



RESEARCH ACTIVITIES

U.S. Department of Health and Human Services • No. 342, February 2009

Highlights

Departments

Disparities/Minority Health . . 2

Patient Safety and Quality . . 3

Child/Adolescent Health . . . 6

Women's Health 8

Men's Health 9

Elderly/Long-Term Care . . 10

Preventive Care 12

Chronic Disease 14

Mental Health 15

**Health Care Costs and
Financing 16**

Regular Features

Agency News and Notes . . 18

Announcements 20

Research Briefs 21

Use of atypical antipsychotic drugs increases the risk of sudden cardiac death in adults

Patients ages 30 to 74 who took atypical antipsychotics such as risperidone (sold as Risperdal), quetiapine (Seroquel), olanzapine (Zyprexa) and clozapine (Clozaril) had a significantly higher risk of sudden death from cardiac arrhythmias and other cardiac causes than patients who did not take these medications, according to a new study. The risk of death increased with higher doses of the drugs taken.

Atypical antipsychotics are commonly used to treat schizophrenia and bipolar disorders. They are also prescribed “off label” for symptoms such as agitation, anxiety, psychotic episodes and obsessive behaviors. Atypical antipsychotics are less likely to cause tremors and other serious movement disorders that affect users of typical antipsychotics.

Wayne A. Ray, Ph.D., and colleagues at the Center for Education and Research on Therapeutics (CERT) at Vanderbilt University in Nashville found that current users of atypical antipsychotic drugs had a rate of sudden cardiac death twice that of people who didn’t use the drugs and similar to the death rate for patients taking typical antipsychotics,

including haloperidol (Haldol) and thioridazine (Mellaril). The researchers reviewed medical records from the Tennessee Medicaid program and identified data on patients prescribed atypical antipsychotics, including the number of prescriptions they received, the dose, and the number of days supplied. They conclude that atypical antipsychotics are not a safer alternative to typical antipsychotics in preventing death from sudden cardiac causes. The study was funded in part by the Agency for Healthcare Research and Quality (HS10384).

See “Atypical antipsychotic drugs and the risk of sudden cardiac death,” by Dr. Ray, Cecilia P. Chung, M.D., M.P.H., Katherine T. Murray, M.D., and others in the January 15, 2009 *New England Journal of Medicine* 360, pp. 225-235.

Editor’s note: The CERTs program, established in 1999, is a research program administered by the Agency for Healthcare Research and Quality in consultation with the U.S. Food and Drug Administration. The overarching goal is to serve as a trusted national resource for people seeking to

continued on page 2

Antipsychotic drugs

continued from page 1

improve health through the best use of medical therapies. The CERTs program includes partnerships of public and private organizations, a national steering committee

involving multiple sectors and the CERTs investigators, a coordinating center, and 14 research centers. More information can be found on the CERTs Web site at <http://www.ahrq.gov/clinic/certsovr.htm>. ■

Disparities/Minority Health

Care quality and treatment differences may underlie greater functional disability among older blacks and Latinos

Although disability rates among elders have declined overall, blacks and Latinos nevertheless continue to be burdened by more disability than whites. This may be because blacks and Latinos suffer more underlying medical problems that contribute to disability, such as diabetes and heart conditions. However, differences in care quality and treatment may also underlie the greater functional disability among older blacks and Latinos, suggests a new study.

The researchers analyzed 12 years of national data from the Health and Retirement Study (1992-2004) on community-

dwelling adults older than 50 years in 1992. Their models used self-reported health care use (physician visits and hospitalizations) to predict racial/ethnic differences in disability (ability to perform activities of daily living such as dressing and bathing and mobility limitations). The models also evaluated the roles of other factors in use of health care services.

Blacks and Latinos with physician visits and hospitalizations were significantly less able to carry out activities of daily living (ADLs) than whites. Blacks with physician visits and hospitalizations and Latinos with hospitalizations also

had more mobility limitations than whites. Other predisposing factors (age and sex), health needs (medical conditions and self-rated health), and enabling factors (such as economic access to health care) did not account for the greater disability among blacks and Latinos. The findings indicate that although improving equality in economic access to health care can result in substantial reductions in disparities in access to and use of care, racial/ethnic disparities in disability would remain. This suggests that improving economic

continued on page 3

Research Activities is a digest of research findings that have been produced with support from the Agency for Healthcare Research and Quality. *Research Activities* is published by AHRQ's Office of Communications and Knowledge Transfer. The information in *Research Activities* is intended to contribute to the policymaking process, not to make policy. The views expressed herein do not necessarily represent the views or policies of the Agency for Healthcare Research and Quality, the Public Health Service, or the Department of Health and Human Services. For further information, contact:

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

Barbara L. Kass, MPH, CHES
Managing Editor

Gail Makulowich
Assistant Managing Editor
Mark Stanton, Karen Fleming-Michael,
David Lewin
Contributing Editors
Joel Boches
Design and Production
Karen Migdail
Media Inquiries

Also in this issue:

Prescribing errors in primary care practices, see page 4

Health expenditures in overweight adolescents, see page 7

Prostate screening and cancer deaths, see page 9

Improving nursing home quality, see page 11

Social support for patients with diabetes, see page 14

Disability rates

continued from page 2

access to care may not be enough to guarantee equal access to high-quality care. The study was supported in part by the Agency for

Healthcare Research and Quality (HS13819).

More details are in “Racial/ethnic differences in the relationship between the use of health care services and functional

disability: The Health and Retirement Study (1992-2004),” by Mary Elizabeth Bowen, Ph.D., and Hector M. Gonzalez, Ph.D., in the October 2008 *Gerontologist* 48(5), pp. 659-667. ■

Whites with poor mental health are more likely to seek treatment than blacks and Hispanics

Many people who suffer from mental health disorders do not seek treatment. Agency for Healthcare Research and Quality researchers Samuel H. Zuvekas, Ph.D., and John A. Fleishman, Ph.D., used Medical Expenditure Panel Survey data from 2001 to 2004 to delve into why minorities seek mental health services less frequently than whites. Researchers used respondents’ self-reported mental health (SRMH) assessment and a survey that provides a summary score for emotional functioning to study 55,025 person-year observations.

Nearly 70 percent of those surveyed reported “excellent” or “very good” SRMH, with just 7 percent reporting “fair” or “poor” SRMH. Whites were more likely than blacks or Hispanics to associate their mental symptoms with their mental health status. The authors suggest that racial-ethnic groups may differ in their tendency to associate mental health problems with symptoms. This self assessment may partially explain

why blacks and Hispanics do not seek mental health services as frequently as whites do.

Whites, blacks, and Hispanics with similar SRMH also use mental-health-related medications at different rates. The probability of whites using medication increased from .09 when they reported “excellent” SRMH to .41 when they reported “poor” SRMH. For blacks, the probability rose from .03 for “excellent” SRMH to .17 for “poor” SRMH; for Hispanics, the probability increased from .05 for “excellent” SRMH to .23 for “poor” SRMH. These results suggest that the gap between whites, blacks, and Hispanics using mental health services is likely caused by underuse by minorities and not overuse by whites.

See “Self-rated mental health and racial/ethnic disparities in mental health service use,” by Drs. Zuvekas and Fleishman in the September 2008 *Medical Care* 46(9), pp. 915-923. Reprints (AHRQ Publication No. 09-R007) are available from AHRQ.* ■

Patient Safety and Quality

Quality of care and working conditions influence job satisfaction of surgical residents

Fewer medical students are interested in surgical residencies, and up to one-fifth of residents drop out of surgical residency programs. Surgical residencies are known for their grueling hours. However, a survey of 844 surgical residents from 52 hospitals found that resident job satisfaction was intricately linked to the perception that their patients are receiving high-quality care. In fact, staff and systems that enabled residents to care for patients were more influential on job satisfaction

than the teaching skills of their attending physician, duty hours, fatigue, and other issues. Attending physicians’ appreciation and openness to suggestions was also correlated positively with resident satisfaction.

Residents often perceived themselves as carrying the burden for shortfalls in staffing and systems of care at hospitals, note the study authors. In the 844 returned surveys, resident job satisfaction did not correlate with age, sex, or postgraduate year. Scut

work (such as expediting operating room cleanup for the next patients and putting in peripheral intravenous lines) and excessive erroneous/unnecessary paging on services diminished resident satisfaction.

Resident educators are working hard to shift the focus from residents as employees to residents as students. The study findings suggest that for this shift to occur, hospitals will need more effective/efficient systems and

continued on page 4

Job satisfaction

continued from page 3

staffing to relieve residents of the clinical care burden. Addressing systems, staffing, and attending physician issues that diminish resident satisfaction can increase

the attractiveness of surgical residencies to medical students, conclude the researchers. The study was supported by the Agency for Healthcare Research and Quality (HS12029).

More details are in “Surgery resident working conditions and job satisfaction,” by Daniel L. Davenport, Ph.D., William G. Henderson, Ph.D., Shomari Hogan, M.D., and others, in the August 2008 *Surgery* 144, pp. 332-338. ■

Prescribing errors are the most common medication errors in primary care practices

Most of the medication errors in primary care practices are prescribing errors, and more than half of these errors reach patients, concludes a new study. Electronic tools are necessary to reduce the rate of errors and subsequent harm (adverse drug events or ADEs) to patients, suggest the study authors. Studies of medication errors have typically been conducted in hospitals, rather than in primary care settings. To understand the nature of medication errors in primary care settings, the American Academy of Family Physicians (AAFP) Research Network and the AAFP Robert Graham Policy Center looked at medication error reports from two studies conducted in the network.

The researchers combined reports of medication errors from a 20-week medical error study involving 42 family physicians at 42 practices with those from a 10-week study involving 401 clinicians and staff from 10 diverse family medicine offices. Of a total of 1,265 medical errors reported, 194 reports concerned errors in medication. Seventy percent of the medication error reports involved prescribing errors, 10 percent each involved medication administration or documentation errors, 7 percent involved errors in dispensing drugs, and 3 percent involved medication monitoring errors. In 41 percent of the reports, the errors were prevented

and did not reach the patients, while 59 percent reached the patient 35 percent did not require monitoring. Monitoring was required in 8 percent of the reports, intervention in 13 percent, and hospitalization of affected patients in 3 percent). Although 16 percent of the medication errors were ADEs, none of the errors resulted in permanent harm or a patient's death.

Pharmacists were most likely to prevent the errors from reaching the patients (40 percent of intercepted medication errors), while physicians and patients were almost equally likely to intercept the medication error (19 percent and 17 percent of intercepted errors, respectively). The researchers determined that more widespread use of health care information technology, such as electronic medical records or computer physician order entry systems, could have prevented as many as 57 percent of the medication errors. The study was funded in part by the Agency for Healthcare Research and Quality (HS11584 and HS14552).

More details are in “Medication errors reported by US family physicians and their office staff,” by Grace M. Kuo, Pharm.D., M.P.H., Robert L. Phillips, M.D., M.S.P.H., Deborah Graham, M.S.P.H., and John M. Hickner, M.D., M.Sc., in *Quality and Safety in Health Care* 17, pp. 286–290, 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/>.

Multiple approaches are needed to reduce hospital prescribing errors

A new study found a link between use of grand rounds, an interactive presentation for hospital staff, reminders that targeted 20 safe prescribing behaviors, and modest improvement in the quality of medication orders written by hospital surgical staff. Such training may need to be started in medical school and augmented and reinforced throughout residency, recommend the study authors. They identified prescribing errors in handwritten medication orders written by hospital staff both before and after the intervention in order to evaluate the intervention's impact on these errors.

