



Research Activities



U.S. Department of Health and Human Services • No. 270, February 2003

Highlights

Departments

- 2 Preventive Services**
- 5 Women's Health/
Children's Health**
- 8 Clinical
Decisionmaking**
- 11 Primary Care**
- 13 Pharmaceutical
Research**
- 15 Quality/Access to
Care**
- 18 Disparities/
Minority Health**
- 19 Dental Research**

Regular Features

- 20 Agency News
and Notes**
- 20 Announcements**
- 25 Research Briefs**

Carolyn M. Clancy named permanent director of AHRQ



HHS Secretary Tommy G. Thompson has announced the appointment of Carolyn M. Clancy, M.D., as director of the Agency for Healthcare Research and

Quality (AHRQ), the lead agency responsible for supporting research designed to improve the quality of health care, reduce its cost, improve patient safety, decrease medical errors, and broaden access to essential services.

Dr. Clancy has served as acting director since March 2002, and will oversee the development of research that provides evidence-based information on health care outcomes; quality; and cost, use and access. She also will work with the U.S. Preventive Services Task Force, an independent panel of experts in primary care and prevention that reviews research evidence and develops recommendations for clinical preventive services.

Prior to serving as acting director, Dr. Clancy was director of

AHRQ's Center for Outcomes and Effectiveness Research (COER), which conducts and supports studies of the outcomes and effectiveness of diagnostic, therapeutic, and preventive health care services and procedures. Before becoming the director of COER in 1997, Dr. Clancy served as director of the Center for Primary Care Research. There she helped develop the U.S. Public Health Service Primary Care Policy Fellowship.

Dr. Clancy is a general internist and health services researcher and a graduate of Boston College and the University of Massachusetts Medical School. Following clinical training in internal medicine, Dr. Clancy was a Henry Kaiser Family Foundation Fellow at the University of Pennsylvania. She was also an assistant professor in the Department of Internal Medicine at the Medical College of Virginia in Richmond prior to joining AHRQ, then named the Agency for Health Care Policy and Research, in 1990.

Her major research interests include women's health, primary care, access to care, and the impact of financial incentives on physicians' decisions. ■



Task Force issues recommendations on cervical cancer screening and screening for diabetes in adults and pregnant women

The U.S. Preventive Services Task Force recently issued recommendations related to cervical cancer screening and screening for diabetes in adults and in pregnant women.

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

The Task Force grades the strength of evidence as “A” (strongly recommends), “B” (recommends), “C” (no recommendations for or against), “D” (recommends against), or “I” (insufficient evidence to

recommend for or against screening). The new screening recommendations for cervical cancer and diabetes are described here.

Cervical cancer screening. The Task Force recently issued a strong recommendation that women between the ages of 21 and 65 be screened regularly for cervical cancer. However, they have concluded that some women can safely discontinue regular screening or can be screened less frequently.

For women age 65 and over who have had regular normal Pap smears, the Task Force concluded that the harms of continued routine screening such as false positive tests and invasive procedures may outweigh the benefits. For younger women who have had at least two normal annual screenings, the Task Force found no evidence that annual screening achieves better

outcomes than screening every 3 years. These recommendations are largely consistent with the recommendations of the American Cancer Society and related organizations.

Pap testing followed by appropriate treatment can effectively prevent invasive cervical cancer by detecting precancerous

lesions before they grow and spread.

The Task Force considered a woman’s age, her medical history, and the screening method used. Specifically, the Task Force:

- Strongly recommends starting to screen women 3 years after they begin sexual activity, or at the age of 21, whichever comes first. (This is a change from the previous Task Force recommendation that stated screening should begin at age 18.) The Task Force concluded that screening should be performed at least every 3 years, but they noted that annual screening is appropriate until a woman has had at least two to three consecutive normal Pap test results.
- Recommends against screening women 65 and older who have had adequate recent screenings with normal Pap smears and are not otherwise at increased risk for cervical cancer.
- Recommends against screening women who have had a total hysterectomy for a noncancerous condition.
- Concludes that the evidence is insufficient to recommend for or against using new technologies, such as liquid-based cytology, instead of conventional Pap smears to screen for cervical cancer. The evidence available for newer screening technologies does suggest that these methods are slightly more sensitive, but

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 Health Care Information. 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 Health Care Information
2101 East Jefferson Street, Suite 501
Rockville, MD 20852
(301) 594-1364

Mary L. Grady, Managing Editor
Gail Makulowich, Contributing Editor
Joel Boches, Design and Production
Karen Migdail, Media Inquiries

Task Force recommendations

continued from page 2

they also may be more likely to give false-positive results. It is not clear whether the possible benefits, if any, would be large enough to justify the added costs.

- Concludes that the evidence is insufficient to recommend for or against the use of human papillomavirus testing as a primary screening tool for cervical cancer. Trials are currently under way to clarify the use of HPV testing in cervical cancer screening.

Cervical cancer, the 10th leading cause of cancer death, is linked to HPV, which is generally acquired through sexual contact. Risk factors for cervical cancer include early onset of sexual intercourse, having many sexual partners, and infection by a high-risk strain of HPV. The U.S. Congress has designated January as National Cervical Cancer Awareness Month.

The revised Task Force recommendations reinforce recently released guidelines of the American Cancer Society, which also concluded that older women and women who have had a total hysterectomy for a noncancerous condition can discontinue screening, and that less frequent screening is appropriate for middle-aged women. In addition, the ACS also recommends annual screening until age 30 and screening once every 2-3 years after age 30. The Task Force found no direct evidence that annual screening achieves better outcomes than screening every 3 years.

The Task Force recommendations for cervical cancer screening are “A” for sexually active women with a cervix; “D” for women over the age

of 65; “D” for women who have had a total hysterectomy for a noncancerous condition; “I” for routine use of new technologies; and “I” for HPV testing.

The Task Force based its conclusions on reviews by a team led by Katherine E. Hartmann, M.D., Ph.D., at AHRQ’s Evidence-based Practice Center at RTI International-University of North Carolina. The cervical cancer screening recommendation and materials for clinicians are available online at www.ahrq.gov. Click on “Clinical Information” and then “Preventive Services.” More information on cervical cancer is available from the National Cancer Institute at www.cancer.gov.

Screening for diabetes. On February 3, the Task Force issued two recommendations on screening for diabetes in adults and pregnant women. They recommended that adults with high blood pressure or high cholesterol be screened for type 2 diabetes (insulin-resistant diabetes) as part of an integrated approach to reduce cardiovascular disease but concluded that further research is needed to determine whether widespread screening of the general population would improve health outcomes. In a separate recommendation, the Task Force found insufficient evidence to recommend for or against routine screening for gestational diabetes in asymptomatic pregnant women.

The Task Force based its conclusions on reports from teams at AHRQ’s Evidence-based Practice Center at RTI International-University of North Carolina. The gestational diabetes report was led by Seth Brody, M.D., and the type 2 diabetes report was led by Russell Harris, M.D., M.P.H. The recommendations on screening for type 2 diabetes are published in the

February 4 issue of the *Annals of Internal Medicine*. The gestational diabetes recommendation is published in the February issue of the journal *Obstetrics & Gynecology* (also known as The Green Journal).

Type 2 diabetes is the most common form of diabetes. Patients with type 2 diabetes are at high risk for heart disease and stroke, and

continued on page 4

Also in this issue:

Using a team approach to increase chlamydia screening, see page 5

Effects of prolonged bottle feeding on obesity and anemia in young children, see page 6

Facts and figures in the 2001 report on children’s health, see page 7

Loss of consciousness in patients with aortic dissection, see page 8

Effective management of chronic hepatitis C, see page 9

Misuse of alcohol or drugs in depressed primary care patients, see page 11

Variations in primary care physicians’ referral decisions, see page 12

Reducing anemia and transfusions for some cancer patients, see page 13

CERTs projects to promote life-saving therapies, see page 14

Quality of hospital emergency care, see page 15

Access to care and quality for disabled Medicaid HMO enrollees, see page 17

Reducing racial and ethnic disparities, see page 18

Factors affecting use of dental care, see page 19

Task Force recommendations

continued from page 3

over time they may develop eye, kidney, or nerve problems. Type 2 diabetes is estimated to affect approximately 16 million Americans—11.1 million who have been diagnosed and as many as 5.9 million who have not. Although diabetes frequently is accompanied by symptoms such as fatigue or excessive thirst or urination, it often is silent in its early stages. People at increased risk for diabetes include those who are obese; those who have a relative in their immediate family with the disease; and blacks, Hispanics, American Indians, and Alaska Natives.

Gestational diabetes is a condition characterized by elevated blood sugar brought on by pregnancy. It occurs in approximately 2 percent to 5 percent of all pregnancies. Women who are older than 25, have had gestational diabetes in a previous pregnancy, or have a family history of diabetes are at higher risk for developing the disease. Black, Hispanic, American Indian, and South or East Asian women are also at increased risk. Women with gestational diabetes are more likely

to have large babies, which may lead to complications during labor or the need for cesarean sections. According to the Task Force, it is not known whether small blood sugar elevations found in the majority of women with gestational diabetes have adverse effects for mother and/or infant.

The Task Force recommendations for type 2 diabetes screenings are a “B” for those with high blood pressure or high cholesterol and an “I” for screening asymptomatic adults. The Task Force recommendation for gestational diabetes screening is an “I” for screening asymptomatic pregnant women.

For more information on the general diabetes recommendations see “Screening for type 2 diabetes mellitus in adults: Recommendations and Rationale,” by the U.S. Preventive Services Task Force, in the February 4, 2003 *Annals of Internal Medicine*, 138(3), pp. 212-214; and “Screening adults for type 2 diabetes: A review of the evidence for the U.S. Preventive Services Task Force,” by Russell Harris, M.D., M.P.H., Katrina Donahue, M.D. M.P.H., Saif S. Rathore, M.P.H., and others, in the same journal, pp. 215-229.

For more information on the gestational diabetes recommendation, see “Screening for gestational diabetes mellitus: Recommendations and rationale,” by the U.S. Preventive Services Task Force, in the February 2003 *Obstetrics & Gynecology*, 101(2), pp. 393-395; and “Screening for gestational diabetes: A summary of the evidence for the U.S. Preventive Services Task Force,” by Seth C. Brody, M.D., Russell Harris, M.D., M.P.H., and Kathleen Lohr, Ph.D., in the same journal, pp. 380-392.

Previous Task Force recommendations, summaries of the evidence, easy-to-read fact sheets explaining the recommendations, and related materials are available from the AHRQ Publications Clearinghouse.* Clinical information is also available from the National Guideline Clearinghouse™ at www.ngc.gov.



AHRQ news travels fast—Subscribe to the Agency’s electronic newsletter!

If you want the latest information from AHRQ on new RFAs, research findings, conferences, and more, just subscribe to AHRQ’s electronic newsletter. All you need is a computer and an e-mail address. Here’s how:

1. Send an e-mail message to: listserv@list.ahrq.gov
2. In the subject line type: Subscribe
3. In the body of the message type: sub public_list-L your full name
4. That’s it. You will receive an e-mail confirmation.

Questions? Please send an e-mail to Howard Holland in AHRQ’s public affairs office at hholland@ahrq.gov

One-fifth of older women hospitalized for hip fracture become incontinent while in the hospital

One in six U.S. women experiences a hip fracture at some point, and 21 percent of older women hospitalized for hip fracture develop hospital-acquired incontinence, finds a study supported in part by the Agency for Healthcare Research and Quality (HS07322). Women with certain characteristics are at a higher risk than others for developing incontinence while in the hospital, according to the researchers who conducted the study.

