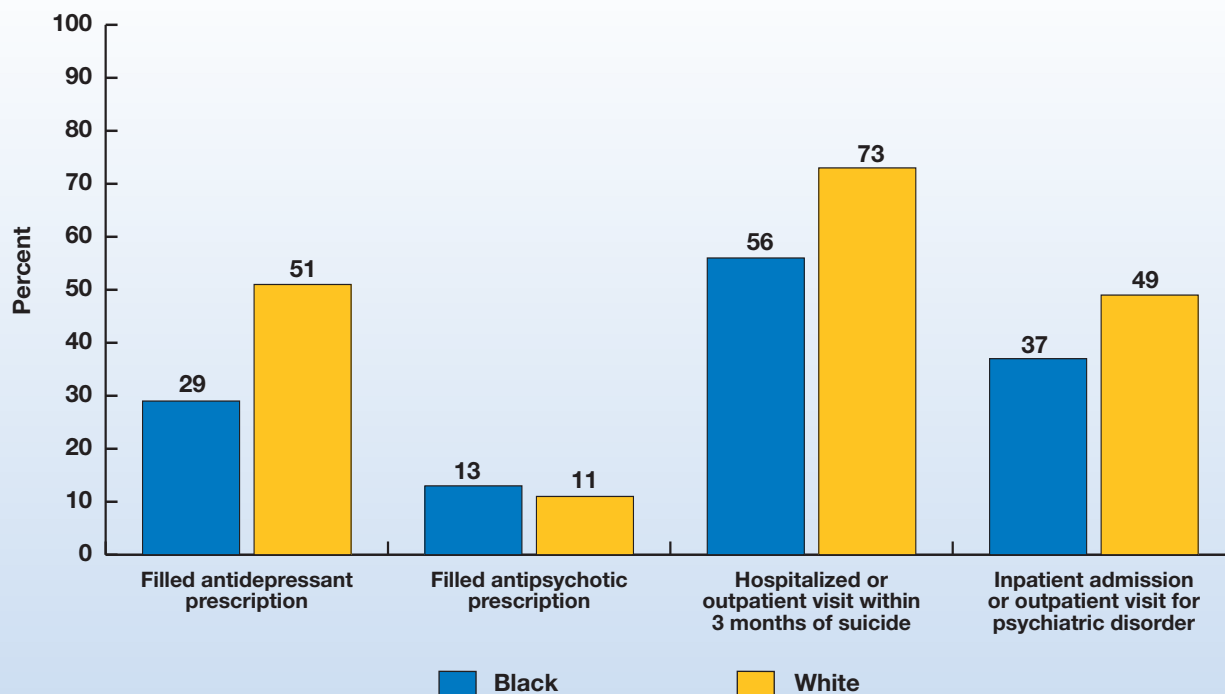
Overall, 29 percent of blacks had filled an antidepressant prescription compared with 51 percent of whites. In contrast, there was no significant difference between the two groups in filled prescriptions for antipsychotic medications (see figure). These findings persisted after accounting for other problems linked to suicide, such as alcohol or substance abuse, seizure disorders, borderline personality disorder, and serious neurological conditions.

Blacks who completed suicide were younger (mean age of 33 vs. 42 years) and were more likely to live in urban areas and in low-income neighborhoods. Both black and white suicide victims had substantial physical problems.

Nearly one-half of blacks and whites who committed suicide were enrolled in TennCare because of disability. In the 3 months preceding the suicide, 56 percent of blacks and 73 percent of whites were either hospitalized or had an outpatient visit. Also, 37 percent of blacks and 49 percent of whites had inpatient admissions or outpatient visits indicating psychiatric disorders. The study was supported in part by the Agency for Healthcare Research and Quality (HS10384).

See "Racial differences in antidepressant treatment preceding suicide in a Medicaid population," by Dr. Ray, Kathi Hall, B.S., and Keith G. Meador, M.D., M.P.H., in the October 2007 *Psychiatric Services* 58(10), pp. 1317-1323. ■

Treatment for mood disorders in year preceding suicide for blacks and whites enrolled in TennCare



Pharmaceutical Research

More studies need to be done on potential risk of incident heart failure among certain patients taking TNF-alpha antagonists

Tumor necrosis factor alpha (TNF-alpha) antagonists have emerged as an effective therapy for patients with rheumatoid arthritis (RA), Crohn's disease (CD), and other conditions. These drugs block the action of TNF-alpha, one of the key cytokines that triggers and sustains the inflammatory response that often runs unchecked in these diseases. However, a new study of over 4,000 patients under age 50 with RA and CD revealed a few new-onset heart failure cases potentially linked to use of the TNF-alpha antagonists, etanercept and infliximab. Younger patients were studied in order to avoid potential confounding due to age-related cardiovascular comorbidities.

Although the difference in rate of heart failure between those taking the medication and those not taking it was not significant, there were some confounding factors that the sample was too small to adjust

for. For example, patients with RA already have a risk of developing heart failure due to their underlying disease. Thus, the authors recommend studying larger groups of patients using these drugs to obtain more precise heart failure risk estimates.

Researchers at the University of Alabama Center for Education and Research on Therapeutics of Musculoskeletal Disorders examined administrative claims data from a large U.S. health care organization to identify RA and CD patients receiving infliximab or etanercept (about half of those studied). They compared their development of new-onset heart failure with similar patients who were receiving non-biologic immunosuppressives (unexposed). Suspected heart failure cases were confirmed with medical records. Overall, only 0.2 percent or 9 cases of heart failure were found in this large population of relatively young RA and CD patients. Although the

absolute rates of heart failure were low, patients with RA taking infliximab or etanercept had 4.3 times more risk of heart failure and those with CD had 20 percent greater risk compared to unexposed patients. If these absolute risk differences had been significant, the researchers calculated that 294 RA patients and 3,333 CD patients would have to be exposed to this medication for someone to be harmed. Nevertheless, the relative risk of heart failure observed among RA patients is a source of concern, note the researchers. Their study was supported in part by the Agency for Healthcare Research and Quality (HS10389).

See "Heart failure among younger rheumatoid arthritis and Crohn's patients exposed to TNF-alpha antagonists," by Jeffrey R. Curtis, Ph.D., Judith M. Kramer, M.D., M.S., Carolyn Martin, and others, in *Rheumatology* 46, pp. 1688-1693, 2007. ■

FDA warnings appear to lead to appropriate prescriber action

When the U.S. Food and Drug Administration (FDA) issues a warning about a drug, the media typically seize upon that information and spread the news to the public. However, it is unknown if clinicians respond similarly. To determine physician reaction to FDA warnings, researchers examined prescribing trends for antidepressants for youth, adults, and older adults before an FDA warning, after a warning, and after a black box warning was issued for prescribing paroxetine (Paxil™) to youth in 2004. A black box warning is the strongest measure the FDA can take, short of pulling the drug from the market. The researchers found that the FDA warnings did have their intended effect and led to a decrease in prescriptions for antidepressants in youth.

