



# Research Activities

No. 258, February 2002

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## Self-management programs found to improve health and reduce use of health care by people with chronic diseases

**C**hronic disease is a major cause of disability and use of health care services, accounting for about 70 percent of all health care expenditures. In a recent study, patients with chronic diseases who participated in a brief chronic disease self-management program improved their health or had less deterioration and used fewer health care services over a 2-year period, compared with their status when they began the program.

The study, which was supported in part by the Agency for Healthcare Research and Quality (HS06680), was conducted by researchers at Stanford University, the University of California, San Francisco, and Kaiser Permanente. It involved the 7-week (2.5 hours weekly) community-based, peer-led Chronic Disease Self-Management Program and was based on the principles of an arthritis self-management program, according to the researchers.

Designed to help patients with chronic disease develop self-

management skills, the program's content included adoption of exercise programs; use of cognitive symptom management techniques, such as guided relaxation and distraction; nutritional change; fatigue and sleep management; use of medications and community resources; management of emotions; health-related problem solving; and other skills. Compared with their status prior to the program (baseline), participants showed significant reductions in health distress and increases in perceived self-efficacy, and they made fewer visits to physicians and emergency rooms at each followup period during the 2-year study.

Program participants, who had a mean of 2.2 chronic conditions and increased disability, did not show deterioration in any other health variables, which would otherwise be expected during a 2-year period. Neither did they have significant

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**Attention researchers:  
See page 18 for important information about AHRQ's budget.**



## Self-management programs

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increases in number of hospitalizations or days in the hospital. Even in the face of increasing disability, their activity and role functions did not decline.

The 2-year savings due to reduced hospital days and outpatient visits was about \$590 per participant. The program is now being implemented by many health care organizations in the United States as well as abroad.

More details are in "Chronic disease self-management program:

2-year health status and health care utilization outcomes," by Kate R. Lorig, Dr.P.H., Philip Ritter, Ph.D., Anita L. Stewart, Ph.D., and others, in *Medical Care* 39(11), pp. 1217-1223. ■

## Pharmaceutical Research

### Low-dose steroids are neither safe nor effective for long-term treatment of rheumatoid arthritis

Doctors should abandon the use of low-dose glucocorticoids such as prednisone as an antiquated approach to the treatment of rheumatoid arthritis (RA) in favor of more targeted and safer RA treatments, recommends Kenneth G. Saag, M.D., M.Sc., in a recent commentary. He contends that long-term low-dose glucocorticoids, a type of steroid, simply do not work (their antiinflammatory benefits decline considerably after the first year), and they can cause undue adverse effects and toxicity. High on the list of problems is the dramatic bone loss and resulting fracture risk from prolonged glucocorticoid use. Yet few RA patients are

being evaluated and treated for this potential complication.

One study estimated that more than half of glucocorticoid users develop bone loss leading to fracture. Other studies have suggested a mean first-year loss of bone of up to 15 percent at the dose range of 10 mg per day or less of prednisone and up to a loss of 3 percent per year in subsequent years. Another study found that 34 percent of women on a mean dose of prednisone of 8.6 mg per day had suffered a fracture within 5 years of followup.

Cataract is another well-described complication of prolonged glucocorticoid use. Cataract may develop even when inhaled glucocorticoids are used. In addition, increased intraocular pressure may develop in these patients, increasing the risk of glaucoma.

Long-term use of low-dose glucocorticoids also may lead to development of premature atherosclerosis. One study found a three-fold increase in atherosclerosis in RA patients treated with glucocorticoids compared with nonsteroid-treated patients. Biologic response-modifying drugs are now available to treat RA, such as methotrexate, leflunomide, etanercept, and infliximab. When the serious problems associated with glucocorticoids are adequately explained, patients' perceptions of and preference for their use may change markedly, says Dr. Saag. His work at the Center for Education and Research on Therapeutics of Musculoskeletal Disorders, University of Alabama at Birmingham, is supported in part by the Agency for Healthcare Research and Quality (HS10389).

More details are in "Resolved: Low-dose glucocorticoids are neither safe nor effective for the long-term treatment of rheumatoid arthritis," by Dr. Saag, in the October 2001 *Arthritis Care & Research* 45, pp. 468-471. ■

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## Concerns about hypoglycemia should not deter use of insulin in most patients with type 2 diabetes

**H**ypoglycemia (low blood sugar) is a significant complication of efforts to control excessively high blood sugar levels among people with diabetes. Mild hypoglycemia causes unpleasant symptoms ranging from sweating, shakiness, hunger, and/or dizziness, but severe hypoglycemia can result in coma, seizures, and death.