They analyzed medical records of 6,516 women (aged 60 years and older) admitted to hospitals in four States for hip fracture from 1983 to 1993. They measured incontinence at discharge, cognitive and functional status, and severity of illness, and obtained demographic information.

Overall, 21 percent of women became incontinent (urinary, fecal, or both) during hospitalization and were incontinent at discharge. After adjustment for factors that might affect continence, such as age, race, malnutrition, coexisting illness, and severity of illness, women admitted to the hospital from a nursing home or other long-term care facility were nearly twice as likely to develop incontinence during hospitalization as

other women. Perhaps these women had relied on caregivers to maintain continence through assistance with using the toilet or prompted voiding schedules, a level of support not available in the hospital.

Women who were confused, used a wheelchair or device for walking, and were dependent on others for walking prior to their fracture also were more likely than other women to develop hospital-acquired incontinence. Educating hospital staff about these risk factors may help reduce the incidence of hospital-acquired incontinence among this vulnerable population. Also, providing bedside commodes, urinals especially designed for women, medications to reduce instability of the bladder's detrusor muscle, and urinary and bowel regimens may help prevent or minimize hospital-acquired incontinence.

See "Risk factors for hospital-acquired incontinence in elderly female hip fracture patients," by Mary H. Palmer, Ph.D., Mona Baumgarten, Ph.D., Patrician Langenberg, Ph.D., and Jeffrey L. Carson, M.D., in the October 2002 *Journal of Gerontology: Medical Sciences* 57A(10), pp. M672-M677. ■

New team approach dramatically boosts chlamydia screening of teenage girls

A team-oriented approach to testing for chlamydia increased the screening rate of sexually active 14- to 18-year-old female patients from 5 percent to 65 percent in a large California HMO, according to new study findings from researchers at the University of California, San Francisco, Department of Pediatrics and Kaiser Permanente of Northern California. The study was funded

by the Agency for Healthcare Research and Quality (HS10537).

The approach consisted of organizing teams of nurses, doctors, medical assistants, and administrative staff at the HMO's pediatric clinics and educating them about chlamydia and its silent symptoms. Team members got buy-in from the HMO's leaders by presenting the gap between recommended screening practice

and the plan's past performance; held monthly meetings to discuss problem-solving strategies; used urine-based testing instead of pelvic exams; and monitored progress with clinic-specific screening rates. The study authors noted that this new team-based screening system may help other managed care plans to improve

continued on page 6

Note: Only items marked with a single (*) or double (**) asterisk are available from AHRQ. Items marked with a single asterisk (*) are available from AHRQ's clearinghouse. Items with a double asterisk (**) are also available through AHRQ InstantFAX. Three asterisks (***) indicate NTIS availability. See the back cover of *Research Activities* for ordering information. Consult a reference librarian for information on obtaining copies of articles not marked with an asterisk.

Chlamydia screening

continued from page 5

detection of chlamydia infection and reduce the estimated \$4 billion spent annually on its treatment.

Chlamydia is the most common bacterial sexually transmitted disease in the United States. Up to 15 percent of young women—one of every six—are estimated to have the disease, which if detected, can be treated easily with a single dose of antibiotics. If untreated, chlamydia can lead to pelvic inflammatory disease, infertility, and other serious health problems, including increased risk of HIV infection. Undetected chlamydial infections are responsible for the vast majority of tubal infertility cases in the United States.

Screening rates for chlamydia are low because many women don't have symptoms and don't like to

get pelvic exams. The study authors note that the relatively new urine-based test makes pelvic exams unnecessary for detecting chlamydia, but the test is widely underused. In addition, some clinicians may feel uncomfortable asking young women, especially adolescents, about their sexual health or may not be trained in diagnosing chlamydia and providing appropriate followup care. The AHRQ-sponsored U.S. Preventive Services Task Force recommends routine screening for chlamydia for all sexually active women aged 25 and younger. The Task Force recommendation can be found online at www.ahrq.gov; click on "Clinical Information" and then "Preventive Services."

Lead study author Mary-Ann Shafer, M.D., a professor of pediatrics at the University of

California, San Francisco, noted that the findings may help health plans and other types of medical practices increase their detection of chlamydia. Furthermore, the findings can be applied to other situations requiring an immediate change in practice, such as in response to a new infectious disease epidemic. These results underscore the importance of linking evidence-based information to specific strategies for care improvement.

For more information, see "The effect of a clinical practice improvement intervention on chlamydial screening among adolescent girls," by Dr. Shafer, Kathleen P. Tebb, Ph.D., Robert H. Pantell, M.D., and others, in the December 11, 2002 *Journal of the American Medical Association* 288(22), pp. 2846-2852. ■

Prolonged bottle feeding of young children may lead to childhood obesity and iron deficiency anemia

The American Academy of Pediatrics recommends that infants be introduced to the cup around 6 months and be fully bottle-weaned by 15 months. Yet, 20 percent of 2-year-olds and 9 percent of 3-year-olds in the United States still use a bottle, with babies of poor, urban, less-educated, and minority parents more likely to continue bottle use for longer periods. A recent study warns that prolonged and/or excessive bottle use may increase a young child's risk of developing iron deficiency anemia (associated with delayed mental and psychomotor development) or becoming obese, both of which are on the rise among U.S. children.

Children who are not weaned can become habituated to consuming milk (whose calcium blocks iron absorption) or other sweet liquids (versus water) throughout the day and night. This may displace their desire for a more balanced diet, according to Karen A. Bonuck, Ph.D., and Richard Kahn, M.S., of the Montefiore Medical Center/Albert Einstein College of Medicine. In the study supported by the Agency for Healthcare Research and Quality (HS10900), they

surveyed caregivers of 95 predominantly Hispanic and black children aged 18-56 months (average age 36 months) about the children's bottle use. The survey was administered when the caregivers arrived for recertification in several Bronx Women's, Infant, and Children (WIC) supplemental feeding programs.

Half of the children were overweight (more than 85th percentile for body mass index, BMI), 36 percent were obese (more than 95th percentile for BMI), and 21 percent met Centers for Disease Control and Prevention criteria for anemia (based on their current blood test data). Two-thirds (63 percent) received daily bottles of milk or sweet liquids, with children receiving anywhere from 3 to 10 bottles a day. As noted, bottle use was significantly associated with iron-deficiency anemia and obesity but was not significantly associated with being overweight.

See "Prolonged bottle use and its association with iron deficiency anemia and overweight: A preliminary study," by Dr. Bonuck and Mr. Kahn, in the October 2002 *Clinical Pediatrics* 41, pp. 603-607. ■

New report provides an overview of children's insurance coverage, health care use and expenditures, and quality of care

American children's use of health care services varies dramatically by the type of health insurance they have, their race/ethnicity, and family income. The quality of care they receive, based on parent reports, also varies by type of coverage. In addition, children's use of hospital services varies substantially across States and by age. These and other findings about U.S. children's health care and insurance coverage are presented in a recent report compiled by Anne Elixhauser, Ph.D., and colleagues at the Agency for Healthcare Research and Quality and the Harvard School of Public Health.

The report reveals that in 2000, 65 percent of children birth to age 17 were privately insured, 22 percent were insured through public sources, and 14 percent were uninsured. Children without health insurance coverage were less likely to use health care services, and when they did, their rates of use and expenditures were lower than insured children. Publicly insured children were the most likely to use

hospital inpatient and emergency department care. Children who were black, Hispanic, or lived in very poor families had lower health care use and expenditures. About 80 percent of all children's health care expenditures were attributed to the 20 percent of children who spent the most for health care services. Although most parents believed the care their children received was good, care quality varied significantly by type of insurance coverage.

There were significant differences across States in the experiences of hospitalized children. Average length of hospitalization across the United States ranged from 2.9 to 4.1 days, and rates of hospital admission through the ED varied across States from 10 to 25 percent. Over half (54.5 percent) of children's hospital stays were paid by private insurance, 37 percent were billed to Medicaid, and 5 percent of stays were uninsured. Reasons for admission varied by age. Respiratory conditions were the most frequent diagnoses for 1-9

year olds, injuries were most frequent for 10-14 year olds, and pregnancy was the most common reason for admission for 15-17 year olds. Mental disorders accounted for over one in seven stays among 10-17 year olds.

The researchers used data from the Medical Expenditure Panel Survey (MEPS), an ongoing, nationally representative survey of medical care use and expenditures, and the Nationwide Inpatient Sample and the State Inpatient Databases, which are part of the Healthcare Cost and Utilization Project. Both data sets are maintained by AHRQ.

More details are in "Health care for children and youth in the United States: 2001 annual report on access, utilization, quality, and expenditures," by Dr. Elixhauser, Steven R. Machlin, M.S., Marc W. Zodet, M.S., and others, in the November 2002 *Ambulatory Pediatrics* 2(6), pp. 419-437. Reprints (AHRQ Publication No. 03-R015) are available from AHRQ.* ■

More than half of all Medicaid-insured children with chronic conditions receive generalist-only care

More than 60 percent of all Medicaid-enrolled children with chronic conditions receive generalist care only. Medicaid-insured children with chronic conditions who receive all of their care from generalists tend to have less complex conditions than those seen jointly by generalists and subspecialists. Children receiving care in generalist-only arrangements also have lower expenditures, perhaps due in part to the lower severity and complexity of their conditions, explains James M. Perrin, M.D., of MassGeneral Hospital for Children and Harvard Medical School.

In a study supported by the Agency for Healthcare Research and Quality (HS09416), Dr. Perrin and his

colleagues examined 1989-1992 Medicaid data on more than 68,000 children from four States to correlate morbidity of chronic disease (complexity or severity) with patterns of generalist and subspecialist use and expenditures among Medicaid fee-for-service children. They included 11 chronic conditions, including both uncommon conditions (for example, spina bifida and hemophilia) and common ones (for example, asthma and attention deficit hyperactivity disorder, ADHD).

Most children (61 percent) saw generalists only. Twenty-eight percent were in predominantly generalist

continued on page 8

Medicaid-insured children

continued from page 7

arrangements, that is, they saw specialists as well as generalists; and only 11 percent were in predominantly subspecialist arrangements, perhaps due to specialists' unwillingness to care for Medicaid-insured children. Children in predominantly generalist arrangements had more severe chronic conditions or other coexisting conditions than children in generalist-only or predominantly subspecialist arrangements. However, the small numbers of children in predominantly subspecialist arrangements limited the validity of this comparison.

Mean yearly expenditures varied by condition, from \$1,306 (ADHD) to \$11,633 (AIDS). Children who saw

only generalists had significantly lower expenditures for 6 of the 11 conditions studied, after adjusting for morbidity. These findings do not support the notion that generalists' relative lack of experience with chronic conditions leads to greater expenditures, for example, by excessive ordering of tests. Dr. Perrin cautions, however, that the finding of lower expenditures for children in generalist-only arrangements may reflect unmeasured variations in morbidity.

See "Generalist and subspecialist care for children with chronic conditions," by Dr. Perrin, Karen A. Kuhlthau, Ph.D., Steven L. Gortmaker, Ph.D., and others, in the November 2002 *Ambulatory Pediatrics* 2, pp. 462-469. ■

Clinical Decisionmaking

Patients with aortic dissection who have syncope are at high risk for life-threatening complications

Acute aortic dissection, which affects mostly hypertensive men between 40 and 60 years of age, occurs when blood seeps through a tear in the aorta, separating the outer and middle layers of the vascular wall. Many of these patients arrive at the emergency department (ED) suffering from chest pain or upper back pain. However, some patients may experience a brief loss of consciousness (syncope). These are the aortic dissection patients who are significantly more likely to have life-threatening complications such as stroke or cardiac tamponade (heart compression caused by the accumulation of fluid or blood in the pericardial sac), according to a study supported in part by the Agency for Healthcare Research and Quality (HS11540).