Prior to the intervention, prescribing errors were more

common among surgical hospital staff than medical house staff (1.08 vs. 0.76 errors per order). Only 1 percent of orders contained an overt error, but 49 percent were incomplete, 27 percent contained dangerous dose and frequency abbreviations, and 17 percent were illegible. After the intervention, the mean number of prescribing errors per order decreased for surgical house staff from 1.08 to 0.85, with a more marked effect for house staff who attended the didactic portion of the intervention.

In addition, significant errors per order decreased from a mean of 0.65 to 0.45. The proportion of orders that were incomplete, illegible, or contained an overt error

also declined substantially.

However, prescribing errors per order increased in orders written by medical house staff from 0.76 to 0.98. The study was supported by the Agency for Healthcare Research and Quality (HS11898).

See "Reducing medication prescribing errors in a teaching hospital," by Jane Garbutt, M.B., Ch.B., Paul E. Milligan, R.Ph., Candace McNaughton, M.D., and others, in the September 2008 *Joint Commission Journal on Quality and Patient Safety* 34(9), pp. 528-536. ■

Veterans Administration hospitals have a generally positive safety climate, but there is room for improvement

Veterans Administration (VA) hospitals have a positive safety climate, but there is room for improvement, concludes a new study. A team of researchers surveyed all senior managers and physicians and a 10 percent random sample of other employees at 30 VA hospitals over a 6-month period about the safety climate in their hospitals. They also surveyed all employees working in high-hazard units (HHUs) at 10 randomly selected VA hospitals.

A lower percentage of responses to questions about safety issues considered problematic indicated a better safety climate. Overall, 83 percent of responses did not indicate safety concerns, suggesting a generally positive safety climate.

The percentage of problematic responses ranged from 12 to 23.7 across hospitals (mean of 17.5 percent). Ten percent or more survey respondents considered 34 out of 42 safety issues problematic, and 25 percent or more considered 10 safety issues to be problematic.

Half of survey respondents indicated that their workgroups did not recognize individual safety achievement through rewards, nor were they rewarded for timely action to identify a serious mistake. Workgroups in the emergency departments, intensive care units, and operating rooms/postanesthesia care units cited the most problematic safety areas. On average, senior managers considered fewer issues to be safety

problems than others (9.8 vs. 18.3 percent). On 5 of the 11 scales, workers who were not senior managers, including frontline staff in direct contact with patients (and with the most exposure to potential safety issues), had significantly more problematic responses than senior managers, whose work is by nature removed from the direct patient care environment. The study was supported in part by the Agency for Healthcare Research and Quality (HS13920).

See "An overview of patient safety climate in the VA," by Christine W. Hartmann, Ph.D., Amy K. Rosen, Ph.D., Mark Meterko, Ph.D., and others, in the August 2008 *HSR: Health Services Research* 43(4), pp. 1263-1284. ■

Leadership support and fair work distribution keep morale high during quality improvement initiatives

Quality improvement (QI) projects at health care settings usually benefit patients' health but can create burdens for staff charged with performing and documenting new tasks. A new study finds that centers that undertake QI initiatives can take steps to improve staff morale and reduce burnout. Researchers from the National Opinion Research Center, the University of Chicago, and the Midwest Clinicians' Network received surveys from 118 team leaders and 504 team members at 145 community health centers in the Midwest that were participating in the nationwide Health Disparities Collaboratives in 2004. The collaboratives aim to improve health outcomes for patients with chronic conditions, such as diabetes, asthma, depression, and cardiovascular disease. They do this by having staff attend regular education sessions, maintaining information systems, and monitoring patients' progress.

These additional QI duties can lead to staff burnout and turnover. Fewer than half of those who responded agreed that the centers had enough funding or staff to

run the collaborative, and a third responded that the centers had not allocated paid time for staff to enter data, maintain the registry, and perform QI interventions.

However morale increased with sufficient staffing, leadership, and provider support, and fair task distribution. Staff member morale was also high when they believed the skills they developed during their work with the collaborative would lead to career promotion. The authors suggest that leaders who wish to undertake QI projects should structure tasks to stress how employees benefit by participating. This study was funded in part by the Agency for Healthcare Research and Quality (HS10479 and HS13635).

See "Predicting changes in staff morale and burnout at Community Health Centers participating in the Health Disparities Collaboratives," by Jessica E. Graber, Ph.D., Elbert S. Huang, M.D., M.P.H., Melinda L. Drum, Ph.D., and others in the August 2008 *Health Services Research* 43(4), pp. 1403-1423. ■

Child/Adolescent Health

Children receive ear tubes more frequently than clinical guidelines and experts recommend

Otitis media, or middle ear inflammation, is the most common childhood ailment. Treatments are straightforward: watchful waiting, antibiotics, and surgery (tympanostomy tube insertion) as a last resort. A new study shows that many children who undergo this surgery do not meet criteria for receiving ear tubes: they generally did not have recurrent ear infections with fluid in both ears for 3 or more months, and had no hearing loss.

Researchers at New York's Mount Sinai School of Medicine convened an expert panel to develop criteria on the appropriateness of tympanostomy tube insertions for the treatment of otitis media. The investigators

reviewed the cases of 682 children who had ear tubes inserted surgically in five metropolitan New York hospitals in 2002 and compared the clinical characteristics of the patients to the panel recommendations. The expert panel criteria deemed just 7 percent (48 cases) of the surgeries as appropriate, and nearly 70 percent (475 cases) as inappropriate. When the 1994 national clinical guidelines were compared to the clinical characteristics of children, the authors found 7.5 percent of the tubes insertions met guideline criteria, and nearly 93 percent did not.

The authors state that this widespread deviation from guidelines suggests ear tube

insertion is overused and performed too quickly, exposing children to risk and using resources that could be otherwise spent improving children's health. However, if ear tubes do indeed improve children's quality of life and assist in language development in the short term, the guidelines' current focus on the long-term implications may need a second look.

Current national guidelines only focus on otitis media with effusion. There are no available national guidelines on the surgical treatment of acute otitis media. The expert panel also developed new criteria for when ear tubes are appropriate for acute otitis media. Generally, use of tympanostomy for this

continued on page 7

Ear tubes

continued from page 6

indication was deemed appropriate after short term or long term antibiotic prophylaxis failed for patients with a high frequency of infection. However, the authors caution that prophylactic antibiotics

are used less often now due to concerns about antibiotic resistance. This study was funded in part by the Agency for Healthcare Research and Quality (HS10302).

See “Overuse of tympanostomy tubes in New York metropolitan area: Evidence from five hospital

cohort,” by Salomeh Keyhani, M.D., M.P.H., Lawrence C. Kleinman, M.D., M.P.H., Michael Rothschild, M.D., and others in the October 3, 2008 *British Medical Journal* 337, pp. a1607, available at http://www.bmj.com/cgi/content/full/337/oct03_1/a1607. ■

Minority children with asthma frequently use emergency departments for care

Researchers have relied on Medicaid data to make the case that black and Hispanic children who come from low-income families receive care for their asthma from emergency departments (EDs) more often than white children from higher income families. A new study using national Medical Expenditure Panel Survey (MEPS) data reached the same conclusion. Gail M. Kieckhefer, Ph.D., A.R.N.P., of the University of Washington, and colleagues analyzed 1996 to 2000 MEPS data for 982 children with asthma to see if the data correspond with Medicaid data. MEPS is an ongoing, national survey that provides data on the U.S. population's health service use and expenditures and insurance coverage.

The researchers found that black and Hispanic children received asthma care in EDs more often than white children. This was consistent with earlier studies. The authors suggest that ED visits may occur because these children may lack a usual source of care or asthma management strategies at home for when an attack occurs. Improving care access and offering programs to teach caregivers skills to manage asthma may reduce ED visits.

In contrast to earlier findings, the authors did not find differences in filled prescriptions by race or ethnicity. However, children in low-income families (below 200 percent of the poverty level) had fewer health checkups and used more ED care than higher income families. Not surprisingly, children with health insurance were more likely to use health services than children who had no coverage. The authors suggest that some children from low-income families may not qualify for public insurance and go without care. The authors recommend that the Federal government support public health insurance programs, like the State Children's Health Insurance Program, to ensure children's asthma is managed via office visits, checkups, and prescription medicine. This study was funded in part by the Agency for Healthcare Research and Quality (HS13110).

See “Health care utilization by children with asthma,” by Hyoshin Kim, Ph.D., Dr. Kieckhefer, April A. Greek, Ph.D., and others in the January 2009 *Preventing Chronic Disease: Public Health Research, Practice and Policy* 6(1), pp. 1-11. ■

Adolescent females who are overweight have higher health expenditures than adolescent males who are overweight

Many overweight children and adolescents suffer similar health problems as overweight adults, including Type 2 diabetes and sleep apnea. Half of these younger children and teens will go on to become overweight adults. Focusing on adolescents, Agency for Healthcare Research and Quality researcher Jessica P. Vistnes, Ph.D., and colleagues, Alan C. Monheit,

Ph.D., M.A., and Jeannette A. Rogowski, Ph.D., used 2001-2003 Medical Expenditure Panel Survey data for 3,463 males and 3,275 females to examine whether overweight adolescents (ages 12-19) incur greater health care expenditures than adolescents of normal weight. Fourteen percent of adolescents in their sample were overweight, which was measured by body mass index.

Males who were overweight or at risk of becoming overweight did not have higher health care expenditures compared with males with normal bodyweights. However, females who were overweight had predicted annual health expenditures of \$2,101 compared with \$1,311 for females of normal body weight, a difference of \$790. Females at risk of becoming

continued on page 8

Overweight children

continued from page 7

overweight had predicted expenditures of \$1,778, a difference of \$467.

Among those incurring health expenditures, the researchers found that, in addition to having slightly higher rates of diabetes and high blood pressure, 18.7 percent of overweight female adolescents had mental health conditions compared with 12 percent of normal weight females. Further, overweight females had annual mental health

expenditures that were \$208 more than normal weight female adolescents, and those who were at risk of being overweight had \$286 in additional mental health expenditures. The authors caution that being overweight may not be the reason these female teens seek mental health treatment, arguing that some conditions, such as depression and associated drug therapies, could cause adolescent teens to become overweight.

These findings should also not be interpreted to mean that campaigns to decrease the number

of overweight adolescents should be targeted solely at females, the authors suggest. Both males and females can benefit from learning good health habits that they can take into adulthood.

See "Overweight in adolescents: Implications for health expenditures," by Drs. Monheit, Vistnes, and Rogowski in the August 2008 *Economics and Human Biology* (e-pub ahead of print). Reprints (AHRQ Publication No. 09-R009) are available from AHRQ.* ■

Women's Health

Older black women do not receive chemotherapy as often as white women after ovarian cancer surgery

Clinical guidelines have recommended since 1994 that all women diagnosed with ovarian cancer at stage IC-IV or higher receive chemotherapy following surgery to remove the cancer. However, a new study by University of Texas researchers finds that older black women with stage IC-IV or more advanced ovarian cancer are not as likely as older white women to receive both surgery and chemotherapy. Yet, both groups of women die at the same rates of this deadly cancer.

For ovarian cancer, a stage IC classification means the cancer is contained to one or both ovaries but is showing early signs of spreading. The higher the classification (e.g., stage III or IV), the more advanced the disease is. Ovarian cancer is commonly diagnosed at a more advanced stage because no screening test for it exists.