Although mild hypoglycemia is common in patients with type 2 (adult-onset) diabetes who are being managed aggressively to lower blood sugar levels, severe hypoglycemia is rare, according to a study supported in part by the Agency for Healthcare Research and Quality (HS09722). Thus, concerns about hypoglycemia should not deter efforts to achieve tight blood sugar (glycemic) control in these patients, concludes Lawrence S. Phillips, M.D., of the Emory University School of Medicine.

Dr. Phillips and his colleagues retrospectively studied 1,055 urban residents (72 percent women; 93 percent black) with type 2 diabetes who had baseline and followup visits at an outpatient specialty

diabetes clinic in Atlanta, GA, during 1999. The researchers defined mild hypoglycemia by patient reports of typical symptoms relieved by eating and/or a home-monitored blood glucose level of less than 60 mg/dL. They defined severe hypoglycemia as loss of consciousness or other major change in mental status requiring assistance from another person (for example, ER visit). Twelve percent of patients treated with diet alone had hypoglycemic symptoms compared with 16 percent of those using oral medications alone and 30 percent of those using any insulin (either alone or in combination with a single oral medication).

Overall, one-fourth of the patients suffered from some type of hypoglycemia, but severe hypoglycemia occurred in only five patients (0.5 percent), all of whom were using insulin. Insulin therapy, lower blood sugar level at followup, younger age, and report of hypoglycemia at the baseline visit were independently associated with increased prevalence of hypoglycemia. Thus, patients who are younger or have a lower blood

sugar level should be encouraged to be more diligent about meal planning, home monitoring of blood glucose levels, and hypoglycemia symptom awareness, conclude the researchers.

See "Hypoglycemia in patients with type 2 diabetes mellitus," by Christopher D. Miller, M.D., Dr. Phillips, David C. Ziemer, M.D., and others, in the July 9, 2001 *Archives of Internal Medicine* 161, pp. 1653-1659. ■

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## Asthma patients with uncontrolled symptoms receive more antibiotics than those whose asthma is better controlled

**A** new study shows that people who have asthma with evidence of problematic symptom control, measured by use of asthma medication, receive more antibiotics than those with better control. Doctors may have lower thresholds for prescribing antibiotics for patients with more severe asthma. On the other hand,

these patients may get more bacterial infections or have more severe symptoms than other asthma patients, prompting doctors to intervene with antibiotics, suggest the researchers. The appropriate role of antibiotics in asthma management remains to be defined, concludes the study's first

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## Asthma patients

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author, James H. Glauber, M.D., M.P.H., of Children's Hospital.

In the study, which was supported in part by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00063), Dr. Glauber and his colleagues evaluated asthma medication and antibiotic use by children and adults with asthma (aged 6 to 55 years) who received care in an urban health maintenance organization. Overall, 75 percent of asthma patients were prescribed an

antibiotic during the study period, and they received an average of 1.3 antibiotic prescriptions per person-year.

Antibiotic use significantly increased with higher use of antiinflammatory and bronchodilator medications. Long-term users of antiinflammatory medications received almost twice as many antibiotics as those who did not receive an antiinflammatory prescription (1.85 vs. 0.95 antibiotic prescriptions/person-year). Similarly, patients with more symptomatic asthma, as evidenced by high levels of bronchodilator use (more than eight inhalers per year),

received 40 percent more antibiotics than those whose bronchodilator use suggested intermittent problems with asthma (1.72 vs. 1.23 antibiotic prescriptions/person-year). There was no correlation between the overall number of bronchodilators or antiinflammatory medications prescribed by physicians and their rate of antibiotic prescribing.

See "Relation between asthma medication and antibiotic use," by Dr. Glauber, Anne L. Fuhlbrigge, M.D., M.S., Jonathan A. Finkelstein, M.D., M.P.H., and others, in the November 2001 *Chest* 120(5), pp. 1485-1492. ■

## Ethnic disparities exist in asthma medication prescribing even for children seen in private practices

Community health centers and clinics typically don't have the resources to provide quality asthma care to underserved children, who often belong to racial or ethnic minority groups. However, even in private practices, these children receive fewer asthma medications than similarly sick white children. Programs to eliminate these disparities will need to focus on the site of care and also to intervene at the provider and patient levels to be successful, according to the study's lead author, Alexander N. Ortega, Ph.D., of Yale University School of Medicine, and Peter J. Gergen, M.D., of the Agency for Healthcare Research and Quality.