Using data from the largest pharmacy benefit management service, the researchers found that in the prewarning period, from 2002 to 2003, antidepressant use for youths aged 6 to 17 increased at a rate of 36 percent a year. Once the FDA issued its warning linking paroxetine with youth suicides, the rate of antidepressant prescriptions for youth declined 0.8 percent from 2003 to 2004. Once a black box warning appeared on the drug, youth prescriptions for paroxetine fell 9.6 percent from 2004 to 2005. This trend in declining antidepressant use did not hold true for adults aged 18 to 64. After the FDA warnings were issued, adults tended to switch paroxetine for other

continued on page 18

FDA warnings

continued from page 17

antidepressants instead of abandoning those drugs altogether.

The authors state that the FDA warnings resulted in a modest decrease in youth antidepressant use; however, clinicians continued to prescribe antidepressants for youth in a manner consistent with

the warnings and scientific literature. This study was funded in part by the Agency for Healthcare Research and Quality (HS16097).

See “Effects of Food and Drug Administration warnings on antidepressant use in a national sample,” by Mark Olfson, M.D., M.P.H., Steven C. Marcus, Ph.D., and Benjamin G. Druss, M.D., M.P.H., in the January 2008 *Archives of General Psychiatry* 65(1), pp. 94-101. ■

End-of-Life- Care

Living wills should be updated, since preferences for life-prolonging treatments change when health status changes

Life-prolonging treatment preferences change as an individual's health deteriorates, according to a new study. To be useful, living wills should be updated with changes in health status, suggest Laraine Winter, Ph.D., and Barbara Parker, B.A., of Thomas Jefferson University. They asked 304 community-dwelling people aged 60 and older about their preferences for life-prolonging treatments for 4 life-threatening conditions: gall bladder surgery for an inflamed or infected gall bladder, antibiotics for pneumonia, cardiopulmonary resuscitation (CPR) for cardiac or respiratory arrest, and tube feeding for inability to eat or drink. For each treatment, individuals were asked their preference given eight

health scenarios that varied in severity, prognosis, and level of pain, and one scenario that involved a return to current health. Individuals' current health status was measured by number of deficits in physical functioning.

Life-prolonging treatments were more strongly preferred by lower-functioning people, compared with high functioning, with the preference strengthening as health prospects worsened. The highest functioning individuals tended to reject life-prolonging treatments in the worse-health scenarios. It is likely that, to healthy individuals, the prospect of life in poor health is remote and therefore indistinguishable from death. For less healthy individuals, by contrast, the difference between these two

states seems larger, and life-prolonging treatment more acceptable, explain the researchers. Stronger preferences for life-prolonging treatment in most health scenarios were also associated with higher religiosity. Depressed mood did not seem to influence advanced care decisions. The study was supported by the Agency for Healthcare Research and Quality (HS13785).

More details are in “Current health and preferences for life-prolonging treatments: An application of prospect theory to end-of-life decisionmaking,” by Dr. Winter and Ms. Parker, in *Social Science & Medicine* 65, pp. 1695-1707, 2007. ■

Health Care Costs and Financing

Many cost-of-illness studies do not include all costs of a particular injury or illness, and may be misleading

Policymakers and health care providers look to cost-of-illness (COI) studies to identify the cost of specific illnesses and injuries. These results help drive decisions about future insurance benefits, research efforts to curb and control disease and injury, and development of programs to improve health. Yet COI studies have significant limitations, according to a new study. The researchers conducted a systematic

review of COI studies published from 2000 to 2004. A detailed review of the COI literature identified 52 studies that met inclusion criteria (that included studies containing more than one component of care and studies that were original research).

These 52 studies used different approaches to assessing care costs and were often unclear about how

continued on page 19

Cost-of-illness

continued from page 18

they calculated the cost of illness. Also, many studies did not include all aspects of care in their cost assessments, thus underestimating the full cost of treating the disease or injury under study. Across this systematic review, articles contained only an average four components of care.

Studies also varied in the cost perspectives they addressed. For example, nearly half of the studies captured direct costs from the perspective of society, and a third captured the perspective of either the employer or insurance-based health care. The most frequently analyzed components of care, in order of

frequency, were outpatient care, hospitalization, prescription medication, emergency department, other noncategorized care components, nursing home, home care, and laboratory or test procedures. The findings were based on employer-based health insurance and claims data (21 of 52 studies), NCHS sources (11 studies), as well as Medicare and Medicaid data (6 articles). The study was supported by the Agency for Healthcare Research and Quality (HS15009).

More details are in “Cost-of-illness studies in the United States: A systematic review of methodologies used for direct cost,” by Gerd Clabaugh, M.P.A., and Marcia M. Ward, Ph.D., in the January-February 2008 *Value In Health* 11(1), pp. 13-21. ■

A collaborative approach to diabetes care in community health centers can cost-effectively improve that care

The Health Disparities Collaboratives (HDC), begun in 1998 in Federally qualified community health centers (HCs), has focused on improving the quality of diabetes care. It has led to improvements across multiple domains of diabetes care that, together, are substantial. If these improvements are maintained or enhanced over the lifetime of patients, the HDC program will be cost-effective for society, concludes a new study.

The researchers examined data from the Diabetes HDC program in 17 Midwestern HCs in 1998, 2000, and 2002. They abstracted data on diabetes care processes and risk factor levels from medical charts of randomly selected patients.

The HDC trains HC staff to use the tools of rapid QI and chronic disease management. HC staff members acquire skills and share best practices at learning sessions and develop programs tailored to their centers.

From 1998 to 2002, multiple process of care (for example, glycosylated hemoglobin (HbA1c) testing rates) increased from 71 to 92 percent and ACE

inhibitor prescribing increased from 33 to 55 percent. Levels of diabetes risk factors also improved; for example, HbA1c levels declined by 0.45 percent from a baseline of 8.53 percent. The authors estimated that these improvements at the HCs studied would reduce the lifetime incidence of diabetes-related complications such as blindness from 17 to 15 percent, end-stage renal disease from 18 to 15 percent, and coronary artery disease from 28 to 24 percent. The average improvement in quality-adjusted life year was 0.35 and the incremental cost-effectiveness ratio was \$33,386 per QALY. This ratio is below the traditionally accepted cost-effectiveness thresholds. This study was supported in part by the Agency for Healthcare Research and Quality (HS10479 and HS13635).