Physicians must be vigilant for these complications when patients suspected of acute aortic dissection arrive in the ED with syncope. A rapid bedside transthoracic echocardiogram should be performed in those with syncope to rule out cardiac tamponade, the most common cause of death in these patients, suggests Sanjay Saint, M.D., M.P.H., of the University of Michigan Medical School. Dr. Saint and colleagues used the International Registry of Acute Aortic Dissection to identify patients with acute aortic dissection at 18 referral centers in six countries and collected data on key clinical findings and outcomes via extensive questionnaires.

Overall, 13 percent of 728 patients had syncope, with 3 percent who had syncope having no

symptoms of chest or back pain. Patients with syncope were more likely to die in the hospital than those without syncope (34 vs. 23 percent). They also were more likely to have cardiac tamponade (28 vs. 8 percent), stroke (18 vs. 4 percent), and other neurologic deficits such as coma (25 vs. 14 percent). However, nearly half of these patients had none of these complications as an explanation for their loss of consciousness.

See "Syncope in acute aortic dissection: Diagnostic, prognostic, and clinical implications," by Brahmajee K. Nallamothu, M.D., M.P.H., Rajendra H. Mehta, M.D., M.Sc., Dr. Saint, and others, in the October 15, 2002 *American Journal of Medicine* 113, pp. 468-471. ■

Early nephrologist referral of ICU patients with acute renal failure is associated with a reduced risk of death

From 45 to 70 percent of patients who suffer acute renal failure in the intensive care unit (ICU) die.

Patients with delayed consultation with a nephrologist (48 hours or more from the first ICU day) are more likely to die or have longer ICU or hospital stays than those who see a nephrologist relatively early (less than 48 hours from the first ICU day). That's the conclusion of a study supported in part by the Agency for Healthcare Research and Quality (HS06466).

Researchers led by Ravindra L. Mehta, M.D., of the University of California, San Diego, explored associations among timing of nephrology consultation and in-hospital death, length of hospital and ICU stay, and recovery of renal function (not needing dialysis at discharge) in 215 patients admitted to the ICU with acute renal failure at four U.S. teaching hospitals.

Delayed consultation (28 percent of patients) was associated with increased mortality among patients receiving dialysis (74 vs. 49 percent) and those not receiving dialysis (53 vs. 22 percent), as well as longer hospital stays (median of 19 vs. 16 days) and ICU stays (17 vs. 6 days). There was no association between delayed consultation and eventual dialysis (69 vs. 67 percent in delayed vs. non-delayed consultation), although the time to initiation of dialysis was prolonged relative to ICU admission (median of 6 vs. 1 day).

The association between delayed consultation and death was weakened after adjusting for other factors (e.g., age, sex, urine output, liver failure, and other variables) and was no longer significant. Thus, it's not clear whether the consultation itself was responsible for the decrease in mortality risk. The results could still be explained by residual confounding factors, according to Dr. Mehta. Overall, the researchers could not determine whether these findings reflected specific benefits afforded to patients following consultation, adverse effects of delayed recognition of acute renal failure (and perhaps delayed consultation), residual confounding, or selection bias.

See "Nephrology consultation in acute renal failure: Does timing matter?" by Dr. Mehta, Brian McDonald, M.D., Francis Gabbai, M.D., and others, in the October 15, 2002 *American Journal of Medicine* 113, pp. 456-461.

Editor's note: A second article by these researchers describes the data collection effort (also supported by AHRQ grant HS06466) for this study. See "Diuretics, mortality, and nonrecovery of renal function in acute renal failure," by Dr. Mehta, Maria T. Pascual, R.N., M.P.H., Sharon Soroko, M.S., and others in the November 27, 2002 *Journal of the American Medical Association* 288(20), pp. 2547-2553. ■

Researchers explore the most effective management of patients with chronic hepatitis C

Hepatitis C virus (HCV) is a major cause of chronic hepatitis, which progresses in some patients to cirrhosis of the liver—when critical liver functions such as drug detoxification and vitamin absorption markedly deteriorate—and hepatocellular carcinoma (a type of cancer affecting the liver). Between 3 and 4 million people in the United States have chronic hepatitis C, and 10,000 HCV-related deaths occur each year. Without effective treatments, HCV-related problems and death are expected to increase nearly three-fold by the year 2015.

Researchers at the Johns Hopkins University Evidence-based Practice Center recently published the results of three studies on management of chronic hepatitis C, which followed an exhaustive and systematic review of the scientific literature published between January 1996 and March 2002. Their work was supported by the Agency for Healthcare Research and Quality (contract 290-97-0006). The three studies are summarized here.

Chander, G., Sulkowski, M.S., Jenckes, M.W., and others. (2002, November). "Treatment of

chronic hepatitis C: A systematic review." *Hepatology* 36, pp. S135-S144.

The researchers examined studies on the efficacy and safety of current treatments for chronic hepatitis C in previously untreated patients and patients in selected subgroups, as well as treatment impact on long-term clinical outcomes, such as hepatocellular carcinoma and death from liver failure. Results consistently showed that combination therapy with high-dose, once-weekly peginterferon and daily ribavirin was more effective than standard

continued on page 10

Chronic hepatitis C

continued from page 9

three-times-a-week interferon and daily ribavirin in treatment of chronic hepatitis C among previously untreated people infected with HCV genotype 1 (sustained virologic response, SVR, 42 vs. 33 percent) and had similar profiles for safety and tolerance. Studies also consistently showed that ranges of SVR rates were higher with peginterferon than standard interferon monotherapy in previously untreated patients (10 to 39 percent vs. 3 to 19 percent).

Studies also consistently showed that treatment with interferon and ribavirin was more efficacious than interferon alone in previously untreated patients and previous nonresponders to interferon and relapsers. Although more efficacious than retreatment with interferon monotherapy, standard interferon and ribavirin was still relatively ineffective (SVR, 13 to 14 percent) for the treatment of chronic hepatitis C in patients who failed prior interferon-based therapy. Studies were moderately consistent in showing that interferon-based treatment decreased the risk for liver cancer.

Unfortunately, the vast majority of trials either failed to include or specifically excluded patients with relatively higher prevalence of HCV infection (for example, hemodialysis patients, hemophiliacs, those co-infected with HIV, black patients, and patients with psychiatric disorders) and those at increased risk for HCV-related liver disease progression (for example, people coinfecting with HIV or hepatitis B virus). Future trials should address the optimal doses of peginterferon and ribavirin and the optimal duration of therapy, particularly among those infected with HCV genotypes 2 and 3. Understudied

populations (for example, blacks, those with psychiatric disorders, drug addicts, those with end-stage renal disease, and people with HIV infection) should be included in future trials.

Gebo, K.A., Herlong, H.F., Torbenson, M.S., and others. (2002, November). "Role of liver biopsy in management of chronic hepatitis C: A systematic review." *Hepatology* 36, pp. S161-S172.

Some experts have questioned the role of liver biopsy in management of hepatitis C, since its value in predicting treatment response is incompletely defined, and it can be associated with serious complications and significant expense. The researchers reviewed the literature to find out how well the results of pretreatment liver biopsy predicted outcomes of treatment in patients with chronic hepatitis C and how well biochemical blood tests and serologic markers of fibrosis (replacement of smooth muscle with fibrous connective tissue) on liver biopsy.

The evidence suggested that advanced fibrosis or cirrhosis of the liver (lobes of the liver are covered with fibrous tissue, the lobules are infiltrated with fat, and blood flow through the liver is obstructed) on initial liver biopsy was associated with a modestly decreased likelihood of a sustained virologic response (SVR) to treatment. Studies also showed relatively consistently that serum aminotransferases (a class of enzymes) have modest value in predicting fibrosis on biopsy; hyaluronic acid and laminin, which are markers of extracellular matrix degeneration, may have value in predicting fibrosis; and panels of tests may have the greatest value in predicting fibrosis or cirrhosis.

Biochemical and serologic tests were best at predicting no or minimal fibrosis or at predicting advanced fibrosis/ cirrhosis, and they were poor at predicting intermediate levels of fibrosis. Studies on the relation of pretreatment liver biopsy findings to treatment outcomes had important limitations, and few studies discussed the complications of biopsy. Given these limitations, the studies were relatively consistent in suggesting that the presence of advanced fibrosis or cirrhosis on biopsy may predict a modest decrease in the likelihood of having an SVR.

Despite the important limitations of available blood tests, they could have a role in management of patients who are concerned about the risk or cost of a liver biopsy or in a clinical setting in which liver biopsy cannot be readily obtained, according to the researchers. They suggest that future studies focus more on the potential value of a panel of tests for predicting fibrosis than on liver biopsy.

Gebo, K.A., Chander, G., Jenckes, M.W., and others. (2002, November). "Screening tests for hepatocellular carcinoma in patients with chronic hepatitis C: A systematic review." *Hepatology* 36, pp. S84-S92.

The incidence of hepatocellular carcinoma (HCC) in patients with hepatitis C ranges from 0 to 1.6 percent per year, and rises to between 1 and 6 percent for patients with cirrhosis of the liver. Screening patients with chronic hepatitis C with serum alpha-fetoprotein (AFP) and liver ultrasound may improve detection of HCC, according to this systematic review of studies on screening tests to detect HCC in patients with hepatitis C.

continued on page 11

Chronic hepatitis C

continued from page 10

One nonrandomized prospective cohort study suggested that HCC was detected earlier and was more often amenable to surgical resection in patients who had twice yearly screening with serum AFP and hepatic ultrasound than in patients who had usual care. Twenty-four studies, which included patients with chronic hepatitis C or B or both, addressed the sensitivities and specificities of screening tests. They were relatively consistent in showing that the sensitivity of serum AFP for

detecting HCC usually was moderately high at 45 to 100 percent, with a specificity of 70 to 95 percent, for a threshold of between 10 and 19 ng/mL.

Many clinicians use ultrasound to screen for HCC. The few studies that evaluated ultrasound screening for HCC reported high specificity but variable sensitivity, depending on the population being screened. However, these studies varied in the screening frequency, experience of the ultrasonographer, and the extent of liver disease in the screened patients. Studies evaluating AFP

varied widely in study design and patient eligibility criteria.

The researchers caution that it is not clear whether screening for HCC in patients with chronic hepatitis C will identify enough tumors at an early enough (treatable) stage to offset the risk of invasive tests on patients with false-positive screening tests (test shows cancer when there is none). They call for more studies to determine whether routine screening and surveillance for HCC actually improves outcomes in these patients. ■

Primary Care

Almost one-third of depressed primary care patients reported either hazardous drinking, use of illicit drugs, or misuse of prescription drugs

Just under one-third of depressed primary care patients misuse drugs or alcohol. Problem drinking, marijuana use, and the misuse of prescription sedatives and opioids (synthetic narcotics) are particularly common, according to a study supported in part by the Agency for Healthcare Research and Quality (HS08349). Clinicians should broadly screen all depressed patients for substance misuse, including patients with only a few depressive symptoms who do not meet the criteria for depressive disorder, concludes Kenneth B. Wells, M.D., M.P.H., of RAND. Dr. Wells and his colleagues screened patients with depressive symptoms or disorders seen in rural, suburban, and urban primary care clinics of six managed care organizations.