The researchers linked 11 years of Surveillance, Epidemiology and End Results data with Medicare data for 4,264 white and black women age 65 or older who were diagnosed with stage IC-IV ovarian cancer. Just over 50 percent of the black women received chemotherapy after surgery compared with nearly 65 percent of the white women. The survival

rates did not differ between the two groups of women.

The women's socioeconomic status (SES) affected their access to both surgery and chemotherapy. Women with higher SES had increased use of both surgery and chemotherapy compared with women with lower SES. The authors state that about 35 percent of women are missing out on improved chances of surviving ovarian cancer because they are not receiving the combined benefit of surgery and chemotherapy. Women with the lowest quartile of SES were more likely to die than those with the highest quartile of SES. The authors recommend that all eligible patients receive both surgery and chemotherapy, regardless of their race, SES, or age. This study was funded in part by the Agency for Healthcare Research and Quality (HS16743).

See "Ethnic differences in socioeconomic status, diagnosis, treatment, and survival among older women with epithelial ovarian cancer," by Xianglin L. Du, M.D., Ph.D., Charlotte C. Sun, Dr.P.H., M.P.H., Michael R. Milam, M.D., M.P.H., and others in the July/August 2008 *International Journal of Gynecologic Cancer* 18(4), pp. 660-669. ■

Many older women prefer to have annual Pap tests

In the recent past, most physicians required women over 30 to have three consecutive normal Papanicolaou (Pap) tests annually before they would allow them to undergo cervical cancer screening at less frequent intervals. However, because a test for the human papillomavirus (HPV), which can cause cervical cancer, has been available since 1999, some organizations have changed their screening guidelines to allow women over 30 to be tested for cervical cancer every 3 years if they have both a negative HPV test and a normal Pap test.

Researchers at the University of California, San Francisco, interviewed 865 white, Latina, black, and Asian women aged 50 to 80 in San Francisco regarding their preferences for cervical cancer screening. A third of the women had heard of HPV, which has been featured frequently in the media in

recent years. Sixty-four percent of the women said they would want to be tested for HPV if the test were available, and an additional 17 said they would want to be tested if their physician recommended it. Of these women, more than 90 percent said they would want to have Pap tests more often than once a year if their HPV test were positive. More than half of women younger than 65 were willing to have Pap tests every three years if they had negative HPV tests and normal Pap tests, and half the women over 65 were willing to stop having Pap tests altogether after a negative HPV test and normal Pap test. The authors suggest these results indicate a large proportion of women are interested in using HPV tests to determine how often they should be screened for cervical cancer.

However, nearly half the women over 65 indicated they would want to continue having annual Pap tests,

even if their HPV tests were negative. This desire for continued testing runs contrary to the U.S. Preventive Services Task Force recommendation that once women reach 65, routine screening for cervical cancer can stop. Also, a third of women under 65 said they would still want annual Pap tests, even if their HPV tests were negative. This study was funded in part by the Agency for Healthcare Research and Quality (HS10856).

See "Preferences for human papillomavirus testing with routine cervical cancer screening in diverse older women," by Alison J. Huang, M.D., M.Phil., Eliseo J. Pérez-Stable, M.D., Sue E. Kim, Ph.D., George Sawaya, M.D., and others in the October 28, 2008 *Journal of General Internal Medicine* 23(9), pp. 1324-1329. ■

Men's Health

More intensive prostate cancer screening and treatment is not linked with fewer prostate cancer deaths

Early in the prostate-specific antigen (PSA) screening era for prostate cancer (1987 to 1990), men in the Seattle area were screened and treated for prostate cancer more intensively than men in Connecticut. Yet, this intensive approach did not translate into fewer deaths from prostate cancer 15 years later, according to a new study. Until results of randomized trials become available, shared decisionmaking regarding PSA screening should continue between clinicians and patients, recommend the study authors.

The authors examined rates of prostate cancer screening; treatment with radical prostatectomy, external beam radiotherapy, and androgen deprivation therapy; and prostate cancer-specific mortality among Medicare-insured men ages 65-79 from Seattle and Connecticut. Men in both areas had similar prostate cancer mortality rates prior to introduction of the PSA test.

The 15-year cumulative incidences of radical prostatectomy and radiotherapy through 2001 were 2.84 and 6.02 percent, respectively, for Seattle men compared to 0.56 and 5.07 percent for Connecticut men. The cumulative incidence of androgen deprivation therapy from 1991-2001 was 4.78 percent for Seattle men compared to 6.13 percent for Connecticut men. The rate of prostate cancer mortality through 2001 was equal, after adjustment for other factors. The study was supported by the Agency for Healthcare Research and Quality (HS08397 and HS10278).

More details are in "Screening, treatment, and prostate cancer mortality in the Seattle area and Connecticut: Fifteen-year follow-up," by Grace Lu-Yao, Ph.D., Peter C. Albertsen, M.D., Janet L. Stanford, Ph.D., and others, in the November 2008 *Journal of General Internal Medicine* 23(11), pp. 1809-1814. ■

Neither family history nor perceived risk of prostate cancer affects men's screening or preventive behaviors

A disproportionate number of black men are already symptomatic by the time they are diagnosed with prostate cancer compared with white men. This disparity does not arise from less preventive actions due to inaccurate risk perceptions, but rather, it may be due to disparity in access to a regular physician and physician trust. This disparity ultimately leads fewer black men to seek prostate care or screenings, suggest the authors of a new study. The researchers found that among men newly diagnosed with prostate cancer, black men with a family history of the disease were less likely than similar white men to appreciate their increased risk. Yet, neither reporting a family history of prostate cancer nor perceived

increased risk significantly predicted screening or preventive behaviors among black or white men studied in North Carolina.

Instead, more trust in one's physician predicted increased likelihood of having regular prostate exams and screening. This suggests that racial differences in seeking prostate care may be mediated through physician trust, note the study authors. Also, expressed personal responsibility for screening and more frequent preventive behaviors were associated with more frequent screening diagnoses, fewer symptomatic diagnoses, and less frequent advanced cancers.

Together, these findings indicate that men's appreciation of their greater risk for prostate cancer is

not sufficient to ensure that men will take appropriate action. The findings were based a survey of North Carolina black and white men newly diagnosed with prostate cancer, which asked them about their family history and perceived risk of the disease, as well as use of various screening and preventive behaviors. The study was supported in part by the Agency for Healthcare Research and Quality (HS10861).

See "Perceived family history risk and symptomatic diagnosis of prostate cancer," by Pamela Spain, Ph.D., William R. Carpenter, M.H.A., Ph.D., James A. Talcott, M.D., S.M., and others, in the October 15, 2008 *Cancer* 113, pp. 2180-2187. ■

Elderly/Long-Term Care

Older white men are most likely to be diagnosed with mantle cell lymphoma

Mantle cell lymphoma (MCL) is a type of non-Hodgkins lymphoma (NHL) and accounts for 6 percent of all NHLs. This incurable, aggressive cancer is found in lymph nodes above and below the diaphragm and attacks the gastrointestinal tract and bone marrow. MCL typically does not cause symptoms until it has progressed, so it is usually found at Stage IV. Doctors treat it with chemotherapy, after which it usually grows. The median survival time is just 3 years.

Researchers at the University of Texas M.D. Anderson Cancer Center used 1992 to 2004 data from the Surveillance, Epidemiology, and End Results (SEER) Tumor registry to report MCL incidence trends by race, gender, age, and geographic areas. In a sample of 2,459 patients, the authors found an upswing in incidence for white men over 50. The highest age-adjusted incidence rate was for those aged 70 to 79. The greatest gain in incidence rates was seen in patients with stage III and IV disease, which accounted for nearly three quarters of MCL patients. The author suggests this

finding indicates MCL early diagnosis is a challenge for the medical community.

In 2004, men contracted MCL two times more than women. Whites (.61) had the highest age-adjusted incidence compared with blacks (.32) and other ethnicities (.27). For the 13 SEER geographic regions, Seattle (.67), Iowa (.64), and Utah (.63) had the highest age-adjusted incidence rates; Alaska (.10) had the lowest.

Because study data ended at 2004, the authors do not consider the new, effective biologic treatments for MCL that have been tested and approved since then. They suggest that further studies using 2004 to 2007 data may be needed to get a more current picture of incidence rates. This study was funded in part by the Agency for Healthcare Research and Quality (HS16743).

See "Incidence trends of mantle cell lymphoma in the United States between 1992 and 2004," by Yuhong Zhou, M.D., Haijun Wang, M.D., Ph.D., Wenjing Fang, M.D., and others in the August 15, 2008 *Cancer* 113(4), pp. 791-798. ■

Adding more staff may be a necessary, but insufficient, way to improve nursing home quality

Adding more staff is necessary for improving nursing home quality, but not sufficient. Some accounting for use of agency staff, staff stability, and professional staff mix is also needed, suggests a new study. To get a better picture of the impact of staffing on nursing home quality of care, Nicholas G. Castle, Ph.D., of the University of Pittsburgh, and John Engberg, Ph.D., of the RAND Corporation, examined survey data from 6,005 nursing home administrators, the online Nursing Home Compare Web site, and other data sources to identify staffing characteristics, care quality

indicators, and facility and market information for 2004.

Staffing levels alone were weakly associated with the quality measures examined. However, more fully specified models that included agency staff (temporary workers hired by the facility), stability (number of staff who have worked at the facility for 5 or more years), and professional staff mix (ratio of registered nurses or RNs to other caregivers) did link staffing levels with the quality measures.

Thus, mandated minimum staffing levels by some States may not address the quality-of-care

problem. A better approach might be to specify minimum ratios of RNs (some states already do this) and maximum levels of agency staff. Also, staff stability could be improved by improving job satisfaction of caregivers, suggest the researchers. Their study was supported in part by the Agency for Healthcare Research and Quality (HS16808).

See "Further examination of the influence of caregiver staffing levels on nursing home quality," by Drs. Castle and Engberg, in the August 2008 *Gerontologist* 48(4), pp. 464-476. ■

Retaining home care nurses depends on their job tenure and job satisfaction

The current nurse shortage will continue into the next decade, and by 2020, nearly 1 in 10 nurses will be needed for home health care. This is due to the growth in the aging population, consumer preferences, and technological advances that will allow increasingly complex care to be provided in homes. Retention of home care nurses will depend on their job tenure and job satisfaction, concludes a new study. Carol Hall Ellenbecker, R.N., Ph.D., and University of Massachusetts colleagues surveyed home health care nurses in six New England States about their job satisfaction.

Most of the nurses were satisfied with their jobs—relationships with patients and peers, professional pride, and autonomy and independence in their jobs. They

were somewhat satisfied with their relationships with physicians and the organization, but there was great variability. On average, nurses were least satisfied with their job stress and workload and the salary and benefits they received.

More than 69 percent agreed that they had no plans to leave their jobs; 14 percent of them did leave their jobs within a year of initial data collection.

Over 50 percent of the nurses who left their job cited dissatisfaction as their primary reason for leaving, which was primarily due to overwhelming and stressful job demands followed by poor relationships with administrators. Retention was most affected by job tenure, closely followed by job satisfaction, intent to stay, living arrangement,

retirement plan, position of direct patient care, nonprofit agency, and area wages. Job satisfaction was most affected by a direct patient-care position, paid time off benefits, opportunity of other jobs, agency size, and a retirement plan. Many of these factors are amenable to administrative intervention, note the researchers. Their study was supported by the Agency for Healthcare Research and Quality (HS13477).