In the Childhood Asthma Severity Study, Drs. Ortega and Gergen and their colleagues analyzed information from patient-reported questionnaires and prescription, demographic, provider, and other data on a community sample of 1,000 asthmatic children and their families from two States (Connecticut and Massachusetts). Inhaled bronchodilators (to open up the lungs to ease breathing) and steroids (to prevent or reduce airway inflammation and asthma episodes) are

standard-of-care asthma medications. Yet, black and Hispanic children received fewer bronchodilators, and Hispanic children received fewer inhaled steroids than white children, after adjusting for site of care, insurance status, symptom severity, and other factors.

Analysis of private practices alone revealed significantly lower inhaled steroid use among Hispanic children. Differences in bronchodilator use by race and ethnicity changed little but did become nonsignificant, perhaps because the sample size was too small to reveal a difference. The only care difference by practice site was that a higher proportion of children in private practices (15 percent) used inhaled steroids for 1 month or more compared with 7 percent of those seen either in outpatient care centers or hospital-based clinics. Overall, a large proportion of children had not used inhaled steroids in the past year: 73 percent of whites, 88 percent of blacks, and 94 percent of Hispanics. Also, 18 percent of white children had not used beta-agonists in the past year compared with 27

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**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.

## Ethnic disparities in use of asthma medication

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percent of black children and 22 percent of Hispanic children.

See "Impact of site of care, race, and Hispanic ethnicity on medication use for childhood asthma," by

Drs. Ortega and Gergen, A. David Paltiel, Ph.D., and others, in the January 2002 *Pediatrics* 109(1), available online at [www.pediatrics.org/cgi/content/full/109/1/e1](http://www.pediatrics.org/cgi/content/full/109/1/e1). Reprints (AHRQ Publication No. 02-R046) are available from AHRQ.\*\* ■

## Children's Health

### Environmental exposure to tobacco smoke increases the risk of respiratory symptoms and disease in children

Respiratory diseases, including asthma, account for about one-third of the hospitalizations of children and adolescents less than 15 years of age in the United States. A recent review of the research literature by Peter J. Gergen, M.D., of the Agency for Healthcare Research and Quality, reveals that environmental tobacco smoke (ETS) increases the risk of respiratory disease in children, and that the most important source of this exposure is within the home. Not surprisingly, smoking by the mother is consistently associated with higher ETS exposure than smoking by the father, probably due to the greater time a child spends with the mother.

ETS exposure tends to decrease as the child grows older, perhaps due to less time spent around the mother or other household members when they are smoking. Exposure to ETS during the first year of life has been consistently

found to have an impact on the respiratory system, either in symptoms such as wheeze or cough, specific diseases such as bronchitis/tracheitis or bronchiolitis, or health care use such as medical visits or hospitalizations. Several studies have shown the impact of ETS on respiratory symptoms to be strongest in a child's first 2 years.

Prenatal exposure to tobacco smoke clearly affects the unborn child's respiratory system. Pulmonary function tests done within 3 days of birth and within the first 6 months of life have found reduced pulmonary function in children exposed to ETS before birth. These abnormalities predispose the infant to an increased frequency of lower respiratory tract infections during the first year of life.

Between 40 and 50 percent of women continue to smoke after they learn that they are pregnant. This suggests that public health

messages to avoid smoking during pregnancy are still not being communicated to women in ways that will cause them to change their behavior. In conclusion, Dr. Gergen notes that efforts should not be focused solely on the individual but must include the health care provider. During each patient's contact with the medical system, providers must inquire about ETS exposure and assist in reducing it.

See "Environmental tobacco smoke as a risk factor for respiratory disease in children," by Dr. Gergen, in *Respiration Physiology* 128, pp. 39-46, 2001. Reprints (AHRQ Publication No. 02-R022) are available from AHRQ.\*\* ■

## Consistent use of intensive care for extremely premature babies increases survival, but costs are high

Care of extremely premature newborns (23 to 26 weeks' gestation) in the United States has been more aggressive than in some European countries. Many U.S. neonatologists offer intensive care to all infants considered to have any chance of survival. European neonatologists are more selective because they view the care as futile or likely to result in poor long-term outcomes. When intensive care is used for all rather than selected extremely premature babies, it increases survival, but costs, including disability and increased resource use, may be high concludes John Lorenz, M.D., of Columbia University.

In a study supported by the Agency for Healthcare Research and Quality (HS08385), the researchers examined perinatal management, mortality, prevalence of disabling cerebral palsy (DCP), and resource expenditure (number of hospital days with and without assisted ventilation) for two groups of extremely premature infants born in the mid-1980s, one in New Jersey and one in the Netherlands. Electronic fetal monitoring (100 vs. 38 percent), cesarean section (28 vs. 6 percent), and assisted ventilation (95 vs. 64 percent) were more commonly used in New Jersey than in the Netherlands. Survival to age 2 (46 vs. 22

percent) and the prevalence of DCP among survivors (17 vs. 3 percent) were significantly greater in New Jersey at age 2 than in the Netherlands at age 5.