See “The cost-effectiveness of improving diabetes care in U.S. federally qualified community health centers,” by Elbert S. Huang, Qi Zhang, Sydney E.S. Brown, and others, in the December 2007 *HSR: Health Services Research* 42(6), pp. 2174-2193. ■

Acute Care/Hospitalization

Sending high-risk heart attack patients to certain hospitals reduces deaths, minimizes hospital volume shifts

Certain heart attack victims fare better with immediate surgery (primary percutaneous coronary intervention, PCI) than with clot-busting drugs (thrombolytic therapy, TT). These

are patients with acute ST-segment elevation myocardial infarctions (STEMIs) and other high-risk features such as advanced age, diabetes, accelerated heart rates, larger infarcts (areas of cardiac

tissue death), and noninferior infarcts. When emergency transport personnel take these patients directly to hospitals capable of full-time PCIs, even if they are not the

continued on page 20

Heart attack patients

continued from page 19

closest hospitals, this approach reduces mortality while minimizing major shifts in hospital patient volumes.

Researchers evaluated three alternatives for the triage of heart attack patients to hospitals in one county: 1) transport all patients to the closest hospital and treat with PCI if available and TT if not; 2) transport all patients to the closest PCI-capable hospital and treat with PCI; and 3) a targeted PCI strategy, in which patients who are closest to TT-only hospitals are evaluated for their expected mortality benefit with PCI and transported or

transferred to PCI-capable hospitals, only if the expected benefit exceeds the expected risk of delay. They used these strategies to simulate emergency transport for 2,000 patients with STEMIs from one large study using Dallas County, Texas, as the geospatial model.

The first strategy yielded a 5.2 percent 30-day mortality rate. The second strategy of universal PCI yielded a 4.4 percent mortality rate, but an increase in patient volume at two full-time PCI hospitals of more than 1,000 percent. The targeted PCI strategy yielded a 4.5 percent mortality rate if transfers were decided in the emergency

department (ED), but 4.2 percent if the hospital destination was decided by ambulance personnel. This approach increased patient volumes at full-time PCI hospitals by about 700 percent. The study was supported in part by the Agency for Healthcare Research and Quality (T32 HS00060).

See “A geospatial analysis of emergency transport and inter-hospital transfer in ST-segment elevation myocardial infarction,” by Thomas W. Concannon, Ph.D., David M. Kent, M.D., M.S., Sharon-Lise Normand, Ph.D., and others, in the January 2008 *American Journal of Cardiology* 101, pp. 69-74. ■

Use of quality improvement strategies by home care agencies may reduce hospitalizations of home patients

Hospitalized patients are sometimes sent home with a need for home health care. A hurried discharge can result in conflicting or incomplete information to the home care agency, posing a potentially dangerous transition “gap” for vulnerable patients. Patient risk identification tools and other quality improvement (QI) strategies have the potential to address care transition problems and reduce acute care hospitalizations (ACHs) among home care patients, suggests an evaluation of the Reducing Acute Care Hospitalization (ReACH) National Demonstration Collaborative. The Collaborative provided risk identification tools and QI strategies, as well as assistance from ReACH staff and 16 QI organizations to help 177 home health agencies throughout the United States reduce ACHs among home care patients.

Home care accrediting bodies and the arrival of a new pay-for-performance reimbursement system make QI in home health care more an imperative. One component of home health pay-for-performance may be ACH rates, note Patricia Simino Boyce, R.N., M.A., Ph.D., and Penny Hollander Feldman, Ph.D., of the Visiting Nurse Service of New York. They

conducted interviews with 17 of 65 agencies (whose baseline ACH rates ranged from 14 to 68.5 percent of patients) that participated in Wave 1 of ReACH.

Implementation challenges reported at the 4-month interview point included identifying and recruiting appropriate agency staff to participate in the Collaborative, finding time to devote to the project while dealing with competing demands, and getting past the learning curve of the data collection requirements of the Collaborative. Taking these challenges into account, most agencies considered their efforts to be “somewhat” successful to date. Some of the QI strategies used included implementing patient risk assessment procedures, introducing or increasing telemonitoring of patients at home, instituting emergency care plans with patient-focused recommendations, and frontloading visits for patients at greatest risk. The Collaborative and the evaluation were supported in part by the Agency for Healthcare Research and Quality (HS13694).

See “ReACH national demonstration collaborative: Early results of implementation,” by Drs. Boyce and Feldman, *Home Health Care Service Quarterly* 26(4), pp. 105-120, 2007. ■

Agency News and Notes

Children from low-income communities are five times more likely to have untreated cavities

About 31 percent of low-income children ages 2 to 5 have dental cavities that don't get treated, according to data from the 2007 *National Healthcare Disparities Report* released by the Agency for Healthcare Research and Quality (AHRQ). A much smaller portion of high-income children—about 6 percent—have untreated cavities. The data come from surveys conducted between 1999 and 2004.

If untreated, the infection (dental caries) that causes tooth decay and cavities can also lead to pain, tooth loss, and more serious infections. The American Academy of Pediatric Dentistry recommends a dental checkup at least twice a year for most children. Some children need more frequent dental visits because of increased risk of tooth decay, unusual growth patterns, or poor oral hygiene.

AHRQ'S data also show:

- Among children from poor families, untreated cavities were more common in those ages 6 to 11 (37 percent) than children 12 to 17 (27 percent).
- Likewise, among children from wealthy families, untreated cavities were more common among ages 6 to 11 (12 percent) than children 12 to 17 (7 percent).
- Only 36 percent of poor children visited a dentist in the past year compared with 70 percent of wealthy children, according to a 2004 survey.

For more information, see the 2007 *National Healthcare Disparities Report* at www.ahrq.gov/qual/qdr07.htm. The report examines disparities in Americans' access to and quality of health care by race, ethnicity, income, and education. ■

More than 200 abused children under age 5 died in U.S. hospitals in 2005

Of 6,700 children hospitalized for physical abuse or neglect in 2005, more than 200 died and all fatalities were under age 5, according to a new report from the Agency for Healthcare Research and Quality (AHRQ). Children less than 5 years old comprised 80 percent of all those under 18 years of age who were admitted that year for abuse or neglect.

Hospital care for children who suffered physical, sexual, emotional abuse, or neglect cost almost \$100 million. The average stay for an abused and/or neglected child cost \$14,800—75 percent more than the average pediatric admission. AHRQ's analysis also found that:

- Children hospitalized due to abuse or neglect were seven

times more likely to die in hospitals than children admitted for other reasons.

- More than one-third of children hospitalized for physical abuse had head injuries, 26 percent had bruises, 21 percent had bleeding behind the eye, 20 percent had epileptic convulsions, and 18 percent had broken legs or feet.
- Children from the poorest communities accounted for nearly 36 percent of hospitalizations for abuse or neglect, regardless of age. About 14 percent came from wealthy communities.
- Medicaid was billed for 71 percent of these stays, private insurers were billed for 21 percent, nearly 5 percent were uninsured, and the rest were

charged to other government payers such as Title V or TRICARE/CHAMPUS.