See "Predictors of home healthcare nurse retention," by Dr. Ellenbecker, Frank W. Porell, Ph.D., Linda Samia, R.N., M.S.N., C.N.A.A., Ph.D. and others, in the Second Quarter 2008 *Journal of Nursing Scholarship* 40(2), pp. 151-160. ■

The Web-based Nursing Home Compare report card improves nursing home quality, but not across the board

The Center for Medicare and Medicaid Services (CMS) published the first Nursing Home Compare Web-based report card in November of 2002. These report cards grade nursing homes on various dimensions of care, which consumers can consider in their selection of nursing homes. This should provide incentives to nursing homes to improve the quality of care they provide. However, a new study of a national sample of nursing homes found that the Nursing Home Compare report card was associated with improvement in some, but not all, of the five quality measures studied. This suggests that report cards may motivate providers to improve quality, but it also raises questions as to why it was not effective across the board, note Dana B. Mukamel, Ph.D., of the University of California, Irvine and William D. Spector, Ph.D., of the Agency for Healthcare Research and Quality.

Drs. Spector, Mukamel, and coinvestigators merged data from the Minimum Data Set, which provides information for nursing home residents with survey data for 701 nursing homes. These data allowed them to examine changes in outcome-based quality measures, comparing the period before and after publication of the report card, in relation to 20 specific actions undertaken by these nursing homes in response to publication of the report card. Two of the five Nursing Home Compare

published quality measure scores—percentage of residents who are physically restrained daily, and percentage of residents who suffer moderate pain daily or excruciating pain ever—declined by about 10 percent, a noticeable improvement.

The percentage of residents with pressure ulcers and the percentage of residents who lost the ability to carry out activities of daily living or developed new infections showed no similar changes following publishing of the report card. The authors note that 1 year may not provide sufficient lead time for demonstrable change. The fact that not all actions led to improvement may reflect lack of knowledge among nursing homes as to what actions might be most effective. This suggests that publication of quality report cards should be accompanied by educational efforts to help nursing homes identify the best ways to improve care.

See “Publication of quality report cards and trends in reported quality measures in nursing homes,” by Dana B. Mukamel, Ph.D., David L. Weimer, Ph.D., William Spector, Ph.D., Heather Ladd, and Jacqueline Zinn, Ph.D., in the August 2008 *HSR: Health Services Research* 43(4), pp. 1244-1262. Reprints (AHRQ Publication No. 09-R014) are available from AHRQ.* ■

Preventive Care

A multicomponent implementation strategy increases the use of care processes associated with higher rates of preventive services

Studies have shown that performance feedback and benchmarking alone have been relatively ineffective in improving delivery of preventive care by primary care physicians. A recent study by James W. Mold, M.D., and a team of researchers from the University of Oklahoma found that a multicomponent quality improvement strategy increased the use of standing orders, recall and reminder systems, and wellness visits more than a control strategy using only performance feedback and benchmarking. The study compared the impact of the 2-part strategy with

a broader strategy that included performance feedback, benchmarking, academic detailing, a practice facilitator, and information technology support on implementation of three processes of care previously shown to be associated with higher rates of delivery of preventive services. The latter included DTaP4, measles/mumps/ rubella, and hepatitis-B#3 vaccines for 2- to 3-year-old children, and pneumonia vaccination, colorectal cancer screening, and mammography for 50 to 75-year-old adults.

Academic detailing consisted of one-on-one education of clinicians and key office staff about the three evidence-based preventive service delivery methods. Practice facilitators organized staff meetings, facilitated incremental improvements, trained staff, and audited patient charts to identify areas for improvement. Assistance, in information technology consisted of implementation of software to remind clinicians and staff in real time of a patient's need for preventive services.

continued on page 13

Preventive services

continued from page 12

Practices receiving the multicomponent intervention increased the number of evidence-based preventive service delivery strategies employed for both adults and children compared with control practices. As a general measure of improvements in processes of care associated with the interventions, the researchers also used a modified form of the Assessment of Chronic Illness Care (ACIC) survey

instrument. The ACIC survey gave a higher score for improvement (0.77) to the practices receiving all five interventions, compared with 0.49 for the control group practices. All preventive services (except colorectal cancer) screening increased more among the intervention group than the control group, but mammography was the only preventive service to show a statistically significant increase. Neither clinician nor practice characteristics affected the measured outcomes. This study was

supported by the Agency for Healthcare Policy and Research (HS14850).

See "Implementation of evidence-based preventive services delivery processes in primary care: An Oklahoma physicians resource/research network (OKPRN) study," by Dr. Mold, Cheryl A. Aspy, Ph.D., and Zsolt Nagykaladi, Ph.D. in the July-August 2008 *Journal of the American Board of Family Medicine* 21(4), pp. 334-344. ■

Women and blacks are less likely to receive preventive care to prevent further strokes

A third of stroke survivors suffer another stroke within 5 years. There are several measures clinicians can take to reduce the risk of another stroke in these patients, but women and blacks are less likely to receive them, according to a new study. This is a problem especially for blacks who, along with Hispanics, are at greater risk for recurrent stroke than whites. The researchers examined the patient charts of stroke victims at four urban hospitals for completeness of diagnostic evaluation, discharge treatment regimen, and antihypertensive, lipid-lowering and antithrombotic medication use (to prevent blood clots that can cause strokes) at 6 months after hospital discharge.

Of the 501 patients hospitalized for acute ischemic stroke, nearly all of them received electrocardiograms and brain imaging, 75 percent had carotid artery evaluations, and 70 percent had serum lipid levels tested. Overall, 54 percent of whites, 62 percent of Hispanics, and 77 percent of blacks received incomplete inpatient evaluations. Similarly, 54 percent of men, but 66 percent of women had incomplete inpatient evaluations. In addition, 40 percent of whites

and 43 percent of Hispanics, but 59 percent of blacks received inadequate discharge regimens of anticoagulant, antihypertensive, and lipid-lowering medications. Also, 33 percent of whites and 37 percent of Hispanics, but only 18 percent of blacks received adequate outpatient follow-up. Six months after their initial stroke, blacks (81.6 percent) were more likely to have received insufficient preventive measures than Hispanics (62.5 percent) or whites (66.7 percent). Women were more likely to receive incomplete in-hospital evaluations as well as discharge regimens. Improving delivery of these effective interventions will reduce recurrent stroke risk and may reduce stroke risk disparities among minorities, conclude the researchers. Their study was supported in part by the Agency for Healthcare Research and Quality (HS10859).

See "The association of race and sex with the underuse of stroke prevention measures," by Stanley Tuhim, M.D., Alice Cooperman, M.P.H., Mary Rojas, Ph.D., and others, in the July-August 2008 *Journal of Stroke and Cerebrovascular Diseases* 17(4), pp. 226-234. ■

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.

Chronic Disease

Social support did not yield better health results in study of patients with diabetes

Patients with chronic conditions like diabetes often reap health benefits from intense interventions, such as weekly telephone calls, regular meetings, and group sessions with nutritionists or patient educators. However, these interventions can be costly undertakings for primary care practices. Kevin A. Pearce, M.D., from the University of Kentucky College of Medicine, and colleagues developed a less-intense Cardiovascular Risk Education and Social Support (CaRESS) intervention for patients with type 2 diabetes, for whom cardiovascular disease (CVD) causes two-thirds of all deaths. CaRESS enlisted a support person (SP) of the patient's choosing to partner in his or her care. The SP's job was to accompany the patient to a patient education session and two office visits and receive the same four

quarterly newsletters as the patient. The control group received the patient education session and newsletters, but had no SP.

A total of 199 patients and 108 SPs from 18 practices in the Kentucky Ambulatory Network enrolled in the study. During the study period, blood pressure and cholesterol levels (two key risk factors for CVD) fell in both the control and intervention groups. Neither group had significant differences for blood glucose levels or measures of health-related quality of life. Both groups reported slight improvements in satisfaction with their primary care physician, but declines in satisfaction with their overall health care.

The authors suggest that the presence of an SP coupled with one patient education session and regular newsletters may not have

been aggressive enough to foster improved health behaviors. Further, because participants' average beginning systolic blood pressure and cholesterol levels were not very high (140 mm Hg and 137 mg/dL, respectively), physicians did not motivate patients to reduce these CVD risk factors. This study was funded in part by the Agency for Healthcare Research and Quality (HS10887).

See "Cardiovascular Risk Education and Social Support (CaRESS): Report of a randomized controlled trial from the Kentucky Ambulatory Network (KAN)," by Dr. Pearce, Margaret M. Love, Ph.D., Brent J. Shelton, Ph.D., and others in the July-August 2008 *Journal of the American Board of Family Medicine* 21(4), pp. 269-281. ■

Telephone coaching following hospitalization for acute coronary syndrome adds little to in-hospital counseling

Individuals who received telephone coaching for 3 months after being hospitalized for acute coronary syndrome (severe chest pain or heart attack) were 1.5 times more likely to engage in exercise for those 3 months, even though that declined once the telephone counseling ended. However, there was no significant difference between the counseled and noncounseled groups in medication use, odds of smoking cessation, and participation in weight loss efforts 3 and 8 months after hospital discharge, and no difference in functional status or quality of life 8 months after discharge.

One reason may be that the telephone counseling came on top of an ongoing quality improvement (QI) program in which patients consistently received standard in-hospital counseling, which appeared to be effective. The QI protocol required in-hospital

counseling and a discharge patient contract that provided the patient with numerical values for cardiac ejection fraction (indicative of the pumping power of the heart) and cholesterol, and that made recommendations for medications and lifestyle changes.

In hospitals that do not have QI protocols, telephone counseling may act as a reminder to a patient to raise these issues with a clinician, notes Margaret Holmes-Rovner, Ph.D., of Michigan State University. Her group randomized patients hospitalized for acute coronary syndrome to an in-hospital QI program only, versus QI plus six sessions of telephone-based counseling for 3 months after hospital discharge to improve lifestyle

continued on page 15

Telephone coaching

continued from page 14

behaviors and medication use. The study was supported in part by the Agency for Healthcare Research and Quality (HS10531).

See “Does outpatient telephone coaching add to hospital quality improvement following hospitalization for acute coronary syndrome?” by Dr. Holmes-Rovner, Manfred Stommel, Ph.D., William D. Corser, Ph.D., R.N., and others, in the September 2008 *Journal of General Internal Medicine* 23(9), pp. 1464-1470. ■

Mental Health

Most office-based psychiatrists are providing medication rather than psychotherapy to their patients

The use of psychotherapy has declined markedly among U.S. office-based psychiatrists, reveals a new study. For instance, the percentage of visits to psychiatrists that included psychotherapy dropped from 44.4 percent during 1996-1997 to 28.9 percent in 2004-2005. Similarly, the number of psychiatrists who provided psychotherapy to all of their patients fell by nearly half from 19.1 percent to 10.8 percent during that time. The researchers attribute the decline in psychotherapy to a drop in the number of psychiatrists specializing in psychotherapy and a corresponding rise in those specializing in drug therapy. They note that these changes were likely sparked by reimbursement policies favoring brief medication management visits over

psychotherapy and the introduction of new psychotropic medications with fewer adverse effects in recent years.

These developments continue the shift toward the medicalization of psychiatric practice. The magnitude of financial disincentives for providing psychotherapy was highlighted by a Practice Research Network study documenting that third-party reimbursement for one 45- to 50-minute outpatient psychotherapy session is 41 percent less than reimbursement for three 15-minute medication management visits.