Ten percent of New Jersey deaths occurred without assisted ventilation compared with 45 percent of Dutch deaths. A total of 1,820 ventilator days were expended per 100 live births in New Jersey compared with 448 in the Netherlands. Overall, near universal versus selective initiation of intensive care was associated with 24.1 additional survivors, 7.2 additional cases of DCP, and 1,372 additional ventilator days per 100 live births. There is hope that refinement of neonatal intensive care ultimately will decrease the prevalence of disabilities among survivors. Until that happens, there remains a moral dilemma to which there are no easy answers, conclude the researchers.

More details are in "Comparison of management strategies for extreme prematurity in New Jersey and the Netherlands: Outcomes and resource expenditure," by Dr. Lorenz, Nigel Paneth, M.D., M.P.H., James R. Jetton, B.A., and others, in the December 2001 *Pediatrics* 108(6), pp. 1269-1274. ■

## Specialized training helps ER nurses better manage children at risk for suicide

As many as 12 percent of children ages 6 to 12 and 53 percent of adolescents ages 13 to 19 think about suicide, and 8 to 10 percent of all U.S. children attempt suicide at some point during their childhood. A growing number of these troubled children and adolescents are showing up at hospital emergency departments (EDs) primarily for self-destructive behavior. A previous study showed that by simply asking these children four questions using the Risk Suicide Questionnaire (RSQ), ED triage nurses could identify 98 percent of children at risk for suicide (see August 2001 *Research Activities*, page 8).

A recent study at Boston Children's Hospital, also supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00063), goes a step further. It found that when ED nurses at one hospital attended educational sessions on psychiatric issues based on a Risk of Suicide Clinical Practice Guideline (CPG), including use of the RSQ, they were better equipped to manage potentially suicidal children in the ED. The guideline packet consisted of a decision algorithm, a mental health patient flowsheet (including the RSQ), a doctor's order sheet, and a copy of the Hopelessness Scale for Children to be used for

all children arriving in the ED for treatment of mental health problems. The educational sessions included a review of the CPG and provided information on how to perform patient searches, de-escalating techniques, risk factors for suicide, and other psychiatric issues.

After the training, there was a marked increase in nurses' knowledge about the CPG and care of ED mental health patients. Prior to implementation of the CPG, 52 percent of nurses said they were uncomfortable working with children with psychiatric problems,

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## Children at risk for suicide

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and 37 percent were uncomfortable talking to children about hurting themselves or asking parents about their child's suicidal tendencies.

When surveyed 2 years after guideline implementation, the

nurses reported that they were more comfortable with items on the RSQ, better able to work with potentially suicidal children who arrive at the ED, and had significantly decreased stress when managing these patients.

See "Recognizing suicide risk in a pediatric emergency department:

A change in nursing care," by Lisa M. Horowitz, Ph.D., M.P.H., Mary Fallon Smith, R.N., M.S.N., Cynthia Levin, R.N., C.S., M.A., and Susan Klavon, M.S.S.W., in *Pediatric Emergency Care* 17(4), pp. 306-309. ■

## Information technology can empower parents and children to take an active role in health care decisionmaking

Information technologies can empower children and families by providing a mechanism for interaction with doctors and the health care system, according to Donna M. D'Alessandro, M.D., of the University of Iowa, and Nienke P. Dosa, M.D., of the University of Rochester. In a recent journal article, they discuss specific examples of interactive information technologies that facilitate information sharing and empower children and families: the electronic pediatric personal medical record (PPMR), customized health information systems, and interactive physician offices with e-mail and telemedicine capabilities.

The exact form of an electronic PPMR is evolving, but ultimately it may resemble personal financial management programs such as Quicken™. In the future, an interactive PPMR may reside on an individual's personal computer, commercial Web site, or other commercial system, and part of the record may exist as smart cards or electronic dogtags. The challenge is to make an interactive PPMR tailored to the patient and to link it with interactive online physician offices, so that the PPMR becomes the principal mechanism for physician-patient interactions.

One-half of Internet users say that they would like to e-mail their doctors. E-mail allows continuous

access to the health care system for nonurgent matters such as care coordination, augmented screening, symptom monitoring, and disease self-management. It also is self-documenting. A message can be printed by patients who wish to refer to instructions and by office personnel for placement in the paper or electronic medical record. E-mail also could save time and add focus to in-person encounters.