For more information, see *Hospital Stays Related to Child Maltreatment, 2005*, HCUP Statistical Brief #49 (www.hcup-us.ahrq.gov). The report uses statistics from the 2005 *Nationwide Inpatient Sample*, a database of hospital inpatient stays that is nationally representative of inpatient stays in all short-term, non-Federal hospitals. The data are drawn from hospitals that comprise 90 percent of all discharges in the United States and include all patients, regardless of insurance type, as well as the uninsured. ■

Potentially deadly infection doubled among hospital patients over last 5 years

The number of hospital patients stricken by an infection that can lead to diarrhea, blood poisoning, and even death increased by 200 percent between 2000 and 2005, according to data from the Agency for Healthcare Research and Quality (AHRQ). The sharp upturn follows a 74 percent increase in the number of cases between 1993 and 2000.

The infection—*Clostridium difficile*, or *C. difficile*-associated disease—occurs after previous antibiotic therapy suppresses the normal bacteria of the colon. This allows growth of *C. difficile* following exposure by unwashed hands or infected surfaces such as bedpans, toilet seats, or floors. Symptoms can range from mild diarrhea to severe, life-threatening illness that, in its most severe form, can be treated only by completely removing the colon.

AHRQ's analysis also found:

- There were over 2 million cases of *C. difficile* in U.S. hospitals between 1993 and 2005.
- Two out of three infected hospital patients in 2005 were elderly.

- On average, patients with *C. difficile* were hospitalized almost three times longer than uninfected patients. The in-hospital death rate for patients with *C. difficile* was 9.5 percent compared with 2.1 percent overall.
- The highest rate of *C. difficile* infection in hospital patients was in the Northeast (144 stays per 100,000 population) and the lowest (67 stays per 100,000 population) was in the West.

This summary is based on data in *Clostridium difficile-associated Disease in U.S. Hospitals, 1993-2005*, HCUP Statistical Brief #50 (www.hcup-us.ahrq.gov/reports/statbriefs/sb50.pdf). The report uses statistics from the Nationwide Inpatient Sample, a database of hospital inpatient stays that is nationally representative of inpatient stays in all short-term, nonfederal hospitals. The data are drawn from hospitals that comprise 90 percent of all discharges in the United States and include all patients, regardless of insurance type, as well as the uninsured. ■

Premiums rise 18 percent for nonemployer health insurance

People who buy their own health insurance saw their average annual premiums rise 18 percent between 2002 and 2005, a modest increase compared with the 34 percent jump in average premiums for people insured through their employers, according to data taken from the Medical Expenditure Panel Survey (MEPS). The annual cost of these nonemployer policies was paid entirely out of pocket. The average annual premium for a one-person policy was \$2,835 in 2005, up from \$2,531 in 2002. Annual premiums

for family policies were \$5,568 in 2005, up from \$4,442 in 2002.

The analysis also found that:

- Among those under age 65, about 12 million Americans, or less than 5 percent, were covered by policies purchased in the nonemployer market in 2005 compared with 174 million, or 67 percent, covered by employer-based health insurance.
- For people with company-sponsored insurance, average annual premiums paid out-of-pocket rose from \$1,231 to \$1,655 between 2002 and 2005.

- About 70 percent of nonemployer policies were single coverage and 30 percent were for family coverage.
- Premiums for nonemployer policies differ by age of policyholders. One-person premiums were \$1,580 for policyholders under age 40 and \$4,288 for policyholders aged 55-64.

For more information, go to *Premiums in the Individual Health Insurance Market for Policyholders under Age 65: 2002 and 2005*, MEPS Statistical Brief 202, at www.meps.ahrq.gov/mepsweb/. ■

Announcements

AHRQ releases 2006 State data from HCUP

The Agency for Healthcare Research and Quality (AHRQ) recently released State data for the 2006 data year from the Agency's Healthcare Cost and Utilization Project (HCUP). HCUP is a Federal-State-industry partnership that brings together the data collection efforts of State data organizations, hospital associations, private data organizations, and the Federal government to create a national information resource of encounter-level health care data.

This most recent database release includes the State Inpatient Databases (SID), State Ambulatory Surgery Databases (SASD), and State Emergency Department Databases (SEDD) of selected States. Researchers and policymakers can use these State-specific HCUP databases to investigate questions unique to one State, compare data from two or more States, conduct market area research or small area variation analyses, and identify State-specific trends in utilization, access, quality, charges, and outcomes. More State databases will be released throughout the year.

The State Inpatient Databases contain the universe of inpatient discharge abstracts for participating States. Currently, SID data from the 2006 data year

are available for Arizona, California, Colorado, Florida, Iowa, Kentucky, Nevada, New Jersey, North Carolina, Oregon, Utah, Washington, West Virginia, and Wisconsin. These new additions complement the numerous SID files that are already available for the years 1994-2005.

The State Ambulatory Surgery Databases feature ambulatory surgery encounter abstracts from hospital-affiliated, and in some cases, freestanding, ambulatory surgery sites within participating States. This most recent release adds 2006 data files for California, Colorado, Iowa, Kentucky, New Jersey, North Carolina, and Wisconsin, to the existing collection of SASD files already available for the years 1997-2005.

The State Emergency Department Databases contain discharge information on all emergency department visits that do not result in a hospital admission. AHRQ added 2006 data files for Arizona, California, Iowa, New Jersey, and Wisconsin to the existing collection of SEDD files that are already available for the years 1999-2005.

Complete descriptions of the SID, SASD, SEDD, and other HCUP databases are available on the HCUP Web site at www.hcup-us.ahrq.gov. ■

Updated releases of HCUP Comorbidity Software and Clinical Classifications Software Updates are available

The Agency for Healthcare Research and Quality (AHRQ) recently released the Comorbidity Software, Version 3.3, and fiscal year 2008 updates for the Clinical Classifications Software (CCS) for Services and Procedures for use with databases available from the Agency's Healthcare Cost and Utilization Project (HCUP) or other health care administrative databases.

The Comorbidity Software, Version 3.3 is valid for ICD-9-CM codes, DRGs, and v25 MS-DRGs effective October 1, 2007. The software is being distributed in ASCII for easy adaptation to other programming languages, such as SAS, SPSS, and Stata. The CCS for Services and Procedures software provides a method for classifying Current Procedural Terminology (CPT) codes and Healthcare

Common Procedure Coding System (HCPCS) codes into clinically meaningful procedure categories. It contains the standard CCS procedure categories, with the addition of specific categories unique to the professional service and supply codes in CPT/HCPCS.

Both software updates are available for download from the HCUP-US Web site at <http://www.hcup-us.ahrq.gov/>. ■

AHRQ Web resource features 100 examples of health care innovations and tools

A new Web resource that allows users to learn, share, and adopt innovations in the delivery of health services is available from the Agency for Healthcare Research and Quality (AHRQ). The resource—called the Health Care Innovations Exchange—can be found at www.innovations.ahrq.gov.

AHRQ's Health Care Innovations Exchange is the Federal government's repository for successful health care innovations. It also includes useful descriptions of attempts at innovation that failed. The Web site is a tool for health care leaders, physicians, nurses, and other health professionals who seek to reduce health care disparities and improve health care overall.