Consistent with these findings, the current study found that psychiatrists who provided psychotherapy to all of their patients relied more extensively on

self-pay patients, had fewer managed care visits, prescribed medications in fewer of their visits than psychiatrists who provided psychotherapy less often, and prescribed medications for only slightly more than half of their patients. A growing group of psychiatrists, in recent years, appeared not to deliver formal psychotherapy to patients. The study was supported in part by the Agency for Healthcare Research and Quality (HS16097).

More details are in “National trends in psychotherapy by office-based psychiatrists,” by Ramin Mojtabai, M.D., Ph.D., M.P.H., and Mark Olfson, M.D., M.P.H., in the August 2008 *Archives of General Psychiatry* 65(8), pp. 962-970. ■

Mental health counseling remains persistently low from adolescence into young adulthood

Mental health problems suffered by adolescents often persist into young adulthood. Young adults' mental health problems are compounded by the fact that they face a number of barriers to accessing medical care. For example, many lack the insurance coverage they may have previously had through their parents and many don't have job-related insurance. Not surprisingly, low rates of mental health counseling persist from adolescence to young adulthood, concludes a new study.

Researchers at the University of California-San Francisco analyzed data from a sample of 10,817 participants in the National Longitudinal Study of

Adolescent Health. The data included an initial survey in 1995 (mean age of 15.8 years) and followup survey 7 years later (mean age of 21.5 years). Among individuals suffering from depressive symptoms, young adults reported significantly lower rates of counseling use than adolescents. Female gender, high maternal education, school attendance, and receipt of routine physical exams were significantly predictive of counseling use among young adults.

Young black adults were significantly less likely to receive counseling than their white counterparts. Overall, 4 percent of young adults reported foregoing

continued on page 16

Mental health counseling

continued from page 15

mental health care in the past year, despite self-reported mental health needs. Commonly cited reasons ranged from inability to pay, belief that the problem would go away, and lack of time. Fear of what the doctor would say or do and belief that the doctor would be unable to help were more often mentioned by those who acknowledged a need for counseling services. Thus, reluctance to seek counseling stems not only from care

access problems, but also issues that are directly applicable to previous relationships with doctors. The study was supported in part by the Agency for Healthcare Research and Quality (T32 HS00086).

More details are in "Use of mental health counseling as adolescents become young adults," by Jennifer W. Yu, Sc.D., Sally H. Adams, R.N., Ph.D., Jane Burns, Ph.D., and others, in the September 2008 *Journal of Adolescent Health* 43, pp. 268-276. ■

Health Care Costs and Financing

Hospice costs vary across patients and within a hospice stay

Hospice care can improve symptom management and quality of life for patients at the end of life. A new study found that the most important driver of average total costs per day of hospice care was the duration of the stay, with costs declining after the third day, then rising again near the end of life due to often intense round-the-clock care. Also, average per-day costs of hospice care were lower for nursing home residents than for nonresidents, probably due to overlap of nursing home and hospice services. Hospice care was also higher for patients using general inpatient care during their hospice stay.

The study of patient-level cost data from a cancer hospital-associated hospice specifically found that average per-day costs were markedly higher for stays of 1

or 2 days than for longer stays. Per-day costs may be higher for the first days of the stay, because the care team is becoming acquainted with the needs and preferences of the patient and the patient's family and developing a care plan.

The results provide support for downward adjustment of Medicare per-diem reimbursement rates for nursing home patients receiving hospice care, note Joseph P. Newhouse, Ph.D., of Harvard Medical School, and colleagues. However, any downward adjustment needs to consider the possibility that hospices may suffer a financial loss if the State Medicaid program pays less than 100 percent of the Medicaid reimbursement level for room and board instead of the full rate, leaving hospices responsible for the difference. The results also provide support for paying a higher

Medicare reimbursement rate for the last days of hospice care. Finally, the authors suggest that Medicare investigate an outlier payment system for patients with particularly high-cost palliative care needs, such as cancer patients who need medications that can cost \$4,000 to \$5,000 a month. They call for a study of a more representative sample of hospices before making changes to the per diem system. The study was supported in part by the Agency for Healthcare Research and Quality (HS10803).

See "Variation in patients' hospice costs," by Haiden A. Huskamp, Ph.D., Dr. Newhouse, Jessica Cafarella Norcini, R.N., B.S.N., M.S., and Nancy L. Keating, M.D., M.P.H., in the Summer 2008 *Inquiry* 45, pp. 232-244. ■

The volume and charges for vertebroplasty performed in Medicare patients doubled from 2001 to 2005, but rates varied considerably by State

Each year up to 200,000 American women aged 50 years and older suffer a vertebral fracture, usually due to osteoporosis. The volumes, rates, and inflation-adjusted costs for vertebroplasty, a nonsurgical procedure to stabilize compressed vertebrae, doubled for Medicare fee-for-service patients from 2001 to 2005,

according to a new study. In vertebroplasty, the physician uses specialized imaging equipment to guide injection of surgical cement into the collapsed area of the spine in order to stabilize the vertebra and alleviate pain. Medicare-approved charges approximate direct medical costs from a societal perspective.

continued on page 17

Vertebroplasty

continued from page 16

Patients in Medicare fee-for-service plans received about twice as many vertebroplasties in 2005 as they had in 2001 (mean of 75 vs. 35.4/100,000). However, rates in individual States differed, and also increased to varying degrees, ranging from 0.0 to 515.6/100,000 in 2001 to 9.8 to 849.5/100,000 in 2005. Fluoroscopic, rather than computed tomography, guidance was used in 98.7 percent of cases overall. Although vertebroplasty was predominantly an outpatient procedure, inpatient cases generated most of the costs. While use of ambulatory surgery centers and physicians' offices was relatively uncommon, increasing volumes and costs for such procedures may mirror earlier trends in the growth of outpatient lumbar spine surgery identified using Healthcare Cost and Utilization Project data.

Costs for the procedure also rose, with inflation-adjusted nationwide direct medical costs for Medicare fee-for-service patients alone doubling from \$76 million in 2001 to \$154 million in 2005. Given the issues surrounding appropriate vertebroplasty use, future practice patterns, such as postprocedural monitoring after outpatient spinal procedures and outcomes for all patients, should be closely tracked, recommend Darryl T. Gray, M.D., Sc.D., of the Agency for Healthcare Research and Quality, and colleagues.

See "Costs and state-specific rates of thoracic and lumbar vertebroplasty, 2001-2005," by Dr. Gray, William Hollingworth, Ph.D., Nneka Onwudiwe, Pharm.D., and Jeffrey G. Jarvik, M.D., M.P.H., in *Spine* 33(17), pp. 1905-1912, 2008. Reprints (AHRQ Publication No. 09-R015) are available from AHRQ.* ■

Subsidies and education about the value of health insurance may help encourage the uninsured to enroll in health plans

Education about the value of health insurance and subsidies to assist with premium payments may encourage enrollment in health insurance plans, concludes a new study. Alan C. Monheit, Ph.D., of the University of Medicine and Dentistry of New Jersey, and Jessica Primoff Vistnes, Ph.D., of the Agency for Healthcare Research and Quality, used the 2001 Medical Expenditure Panel Survey to examine decisions by single workers to seek out and enroll in employer-sponsored insurance plans.

Single workers with weak or uncertain preferences for health insurance were less likely to have jobs that offered coverage or to enroll in coverage when it was offered compared with those with

strong tastes for health insurance. Those who weakly valued insurance included individuals who said that they were healthy enough not to need it, that it wasn't worth the money it cost, and/or that they could overcome illness without help from a medically trained person. These individuals were also more likely to take risks than the average person.

For example, individuals who considered themselves healthy enough that they didn't need coverage were 7 percent less likely to have a job with health insurance and 7 percent less likely to enroll in such coverage, compared with those who strongly valued health insurance. Some of these individuals may value wage

income with certainty over the uncertain yield of health insurance benefits, note the researchers. Changing attitudes toward the value of health insurance and providing subsidies might encourage the uninsured to take up insurance, suggest the researchers.

See "Health insurance enrollment decisions: Preferences for coverage, worker sorting, and insurance take-up," by Drs. Monheit and Vistnes, in the Summer 2008 *Inquiry* 45, pp. 153-167. Reprints (AHRQ Publication No. 09-R008) are available from AHRQ.* ■

Agency News and Notes

Hospitals' cost for the top six cardiovascular treatments is nearing \$60 billion

Treating heart attack victims, opening clogged arteries, and treating other common cardiovascular conditions cost U.S. hospitals \$57.9 billion in 2006—about 40 percent more than in 1997, according to data from the Agency for Healthcare Research and Quality (AHRQ). Most of this growth in costs, however, occurred between 1997 and 2003. Since 2003, annual growth in costs for these conditions has slowed to less than 2 percent—attributable to a slight decline in the number of heart disease cases and slower increases in the cost per case.

AHRQ's analysis, which adjusted cost figures for inflation, showed how much U.S. hospital costs increased between 1997 and 2006 for the following cardiovascular treatments:

- Hospital treatment of patients with coronary artery disease (hardening of the arteries) increased from \$14.5 billion in 1997 to \$17.5 billion in 2006 (a 2.1 percent annual increase).
- Costs for treating patients with heart attacks increased from \$9 billion to \$11.8 billion (a 3 percent annual increase).
- Costs for treating patients with congestive heart failure increased from \$6.6 billion to \$11.2 billion (a 6.1 percent annual increase).

- Costs for treating patients with irregular heart beats increased from \$3.5 billion to \$6.8 billion (a 7.7 percent annual increase).
- Costs for treating patients with stroke increased from \$5.3 billion to \$6.7 billion (a 2.6 percent annual increase).
- Costs for treating patients with chest pain with no determined cause increased from \$1.6 billion to \$3.9 billion. This condition increased more than any other of these heart-related conditions—increasing by about 10 percent annually from 1997 to 2006.
- Treatment for these conditions accounted for 17.6 percent of the \$329 billion hospitals spent on patient care in 2006—slightly lower than in 1997 when these conditions accounted for 18.7 percent of the \$216 billion spent.

For more information, see *HCUP Facts and Figures, 2006* (www.hcup-us.ahrq.gov) which highlights data from the 2006 Nationwide Inpatient Sample, a part of AHRQ's Healthcare Cost and Utilization Project. The report provides data on leading reasons for hospitalizations, on procedures performed on hospital patients and related topics. ■

Hospitalizations are declining for digestive system bleeding

Improved treatments for acid reflux disease, ulcers, arthritis, and other conditions helped reduce hospital admission rates for internal bleeding in the upper gastrointestinal tract by 14 percent from 1998 to 2006, according to data from the Agency for Healthcare Research and Quality (AHRQ).