Telemedicine is another example of information technology that could be a boon to patient care. For example, video conferencing could benefit home care personnel and family caregivers of children with medically complex needs for whom transportation to multiple specialists is costly and burdensome.

Drs. D'Alessandro and Dosa presented their research last year at a conference on Information Technology in Children's Health Care, which was supported by the Agency for Healthcare Research and Quality and the American Academy of Pediatrics.

See "Empowering children and families with information technology," by Drs. D'Alessandro and Dosa, in the October 2001 *Archives of Pediatric and Adolescent Medicine* 155, pp. 1131-1136. ■

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## U.S. Preventive Services Task Force revises its earlier recommendations on mammography

**O**n February 21, HHS Secretary Tommy G. Thompson released an updated recommendation from the U.S. Preventive Services Task Force (USPSTF) that calls for screening mammography, with or without clinical breast examination, every 1 to 2 years for women ages 40 and over. This recommendation affirms HHS' existing position on the value of mammography and also echoes the position of the National Cancer Institute on use of mammography to screen for breast cancer.

The USPSTF published two earlier breast cancer screening recommendations, in 1989 and 1996, that both endorsed mammography for women over age 50. The Task Force is now extending that recommendation to all women over age 40, but as they point out, the strongest evidence of benefit and reduced mortality from breast cancer is among women ages 50-69. The recommendation acknowledges that there are some risks associated with mammography (false-positive results that lead to unnecessary biopsies or surgery), but that these risks lessen as women get older.

Breast cancer is the most common cancer among women in the United States. In 2001, an estimated 192,200 women were diagnosed with breast cancer, and 40,600 women died from the disease. In addition to age, other factors may increase a woman's risk of breast cancer. The strongest risk factors are a family history of breast cancer in a mother or sister, having already been diagnosed with breast cancer, or having

had a previous breast biopsy showing atypical hyperplasia (an irregular pattern of cell growth).

The new USPSTF recommendation results largely from the review of eight randomized controlled trials of mammography (four of mammography alone and four of mammography plus clinical breast examination) that have reported findings with 11 to 20 years of followup. These studies have all been published since the Task Force last addressed this issue in 1996.

The USPSTF also noted that there continues to be insufficient evidence to recommend for or against routine clinical breast examination alone as a screening tool for breast cancer. In addition, there is insufficient evidence to recommend for or against teaching or performing routine breast self-examination. While these techniques detect some additional cancers, there were not enough data to determine whether they reduced deaths from breast cancer.

The USPSTF, 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 scientific evidence for a broad range of preventive services. The breast cancer screening recommendation and materials for clinicians and patients are available on AHRQ's Web site at <http://www.ahrq.gov/clinic/3rduspstf/breastcancer/>. ■

## Coordination mechanisms help hospitals improve delivery of multidisciplinary care for early-stage breast cancer patients

**M**ost of the 200,000 women who will be diagnosed with breast cancer in the coming year will have early-stage breast cancer. Coordinating the care of these women is a significant challenge, since different specialists often provide local surgical and radiation treatment, systemic chemotherapy, and hormonal therapies.

Hospitals use a variety of mechanisms to coordinate care for women with early-stage breast cancer, but they lack standardized approaches. Women treated at hospitals with more care coordination mechanisms in place appear more likely to receive effective adjuvant therapies (i.e., followup radiation and chemotherapy),

according to a study supported by the Agency for Healthcare Research and Quality (HS09844).

At these high-coordination hospitals, on average, 88 percent of women with breast-conserving surgery received recommended radiotherapy, and 84 percent of those with tumors larger than 1 cm

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## Breast cancer patients

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received recommended systemic chemotherapy compared with 76 percent and 73 percent of women, respectively, at lower coordination hospitals. Hospital leadership should consider implementing mechanisms to coordinate care for women with early-stage breast cancer, conclude Nina A. Bickell, M.D., M.P.H., of Mount Sinai Medical Center, and Gary J. Young, J.D., Ph.D., of the Boston University School of Public Health.

They interviewed 67 physicians, nurses, and support staff practicing at 6 hospitals—including those with innovative breast cancer care

programs—about hospital- and office-based approaches to coordinating care for their breast cancer patients. These interviews identified seven different coordination mechanisms that ranged from tracking of patient referrals to regularly scheduled multidisciplinary meetings among doctors involved in caring for the same patients. No site had a systematic approach to track receipt of adjuvant care provided by other specialists. Only some physicians' offices had a mechanism to ensure scheduling of followup appointments or recall of patients who missed appointments. Doctors particularly valued the

multidisciplinary meetings and patient support programs, such as patient navigators to help patients get to appointments, note the researchers. Although much of the therapy women receive for this condition is delivered in outpatient settings, the researchers conclude that hospitals are in the best position and have the most valued mechanisms for coordination of care provided to women with early-stage breast cancer.