The Web site has 100 examples of innovations in the delivery of health care services and attempts at innovation; that number will increase as the site is updated every two weeks. Profile examples include an intensive care unit's successful efforts to shorten patient stays by setting and adhering to daily care goals; an initiative by geriatricians, nurse practitioners, and social workers to help seniors avoid institutional care by visiting seniors at home; and a patient/physician e-mail communication system that overcomes the inconvenience of automated phone systems and accommodates the difficult schedules of both the physician and the patient.

Through learning and networking opportunities offered by the Health Care Innovations Exchange, users can:

- Read articles and perspectives on the creation and adoption of innovation.
- Read expert-generated commentaries on specific innovations.
- Comment on specific innovations.
- Participate in topic-specific presentations (e.g., Webinars) and discussions.

- Join online forums that connect innovators with organizations that adopt them. Participants will identify new approaches to delivering care, develop effective strategies for implementation and evaluation, and share tips and information.

In addition to offering a venue for learning and networking, the AHRQ Health Care Innovations Exchange offers a new home for AHRQ's QualityTools, a collection of tools used in quality improvement efforts.

Since 2007, AHRQ has reached out to the health care community and called for the submission of potential health care innovations. Only truly innovative initiatives are included in the AHRQ Health Care Innovations Exchange. Innovations must be new or perceived as new to a particular context or setting relative to the usual care processes. They must have potential for high impact on the delivery of patient care, whether preventive, emergent, chronic, acute, rehabilitative, long-term, or end-of-life. In addition, they should be designed to address the need for the reduction of health disparities in populations of interest to AHRQ, which include low income groups, minority groups, women, children, the elderly, and individuals with special health care needs.

The AHRQ Health Care Innovations Exchange is one of several AHRQ products that help health care professionals share information about evolving trends in health care. Among the other products are the National Guideline Clearinghouse™ (www.guideline.gov), which is a searchable database of clinical practice guidelines; and the National Quality Measures Clearinghouse (www.qualitymeasures.ahrq.gov), a public repository for evidence-based quality measures and measure sets. ■

Research Briefs

Goldstein, R.B., Asarnow, J.R., Jaycox, L.H., and others. (2007). "Correlates of 'non-problematic' and 'problematic' substance use among depressed adolescents in primary care." (AHRQ grant HS09908). *Journal of Addictive Diseases* 26(3), pp. 39-52.

Substance use, abuse, and dependence are major public health problems whose treatment is complicated by the co-occurrence of depression. In this study, the researchers examined factors associated with substance abuse in a sample of 451 primary care patients 13 to 21 years old who had high levels of depressive symptoms. They found that substance use was highly prevalent and problematic use was frequent. The proportions of both problematic and nonproblematic users rose with increasing age: at ages 13 to 15, 14 percent were problematic users and 9 percent nonproblematic users; by ages 19 to 21, the proportions had risen to 26 and 25 percent, respectively. In addition to older age, problematic use was associated with male gender, externalizing symptoms, Caucasian/White ethnicity/race, and having more friends. The most widely used substances were tobacco, alcohol, and marijuana; other substances included amphetamines, barbiturates, cocaine, LSD, tranquilizers, and heroin and other opioids. Primary care clinicians should probe carefully for substance use risk in this group of patients.

Hartzema, A.G., Winterstein, A.G., Johns, T.E., and others. (2007, February). "Planning for pharmacy health information technology in critical access hospitals." (AHRQ grant

HS15325). *American Journal of Health System Pharmacy* 64, pp. 315-321.

The purpose of this project was to develop a plan for the implementation of medication-related health information technology (HIT) in 12 critical access hospitals (CAH) to improve safety and reduce medication errors. A CAH is a rural acute care facility qualified for the Medicare Rural Hospital Flexibility Program. A key specific aim of the project was to select pharmacy HIT (pHIT) components based on CAH needs and the components' potential to address the 12 strategies recommended by the Institute of Medicine for reducing medication errors. The researchers conducted interviews in each hospital to determine how, where, and what HIT was being used, and held two planning conferences. A consensus was reached that a pHIT platform should be implemented at CAHs in three phases consisting of a pharmacy information management system, automated dispensing cabinets, and smart intravenous infusion pumps. Together, these components would help avoid drug prescribing, transcribing, dispensing, and administrative errors. However, certain barriers to implementation would need to be overcome; these included funding, staff resistance, small staff size, and limited space in hospitals for HIT equipment.

Keyhani, S., Kleinman, L.C., Rothschild, M., and others. (2008, January) "Clinical characteristics of New York City children who received tympanostomy tubes in 2002." (AHRQ grant HS10302). *Pediatrics* 121(1), pp. e24-e33.

Although two clinical practice guidelines caution against insertion of ear tubes for children who suffer from middle ear inflammation (otitis media), a recent study shows some doctors do not follow the guidelines. Researchers at New York's Mount Sinai School of Medicine reviewed the records of 1,046 children seen in 5 New York City hospitals in 2002 and found that 75 percent of the children had surgery at less than the 42-day mark, and more than 50 percent had surgery after fewer than 77 days of inflammation. The authors suggest that surgeries performed before the 90-day mark may indicate an overuse of ear-tube insertions because parents may feel pressure to take action to help their child, who is in pain and whom they fear will sustain long-term hearing loss. These pressures may stir parents to insist on medical action in lieu of watchful waiting or antibiotics. If this is the case, pediatricians could alleviate parents' concerns by explaining how common middle ear inflammation is among children and educate parents about appropriate treatment options.

McCormick, D.P., Chandler, S.M., and Chonmaitree, T. (2007, July). "Laterality of acute otitis media: Different clinical and microbiologic characteristics." (AHRQ grant S10613). *The Pediatrics Infectious Disease Journal* 26(7), pp. 583-588.

Researchers analyzed 1,216 cases of children with middle ear infections and found that very young children with infections in both ears may need antibiotics to kill the bacteria causing their discomfort. For 70 percent of

continued on page 26

Research briefs

continued from page 25

children with ear infections in both ears, cultures showed bacteria were present. Bacteria found included *H. influenzae* (the most common when both ears were infected), *S. pneumoniae*, *M. catarrhalis*, and *S. aureus*. In contrast, only 57 percent of the children with one infected ear had bacteria present. The researchers suggest that the wait-and-see approach recommended for treating children with ear infections should be set aside when children younger than 2 years old have an infection in both ears, especially when *H. influenzae* is present. Without antibiotics, their symptoms and suffering will likely persist.

McDaniel, S.H., Beckman, H.B., Morse, D.S., and others. (2007, June). “Physician self-disclosure in primary care visits: Enough about you, what about me?” (AHRQ grant HS10610). *Archives of Internal Medicine* 167, pp. 1321-1326.