The upper gastrointestinal tract (the GI tract) extends from the mouth to the duodenum, part of the small intestine. Bleeding in this area can be caused by ulcers, taking aspirin and other pain medicines,

and alcoholism. AHRQ's analysis showed:

- The hospitalization rate for upper GI bleeding declined from 96 cases per 100,000 people in 1998 (259,299 total cases) to 82 cases per 100,000 people in 2006 (246,297 cases). Potential reasons for the decline include increased use of medications that reduce gastric acid, such as proton pump inhibitors; antibiotic treatment of gastric ulcers caused by the *Helicobacter pylori* bacteria; and increased use of the newer COX-2 inhibitor medicines for arthritis or other pain.
- In 2006, hospitalizations for upper GI bleeding covered a wide age range—47 percent of admissions for patients 65 to 84; 25 percent for patients 45 to 64; 18 percent for patients older than 85; 10 percent for patients under 45.
- The number of hospital patients who died from upper GI bleeding fell from 20,013 in 1998 to 16,344 in 2006.

continued on page 19

Digestive system bleeding

continued from page 18

For more information, see *Hospitalizations for Gastrointestinal Bleeding in 1998 and 2006*, HCUP Statistical Brief

#65 (www.hcup-us.ahrq.gov/reports/statbriefs/sb65.pdf), which also has findings for lower GI bleeding. The report uses statistics from the 2006 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. ■

Hospitals spend less for patients in Medicare Advantage than for patients in fee-for-service Medicare

Treating a patient enrolled in the Federal Medicare Advantage health insurance program costs hospitals an average of \$10,800 compared with an average of \$11,100 for those enrolled in Medicare's traditional fee-for-service program, according to data from the Agency for Healthcare Research and Quality (AHRQ). Medicare Advantage, launched in 1997, allows patients to enroll in managed care plans. Nationally, patients enrolled in Medicare Advantage accounted for 14 percent of the 12.2 million Medicare patient stays in 2006.

To explore differences, AHRQ conducted an analysis of 5.7 million hospital stays of patients over age 65 in 13 states in 2006. Findings show that:

- Patients in Medicare Advantage had shorter stays than their fee-for-service counterparts—5.2 days compared with 5.9 days.

- In Medicare Advantage, 35.5 percent of patients were categorized as most severely ill, compared with 38.5 percent among fee-for-service Medicare patients.
- Fifty-two percent of the patients in Medicare Advantage went home after their hospital stay and not to a nursing home or under the care of home health care agency compared with 47 percent of fee-for-service Medicare patients.

For more information, see *Medicare Hospital Stays: Comparisons between the Fee-for-Service Plan and Alternative Plans, 2006* HCUP Statistical Brief #66 (www.hcup-us.ahrq.gov/reports/statbriefs/sb66.pdf). The report uses statewide hospital discharge data for 13 States in 2006. The inpatient stays are in short-term, non-Federal hospitals and include all patients over age 65 who were Medicare beneficiaries, with or without other insurance coverage. ■

Nearly 11 million Americans have individual health insurance policies, but some only for a short time

About 10.9 million Americans under age 65 purchased individual health insurance policies at some point in 2006, but only 7 million were covered by these policies for the full year, according to data from the Agency for Healthcare Research and Quality (AHRQ). People generally buy individual health insurance because they cannot get insurance from their employers, have lost a job that offers insurance, or do not qualify for Medicaid or other public programs. The 3.9 million individuals who had individual health insurance policies for part of the year were covered for about 6 months on average.

AHRQ's analysis also shows that of Americans who bought individual policies for part of the year, nearly 44 percent were able to obtain coverage for the full year because they or their spouse got a job that offered health insurance or they had incomes low enough to qualify for Medicaid or other public insurance. Most of this coverage came from employers. In addition:

- Forty percent obtained employer-sponsored health insurance.
- Three percent enrolled in Medicaid or other public insurance.

- Less than 1 percent obtained both employment-based insurance and public insurance.

These data are taken from the Medical Expenditure Panel Survey, a detailed source of information on the health services used by Americans, the frequency with which they are used, the cost of those services, and how they are paid. For more information, go to *Length of Coverage in the Individual Health Insurance Market for the Non-Elderly U.S. Population, 2006*, MEPS Statistical Brief 227 at www.meps.ahrq.gov/mepsweb. ■

Announcements

AHRQ issues two Funding Opportunity Announcements (R01 and R18)

On January 2, the Agency for Healthcare Research and Quality (AHRQ) issued two Funding Opportunity Announcements (FOAs), both of which update previous program announcements by including new AHRQ portfolio objectives. Applications should focus on identified priority areas in one of the six AHRQ portfolios: value, prevention/care management, health information technology, comparative effectiveness, patient safety, and innovations and emerging issues. These FOAs also reinstitute a budget of up to \$500,000 in total annual project costs. The two FOAs are:

- AHRQ Health Services Research Projects (R01): This FOA, PA-09-070, supports large research

extramural grants. The first application receipt date is March 9, 2009.

- AHRQ Health Services Research Demonstration and Dissemination Grants (R18): This FOA, PA-09-071, solicits large research demonstration and dissemination projects. The first application receipt date is March 9, 2009.

The complete announcements can be viewed at grants.nih.gov/grants/guide/pa-files/PA-09-070.html (FOA R01) and grants.nih.gov/grants/guide/pa-files/PA-09-071.html (FOA R18) in the NIH Guide. ■

A new model estimates emergency evacuation needs for health care facilities

A model to help Federal, State, and local emergency planners estimate the vehicles, drivers, road capacity, and other resources they will need to evacuate patients and others from health care facilities in disaster areas was released today by the Agency for Healthcare Research and Quality (AHRQ). The Web-based *Mass Evacuation Transportation Planning Model* is designed to be used prior to an emergency to help answer such questions as:

- How long will it take to move patients from one facility to another?
- How many transport vehicles, such as ambulances, wheelchair vans, and buses, are required to

complete the evacuation within a certain time period?

- How might the location and other attributes of the evacuating and receiving facilities affect evacuation plans?

Emergency planners can enter into the model any number of evacuating and receiving facilities and specific conditions that could affect transportation plans. The model will estimate the resources and hours needed to move patients from evacuating facilities to receiving facilities, based on assumptions that the planner specifies. The model was pilot tested in New York City and Los Angeles and is available for use at massevacmodel.ahrq.gov.

Development of the model was led by AHRQ and the Department of Defense with funding from the Department of Homeland Security's Federal Emergency Management Agency and the Department of Health and Human Service's Office of the Assistant Secretary for Preparedness and Response. The model helps communities move one step closer to an integrated emergency response system that can track, move, and regulate patients and evacuees during a mass casualty or evacuation.

More than 60 Public Health Emergency Preparedness tools and resources are available on the AHRQ Web site at: www.ahrq.gov/prep. ■

AHRQ announces new Web site on emerging issues in medical therapeutics

A new educational Web site offers expert perspectives, advice, and guidance on drugs, biological products, and medical devices from the Agency for Healthcare Research and Quality's (AHRQ) Centers for Education and Research on Therapeutics (CERTs), a federally sponsored network of more than a dozen leading research centers nationwide. The Clinician-Consumer Health Advisory Information Network (CHAIN) links clinicians and consumers with therapeutics information to assist in clinical practice and health care decision-making in areas where evidence is undergoing significant and rapid changes.

The site (www.chainonline.org) also provides access to educational and informational resources developed from research conducted by CERTs and intended for use in improving health care quality, safety, and effectiveness. Clinical topics included on the CHAIN Web site address the management of blood clot prevention with drug-eluting stents and expert opinions about topics where evidence is uncertain, such as restarting antiplatelet therapy if it

has been interrupted. The site's educational section includes materials to assist consumers with clinician-patient conversations and decision-making as well as an online medication record. Resources for clinicians include a slide library that can be adapted to educate clinical audiences and used for continuing medical education credit.

CERTs, established in 1999, is a research program administered by AHRQ in consultation with the U.S. Food and Drug Administration. The overarching goal is to serve as a trusted national resource for people seeking to improve health through the best use of medical therapies. The CERTs program includes partnerships of public and private organizations, a national steering committee involving multiple sectors and CERTs investigators, a coordinating center and 14 research centers. The CHAIN Web site was designed and developed collaboratively with input from all centers, working under the leadership of the Center for Collaborative and Interactive Technologies at Baylor College of Medicine, Houston. ■

Research Briefs

Alexander, G.L. (2008, Summer). "A descriptive analysis of a nursing home clinical information system with decision support." (AHRQ grant HS16862). *Perspectives in Health Information Management* 5 (12), pp. 1-9.

Nursing home care quality can be improved by the use of information technology (IT). One example is the use of clinical information systems with decision support that make the most appropriate treatment options available for providers, increase accessibility of evidence-based protocols specific for nursing home residents, enhance data collection, and allow more rigorous analysis of

outcomes. In this study, the researchers sought to determine the frequency and types of triggers in active alerts in a clinical decision support system for residents with specified diagnoses over a 6-month period. Alerts and triggers were recorded for conditions such as dehydration, constipation, skin integrity, decline or improvement in condition, and weight loss or gain. A total of 172 residents with 8 primary diagnoses were included in the analysis. This analysis using nursing homes that are early adopters of clinical information systems with decision support provides significant details on how these tools are being used for resident care.

Anstrom, K.J., Kong, D.F., Shaw, L.K., and others. (2008, August). "Long-term clinical outcomes following coronary stenting." (Contract no. 290-05-0032). *Archives of Internal Medicine* 168(15), pp. 1647-1655.

Clinical trial patients with one clogged coronary artery have been shown to be less likely to need an additional operation to reopen that artery (revascularization) when they receive drug-eluting stents (DES) versus bare metal stents (BMS) to prop open the artery. A new study shows that patients in community practices, even those with multiple clogged coronary arteries (and thus multiple stents), had nearly 10

continued on page 22

Research briefs

continued from page 21

percent fewer revascularization procedures with DES than BMS 2 years after their initial surgery, similar to clinical trial results. The researchers examined outcomes of patients undergoing their first revascularization with DES or BMS from January 1, 2000 through July 31, 2005. After adjustment for other factors affecting revascularization, DES reduced target vessel revascularization (TVR) rates at 6, 12, and 24 months compared with BMS. For example, 24-month rates of TVR for DES were 6.6 percent compared with 16.3 percent for BMS. The TVR benefit for DES was even better among patients with multiple vessel coronary artery disease (CAD): 1-vessel CAD, 8.3 percent; 2-vessel CAD, 9.7 percent; 3-vessel CAD, 16.2 percent. However, the type of stent did not significantly affect rates of death or nonfatal heart attack. Although the current U.S. Food and Drug Administration-approved indication for DES is limited to discrete, new lesions in native vessels with diameters of 2.5 to 3.5 mm, these findings indicate that the TVR benefits associated with DES versus BMS occur in patients with 1-, 2-, and 3-vessel CAD and are greater in patients with multivessel disease than those with single-vessel disease.

Clancy, C. (2008, July). "H-CAHPS survey reflects patient experiences." *Managed Healthcare Executive*, p. 34.

Patients choosing a hospital have not, until recently, been able to find information about the experiences other patients have had. Since March 2008, this incomplete state of hospital quality data has been changing, according to Carolyn Clancy, M.D., Director of the Agency for Healthcare Research

and Quality (AHRQ). Data on patient experiences in the hospital have been added to the Federal government's Hospital Compare Web site (www.hospitalcompare.hhs.gov). This data is drawn from the Hospital Consumer Assessment of Healthcare Providers and Systems (H-CAHPS), a 27-question survey developed by AHRQ, and reflects the issues of greatest concern to patients. Questions focused on such concerns as the quality of communication and the helpfulness of the hospital staff. Patient feedback from the H-CAHPS survey 2007 shows both that hospitals are doing some things very well and that they clearly have more work to do. By the end of 2008, information from most of the nation's hospitals should be available. This information will help patients make more informed decisions and guide providers in their ongoing quality improvement efforts.

Corbie-Smith, G., Blumenthal, C., Henderson, G., and others. (2008, August). "Studying genetic research participants: Lessons from the 'Learning about research in North Carolina' study." (AHRQ grant T32 HS00032). *Cancer Epidemiology Biomarkers & Prevention* 17(8), pp. 2019-2024.