More details are in “Coordination of care for early-stage breast cancer patients,” by Drs. Bickell and Young, in the *Journal of General Internal Medicine* 16, pp. 737-742. ■

## Researchers examine risk factors for premature separation of the placenta among U.S. black women

A recent study showed that Southern-born blacks had the highest mortality rates from hypertension-related diseases, which remained high even when this group migrated to other regions of the United States. Abruptio placentae (premature separation of the placenta), a major cause of third trimester bleeding that can threaten the life of both mother and infant, is often caused by hypertension-related problems in pregnancy, which affect black women at least twice as often as women of other races. Yet, black women born in the South have no greater risk of this obstetric complication than black women born elsewhere.

Apparently, a mother's place of residence rather than place of birth is associated with an increased risk of abruptio placentae. Furthermore, prevalence of risk factors for this problem among black women in a particular region correlates with the rate of abruption in that region, according to a study supported in part by the Agency for Healthcare Research and Quality (HS09788).

Researchers from the University of Medicine and Dentistry of New Jersey examined birth records of all live singleton births among black women in the United States during 1995-1996. They derived age-adjusted rates of abruption for combinations of regions of birth

(including foreign-born) as well as regions of residence for these women. The overall incidence of abruptio placentae among black women was 6.7 per 1,000 live births.

The age-adjusted rates of abruption among black women who had not migrated showed that those in the Northeast had the highest rates (8.3 per 1,000), followed by those in the Midwest (6.3 per 1,000), South (6.0 per 1,000), and West (4.9 per 1,000). The prevalence of risk factors for the problem (anemia, intrapartum fever, hypertension, and renal disorders) showed the same pattern. Geographic mapping to better identify variations in the risk of abruption and distribution of risk factors within the Northeast may be the first step in efforts to reduce perinatal morbidity and mortality, suggest the researchers. Their study also showed lower rates of abruption among foreign-born black women (4.0 per 1,000) compared with black women born in any region of the United States.

More details are in “Risk of abruptio placentae by region of birth and residence among African-American women in the USA,” by Ambarina S. Faiz, Kitaw Demissie, Cande V. Ananth, and George G. Rhoads, in *Ethnicity & Health* 6(3), pp. 247-253, 2001. ■

## Over half of poor and unmarried Medicaid-insured women do not take steps to prevent unintended pregnancy

**M**ore than half of all pregnancies in the United States are unintended, that is, either mistimed or unwanted. These unwanted pregnancies often result in problems ranging from abortions and domestic violence to higher divorce rates, inadequate prenatal care, and low birthweight babies.

A recent study of young Medicaid-insured women—most of whom were unmarried and black—has found that over half of those who did not want to get pregnant were not using any birth control during the 30-day period prior to conception. Among those who did use birth control, about 20 percent used a method with low effectiveness, that is, a diaphragm, condom, sponge, foam, withdrawal, rhythm, or douching, according to a study supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00032).

The study also found that 23 percent of women had an unintended pregnancy even when using contraceptive methods deemed to have high effectiveness (e.g., Norplant, Depo-Provera, and IUD) or medium effectiveness (birth control pill). This suggests that women may not be using these methods consistently or correctly (for example, consistent

taking of birth control pills) or obtaining required medical followup (for example, with Depo-Provera), notes the study's first author, Ruth Petersen, M.D., M.P.H., of the University of North Carolina.

The researchers interviewed 279 women enrolled in a Medicaid managed care health plan who had been pregnant in the last 5 years. Seventy-eight percent of women said that their most recent or current pregnancy had been unintended. Over 57 percent of women with unintended pregnancies said they had not used any birth control the month before conception, 5 percent had used birth control of high effectiveness, and 19 percent had used birth control of medium effectiveness. About 90 percent of the women studied had received a regular check-up, and 77 percent had seen an obstetrician/gynecologist in the year prior to the study.

See "How contraceptive use patterns differ by pregnancy intention: Implications for counseling," by Dr. Petersen, Julie A. Gazmararian, M.P.H., Ph.D., Kathryn Andersen Clark, M.S., and Diane C. Green, M.P.H., Ph.D., in the September 2001 *Women's Health Issues* 11(5), pp. 427-435. ■

## Health Care Costs and Financing

### Medicare health plans that provide better access to care and customer service also provide better clinical care

**F**ederal regulations mandate that Medicare-participating health plans report data about quality of care using two measurement systems: the Consumer Assessment of Health Plans Study (CAHPS®) survey and the National Committee for Quality Assurance's Health Plan Employer Data and Information Set (HEDIS). The national CAHPS survey summarizes enrollees' perceptions of multiple aspects of health plan access and communication. HEDIS measures the quality of medical and mental health services in Medicare health plans nationwide.