This study found when primary care doctors reveal personal information to their patients, it doesn't necessarily foster a closer patient-doctor relationship. Researchers analyzed the transcripts of primary care visits by 113 standardized patients (people trained to act as patients) for physician self-disclosure. In 34 percent of visits, physicians talked about personal emotions and experiences, families and/or relationships, and their professional life. These disclosures were a response to a patient question in only 14 percent of cases. Sixty percent of disclosures followed patients' symptoms, mention of family, or expression of feelings, and 40 percent were unrelated to patient discussion. In only 21 percent of cases did physicians return to the patient topic preceding

the disclosure. Overall, the research team considered 85 percent of physician self-disclosures to be useless to the patients and 11 percent to actually be disruptive (with the patient abruptly changing the topic in some cases). They considered only 4 percent of physician self-disclosures to be useful, that is, they provided patient education, support, explanation, or acknowledgement, or the patient indicated that the comments had been helpful.

Mora, P.A., Halm, E., Leventhal, H. and others. (2007). “Elucidating the relationship between negative affectivity and symptoms: The role of illness-specific affective responses.” (AHRQ grant HS09973). *Annals of Behavioral Medicine* 34 (1), pp. 77-86.

Much research has shown a positive relationship between trait negative affectivity (a general disposition to experience negative moods) with reports of physical symptoms. Trait negative affectivity (NA) might bias one to report benign emotional or psychophysiological symptoms unrelated to health status as symptoms of illness or accurately report on somatic states that are indicators of underlying disease. These researchers decided to investigate patients with asthma to find out whether trait NA should be regarded as a biasing factor, a source of accurate self-appraisal, or both. The subjects tested were 166 inner-city asthma patients who completed 3 questionnaires over the 6-month study period. Each patient was assessed for mood states, asthma symptoms, and nonasthma symptoms. Most patients (78 percent) correctly recognized their asthma symptoms as due to their asthma. Trait NA was not associated with the misattribution of asthma symptoms.

Orzano, A.J., Scott, J., Hudson, S.V., and others. (2007).

“Strategies for conducting complex clinical trials in diverse community practices.” (AHRQ grant HS14018). *Medical Care* 45(12), pp. 1221-1226.

It is difficult to get individual primary care practices to participate in complex clinical trials focused on quality improvement strategies, since they typically lack sufficient resources to devote to data collection and the other demands of the study. This article describes a successful process for maintaining a high level of practice participation in a system-level complex clinical trial involving diverse primary care practices spread across two States. The goal was to improve care (as measured by guideline adherence) for management of diabetes, hypertension, asthma, hyperlipidemia, and smoking screening. Using a facilitator who meets with practice physicians and staff for ten 1-hour weekly sessions and the multimethod assessment process, the researchers sought to tailor a reflective practice team process for each of the 30 practices in the study. They collected data on practice disease management over a 4-year period ending in October 2007. The researchers present three case studies illustrating the five interrelated factors that appeared crucial to the success of the study implementation process: developing a structure and activities for relationship building, attending to consistent communication, sharing information in a timely manner, evolving a diverse research team, and providing technical assistance.

Raji, M.A., Reyes-Ortiz, C.A., Kuo, Y., and others. (2007, September). “Depressive symptoms and cognitive change in older Mexican Americans.”

continued on page 27

Research briefs

continued from page 26

(AHRQ grant HS11618). *Journal of Geriatric Psychiatry and Neurology* 20(3), pp. 145-152.

The authors of this study examined a group of 2,812 Mexican Americans over age 65 for 7 years to determine what links exist between depressive symptoms and cognitive decline. They found that persons with depressive symptoms at the beginning of the study had a greater decline in cognitive skills during the 7-year period than did those without such symptoms. The link between depressive symptoms and cognitive decline was independent of age, gender, education, baseline cognitive score, limitations in the activities of daily living, diabetes, stroke, heart attack, and vision impairment. Depression was measured by the Center for Epidemiologic Studies Depression Scale (a score over 16 was considered depressive) and cognitive skills were measured by the Mini-Mental State Examination (MMSE). The MMSE was given at the outset of the study to create a baseline and subsequently at 2, 5, and 7 years. It is not clear whether treating depression will reduce the onset of cognitive decline.

Resnick, B. and Galik, E. (2007). “The reliability and validity of the physical activity survey in long-term care.” (AHRQ grant HS13372). *Journal of Aging and Physical Activity* 15, pp. 439-458.

The authors of this study developed and tested a measure of physical activity for residents of a long-term care facility, the Physical Activity Survey in Long-Term Care (PAS-LTC). The PAS-LTC includes 66 activities that include routine physical activity, personal care activities, structured exercise, recreational activities, caretaking

activities, and repetitive activities. The researchers tested the measure on 13 residents. There was some evidence of validity of the measure, with significant correlations between PAS-LTC recorded during the evening and night shifts and the number of counts of activity per an ActiGraph and calories estimated. The PAS-LTC completed during the day shift and total activity based on the PAS-LTC showed nonsignificant correlation with ActiGraph activity counts and calories.

Rodriguez, H.P., Marsden, P.V., Landon, B.E., and others. (2008, February). “The effect of care team composition on the quality of HIV care.” (AHRQ grant HS10227). *Medical Care Research and Review* 65(1), pp. 88-113.

A new study reveals some disadvantages along with the advantages of having multiple clinicians for persons with HIV disease. Patients with two physicians and a nurse practitioner (NP) or physician assistant (PA) or with three or more physicians were more likely to receive drugs to prevent pneumocystis carinii pneumonia (PCP) than patients with a single physician (52 and 59 vs. 36 percent, respectively), after adjusting for physician and site specialization. Patients without a usual clinician were less likely to receive highly active antiretroviral therapy (HAART) than were those with a single physician (66 vs. 87 percent), but there were no other differences in HAART use among types of care teams. Women were more likely to receive a pap smear during the year if their care team included three or more physicians than a single physician (90.5 vs. 75 percent). Patients with care teams including a PA or NP or with three or more physicians were more likely to have an inappropriate

emergency department visit than patients of single physicians (23 and 33 vs. 17 percent, respectively).

Rose, J. (2008, January). “Industry influence in the creation of pay-for-performance quality measures.” (AHRQ grant T32 HS00059). *Quality Management in Health Care* 17(1), pp. 27-34.

Pay-for-performance programs are likely to pick up speed in the coming years. Thus, it is important to ensure that the quality measures used in these initiatives are based on the best possible clinical evidence and expert consensus. This article examines the financial ties between those who – both directly and indirectly – help create the standards used in pay-for-performance programs and those firms whose revenues will increasingly depend on the substance of these measures. The authors caution about the need to ensure that these groups remain independent from financial connections to industries (such as pharmaceutical and device companies), whose revenues could be affected by the content of the measures. They cite several examples of inappropriate industry influence in the drafting of clinical practice guidelines by professional societies. They also discuss policy options for minimizing the effects of these conflicts of interest on the development of quality measures.