Among 1,187 demographically diverse depressed patients, 44 percent had depressive symptoms only, 56 percent had depressive disorders, and 44 percent also had coexisting anxiety disorders. Twenty-seven percent of the patients said they had used at least one illicit drug or misused a prescription drug in the past 6 months. Problem use of prescription drugs, mostly sedatives and tranquilizers, was more common (19 percent) than use of illicit drugs (12 percent), mostly marijuana and hashish. Eleven percent of the group had

a pattern of hazardous drinking; 6 percent had both hazardous drinking and used at least one illicit drug, and 9 percent used multiple drugs. In these patients, hazardous drinking increased the odds of marijuana use; prescription opioid misuse and hazardous drinking increased the odds of sedative misuse; and sedative misuse increased the odds of opiate misuse.

These findings suggest that problem substance use is common among patients with either depressive symptoms or depressive disorders in community-based managed primary care clinics. Problem drinking, marijuana use, and the misuse of prescription sedatives and opioids are particularly common and occur across different clinical and demographic groups of primary care patients, often contrary to expectations based on community surveys. The researchers conclude, therefore, that primary care physicians should go beyond current practice recommendations to screen patients for substance misuse in the presence of depressive symptoms or disorder.

See "Problem substance use among depressed patients in managed primary care," by Carol A. Roeloffs, M.D., M.S.H.S., Dr. Wells, Douglas Ziedonis, M.D., M.P.H., and others, in the September 2002 *Psychosomatics* 43(5), pp. 405-412. ■

Family physicians vary in the types of referrals they make for patients with several common conditions

Why some family doctors refer patients with a particular condition to surgeons while others refer patients with the same condition to medical specialists is unclear. However, the referral predispositions of family physicians greatly affect the nature of subsequent care received by patients, that is, whether they receive medication or surgery, the extent of tests and procedures they undergo, and related costs. A recent study supported in part by the Agency for Healthcare Research and Quality (HS09377) examined primary care physician decisionmaking about referrals for several common adult and pediatric conditions.

Lead author, Barbara Starfield, M.D., M.P.H., of Johns Hopkins University, and her colleagues asked 136 family physicians in 80 office-based practices their reasons for referrals made during office

visits to the most common types of specialists and what they expected from the specialists. Office staff recorded all referrals in a log, and physicians completed a questionnaire for each referral made during the 15 practice-day study period.

Family doctors most commonly referred patients to 15 types of specialists, ranging from psychiatrists and gastroenterologists to neurologists, cardiologists, and orthopedic surgeons. Of the 147 conditions with referrals, 53 were referred to only one type of specialist. Twenty-eight conditions had referrals to both physicians and nonphysicians.

More than 50 percent of referrals to specialists were for consultation only rather than direct intervention. Most referrals to allergists, psychiatrists, and nonphysicians were for shared

management. In contrast, most referrals to general surgeons, gastroenterologists, obstetricians-gynecologists, and otolaryngologists were for tests or special procedures. Four of the 10 conditions with more than seven referrals to each type of specialist had referrals to both medical and surgical specialists. However, in most cases, there were no apparent differences in the reason for the referral (including severity of the condition) or expectations about the referral that would explain the choice of specialist.

See "Variability in physician referral decisions," by Dr. Starfield, Christopher B. Forrest, M.D., Ph.D., Paul A. Nutting, M.D., M.S.P.H., and Sarah von Schrader, M.A., in the November 2002 *Journal of the American Board of Family Practice* 15, pp. 473-480. ■

Higher primary care density is associated with fewer preventable hospital admissions

Certain hospital admissions are potentially preventable by appropriate outpatient care. These ambulatory-care-sensitive (ACS) admissions range from uncontrolled asthma, diabetes, and hypertension to bacterial pneumonia, severe urinary tract infections, and dehydration. Preventable hospitalizations are less likely in areas that have higher primary care density, according to a study by researchers at the Agency for Healthcare Research and Quality.

Jayasree Basu, Ph.D., Bernard Friedman, Ph.D., and Helen Burstin, M.D., examined the association between potentially preventable hospitalizations and other factors, including primary care availability and health maintenance organization (HMO) enrollment (which emphasizes primary care). To accomplish this, they analyzed 1995 hospital discharge files (AHRQ's Healthcare Cost and Utilization Project) of New York

residents (aged 20 to 64 years) hospitalized in New York or in either of three nearby States.

The researchers compared ACS admissions with marker admissions (urgent, but non-ACS, such as hip fracture and heart attack) and referral-sensitive surgeries (usually based on physician discretion, such as hip joint replacement), using the individual discharge as the unit of analysis. Although 15.4 adult patients per 1,000 adults in the U.S. population were admitted with an ACS condition in 1995, only 2.6 adults per 1,000 were admitted for referral-sensitive conditions and only 2.2 per 1,000 for marker conditions.

One additional primary care physician per 1,000 population (a doubling of the average availability) in a county was associated with an 80 percent lower probability of an ACS admission relative to marker

continued on page 13

Primary care density

continued from page 12

admissions. Surprisingly, a greater supply of primary care was also associated with fewer referrals to hospitals. A private HMO-covered patient (but not an HMO-covered Medicaid beneficiary) was less likely to be an ACS admission. All Medicaid patients were more likely than other patients to be admitted for ACS conditions and less likely to be admitted for referral-

sensitive procedures. Density of specialists was not associated with ACS admissions.

See "Primary care, HMO enrollment, and hospitalizations for ambulatory care sensitive conditions: A new approach," by Drs. Basu, Friedman, and Burstin, in *Medical Care* 40(12), pp. 1260-1269, 2002. Reprints (AHRQ Publication No. 03-R014) are available from AHRQ.** ■

Pharmaceutical Research

Epoetin treatment reduces anemia and related transfusions for certain cancer patients

Erythropoietin is a hormone, produced primarily in the kidney, that helps to regulate production of red blood cells. Epoetin (recombinant human erythropoietin) was developed in the 1980s as a treatment for anemia. Anemia is relatively common among cancer patients and may be caused by the effects of treatment, the underlying disease, or both. According to a recent systematic review of the evidence, use of epoetin can reduce anemia and anemia-related transfusions for some cancer patients.

A comprehensive review of controlled clinical trials on the benefits of epoetin for cancer patients with anemia was conducted by the Blue Cross and Blue Shield Association Technology Evaluation Center Evidence-based Practice Center, which is supported by the Agency for Healthcare Research and Quality (contract 290-97-0015). A team of researchers led by Naomi Aronson, Ph.D., reviewed studies comparing the outcomes of

managing anemia with epoetin with transfusion alone in four patient groups: one, anemia due primarily to cancer therapy; two, anemia due primarily to malignancy; three, patients who are anemic as a result of bone marrow ablation prior to autologous stem-cell transplantation (using the patient's own stem cells); and four, patients who are anemic as a result of allogeneic stem-cell transplantation (using donor stem cells).

The most robust evidence showed that epoetin treatment improved transfusion outcomes of cancer patients concurrently undergoing cancer therapy (radiation or chemotherapy). Consistent evidence demonstrated that epoetin reduced transfusion requirements if treatment was begun when declining hemoglobin levels approach 10 g/dL. More limited evidence suggested that epoetin also improved quality of life for mildly anemic patients. However, definitive information on the optimal hemoglobin threshold and dosing for initiating epoetin

treatment remains unclear. Finally, evidence showed epoetin modestly decreased time (by 1 to 2 weeks) to red cell engraftment for those undergoing allogeneic (but not autologous) stem cell rescue following bone marrow ablation.

More details are in "Systematic review of controlled trials on erythropoietin to support evidence-based guidelines," by Jerome Seidenfeld, Ph.D., Margaret Piper, Ph.D., and Dr. Aronson, in the September 2002 *Oncology* 16(9), pp. 171-188.

Editor's note: Copies of AHRQ Evidence Report/Technology Assessment No. 30, *Uses of Epoetin in Oncology* (AHRQ Publication No. 01-E009)* and a summary of the report (AHRQ Publication No. 01-E008)** are available from AHRQ. See the back cover of *Research Activities* for ordering information. ■

Pediatricians may feel pressured to prescribe antibiotics when parents imply a diagnosis that warrants them

Some parents only discuss their child's symptoms when they visit the pediatrician, while others directly or indirectly suggest a "candidate diagnosis." When parents offer symptoms only, for example, "he has a rash all over his body," pediatricians perceive that parents simply want a medical evaluation of their child. When parents offer a candidate diagnosis (for example, "I think she probably has an ear infection because she's been having pain"), pediatricians perceive that parents are looking for confirmation of the diagnosis and treatment for that illness, usually antibiotics. That's the conclusion of a study by Tanya Stivers, Ph.D., of the University of California at Los Angeles.

In a study supported by the Agency for Healthcare Research and Quality (HS10577), Dr. Stivers analyzed conversations between parents and pediatricians from 295 audiotaped acute care visits and 65 videotaped well-child and acute care visits involving a total of 14 physicians to examine how pediatricians responded to these two parental approaches. Parents mentioned symptoms only in 52 percent of total cases, parents directly mentioned a candidate diagnosis in 16 percent of cases, and they indirectly implied a diagnosis in 10

percent of cases by stating symptoms so specific as to imply a diagnosis (for example, citing green nasal discharge to indicate sinusitis or a "barky" cough to indicate croup).

In response to a symptoms-only presentation, pediatricians typically moved from it directly into an investigation of the child's problem, either by physical examination or history taking, and formulated their subsequent diagnoses as direct, positively formulated announcements. In contrast, doctors responded to articulated or implied candidate diagnoses by confirming or disconfirming the proposed diagnosis and discussing the relevance of antibiotic treatment during their final diagnosis and treatment recommendation. Of the total candidate diagnoses offered, 82 percent are typically treated with antibiotics, thus causing doctors to perceive parental pressure to prescribe antibiotics or defend why they won't prescribe antibiotics.

More details are in "Presenting the problem in pediatric encounters: 'Symptoms only' versus 'candidate diagnosis' presentations," by Dr. Stivers, in *Health Communication* 14(3), pp. 299-338, 2002. ■

Centers for Education and Research on Therapeutics help promote use of life-saving therapies and avoidance of high-risk therapies

The Centers for Education and Research on Therapeutics (CERTs) program, administered by the Agency for Healthcare Research and Quality in close collaboration with the Food and Drug Administration, is described in a recent article by Lynn A. Bosco, M.D., M.P.H., of AHRQ, and her colleagues. The CERTs mission is to conduct research and provide education that will advance the optimal use of drugs, medical devices, and biological products.

The seven CERTs aim to develop knowledge about therapies and how best to use them; manage risk by improving the ability to measure both beneficial and harmful effects of therapies as used

in practice; improve practice by advancing strategies to ensure that therapies are used always and only when they should be; and inform policies by describing the state of clinical science and the effects of current and proposed policies.

There currently are 98 ongoing CERTs research and education projects on topics ranging from anti-infectives, cardiovascular diseases, musculoskeletal diseases, and drug interactions to improving therapy in managed care organizations. Two CERTS projects from the Duke University Medical Center are typical of the program; they focus on assuring use of life-saving therapies and avoiding misuse of high-risk therapies for

patients with cardiovascular disease.