A recent study found that two CAHPS measures—getting needed care and health plan communication (plan information and customer service)—were significantly associated with most of the HEDIS clinical quality measures for a nationally representative sample of Medicare health plans. Enrollees' ratings of care provided through their plans were less consistently associated with HEDIS plan performance. These findings suggest that when health plans provide better access and customer service, they also provide better clinical care. The findings also justify the use of

health plan member reports to assess health plans and identify those that offer both better customer service and higher clinical quality.

Finally, these findings suggest that enrollee-focused approaches—for example, reducing copayments for outpatient visits for preventive services—may have more influence on HEDIS performance than clinician-focused quality management approaches (for example, generating reminders for screening services), according to the researchers. They assessed the relationships between enrollee

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## Medicare health plans

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reports on the quality of health plans as measured by the CAHPS survey and the clinical quality of

care measured by HEDIS. This study was supported in part by the Agency for Healthcare Research and Quality (HS09205).

See “National quality monitoring of Medicare health

plans,” by Eric C. Schneider, M.D., M.Sc., Alan M. Zaslavsky, Ph.D., Bruce E. Landon, M.D., M.B.A., and others, in *Medical Care* 39(12), pp. 1313-1325. ■

## Medicaid program expansions to cover otherwise uninsured poor children appear to be relatively inexpensive

State Medicaid programs provide coverage for children in families receiving Aid to Families with Dependent Children (AFDC), as well as children with qualifying disabilities or whose health expenditures qualify them for coverage under medically needy provisions. Beginning in 1984, Federal initiatives expanded Medicaid eligibility to low-income children who were not eligible through these traditional routes. Expanded coverage for these otherwise uninsured children appears to be relatively inexpensive, according to a recent study by Leslie V. Gordon, M.P.P., of the U.S. General Accounting Office, and Thomas M. Selden, Ph.D., of the Agency for Healthcare Research and Quality.

Using State-level data on Medicaid spending from 1984 to 1994, they found that Medicaid program expansions during that time had relatively low incremental cost per enrollee and were substantially below the average Medicaid expenditure for children. They also found that children covered through the expansion tended to be older and have fewer

disabilities (and thus were at lower risk for high health care costs). Moreover, many of the most expensive (usually the sickest or most disabled) children covered through the expansion would have been covered by Medicaid’s medically needy provisions had the expansions not occurred.

For these reasons, administrative estimates may overstate the true incremental costs of the Medicaid expansions for children. Indeed, the incremental social costs of the expansions may have been even lower than these estimates, since the expansions may have helped to reduce uncompensated hospital care that would otherwise have been reimbursed through Medicaid disproportionate share payments or other sources.

See “How much did the Medicaid expansions for children cost? An analysis of State Medicaid spending, 1984-1994,” by L.V. Gordon, M.P.P., and T.M. Selden, Ph.D., in the December 2001 *Medical Care Research and Review* 58(4), pp. 482-495. Reprints (AHRQ Publication No. 02-R033) are available from AHRQ.\*\* ■

## HIV/AIDS Research

### Researchers examine the benefits of potent antiretroviral therapy and treatment compliance among patients with HIV

Highly active antiretroviral therapy (HAART), in use since late 1995, clearly slows progression of infection with the human immunodeficiency virus (HIV) to AIDS. It does this by reducing HIV viral load in the blood and partially restoring immune competence (increasing

the number of infection fighting CD4 cells in the immune system).

Although most people adhere to the HAART regimen during the first month of treatment, adherence begins to wane after that, according to a study supported in part by the Agency for Healthcare Research and Quality (HS10399). Other researchers participating in the

Women’s Interagency HIV Study (WIHS) demonstrated immediate negative effects among women who discontinued antiretroviral therapy. A second WIHS study found that HAART reduced progression of human papillomavirus (HPV) disease, which has been linked to

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## HIV treatment

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cervical cancer, among HIV-infected women.

The WIHS is a multicenter longitudinal study involving 2,059 HIV-infected and at-risk women enrolled at six clinical sites in 1994 and 1995. It was cosponsored by the Agency for Healthcare Research and Quality, the National Institutes of Health, and the Centers for Disease Control and Prevention. The three studies are described here.