Starks, H. and Trinidad, S.B. (2007, December). “Choose your method: A comparison of phenomenology, discourse analysis, and grounded theory.” (AHRQ grant T32 HS13853). *Qualitative Health Research* 17(10), pp. 1372-1380.

The authors of this paper compared three qualitative

continued on page 28

Research briefs

continued from page 27

approaches that can be used in health research: phenomenology, discourse analysis, and grounded theory. They note that the goal of phenomenology is to study how people derive meaning from their lived experience. Discourse analysis examines how language is used to accomplish personal, social, and political projects. Grounded theory develops explanatory theories of basic social processes studied in context. The authors describe a model that captures the similarities and differences among these approaches, and discuss their historical development, goals, methods, audience, and products. They underscore their differences by applying them to the same set of data. They contend that by familiarizing themselves with the origins and details of these approaches, investigators can make better matches between their research question(s) and the goals and products of their study.

Stulberg, J. “The physician quality reporting initiative – A gateway to pay for performance: What every health care professional should know.” (AHRQ grant T32 HS00059). *Quality Management in Health Care* 17(1), pp. 2-8.

The Physician Quality Reporting Initiative (PQRI) is a pay-for-reporting initiative sponsored by the Centers for Medicare and Medicaid Services, which is open to all health care providers that treat Medicare patients. This initiative provides financial incentives for participation and, unlike most pay-for-performance programs, there are no penalties for poor performance. Thus, PQRI offers Medicare providers nationwide a low-risk opportunity to gain experience with reporting

procedures likely to be incorporated into pay-for-performance reimbursement schemes. Also, its 74 measures are applicable to both generalist and specialist providers. The combination of provider-level measurement and reimbursement and efforts to assess care delivered by both generalist and specialist Medicare providers highlights how this pay-for-reporting initiative is a gateway to a pay-for-performance reimbursement system.

Sullivan, A.F., Camargo, C.A., Cleary, P.D., and others. (2007). “The national emergency department safety study: Study rationale and design.” (AHRQ grant HS13099). *Academic Emergency Medicine* 14, 1182-1189.

The National Emergency Department Safety Study (NEDSS) is a response to the need for methods to reduce error with a focus on the correction of suboptimal safety processes in emergency departments (EDs). If reports by personnel about processes of care and attributes of the ED and its clinical environment are significantly correlated with the occurrence of errors, then this reporting system could be used to determine an ED's level of risk of errors. It could also identify processes for quality improvement. This paper describes the methods used to develop and implement the NEDSS. The authors revised the NEDSS survey from an earlier instrument. They refined it by interviews with key informants and by focus groups at 3 EDs, and by psychometric testing at 10 EDs. It was then administered to a random sample of 80 ED staff at 60 participating sites. The survey asked about potentially unsafe processes and safety-related ED attributes, as well as ED management of three conditions

(asthma, heart attack, and dislocations that were reduced using procedural sedation); chart review was done to detect rates of error for patients treated for these conditions.

Talbot, T.R., Tejedor, S.C., Greevy, R.A., and others. (2007, December). “Survey of infection control programs in a large national healthcare system.” (AHRQ grant HS15934). *Infection Control and Hospital Epidemiology* 28(12), pp. 1401-1403.

Prevention of healthcare-associated infections (HAIs) has become a concern of consumers and regulators and a central focus of quality improvement programs in recent years. Initiatives addressing infection control, which require timely and accurate detection and reporting of HAI data, have boosted demands on hospital infection control programs. As part of a project to evaluate different strategies for reducing HAIs, this study assessed infection control practices and resources by surveying 134 hospitals owned by one group. Both infection control practices and resources varied substantially among the hospitals. Many hospitals reported difficulty acquiring the data they needed to report infection rates. These findings underscore the need for hospitals to reexamine the process of HAI surveillance and the resources devoted to infection control programs.

Uding, N., Sety, M., and Kieckhefer, G.M. (2007). “Family involvement in health care research: The ‘Building on Family Strengths’ case study.” (AHRQ grant HS13384). *Families, Systems, & Health* 25(3), pp. 307-322.

continued on page 29

Research briefs

continued from page 28

Thirteen percent of U.S. children have special health care needs (CSHCN), yet parents have little preparation for living with these children in the context of everyday family life. By emphasizing mutually beneficial partnerships among patients, families, and health care providers, family-centered care offers a framework out of which health care services can be planned and delivered. However, families have rarely become involved in “participatory research” in which they become partners in the design and implementation of research meant for families’ benefit. The “Building on Family Strengths” (BFS) program is a psychoeducational program for parents or other primary caregivers of CSHCN to assist them in managing their child’s needs in the context of overall family life. Families were involved in all four phases of BFS by acting as: partners in planning meetings; participants in focus groups discussing curriculum content; cofacilitators in implementing the seven-session program; and, finally, as coinvestigators who interpreted and disseminated results to community groups and providers. The authors conclude that family involvement in health services research is essential for efficient, effective, respectful, and meaningful research about families.

Vartak, S., Ward, M.M., and Vaughn, T.E. (2008, January). “Do postoperative complications vary by hospital teaching status?” (AHRQ grant HS15009). *Medical Care* 46(1), pp. 25-32.

Using patient safety indicators (PSIs) developed by the Agency for Healthcare Research and Quality

(AHRQ), the researchers sought to determine whether six postoperative complications varied by hospital teaching status. The six PSI complications are hip fracture, hemorrhage or hematoma, physiologic and metabolic derangement, respiratory failure, pulmonary embolism or deep vein thrombosis, and sepsis. The study sample consisted of 400 nonteaching, 207 minor teaching, and 39 major teaching hospitals, which together treated over a million patients. The major teaching hospitals had higher observed rates for all six PSIs except for hip fracture. After adjusting for hospital and patient characteristics, major teaching hospitals had higher odds for pulmonary embolism and sepsis, and lower odds for respiratory failure than the other hospitals. When hospital and patient characteristics were included in the models, minor teaching hospitals did not vary significantly from nonteaching hospitals for any of the six PSIs.

Wakefield, D.S., Ward, M.M., Groath, D., and others. (2008, January-February). “Complexity of medication-related verbal orders.” (AHRQ grant HS15196). *American Journal of Medical Quality* 23(1), pp. 7-17.

Medication-related verbal orders, like other communications, are subject to miscommunication or misunderstanding. Studies examining the factors related to the complexity and potential for verbal-order communications to result in error and patient harm are nearly absent in the literature. The researchers sought to identify those factors by analyzing one hospital’s medication-related verbal order events for a 1-week period. During this time period, there were 1,222 verbal-order events, which included

4,197 medication orders. There was great variability in the number of medication-related verbal-order events among the 11 patient care units. For example, the cardiovascular recovery unit had just 19 events compared with 268 for the cardiac step-down unit. For all units combined, there was an average of 3.4 medications ordered per verbal-order event. The authors proposed at least three primary categories of factors contributing to complexity and the potential for error and harm during verbal orders. These categories are verbal ordering process and contents, verbal order makers (physicians, etc.), and verbal order takers (nurses and pharmacists).