The goal of one project is to increase the use of lifesaving beta-blockers in appropriate congestive heart failure (CHF) patients via a fact sheet for health care professionals that summarizes data on beta-blockers for treatment of CHF, a toll-free hotline for questions, and an educational brochure for patients. Results from this study will demonstrate whether this is an effective intervention. Another project is evaluating the impact of a physician education program on appropriate prescribing of a new drug, dofetilide, which is used to treat atrial fibrillation.

continued on page 15

CERTs program

continued from page 14

If warnings and dosage instructions are not heeded, the drug can cause a potentially life-threatening ventricular arrhythmia. The Center

is working closely with the FDA to provide feedback on its findings.

See “Centers for Education and Research on Therapeutics (CERTs),” by Judith M. Kramer, M.D., M.S., Dr. Bosco, and Robert

M. Califf, M.D., in the *Drug Information Journal* 36, pp. 717-723, 2002. Reprints (AHRQ Publication No. 03-R013) are available from AHRQ.** ■

Quality/Access to Care

Studies focus on the quality of hospital emergency care

Hospital emergency care takes place in a high-volume, highly complex environment that is prone to errors and quality concerns. Patients often arrive at the emergency department (ED) in large numbers with problems ranging from heart attacks and HIV complications to burns, gunshot wounds, and domestic violence. They must be quickly triaged for surgery, hospital admission, or other types of care. ED clinicians often must make rapid, life-altering clinical decisions with little knowledge of the patient. Three recent articles are summarized here that focus on quality of care in EDs; a fourth study describes a tool for use by hospitals in assessing their domestic violence intervention programs.

The first article, by Robin M. Weinick, Ph.D., of the Center for Primary Care Research, Agency for Healthcare Research and Quality, reveals the limitations of large data sets in conveying the rich complexity of care in the ED. In the second article, Helen Burstin, M.D., M.P.H., Director of AHRQ’s Center for Primary Care Research, discusses the important role of EDs in improving patient safety and reducing medical errors in the ED. The third AHRQ-supported study (HS11592) by Pat Croskerry, M.D., Ph.D., of Dalhousie University Medical School, suggests cognitive

strategies to improve clinical decisionmaking in the ED. Finally, measures to evaluate the quality of ED-based domestic violence programs are described in the fourth article by Jeffrey H. Coben, M.D., formerly AHRQ’s Domestic Violence Scholar-in-Residence and currently with the Allegheny-Singer Research Institute. The four articles are described here.

Weinick, R.M. (2002, November). “Things my data never told me.” *Academic Emergency Medicine* 9(11), pp. 1071-1073.

Existing large-scale data collection efforts such as the National Hospital Ambulatory Medical Care Survey, the Medical Expenditure Panel Survey, and the Healthcare Cost and Utilization Project each provide unique information on visits to EDs. They contain data on the number of visits made, the diagnoses, procedures, and medications involved; the individual characteristics of patients; and charges and payments for visits. The challenge is how to go beyond this information to understand a broader spectrum of the ED experience, suggests Dr. Weinick.

Large-scale data sets are unable to capture the complexities of everyday experiences in the ED, including patterns of staff activity, the impact that conditions elsewhere in the hospital have on

the ED, and the communication and teamwork required. Smaller efforts, whether quantitative or qualitative, often have the ability to capture this greater detail and richness, but they are limited in usefulness by their smaller sample sizes and a less representative scope of data collection. The challenge lies in the tradeoff between large-scale efforts that give an overview of many people’s experiences and gathering the depth of information that brings added real-world relevance. Health services research on emergency medicine needs data from the patient, staff, and system perspectives that can be compared across institutions to increase knowledge, improve working conditions, reduce waiting times and overcrowding, and improve patient experiences and care quality.

Reprints (AHRQ Publication No. 03-R019) are available from AHRQ.**

Burstin, H. (2002, November). “Crossing the quality chasm in emergency medicine.” *Academic Emergency Medicine* 9(11), pp. 1074-1077.

The Institute of Medicine (IOM) report, “Crossing the Quality Chasm,” estimated that between 44,000 and 98,000 deaths per year are from medical injury. Dr. Burstin

continued on page 16

Hospital emergency care

continued from page 15

suggests several ways to improve ED quality of care and patient safety, such as use of electronic medication prescribing and stand-alone, hand-held decision support systems. She recommends developing effective ED reporting systems that could help reduce ED medical errors and near misses; examining areas of high risk for error within the ED, such as triage misdiagnosis or misreading of radiology films; and use of error analysis tools, such as root cause analysis, to learn from errors.

She also suggests several ways to improve emergency care effectiveness, such as focusing on underuse and overuse of diagnostic and therapeutic approaches in ED medicine. For example, it has already been recommended that ED clinicians increase their use of currently underused lifesaving thrombolytic (clot-busting) therapy for heart attack victims. Improved ED efficiency will also result from better timeliness of ED services, such as quicker administration of antibiotics to pneumonia patients and thrombolytics to heart attack patients, as well as a better understanding of factors leading to ED overcrowding and ambulance diversion.

In addition, developing, testing, and evaluating ED information systems may help reduce diagnostic testing and get information to the primary care providers who need to continue the care of patients when they leave the ED. Making emergency care more patient-centered, for example, by not moving patients in pain from place to place and by involving families in ED care, will improve quality of care. Finally, Dr. Burstin calls for reducing disparities in care by ensuring that the patients with the

highest need get high-technology, potentially lifesaving therapies, regardless of their race, ethnicity, language, or ability to pay. EDs need to provide more culturally and linguistically appropriate care. Trained interpreters must be available to patients when they need them in order to get adequate patient histories and avoid medical errors.

Reprints (AHRQ Publication No. 03-R011) are available from AHRQ.**

Croskerry, P. (2002, November). "Achieving quality in clinical decision making: Cognitive strategies and detection of bias." *Academic Emergency Medicine* 9(11), pp. 1184-1204.

Decisions by ED physicians often serve as a barometer of good emergency care. Yet they typically make them for patients whom they do not know and whose illnesses they see through only small windows of focus and time. Attending ED physicians are often responsible for ten or more patients at a time, with one shift involving thousands of individual decisions about diagnoses, tests, and treatments. This cognitive overload is further complicated by ED resource limitations, interruptions, distractions, and shift changes. It is important that emergency physicians understand how to detect the weaknesses and biases in each of their cognitive strategies in order to make good clinical decisions, notes the author.

Dr. Crosskerry attributes medical errors arising from ED physician decisions to one or more cognitive biases or dispositions to respond in a particular way. For example, ruling out worse-case scenario (ROWS) is a cognitive strategy of safety that errs on the side of caution, with the physician matching a patients' chest pain symptoms

against the worst cases of unstable angina or heart attack. However, this approach depends on a physician's experience, and idiosyncratic applications of ROWS may lead to overuse of resources. Another cognitive bias is the tendency for a particular diagnosis to become established without adequate evidence, so-called diagnosis momentum. Decisions may also be based on male/female bias, for example, when ED caregivers are more vigilant for signs of domestic violence in females than males.

Cognitive errors due to such biases or dispositions often underlie delayed or missed diagnoses, a frequent cause of medical error. The increasing use of clinical decision rules, as well as other aids that reduce uncertainty and cognitive load, for example, computerized clinical decision support, will improve certain aspects of clinical decisionmaking. However, flesh-and-blood clinical decisionmaking will remain, and there will always be a place for intuition and clinical acumen. Instructing physicians in training about typical errors and how to avoid them, so-called de-biasing, may improve their decisions while waiting for the better judgment that comes from experience.

Coben, J.H. (2002, November). "Measuring the quality of hospital-based domestic violence programs." *Academic Emergency Medicine* 9(11), pp. 1176-1183.

Emergency medicine has been at the forefront of many health care initiatives to treat the growing number of victims of domestic violence. Prior research shows that domestic violence victims have perceived health care providers as uncaring and uninterested in their problem. Providers have also

continued on page 17

Hospital emergency care

continued from page 16

reported discomfort with the topic of domestic violence, inadequate training on the topic, and little knowledge of community resources. This author developed a consensus among a panel of 18 experts, including domestic violence researchers, program planners, and advocates, on measures useful for evaluating the quality of hospital-based domestic violence programs. Following several rounds of scoring on the usefulness of various measures for evaluating hospital-based domestic violence programs, the experts agreed on a total of 37 measures.

These measures fell within nine different domains of domestic

violence program activities: policies and procedures, hospital physical environment, hospital cultural environment, training of providers, screening and safety assessment, documentation, intervention services, evaluation activities, and collaboration with local programs. For example, hospital performance would be rated highly if a hospital had written policies on domestic violence, a domestic violence task force, a standardized screening instrument, good collaboration with local domestic violence programs, an intervention checklist for staff use when victims are identified, available inpatient beds for victims who cannot go home or cannot get to a shelter, transportation for victims if needed, routine psychological assessments

performed within the context of the program, followup victim contact and counseling, on-site legal counseling, and services for children of victims.

The measures also evaluated a hospital program's preventive outreach and public education activities; qualifications of the domestic violence coordinator; availability of forensic photography; coordination with local police/prosecutor; staff and administration knowledge and attitudes about domestic violence as a health care issue; and client satisfaction and community feedback on the program. These performance measures require refinement but should aid hospital efforts to implement domestic violence programs, monitor progress, and improve quality. ■

Researchers examine access to care and quality for Medicaid MCO enrollees who have disabilities

Many disabled Supplemental Security Income (SSI) recipients are enrolled in Medicaid managed care plans. Their disabilities, ranging from mental retardation and paralysis to severe diabetes and blindness, may challenge managed care organizations (MCOs). These vulnerable individuals often need ongoing specialist care, and they may require extensive social supports and coordination.

The access to care provided to Medicaid managed care enrollees with disabilities and the quality of care they receive seem to depend on network size, financial incentives, how tightly their health care use is managed, and State requirements, according to a study by Steven C. Hill, Ph.D., of the Agency for Healthcare Research and Quality, and Judith Wooldridge, M.A., of Mathematica Policy Research. Mathematica surveyed blind/disabled SSI enrollees in four MCOs serving TennCare, Tennessee's Medicaid managed care program, from 1998 through spring 1999. The researchers compared enrollee reports of access to care and quality across the four MCOs, controlling for enrollee characteristics.

Although the four MCOs' characteristics varied, access to providers, coordination of care, and access to

some services were generally similar across MCOs. None of the MCOs provided much care coordination. Instead, most often a family member or friend coordinated care.

The plans reported using similar utilization review methods, but access to specialists and delays in getting care differed for OmniCare and Blue Care enrollees. OmniCare enrollees were most likely to report that they had to wait for the plan's approval before obtaining care (23 percent) and that their plan failed to refer them to a specialist when they needed one (10 percent). Blue Care enrollees were the least likely to report delays in receiving approval of care, and they gave higher ratings for access to specialists. The researchers conclude that the differences in access to services among plans may be due to differences in how tightly utilization was reviewed, rather than to characteristics reported by the plans.

See "Plan characteristics and SSI enrollees' access to and quality of care in four TennCare MCOs," by Dr. Hill and Ms. Wooldridge, in the October 2002 *Health Services Research* 37(5), pp. 1197-1220. Reprints (AHRQ Publication No. 03-R012) are available from AHRQ.* ■

Managed care appears to reduce disparities in the use of preventive care for some racial/ethnic groups

Ethnic disparities in access to care are a continuing problem in the United States. Managed care, which focuses on preventive care, appears to improve the use of preventive care for Hispanics and whites but not for blacks or Asians/Pacific Islanders, finds a study supported in part by the Agency for Healthcare Research and Quality (HS10771 and HS10856). Lead author, Jennifer S. Haas, M.D., M.S.P.H., and colleagues at the University of California, San Francisco, examined 1996 data on preventive health care use by people enrolled in fee-for-service (FFS) and managed care plans from AHRQ's Medical Expenditure Panel Survey (MEPS) of noninstitutionalized U.S. civilians.