Given the high cost of recruiting diverse populations for genetic research on cancer, the researchers decided to query existing cohorts of research participants who had taken part in the North Carolina Colorectal Cancer Study. The existing literature did not provide sufficient guidance on how best to capture the views of potential or former participants in genetic research. The Learning about Research in North Carolina (LeARN) study is an interview

study aimed at eliciting research participants' perceptions of disease causality, perceptions of the pluses and minuses of genetic research, and the purposes of genetic research. Asking questions about genetic research was challenging and required extensive pretesting of open-ended questions. Between 6.2 percent and 9.2 percent of respondents either said that they did not understand the survey's four basic questions or answered in a manner that raised questions about whether they understood. However, the data collected were rich and varied and represented a broad spectrum of views.

Curtis, J.R., Cheng, H., Delzell, E., and others. (2008, September). "Adaptation of Bayesian data mining algorithms to longitudinal claims data. Coxib safety as an example." (AHRQ grant HS10389). *Medical Care* 46(9), pp. 969-975.

Assessing drug safety after a product appears on the market is of great interest to patients, clinicians, pharmaceutical companies, and regulatory agencies. In evaluating adverse event reports and clinical trial results on medications, a Bayesian data mining method known as the Multi-item Gamma Poisson Shrinkage (MGPS) algorithm has been used. However, this type of data does not place much importance on the element of time. The researchers conducted a pilot study to evaluate Bayesian data mining for the analysis of longitudinal administrative claims data. Outcomes of cyclooxygenase-2 selective (coxib) nonsteroidal anti-inflammatory drugs (NSAIDs) were compared with outcomes of nonselective nonsteroidal anti-inflammatory drugs (NS-NSAIDs). Using the Medicare Current Beneficiary Survey to identify a

continued on page 23

Research briefs

continued from page 22

group of 9,431 Medicare patients using NSAIDs, the researchers found that an empirical Bayes MGPS identified an association between current celecoxib use and acute myocardial infarction. Results from using traditional epidemiological methods were similar. Bayesian data mining methods seem useful and should be extended to different types of drug exposures, conclude the researchers.

Du, H., Valenzuela, V., Diaz, P., and others. (2008). "Factors affecting enrollment in literacy studies for English- and Spanish-speaking cancer patients." (AHRQ grant HS10333). *Statistics in Medicine* 27, pp. 4119-4131.

The researchers sought to determine what factors affected the enrollment in two studies of literacy and health-related quality of life for 651 English-speaking and 487 Spanish-speaking ambulatory cancer patients. The purpose of the studies was to develop and validate a bilingual multimedia touchscreen program that allows patients with diverse literacy and computer skills to self-administer health-related quality of life (HRQL) questionnaires. The participants were not told in advance about the literacy component of the studies to minimize refusals due to shame about literacy skills. The researchers found that Spanish-speaking patients enrolled at a much higher rate (91 percent) than English-speaking patients (65 percent). For English-speaking patients, the recruitment barriers were older age and lower educational levels; for both English- and Spanish-speaking groups, lack of time and recruiting from private hospital sites were

barriers. Recruiting sites with more indigent patients and longer clinic waiting times had higher enrollment, suggesting that financial compensation (they were paid \$20 to participate) and time availability may be important recruitment factors.

Fried, L.E., Cabral, H., Amaro, H., Aschengrau, A. (2008, November/December). "Lifetime and during pregnancy experience of violence and the risk of low birth weight and preterm birth." (AHRQ grant HS08008). *Journal of Midwifery and Women's Health* 53(6), pp. 522-528.

Determining the relationship between a mother's experience with violence and its effect on her pregnancy may provide the medical community with strategies to prevent poor pregnancy outcomes. A study in Boston found that women who were exposed to violence either before or during their pregnancies were not at increased risk of delivering early or having babies born with low birth weights compared with women who never experienced violence. However, married women who suffered violence were more at risk for delivering babies with low birth weights than women who never experienced violence.

Massachusetts researchers used data from 1,555 women who enrolled in Boston's Healthy Baby Program, which provides services to pregnant women living in areas with high rates of infant deaths.

Huang, C.X., Plantinga, L.C., Fink, N.E., and others. (2008, July). "Phosphate levels and blood pressure in incident hemodialysis patients: A longitudinal study." *Advances in Chronic Kidney Disease* 15(3), pp. 321-331.

The majority of patients undergoing hemodialysis have high blood levels of phosphate because it is difficult to remove phosphate by dialysis. Elevated serum phosphate levels in hemodialysis patients have been associated with calcium deposition in blood vessels. This could potentially lead to vascular wall stiffness and resistant high blood pressure. Thus far, no clinical trial has examined the relationship between serum phosphate and blood pressure. Using a national group of hemodialysis patients, the researchers tested the hypothesis that these patients, if exposed to high levels of serum phosphate, would have higher blood pressure early in dialysis and over time. This prospective study found that elevated serum phosphorus levels at the beginning of dialysis were strongly and independently associated with higher systolic and diastolic blood pressure, as well as higher pulse pressure. This was also true 3 months after the baseline measurements. Further analyses showed that it was serum phosphate and not calcium that was associated with blood pressure at baseline and over time. These results reinforce the importance of serum phosphate control in reducing all-cause mortality in hemodialysis patients.

Johnson, K.B., Serwint, J.R., Fagan, L.A., and others. (2008). "Computer-based documentation: Effects on parent-provider communication during pediatric health maintenance encounters." (AHRQ grant HS10363). *Pediatrics* 122(3), pp. 590-598, 2008.

The introduction of computer-based documentation (CBD) of patient encounters has raised concerns that use of computers in exam rooms may distract from or

continued on page 24

Research briefs

continued from page 23

interfere with patient-physician interaction. However, a new study found that CBD improved parent-physician communication when it was used for pediatric health maintenance visits. Researchers used videotapes and audiotapes to compare verbal and nonverbal communication dynamics between clinicians and parents/children in health maintenance visits before and after implementation of the ClicTate CBD system. CBD visits were slightly longer than control visits (32 vs. 27 minutes). After controlling for visit length, amounts of conversation were similar during both types of visits. However, CBD visits were associated with a greater proportion of open-ended questions (28 vs. 21 percent), more use of partnership strategies, more social and positive talk, and a more patient-centered interaction style, but fewer orienting and transition phrases. These results support the integration of CBD into primary care pediatric visits. ClicTate, like most CBD tools, provides prompts designed to improve visit completeness.

Kemper, A.R., Boyle, C.A., Aceves, J., and others. (2008, April). "Long-term follow-up after diagnosis resulting from newborn screening: Statement of the US Secretary of Health and Human Services' Advisory Committee on Heritable Disorders and Genetic Diseases in Newborns and Children." *Genetics in Medicine* 10(4), pp. 259-261.

In the interest of public health, newborn screening is provided to all newborns in the United States. The U.S. Secretary of Health and Human Services' Advisory Committee on Heritable Disorders and Genetic Diseases in Newborns

and Children provides guidance to reduce the morbidity and mortality associated with heritable disorders. It focuses in particular on those conditions detectable through newborn screening. To improve the variable and inconsistent long-term followup of problems diagnosed through newborn screening, the Advisory Committee identifies key features of followup. The Committee also describes the four components central to achieving long-term followup. Reprints (Publication No. 09-R006) are available from AHRQ.*

Lu, C., Frank, R.G., and McGuire, T.G. (2008). "Demand response of mental health services to cost sharing under managed care." (AHRQ grant HS10803). *The Journal of Mental Health Policy and Economics* 11, pp. 113-125.

This study compares how cost-sharing affects demand for mental health services under managed health care and traditional indemnity plans. Using the Agency for Healthcare Research and Quality's Medical Expenditure Panel Survey (MEPS) data from 1996, the researchers focused on privately insured employees (and their dependents) who have no choice of health plan. They found that although managed care itself decreased rates of care use, the effect of the coinsurance rate on demand for mental health services in managed care plans was almost nonexistent. By contrast, the coinsurance rate in traditional indemnity plans had a significant negative effect on rates of utilization. Deductibles had no effect on spending for any type of plan. The researchers conclude that in the presence of rationing mechanisms, i.e., managed care, the reduction of cost-sharing does not trigger an increase in mental health

care use. A further implication is that any parity law focused on benefit expansion will have a smaller impact on equal access to mental health care than it would have had in a pre-managed care era.

McDonald, K.M., Davies, S.M., Haberland, C.A., and Geppert, J.J. (2008). "Preliminary assessment of pediatric health care quality and patient safety in the United States using readily available administrative data." (AHRQ contract no. 290-04-00200). *Pediatrics* 122, pp. e416-e425.

With health care costs for hospitalized children at almost \$50 billion per year, health care quality evaluation for children has become an increasingly important priority. The authors aimed to develop indicators using inpatient administrative data to assess quality of inpatient pediatric care and access to quality outpatient care. The authors adapted the Agency for Healthcare Research and Quality's (AHRQ's) quality indicators for a pediatric population. They performed a systematic literature review and then convened four expert panels to review and discuss the evidence and then rate each indicator through a two-stage modified Delphi process. Using data from AHRQ's Healthcare Cost and Utilization Project Kids' Inpatient Database, they generated national estimates for provider- and area-level indicators. The panelists recommended 18 indicators for inclusion in the pediatric quality indicator set, including 13 hospital-level indicators, 11 of which were based on complications. Trends in rates varied by age: short-term complications of diabetes increased with age, while gastroenteritis admissions decreased with age.

continued on page 25

Research briefs

continued from page 24

Meier, F.A., Zarbo, R.J., Varney, R.C., and others. (2008). "Development and validation of a taxonomy of defects." (AHRQ grant HS13321). *American Journal of Clinical Pathology* 130, pp. 238-246.

It is important to develop a consistent understanding of the reasons why pathology reports are sometimes amended, i.e., changed, after the reports have been released. Surgical pathology and cytopathology reports record the information extracted from tissue and cell specimens. Amendments of pathology reports document defects in the diagnostic process that lose information or add misinformation. The aim of the researchers was to develop a taxonomy of defects that would yield a high level of agreement by analysts of amended reports working at different provider organizations. The researchers identified four types of classification defects (misinterpretations, misidentifications, specimen defects, and report defects) that led to amendments being made by either clinicians or pathologists. Each of the 4 types of defects was, in turn, divided into 3 to 5 subtypes, and 430 cases of amended reports were then reviewed by 4 reviewers from a single institution and 30 cases by 7 reviewers from 7 organizations. Among the seven institutions, agreement was highest with misinterpretation fractions (23 percent to 29 percent) and lowest with report defects (29 percent to 48 percent). The researchers concluded that their taxonomy yielded excellent reproducibility and good agreement across institutions

Puggioni, G., Gelfand, A.E., and Elmore, J.G. (2008). "Joint modeling of sensitivity and specificity." (AHRQ grant HS10591). *Statistics in Medicine* 27, pp. 1745-1761.

Sensitivity and specificity are two customary performance measures associated with medical diagnostic tests. These measures are typically modeled independently as a function of risk factors. The potential clinical relevance of the joint modeling of sensitivity and specificity is to encourage those who study performance of screening tests (e.g., mammography) to think jointly about screening results and disease outcome. The authors argue that a model for the four cell probabilities that determine the joint distribution of screening test result and outcome result is needed. Using two different models, the authors assess the nature of the dependence between these two performance measures. They start by reviewing the dataset taken from three registries that are part of the Breast Cancer Surveillance Consortium. They then discuss coherent modeling for the joint distribution of screening outcome and disease outcome. This is followed by a discussion of computational issues associated with fitting the models. Finally, the authors analyze the dataset under two different models with regard to the dependence between sensitivity and specificity.