Wolfstadt, J.I., Gurwitz, J.H., Field, T.S., and others. (2008, April). “The effect of computerized physician order entry with clinical decision support on the rates of adverse drug events: A systematic review.” (AHRQ grants HS10481 and HS15430). *Journal of General Internal Medicine* 23(4), pp. 451-458.

Computerized physician order entry (CPOE) with clinical decision support (CDS) has been promoted as an effective strategy to prevent the development of a drug injury defined as an adverse drug event (ADE). This systematic review of studies evaluated the effects of CPOE with CDS on the development of an ADE. The authors found few studies in this area, and concluded that more research is needed to evaluate the efficacy of CPOE with CDS across various clinical settings. The researchers grouped by hospital or ambulatory setting the 10 out of 543 studies that met inclusion criteria. No long-term care studies

continued on page 30

Research briefs

continued from page 29

were identified. CPOE with CDS contributed to a significant decrease in ADEs in 5 of the 10 studies. Four studies reported a nonsignificant reduction in ADE rates, and one study demonstrated no change in ADE rates.

Wyrwich, K.W., Metz, S.M., Kroenke, K., and others. (2007, December). “Triangulating patient and clinician perspectives on clinically important differences in health-related quality of life among patients with heart disease.” (AHRQ grants HS10234 and HS11635). *HSR: Health Services Research* 42(6), Part I, pp. 2257-2274.

Using several measurement strategies can help to reduce the deficiencies that flow from the use of just one method. To examine clinically important differences (CIDs) in health-related quality of life (HRQoL) among patients with heart disease, the researchers relied on three different groups: the patients themselves, an expert panel

familiar with the use of a disease-specific and a generic HRQoL instrument for patients with heart disease, and the primary care physicians who cared for these patients. Among the 656 initial patients completing baseline HRQoL interviews, there were 3,336 interviews completed over a 1-year period. The two HRQoL instruments used were the Modified Chronic Heart Failure Questionnaire and the Medical Outcomes Study Short Form 36-Item Health Status Survey. The findings revealed that there was little consensus among the three groups as to what constituted CIDs over the period studied. However, using these three methods is useful in better understanding the three groups and their approaches to estimating CID thresholds for patient-reported outcomes.

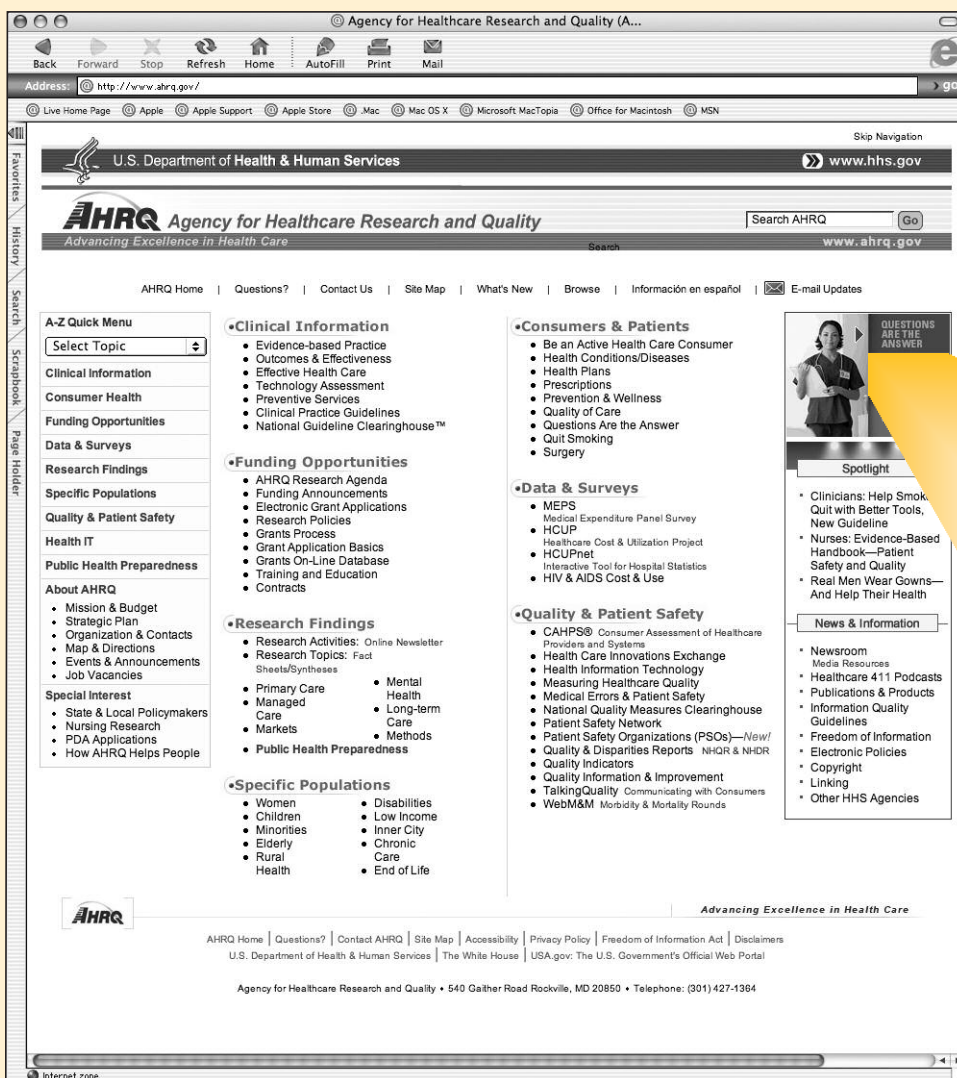
Yazdany, J., Yelin, E.H., Panopalis, P., and others. (2008, January). “Validation of the systemic lupus erythematosus activity questionnaire in a large observational cohort.” (AHRQ

grant HS13893). *Arthritis Care & Research* 59(1), pp. 136-143.

These authors found that the Systemic Lupus Erythematosus Activity Questionnaire (SLAQ) demonstrated adequate reliability, construct validity, and responsiveness in a large community-based group of persons with systemic lupus erythematosus (SLE). Thus, it appears to represent a promising tool for studies of SLE outside the clinical setting. SLAQ scores were strongly correlated with other health indices, including the Short Form 12 Physical Component Summary and Short Form 36 Physical Functioning Subscale. Scores were significantly higher for respondents reporting an SLE flareup, more disease activity, hospitalization in the last year, concurrent use of immunosuppressive medication, and work disability. The SLAQ demonstrated a small to moderate degree of responsiveness for those reporting clinical worsening and improvement, respectively. ■

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