They examined use by whites, blacks, Hispanics, and Asians/Pacific Islanders of four

preventive health screenings: mammography within the past 2 years for women aged 50-75; clinical breast exam within the past 2 years for women between 40 and 75; Pap smear within the past 2 years for women between 18 and 65; and cholesterol screening within the past 5 years for men and women older than 20 years. After adjustment for age and other factors, Hispanic women enrolled in a managed care plan reported higher rates of mammography (predicted probability of 86 vs. 72 percent for women insured by FFS plans), breast exam, and Pap smear than Hispanic women with FFS insurance.

Whites insured by managed care were also more likely than whites with FFS coverage to receive mammography and cholesterol screening. There were no significant differences in the

receipt of preventive care for blacks or Asians/Pacific Islanders by type of insurance. Managed care may improve access to a usual source of care for Hispanics, who are much more likely to lack a usual source of care than whites. On the other hand, use of many preventive tests by blacks has approached rates of use by whites in recent years. Also, the sample size was limited for blacks and Asians/Pacific Islanders for some preventive care measures, which may have limited the ability to find ethnic differences in preventive care in these groups.

More details are in "Effect of managed care insurance on the use of preventive care for specific ethnic groups in the United States," by Dr. Haas, Kathryn A. Phillips, Ph.D., Dean Sonneborn, M.A., and others, in *Medical Care* 40(9), pp. 743-751, 2002. ■

Reducing racial and ethnic disparities in care continues to be an AHRQ research priority

Racial and ethnic minorities often receive inferior quality of care compared with whites, even after controlling for insurance status and socioeconomic status. The Agency for Healthcare Research and Quality has supported efforts to identify and ameliorate racial and ethnic disparities in care since the Agency's inception in 1989. In a recent article, Carolyn M. Clancy, M.D., Director of the Agency, and her AHRQ colleagues, Daniel B. Stryer, M.D., and Robin M. Weinick, Ph.D., summarize AHRQ initiatives in this area.

AHRQ-supported work documenting care disparities has revealed, for example, that women of Asian, African, and Hispanic descent wait more than twice as long as white women between having an abnormal screening mammogram and receiving followup testing to diagnose breast cancer. Other

AHRQ-supported research clarifies some of the underlying causes of disparities. For instance, Hispanics with diabetes often face economic barriers to treatment and are reluctant to place their own medical needs over those of family members.

Under a 5-year, \$45-million initiative, AHRQ is supporting nine Excellence Centers to Eliminate Ethnic/Racial Disparities (EXCEED) across the country. The themes of the EXCEED projects include communication, cultural competence, Native American elders, and the interaction of the patient, the provider, and the health care system.

Three AHRQ-sponsored databases and tools—the Healthcare Cost and Utilization Project (HCUP), the Medical Expenditure Panel Survey (MEPS), and the

continued on page 19

Reducing disparities

continued from page 18

Consumer Assessment of Health Plans Study®— provide the basis for a wide variety of research on racial and ethnic disparities in care. For example, research using HCUP data found that Hispanics have higher rates of inpatient noninvasive diagnostic testing for cerebrovascular disease but lower rates of invasive testing and therapeutic procedures.

AHRQ also supports the training and development of minority researchers and those interested in

minority health, for example, through the National Research Service Award program, and the Minority Research Infrastructure Support Program. The Agency also funds numerous Practice-Based Research Networks and Translating Research into Practice projects that are related to disparities.

See “Reducing racial and ethnic disparities in health care,” by Drs. Stryer, Weinick and Clancy, in the October 2002 *Health Services Research* 37(5), pp. xv-xxvi. Reprints (AHRQ Publication No. 03-R009) are available from AHRQ.** ■

Dental Research

Factors beyond private dental insurance coverage influence a person's use of dental care

People with private dental coverage are more likely to visit a dentist, have a greater number of visits, and have higher dental expenditures than those without coverage. However, private dental insurance coverage is not the only determinant of dental care use. Other factors play key roles and should be considered in programs to improve use of dental care and control related expenses, suggests Richard J. Manski, D.D.S., M.B.A., Senior-Scholar-in-Residence in the Center for Cost and Financing Studies, Agency for Healthcare Research and Quality.

Dr. Manski and his colleagues at the University of Maryland Dental School and AHRQ used data from the Medical Expenditure Panel Survey of the U.S. civilian community-based population during 1996 to examine dental coverage, dental visits, and related expenditures.

Overall, 51 percent of people surveyed had private dental coverage in 1996. Fifty-seven percent of those who had coverage compared with 29 percent of those who did not reported at least one dental visit during the year. Among those with at least one visit, people with coverage reported a higher number of visits per year (2.65 vs. 2.42) and higher mean dental expenditures (\$417.20 vs. \$298.70) than those without coverage. However, key demographic and socioeconomic variables were associated with dental care use, independent of private dental insurance coverage.

For example, people at a low income level made fewer visits to the dentist and had lower expenditures than people at a high income level, regardless of insurance coverage, age, sex, race/ethnicity, and other household characteristics. Also, whites had

more dental visits and higher expenditures than blacks or Hispanics. Finally, although females had more dental visits than males, there were no differences in expenditures between the two sexes. Age-specific and rural- or urban-specific associations were more complex.

More details are in “Private dental coverage: Who has it and how does it influence dental visits and expenditures?” by Dr. Manski, Mark D. Macek, D.D.S., Dr.P.H., and John F. Moeller, Ph.D., in the November 2002 *Journal of the American Dental Association* 133, pp. 1551-1559. Reprints (AHRQ Publication No. 03-R008) are available from AHRQ.** ■

AHRQ launches new Web-based medical journal with patient safety lessons drawn from actual cases

The Agency for Healthcare Research and Quality recently launched a monthly peer-reviewed, Web-based medical journal that showcases patient safety lessons drawn from actual cases of medical errors. Called AHRQ WebM&M (Morbidity and Mortality Rounds on the Web), the Web-based journal (www.webmm.ahrq.gov) was developed to educate health care providers about medical errors in a blame-free environment.

In hospitals across the country, clinicians routinely hold morbidity and mortality (M&M) conferences to discuss specific cases that raise issues regarding medical errors and quality improvement. Until now, there has been no comparable national or international forum to discuss and learn from medical errors. AHRQ

researchers saw the opportunity to use the Web to host an ongoing national M&M conference aimed at improving patient safety by sharing information from anonymous cases.

The AHRQ WebM&M Web site offers the medical community a unique opportunity to learn about patient safety from the experiences of their colleagues across the country and around the world, and the anonymity safeguards will enable physicians to share their experiences without fear of reprisal. This physician involvement will contribute to the education of other providers about how to prevent medical errors and improve patient safety.

Go to www.webmm.ahrq.gov to find out how you can register, submit a case, earn CME credit, and more. ■

Announcements

AHRQ and AcademyHealth to sponsor workshops for researchers on new privacy rules

On April 14, 2003, Federal regulations will go into effect that limit to whom health plans, providers, and clearinghouses can release identifiable health information. Without an understanding of the regulation, many health services researchers will see their ability to obtain and use health information curtailed.

The Agency for Healthcare Research and Quality and AcademyHealth are presenting workshops to educate health services researchers about their responsibilities under the new rules.

For your convenience, the 1-day workshop, "Playing By New Rules: Privacy and Health Services

Research," will be held in two locations:

Wednesday, March 19, 2003

8:00 a.m. - 5:00 p.m.

Sir Francis Drake Hotel
San Francisco, CA

Tuesday, April 29, 2003

8:00 a.m. - 5:00 p.m.

Hilton Washington, Dulles Airport
Washington, DC

The workshop will address critical questions such as:

- What meets the legal requirements for personally identifiable health information?
- Why does de-identified information need to be protected?

- What types of linkages are allowed between data and identifiers?
- What is the new limited data set that researchers will have access to and how can access be achieved?
- How can researchers use data while protecting the public?
- What are the consequences of failing to protect this information?
- What entities are covered by the regulation and how is their identifiable data acquired?

Learning will be facilitated through lecturers, case studies, and breakout sessions. Faculty include:

continued on page 21

Workshops on privacy rules

continued from page 20

Mary Durham, Ph.D., Kaiser Foundation Hospitals, Center for Health Research.

J. Michael Fitzmaurice, Ph.D., Senior Science Advisor for Information Technology, AHRQ.

Jennifer Kulynych, J.D., Ropes & Gray

Hal Luft, Ph.D., Director, Institute for Health Policy Studies, University of California, San Francisco.

Carol Stocks, R.N., M.H.S.A., Health Services Administrator, AHRQ.

Elliot Stone, Executive Director and CEO, Massachusetts Health Data Consortium.

For more information or to register, go to www.academyhealth.org or call 202-292-6700. ■

Correction: An incorrect title and publication date were given for an article authored by Laurel Radwin that was summarized on page 30 of the December 2002 issue of *Research Activities*. The correct citation is: Radwin, L. (2002). Refining the quality health outcomes model: Differentiating between client trait and state characteristics." (AHRQ grant K08 HS11625). *Nursing Outlook* 50, pp. 168-169. ■

Grant final reports now available from NTIS

The following grant final reports are now available for purchase from the National Technical Information Service. Each listing identifies the project's principal investigator (PI), his or her affiliation, grant number, and project period and provides a brief description of the project. See the back cover of *Research Activities* for ordering information.***

Records of all 750,000 documents archived at the National Technical Information Service—including many AHRQ documents and final reports from all completed AHRQ-supported grants—can now be searched on the new NTIS Web site. Also, all items in the database from 1997 to the present now can be downloaded from the NTIS Web site.

Documents from 1-20 pages are free; documents 21 pages and over are \$8.95 per download. Go to www.ntis.gov for more information.

Editor's note: In addition to these final reports, you can access information about these projects from several other sources. Most of these researchers have published findings in the professional

literature, and many have been summarized in *Research Activities* during the course of the project.

To find information presented in back issues (1995-present) of *Research Activities*, go the AHRQ Web site at www.ahrq.gov and click on "Research Activities: Online Newsletter" and then "Search Research Activities." To search for information, enter either the grant/contract number or principal investigator's name in the query line. A reference librarian can help you find related journal articles through the National Library of Medicine's Pub Med.

***Achieving Optimal Outcomes in Primary Care.* Emmanuel O. Quaye, M.D., Morehouse School of Medicine, Atlanta, GA. AHRQ grant HS10948, project period 6-1-01-5/31/02.**

This project provided support for a conference for providers and policymakers on ways to translate evidence into practice to overcome barriers and improve primary care for target groups. Topics included: disparities related to ethnicity, sex, and geographic location in the incidence and mortality of stroke

and other cardiovascular diseases; cardiovascular risk factors such as obesity, hypertension, and smoking; and disparities among providers in knowledge about those risk factors. Other risk factors and poor outcomes in vaccine preventable diseases, mental health disorders, cancer, diabetes, and obesity were addressed, as was the disproportionate rise in the incidence of HIV infection among minorities and women. Over 40 faculty and more than 400 participants from 13 States attended the conference, which resulted in the development of a working coalition committed to reducing disparities in health outcomes in the Southeast region of the United States. (Abstract and conference proceedings, NTIS accession no. PB2003-100053; 26 pp, \$23.00 paper, \$12.00 microfiche)***

***Cognitive Retraining in Survivors of Sudden Cardiac Arrest.* Mary J. Sauve, D.N.S., R.N., University of California, Davis. AHRQ grant**

continued on page 22

Grant final reports

continued from page 21

HS10701, project period 2/1/00-1/31/02.