Ranji, S.R., Steinman, M.A., Shojania, K.G., and Gonzales, R. (2008, August). "Interventions to reduce unnecessary antibiotic prescribing: A systematic review and quantitative analysis." (Contract no. 290-02-0017). *Medical Care* 46(8), pp. 847-862.

Unnecessary antibiotic prescribing for outpatient acute

respiratory infections (ARIs) such as bronchitis, ear infections, sinusitis, and pharyngitis can be reduced by active clinician education and targeting management of all ARIs, rather than single conditions in single age groups (such as ear infections in young children), concludes a new study. Researchers analyzed 30 studies on quality improvement (QI) approaches to reducing unnecessary antibiotic prescribing for ARIs. These approaches reduced the number of patients receiving antibiotics for ARIs an average of nearly 10 percent over the 6 months median followup. No single QI strategy or combination of strategies was clearly superior. However, active clinician education strategies trended toward greater effectiveness than passive strategies. Also, studies that targeted specific conditions or patient populations did not show as large an impact on the large community of antibiotic use as those targeting adult patients with ARIs. These broad-based approaches saved an estimated 17 to 117 antibiotic prescriptions per 1,000 person-years.

Reid, R.J., Bonomi, A.E., Rivara, F.P., and others. (2008, June). "Intimate partner violence among men: Prevalence, chronicity and health effects." (AHRQ grant HS10909). *American Journal of Preventive Medicine* 34(6), pp. 478-485.

This study found that more than one in four men (29 percent) had been victims of intimate partner violence (IPV) during their lifetime, 10 percent in the past 5 years, and nearly 5 percent in the past year. Researchers interviewed 420 English-speaking adult men

continued on page 26

Research briefs

continued from page 25

enrolled in a large health care system for 3 or more years. The researchers used surveys that assessed types of IPV, overall health, and mental health. Results revealed that men aged 18 to 55 were twice as likely to be recently abused than men aged 55 and older (14.2 vs. 5.3), even though overall rates of physical (ranging from hitting, slapping, and shoving to choking or worse) and nonphysical IPV (threats, anger, and/or controlling behavior) were similar. Abuse was typically nonviolent or mildly violent, but occurred on multiple occasions and typically with only one intimate partner. Nearly one-third (32 percent) of men reported mildly violent IPV, and 39 percent reported moderately or extremely violent IPV. Compared with men who never suffered IPV, older men who had experienced IPV suffered from nearly three times more depressive symptoms and had low mental health scores on a standard scale.

Rhee, M.K., Ziemer, D.C., Caudle, J., and others. (2008, July-August). "Use of a uniform treatment algorithm abolishes racial disparities in glycemic control." (AHRQ grant HS07922). *The Diabetes Educator* 34(8), pp. 655-663.

Differences in glycemic levels (A1c) disappear between blacks and whites in care settings where patient and provider behaviors are comparable and that emphasize intensification of diabetes medication, concludes this study. The researchers sought to determine the effects of using a uniform treatment algorithm on the glycemic levels of black and white patients in a setting where both patient and provider behavior could be assessed. The treatment

algorithm was driven by point-of-care glucose measurement, facilitating immediate treatment implementation at a diabetes clinic, and providing specific instructions as to which medications to add and/or how to adjust dosages. The patients with type 2 diabetes (3,324 blacks, 218 whites) all made initial and 1-year followup visits, with a subset having a 2-year followup visit. Initially, the glycemic level (A1c) was higher in blacks than in whites. After 1 year of followup, the difference in A1c between blacks and whites narrowed but remained significant (7.7 percent vs. 7.3 percent). Patient adherence to medications and number of visits were similar for both groups. Provider behavior was similar as well, both with respect to the frequency and amount of medication intensification. Among the patients who returned for a 2-year followup visit (1,691 black, 114 white), A1c levels were no longer different.

Sharp, B.A. and Clancy, C.M. (2008, April/June). "Limiting nurse overtime, and promoting other good working conditions, influences patient safety." *Journal of Nursing Care Quality* 23(2), pp. 97-100.

In this commentary, Beth A. Collins Sharp, Ph.D., of the Agency for Healthcare Research and Quality (AHRQ), and Carolyn M. Clancy, M.D., Director of AHRQ, discuss several AHRQ-supported studies on the current shortage of registered nurses (RNs). One study found that elderly patients who were admitted to intensive care units (ICUs) with more nurse hours per day had significantly lower rates of central-line-associated bloodstream infection, 30-day mortality, ventilator-acquired pneumonia, and decubitus ulcers (pressure sores) than those admitted

to ICUs with fewer nurse hours per day. Increased ICU nursing overtime was associated with catheter-associated urinary tract infection and decubitus ulcers (pressure sores).

These findings echo those of a second study on the impact of nurse fatigue on medical errors. In a 2004 study of nearly 400 nurses, nurses who worked more than 12.5 consecutive hours had 3 times the risk of making an error, such as incorrect medication or dosage, than nurses who worked fewer hours. A study of 502 ICU nurses over a 28-day period found that 27 percent of the nurses reported making at least 1 error, and 38 percent reported they almost made a mistake during the study period. Such extensive work hours conflict with recommendations that nurses provide direct patient care for no more than 12 hours in any given 24-hour period and less than 60 hours in a 7-day period. Reprints (AHRQ Publication No. 08-R065) are available from AHRQ.*

Verrips, E., Vogels, T., Saigal, S., and others. (2008, September). "Health-related quality of life for extremely low birth weight adolescents in Canada, Germany, and the Netherlands." (AHRQ grant HS08385). *Pediatrics* 122(3), pp. 556-561.

The researchers sought to compare the effects of extremely low birth weight (ELBW—less than 1000 grams) on the health-related quality of life (HRQL) of adolescents aged 12 to 16 born in Ontario, Bavaria, and the Netherlands. ELBW children have been shown to have various physical, cognitive, affective, and behavioral problems. HRQL self-reported outcomes are important in evaluating treatment options and assessing the economic

continued on page 27

Research briefs

continued from page 26

consequences of specific treatments. The HRQL of over 1,700 adolescents was assessed by using the Health Utility Index 3, a comprehensive generic measure of vision, hearing, speech, walking, dexterity, emotion, cognition, and pain. The Netherlands group had the highest mean gestational age and the lowest morbidity for disabling and nondisabling cerebral palsy. The summary scores showed a greater variety of health problems among adolescent children in Ontario and Bavaria than in the Netherlands. HRQL differences found in this study, especially in the cognitive domain, may affect the functioning of ELBW children later in life differently in different countries

Volpp, K.G., and Landrigan, C.P. (2008). “Building physician work hour regulations from first principles and best evidence.” (AHRQ grant HS15906). *Journal of the American Medical Association* 300(10), pp. 1197-1199.

In 2003, the Accreditation Council for Graduate Medical Education (ACGME) mandated that physicians in training work no more than 80 hours per week and no more than 30 consecutive hours. However, studies have not shown a consistent benefit of those work hour limitations. For example, one study showed no effect on mortality rates among Medicare patients from the ACGME standards while others showed some mortality rate reductions in both Veterans Administration (VA) hospitals and non-VA hospitals. The authors recommend several priorities or guiding principles for the medical community in developing specific alternatives for physician work hour

regulation. They suggest rigorously studying alternatives for work hour reduction, measuring outcomes related to resident education, improving “sign-out” procedures, eliminating or minimizing situations in which residents work 24 to 30 continuous hours, improving monitoring of standards, increasing flexibility for implementation and enforcement, recognizing the importance of supervision and work intensity, and aligning incentive for payment with desired objectives.

Waitzkin, H., Schillaci, M., and Willgring, C.E. (2008). “Multimethod evaluation of health policy change: An application to Medicaid managed care in a rural State.” (AHRQ grant HS09703). *HSR: Health Services Research* 43 (4), pp. 1325-1347.

The researchers studied the impacts of Medicaid managed care (MMC) in New Mexico at the individual, organizational/ community, and population levels. They used a combination of sequential surveys to understand the impacts of MMC on individuals, ethnographic methods to assess effects for safety net institutions and local communities, and secondary databases to determine how sentinel events changed as population-level indicators. Three Statewide surveys, performed at 9-, 18-, and 27-month intervals, found barriers to care, access, and utilization. For example, the 27-month survey found that 25 percent of Medicaid respondents reported a cost barrier to care. However, in general, Medicaid patients had relatively favorable experiences following implementation of MMC. In contrast, the ethnographic interviews found that personnel in

safety net organizations experienced the transition to MMC as stressful and chaotic. The organizations experienced heightened financial stress and mental health services declined sharply. Analyses of databases showed that immunization coverage levels decreased significantly after MMC implementation.

Weech-Maldonado, R., Elliott, M.N., Oluwale, A., and others. (2008). “Survey response style and differential use of CAHPS rating scales by Hispanics.” (AHRQ grant HS00294). *Medical Care* 46(9), pp. 963-968.

These researchers examined differences in how Hispanic ethnicity and insurance status (Medicaid vs. commercial managed care) affect the use of the 0-10 rating scales in the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey. Previous CAHPS studies have shown that Hispanics report care that is similar to or less positive than for non-Hispanic whites, yet have more positive ratings of care. Other research has shown that blacks and Hispanics in the United States are more likely than whites to use the extreme responses in the scale. Hispanics had a greater tendency toward extreme responses in the CAHPS ratings than non-Hispanic whites. In particular, they were more likely than whites in commercial plans to give the highest rating of “10.” and often scores of 4 or less, relative to an omitted category of “5” to “8.” These differences may be due to what the researchers call “extreme response tendency,” a tendency to “respond systematically to questionnaire items on some basis other than what the items were designed to measure. ■

Ordering Information

Most AHRQ documents are available free of charge and may be ordered online or through the Agency's Clearinghouse. Other documents are available from the National Technical Information Service (NTIS). To order AHRQ documents:

(*) Available from the AHRQ Clearinghouse:

Call or write:

AHRQ Publications Clearinghouse

Attn: (publication number)

P.O. Box 8547

Silver Spring, MD 20907

800-358-9295

703-437-2078 (callers outside the

United States only)

888-586-6340 (toll-free TDD service;

hearing impaired only)

To order online, send an e-mail to:

ahrqpubs@ahrq.hhs.gov

() Available from NTIS:**

Some documents can be downloaded from the NTIS Web site free or for a nominal charge. Go to www.ntis.gov for more information.

To purchase documents from NTIS, call or write:

National Technical Information Service (NTIS)

Springfield, VA 22161

703-605-6000, local calls

800-553-6847

Note: Please use publication numbers when ordering

To subscribe to *Research Activities*:

Send an e-mail to ahrqpubs@ahrq.hhs.gov with "Subscribe to *Research Activities*" in the subject line. Be sure to include your mailing address in the body of the e-mail.

Access *Research Activities* online at www.ahrq.gov/research/resact.htm

U.S. Department of Health and Human Services

Public Health Service

Agency for Healthcare Research and Quality

P.O. Box 8547

Silver Spring, MD 20907-8547

Official Business

Penalty for Private Use \$300



AHRQ Pub. No. 09-RA005

February 2009

ISSN 1537-0224