The purpose of this pilot study was twofold: one, to determine whether two targeted cognitive rehabilitation interventions could improve memory functioning in survivors of sudden cardiac arrest; and two, to assess whether improvements in memory function as determined by standardized neuropsychological tests are accompanied by improvements in functional status as determined by self report, spouse assessments, and subject's performance on a novel task similar to those used during training. Four subjects, three men and one woman, with a mean age of 61 years underwent both the mnemonic and control learning conditions. Neuropsychological test results indicated that all but one subject increased their scores in attention and late recall achieving either normal or mildly depressed scores. However, only one subject was able to maintain these gains over the subsequent 2 to 4 months. In contrast, measures of functional status including performance on the novel task showed a sustained gain in function which was augmented by the general memory strategies used in the control condition. These preliminary results indicate that computerized training using a targeted mnemonic strategy focused on the clustering of related items is potentially useful for boosting recall memory in impaired patients. (Abstract, executive summary, and final report, NTIS accession no. PB2003-100297; 30 pp, \$23.00 paper, \$12.00 microfiche)***

Consumer Assessments of Health Plans Study. Lauren D. Harris-Kojetin, Ph.D., Research Triangle Institute, Research Triangle Park,

NC. AHRQ grant HS09218, project period 9/30/95-4/30/02.

To help strengthen the scientific base underlying consumer surveys and reports within the health care industry, AHRQ awarded cooperative agreement grants to three consortia led by RTI, RAND, and Harvard, respectively, to pursue the Consumer Assessment of Health Plans Study (CAHPS) major quality-based initiative to assist consumers in selecting health care plans. CAHPS involved three main objectives: one, design surveys to measure the experiences of health plan members; two, design reports to provide feedback on survey results to consumers; and three, evaluate the implementation and impact of the CAHPS products in real-world settings. Between September 1995 and April 2002, the consortia worked collaboratively to achieve these objectives among a variety of populations, including commercially insured adults and children, Medicaid recipients, people with chronic illnesses, people enrolled in different care delivery systems, non-English speaking enrollees, and Medicare beneficiaries. The CAHPS final report describes the main activities and findings from over 15 projects conducted under CAHPS to achieve these objectives. (Abstract, executive summary, and final report, NTIS accession no. PB2003-100198; 96 pp, \$29.50 paper, \$12.00 microfiche)***

Determinants of Patient Satisfaction with Medical Care Among Depressed Primary Care Patients. Karen Swanson, B.A., Sc.M., University of California, Los Angeles. AHRQ grant HS11407, project period 7/1/01-6/30/02.

Data for this research came from the Quality Improvement for Depression (QID)

initiative, a large national four-study collaborative of 1,481 patients diagnosed with current major depression in managed care settings. The sample was 1,317 patients who answered both the baseline and 6-month questionnaires. Multivariate analysis found that both interpersonal care and technical care were positively associated with patient satisfaction. Sex was not a moderator of this relationship. Patients who were satisfied with their care at baseline were less likely to switch providers, and those who switched providers had a decrease in satisfaction at 6-month followup. There were no differences between men and women in the relationship between patient satisfaction and provider switching. Patient satisfaction was best predicted by interpersonal care. (Abstract, executive summary, and dissertation, NTIS accession no. PB2003-100063; 182 pp, \$44.00 paper, \$17.00 microfiche)***

Diabetes and the Arts and Humanities: Planning Conference. Naj M. Wikoff, Society for the Arts in Healthcare, Washington, DC. AHRQ grant HS10953, project period 5/1/01-4/30/02.

This project provided support for a January 2002, conference to identify ways to use arts and humanities activities in the education and treatment of patients at high risk for developing or living with type 2 diabetes. Attendees included professionals in education and treatment of diabetes, cultural competency, the arts, arts programs in health care settings, research and evaluation techniques, hospital planning, government, foundations, and corporate entities, as well as patients and caregivers of people living with diabetes. Participants

continued on page 23

Grant final reports

continued from page 22

identified questions, arts projects, protocols, and evaluation procedures that could be of value in the education and treatment of patients with or at risk for type 2 diabetes. (Abstract, executive summary, and final report, NTIS accession no. PB2003-100193; 41 pp, \$25.50 paper, \$12.00 microfiche)***

Domestic Violence Assessment and Intervention. Jacqueline S. Dienemann, Ph.D., R.N., Georgetown University School of Nursing, Washington, DC. AHRQ grant HS10731, project period 9/30/99-3/30/02.

The Domestic Violence Survivor Assessment (DVSA) was tested in a sample of 119 survivors, including 91 survivor-clinician pair assessments, 5 survivor-only assessments, and 23 clinician-only assessments. The DVSA reliably identified patterns of preservation of the relationship, preservation of self, or preservation of resolution in 93 percent of cases assessed by clinicians and 66.5 percent of self-assessment cases. The self-assessment version needs revision to remove the phrase "after I left" from all responses. Significant correlations between clinician and self-assessment were found for 6 of the 11 issues with agreement ranging from 23 percent to 67 percent. The value of self-assessment, which allows survivors to view issues they face in abusive relationships, was stated by clinicians and survivors. Five survivor focus groups indicated preferences for clinicians to screen for domestic violence, offer services when intimate partner violence is suspected even if it is denied, support the victim's human dignity, allow survivors control over confidentiality, offer

immediate protection in cooperation with police, document all injuries and threats while in the facility, and offer an open door for the victim to return when in need of future assistance. A clinical pathway for domestic violence was developed and validated for feasibility and scientific accuracy through a Delphi technique with 17 expert researchers and clinicians. (Abstract, executive summary, and final report, NTIS accession no. PB2003-100052; 26 pp, \$23.00 paper, \$12.00 microfiche)***

Fundamental Measurement for Health Services Research. William P. Fisher, Ph.D., LSU Health Sciences Center, New Orleans, LA. AHRQ grant HS10186, project period 7/1/99-12/31/00.

This study describes and demonstrates the mathematical properties of additive formulations of probabilistic conjoint measurement (PCM), which provide the necessary and sufficient conditions for fundamental measurement. PCM was applied to data from 23,767 individuals responding to AHRQ's Medical Expenditure Panel Survey to test its usefulness in measuring quality of care (QOC). The results indicate two general conclusions: PCM offers new insights into theories of QOC, and it is possible to construct fundamental measurement systems of QOC variables. Since QOC fundamental measurement systems are viable, it should be feasible to scale different QOC surveys in the same metric. (Abstract, executive summary, and final report, NTIS accession no. PB2003-100196; 166 pp, \$44.00 paper, \$17.00 microfiche)***

Implementation of Screening and Exams for Diabetic Retinopathy. Robert A. Goldstein, M.D., Ph.D., Juvenile Diabetes Research Foundation, New

York, NY. AHRQ grant HS10929, project period 12/15/00-12/14/01.

Diabetes is the leading cause of legal blindness in the United States. Diabetic retinopathy is preventable if caught early and sight-saving treatment is given; nevertheless, many people with diabetes do not have regular eye exams. The Juvenile Diabetes Research Foundation (JDRF) convened a workshop to address this problem and discuss the barriers that prevent people with diabetes from having eye exams. Attendees heard problems and success stories of ways that health care providers and others have increased eye exams in their communities.

Recommendations were made in three areas: the importance of public education, issues of access to care; and ways to improve quality of care. (Abstract and executive summary, NTIS accession no. PB2003-100059; 56 pp, \$27.00 paper, \$12.00 microfiche)***

Maine AHRQ Rural Center. David Hartley, Ph.D., University of Southern Maine, Portland, ME. AHRQ grant HS07612, project period 9/30/94-9/29/01.

The goal of this rural managed care demonstration project was to work with several communities in northern New England to develop vertically integrated health care networks, foster risk-based contracting, provide provider and consumer education, assist in the development of appropriately scaled health information systems, and disseminate findings regionally and nationally. Over a 7-year period, these goals were accomplished to varying degrees in the two original sites and four sites that were added over the course of the project. An added positive outcome was the development of a health card in the original

continued on page 24

Grant final reports

continued from page 23

demonstration communities that is issued to all county residents, facilitating a standard basic health information database and the delivery of free or sliding-fee care. In the other original site, network development efforts eventually led to a collaborative telemedicine project that now serves the entire State. (Abstract, executive summary, and final report, NTIS accession no. PB2003-100051; 83 pp, \$29.50 paper, \$12.00 microfiche)***

Measuring Quality of Life in Economic Evaluations of Treatment for Severe Mental Illness. Anna M. Adachi-Mejia, Ph.D., Dartmouth College, Hanover, NH. AHRQ grant HS11405, project period 9/1/01-3/31/02.

Disease-specific and generic health-related quality-of-life instruments were compared using the Wisconsin Quality of Life Index (W-QLI), the SF-6D, and the EuroQol EQ-5D. Their ability to discriminate on symptom severity, the need for additional substance abuse treatment, and structured activity was compared. A convenience sample (49 individuals with severe mental illness and substance use disorder and 52 New Hampshire residents) was identified, and participants were interviewed. The W-QLI, the disease-specific instrument, was associated with the symptom-severity and need for additional substance abuse treatment criterion variables; the generic instruments, the SF-6D and EQ-5D, were not. For the rating scale values, only the friends/family category showed a statistically significant difference between groups. Based on a limited sample, this work questions a generic instrument's ability to

adequately discriminate differences in outcomes pertinent to mental illness. (Abstract, executive summary, and dissertation, NTIS accession no. PB2003-100014; 208 pp, \$47.00 paper, \$23.00 microfiche)***

Outcomes Measurement in Pediatric Burn Care: An Agenda for Research. Ronald G. Tompkins, M.D., Sc.D., American Burn Association, Chicago, IL. AHRQ grant HS10950, project period 3/1/01-2/28/02.

Medical and surgical advances over the last 25 years have dramatically decreased mortality in children with major burn injuries. Successful treatment, however, is enormously expensive, and the pediatric patient may require protracted surgical, medical, psychological, and rehabilitative interventions over many years. Relatively little is known about access to specialty care for this population, the cost and cost-effectiveness of treatment strategies, outcomes, or the impact of burn injury and medical treatment on children and their families. To address these concerns, a consensus conference was held in November 2001 to develop a national research agenda designed to define the scope and direction of pediatric burn research and outcomes measurement. Participants identified research priorities in three areas: financing and delivery of pediatric burn care, pediatric burn treatment and interventions, and psychosocial factors of the child and family. They also recommended the creation of an outcomes measurement tool for the young adult population and an outcomes tool to screen for psychosocial factors that might predict poor outcomes in the burned child. (Abstract, executive summary, and final report, NTIS

accession no. PB2003-100054; 18 pp, \$23.00 paper, \$12.00 microfiche)***

Outcomes Research Center for Asians and Pacific Islanders. Takashi Makinodan, Ph.D., University of California, Los Angeles. AHRQ grant HS07370, project period 9/9/92-12/31/98.

The UCLA/VA/RAND MEDTEP Center for Asians and Pacific Islander (hereafter referred to as MEDTEP) completed four timely projects in the areas of physical activity, end-of-life care, self-report instruments, and birth outcomes for Asians and Pacific Islanders. MEDTEP provided an opportunity for one UCLA predoctoral fellow to receive training. Technical assistance was provided to four community-based organizations, as well as to the UCLA Asian American Studies Center. The most successful information dissemination endeavor was the community forums on quality of life through preventive medicine practice. The forums were held in five ethnic-specific communities. Finally, a nonprofit community-based organization was created, with support from Asian Pacific community leaders, for the purpose of continuing MEDTEP'S community-related activities after this project ended in 1998. (Abstract, executive summary, and final report, NTIS accession no. PB2003-100197; 54 pp, \$27.00 paper, \$12.00 microfiche)***

Translation of the Health Brochure and Impact on the Target Reader. Holly E. Jacobson, Ph.D., University of Arizona, Tucson. AHRQ grant HS10562, project period 9/30/99-12/29/01.

This study involved the analysis of a group of health brochures in Spanish, contrasting the way this

continued on page 25

Grant final reports

continued from page 24

particular genre is formed and understood in the United States and Mexico. The group was made up of two subgroups: a collection of health brochures published in the United States (translated from English into Spanish), and a collection of brochures from Mexico (originally written in Spanish). These subgroups were analyzed and compared from many different angles, providing a

comprehensive view of how the texts are structured and organized. Computer-based linguistic analysis revealed differences between the two text types that are attributed to the interpersonal relations and cultural and social contexts in which the two text types are embedded. Subsets of texts from both subgroups were field tested with Mexican-born, monolingual Spanish-speaking informants with the aim of assessing the impact of the two text types on readers.

Responses provided a look at the brochures from the perspective of the reader and shed light on the role of the two text types in the Mexican community. The problems inherent in using translations to disseminate health information are discussed, and guidelines for the development of health brochures in Spanish are provided. (Abstract, executive summary, and dissertation, NTIS accession no. PB2003-1000060; 261 pp, \$54.00 paper, \$23.00 microfiche)*** ■

Research Briefs

Glazer, J., and McGuire, T.G. (2002). "Multiple payers, commonality and free-riding in health care: Medicare and private payers." (AHRQ grant HS10803). *Journal of Health Economics* 21, pp. 1049-1069.

The three largest groups of health plan purchasers in the United States are employers, Medicaid plans, and Medicare. In the case of hospitals, Medicare is the largest payer, but Medicare alone accounts for only 40 percent of the total payments. The authors of this paper study the interactions between a public payer for health care, modeled on Medicare, which sets a price and takes any willing provider; a private payer, which limits providers and pays a price on the basis of quality; and a provider/plan, in the presence of shared elements of quality. They conclude that the provider compromises in response to divergent incentives from payers. For instance, the private sector dilutes Medicare payment initiatives, and may, under some circumstances, repair Medicare payment policy mistakes. By committing to a price, Medicare can free-ride on the private payer

and set its prices too low. Medicare may focus too much on its health plan payment formula with little effect on the quality of services offered by plans.

Hersh, W.R. (2002, October). "Medical informatics: Improving health care through information." (Cosponsored by AHRQ and the National Library of Medicine). *Journal of the American Medical Association* 288(16), pp. 1955-1958.

This article addresses factors that motivate work in medical informatics, emerging solutions, and the barriers that remain. The author discusses the core themes that underlie all applications of medical informatics and unify the scientific approaches across the field. The core application using patient-specific information is the electronic medical record (EMR), which is more legible, easier to access, and more secure than the paper-based medical record. The main challenge is to integrate the EMR into the busy clinical workflow. Decision support systems, which apply knowledge-based information (for example, online resources and research

studies) to patient data, emerged from artificial intelligence and expert system research in the 1970s and 1980s that attempted to model the clinical diagnostician. Many challenges remain, but the need to improve documentation, reduce error, and empower patients will continue to motivate the use of information technology in health care.

Insinga, R.P., Laessig, R.H., and Hoffman, G.L. (2002). "Newborn screening with tandem mass spectrometry: Examining its cost-effectiveness in the Wisconsin newborn screening panel." (AHRQ National Research Service Award training grant T32 HS00083). *Journal of Pediatrics* 141, pp. 524-531.

Newborn screening for more than 20 fatty acid oxidation and organic acidemia disorders can be conducted with the use of tandem mass spectrometry (MS/MS). Some States have instituted State-wide screening programs for some or all of these disorders, while others provide screening services on an optional or pilot basis. This study found that in Wisconsin, MS/MS

continued on page 26

Research briefs

continued from page 25

screening for medium-chain acyl-CoA dehydrogenase deficiency (MCAD) alone out of a neonatal screening panel for 14 disorders was cost-effective for a hypothetical group of 100,000 infants. Under conservative assumptions, screening for MCAD alone yielded an incremental cost-effectiveness ratio of \$41,862 per quality-adjusted life year (QALY). With the use of more realistic assumptions, screening became more cost-effective (\$6,008/QALY). Adding the incremental costs of detecting the 13 other disorders on the screening panel still yielded a result well within accepted norms of cost-effectiveness (\$15,252/QALY).

Katchman, A.N., McGroary, K.A., Kilborn, M.J., and others. (2002). "Influence of opioid agonists on cardiac human ether-a-go-go related gene K+ currents." *Journal of Pharmacology and Experimental Therapeutics* 303(2), pp. 688-694.

Torsades de pointes is a potentially fatal form of ventricular arrhythmia that typically occurs under conditions where cardiac repolarization is delayed (indicated by prolonged QT intervals on electrocardiographic recordings). These conditions can be precipitated by drugs that block the cardiac potassium channels responsible for mediating ventricular repolarization. A recently developed cell line that was stably transfected with the human ether-a-go-go related gene (HERG) gene has proven useful for evaluating drugs suspected of causing delays in cardiac repolarization. Two opioid agonists used to treat narcotic addiction, methadone and L-alpha-acetyl-methadol hydrochloride (LAAM),

are suspected of contributing to this cardiac problem. These authors evaluated the ability of various opioid agonists, including methadone, codeine, and morphine, to block the cardiac human HERG K+ current (IHERG) in human cells stably transfected with the HERG potassium channel gene. Results demonstrated that LAAM and methadone can block IHERG in transfected cells at clinically relevant concentrations, thereby providing a plausible mechanism for the adverse cardiac effects observed in some narcotic addicts receiving these drugs.

Korthuis, P.T., Asch, S., Mancewicz, M., and others. (2002). "Measuring medication: Do interviews agree with medical record and pharmacy data?" (AHRQ grant HS08578). *Medical Care* 40(12), pp. 1270-1282.

Measuring medication use is particularly important in chronic conditions such as HIV infection. For specific medications, agreement between alternative data sources is fair to substantial, but it is lower for key drug classes. Relying on one data source may lead to misclassification of drug exposure status, caution these investigators. They evaluated medication agreement among patient interviews, medical records, and pharmacy data on a probability sample of HIV-infected participants in the HIV Cost and Services Utilization Study (HCSUS). Kappa (agreement) varied from 0.38 for nucleoside reverse transcriptase inhibitors to 0.70 for protease inhibitors, when comparing drug classes in interview versus medical record, interview versus pharmacy data, and medical record versus pharmacy data. The percentage of medications reported in medical records was greater than that reported in interviews or pharmacy data.

Mitchell, J.M., Hadley, J., and Gaskin, D.J. (2002). "Spillover effects of Medicare fee reductions: Evidence from ophthalmology." (AHRQ grant HS08689). *International Journal of Health Care Finance and Economics* 2, pp. 171-188.

These researchers investigated whether ophthalmologists changed their provision of non-cataract services to Medicare patients over the time period 1992-1994, when the Medicare Fee Schedule (MFS) resulted in a 17.4 percent reduction in the average fee paid for a cataract extraction. Using a model of physician behavior, they estimated a supply function of non-cataract procedures that included three price variables (own price, a Medicare cross-price, and a private cross-price) and an income effect. The Medicare cross-price and income variables capture spillover effects. They found that the Medicare cross-price was significant and negative, implying that a 10 percent reduction in the Medicare fee for a cataract extraction will cause ophthalmologists to supply about 5 percent more non-cataract services. The income variable was highly significant, but its impact on the supply of non-cataract services was trivial. This suggests that physicians behave more like profit-maximizing firms than target-income seekers.

Mower, W.R., Hoffman, J.R., Herbert, M., and others. (2002, November). "Developing a clinical decision instrument to rule out intracranial injuries in patients with minor head trauma: Methodology of the NEXUS II investigation." (AHRQ grant HS09699). *Annals of Emergency Medicine* 40(5), pp. 505-514.

continued on page 27

Research briefs

continued from page 26

The fear of failing to identify brain injury has led to the liberal and potentially excessive use of computed tomographic (CT) scanning of patients with blunt head trauma who have even a remote possibility of intracranial injury. This practice exposes large numbers of patients to the expense and radiation exposure associated with CT imaging while detecting injuries in a small number of patients. Previous studies suggest the possibility of developing a decision instrument to identify patients with blunt head injury who have essentially no risk of significant intracranial injury and for whom CT scanning would be unnecessary. The National Emergency X-Radiography Utilization Study II is a large, multicenter, prospective study designed to derive a decision rule for CT imaging of patients with blunt head injury. This study, described in this article, is being conducted in 21 different emergency departments across the United States and Canada. It will enroll more than 10 times as many patients with head trauma as any currently published study.

Silverman, M., Terry, M.A., Zimmerman, R.K., and others. (2002, October). "The role of

qualitative methods for investigating barriers to adult immunization." (AHRQ grant HS09874). *Qualitative Health Research* 12(8), pp. 1058-1075.

In 1999, the Agency for Healthcare Research and Quality funded a study of barriers to adult immunization. The research provided an opportunity to explore the issue using various methods, including a qualitative observational study that would assess organizational and cultural features of selected primary care practices and their impact on immunization rates. Understanding the relationship of cultural features to immunization rates would contribute significantly to the study's primary goals of determining barriers to adult immunizations and designing appropriate interventions for increasing immunization rates. In this article, the authors describe the short-term qualitative data collection system and the contributions made by the qualitative study to the parent project. They provide a system that can be replicated or modified for use in projects designed to assess complex attitudes and behaviors that affect health outcomes.

Sokol, P., and Cummins, D.S. (2002, October). "A needs assessment for patient safety

education: Focusing on the nursing perspective." (AHRQ grant HS12043). *Nursing Economics* 20(5), pp. 245-248.

In January 2002, the National Patient Safety Foundation convened a focus group of professional nurses to capture their ideas on the sources of medical errors and ways to reduce them. This article summarizes the group's ideas, perceptions, and philosophies, all of which reflect the profession of nursing and its duty, role, and responsibility to assure patient safety. The nurses discussed the system and culture of tolerance for error (which conveys the message that it is okay to commit an error) and barriers to reporting and resolving errors. They also discussed ways to break down these barriers, which ranged from reporting near misses and practicing market leverage to use of error support groups and education. The nurses also suggested that medical education should focus on learning through the experience of others and rehearsing anticipated error scenarios. A Web-based patient safety education module for nurses is being created to raise nurse competence related to these and other issues. ■

Ordering Information

AHRQ makes documents available free of charge through its publications clearinghouse and AHRQ InstantFAX. Other AHRQ documents are available from the National Technical Information Service (NTIS) or the Government Printing Office (GPO). 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
410-381-3150 (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.gov

() Available from the AHRQ Clearinghouse and from AHRQ InstantFAX:**

For instructions on using InstantFAX, call 301-594-2800. Use the key pad on your telephone or fax machine when responding to prompts. AHRQ InstantFAX operates 24 hours a day, 7 days a week.

(*) 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

Available from GPO:

Call the GPO order desk for prices and ordering information 202-512-1800.

Note: Please use publication numbers when ordering

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



AHRQ Pub. No. 03-0017
February 2003

ISSN 1537-0224