**Gross, R., Bilker, W.B., Friedman, H.M., and Strom, B.L. (2001). "Effect of adherence to newly initiated antiretroviral therapy on plasma viral load." *AIDS* 15(16), pp. 2109-2117.**

This study found that adherence to a newly prescribed antiretroviral drug, a single protease inhibitor (nelfinavir), determined whether or not levels of HIV in an individual's blood were suppressed to undetectable levels (less than 50 copies of HIV virus per ml), and that, unfortunately, adherence began to wane after the first month of therapy. The researchers observed adherence to nelfinavir (750 mg three times a day or 1,250 mg two times a day) by 41 HIV-infected patients with viral loads greater than 10,000 copies per ml. The subjects, who were followed for 4 months, had not taken a protease inhibitor previously and were referred to a clinical research center from Philadelphia HIV clinics during 1998 and 1999.

Overall, 61 percent of patients achieved undetectable viral loads. Those who achieved undetectable levels of HIV during the initial 4 months of nelfinavir therapy had greater adherence to the medication regimen (took a median of 93 vs.

70 percent of prescribed doses) than those who still had detectable levels of the virus. Similarly, only 4 percent of those in the "undetectable group" had a 7-day pill-taking gap, a so-called "drug holiday," compared with 44 percent of those in the detectable group, some of whom had multiple week-long "drug holidays." Patients who followed the medication regimen also had increased CD4 cell counts. Thus, viral suppression went hand-in-hand with CD4 cell count increases, although the impact of adherence on change in CD4 cell count was less strong.

**Grant L.A., Silverberg, M.J., Palacio, H., and others. (2001). "Discontinuation of potent antiretroviral therapy: Predictive value of and impact on CD4 cell counts and HIV RNA levels." *AIDS* 15(16), pp. 2101-2108.**

The need for antiretroviral therapy (ART) may be lifelong among HIV-infected people. However, due to developing drug resistance, toxicities, and side effects, they may not be able to stay on the same drug regimen indefinitely.

These researchers investigated trends related to the discontinuation of potent ART over a 3-year period (October 1996 to September 1999) among 1,058 women participating in the WIHS, who began potent ART before September 1999. In all, 21 percent of women discontinued all ART at some time by September 1999; 27 percent were always on therapy, but downshifted to mono- or combination therapy; and 52 percent continued to take potent ART once they started it.

Compared with women who continued on potent ART, women who discontinued all ART experienced large declines in CD4

cell counts and were over three times more likely to experience HIV RNA increases. During the four most recent study periods, median CD4 cell counts of those continuing to use potent ART, downshifting to non-potent ART, or discontinuing all ART were 352, 292, and 320, respectively. Similarly, during the three most recent study periods, the proportion of potent ART users with HIV RNA less than 400 copies/ml (undetectable levels) who continued potent ART, downshifted to non-potent ART, or discontinued all ART was 45, 28, and 20 percent, respectively.

Individuals with high HIV RNA levels were more likely to discontinue ART. Side-effects were the most common reason for discontinuation, and more than one-third of those discontinuing ART reported side-effects. CD4 cell count declines were larger among those who did not cite side-effects as the reason for discontinuation of ART.

**Minkoff, H., Ahdieh, L., Massad, L.S., and others. (2001). "The effect of highly active antiretroviral therapy on cervical cytologic changes associated with oncogenic HPV among HIV-infected women." *AIDS* 15(16), pp. 2157-2164.**

From 20 to 40 percent of HIV-infected individuals are likely to be diagnosed with cancer. Cervical cancer, the end stage of human papillomavirus (HPV)-associated cervical lesions, has been linked to HIV load and immune status. This study found that HAART altered the course of HPV disease in HIV-infected women by reducing HPV disease progression and increasing regression.

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## HIV treatment

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The investigators used Pap smears and cervicovaginal lavage for HPV DNA testing every 6 months of HIV-infected women participating in the WIHS in five cities. Pap smear findings from each woman's consecutive visits were defined as a pair. The investigators determined the

proportion of all pairs that exhibited either regression or progression according to HAART exposure (two or more protease inhibitors).

Overall, women on HAART were 1.4 times more likely to experience regression, while those not on HAART were more likely to show HPV disease progression. These results are particularly

striking, since women in both groups were comparably at risk in terms of the presence of lesions. Reduction of HIV load and restoration of host immunity via HAART might retard the progression of these cancers. On the other hand, HAART could have a direct antiviral effect on HPV, suggest the researchers. ■

## Researchers compare three regimens of highly active antiretroviral therapy for treating HIV patients

The drug combinations used for highly active antiretroviral therapy (HAART) to treat HIV infection have grown markedly in the past 5 years. There are theoretical advantages and disadvantages to combination therapy based on a single protease inhibitor (PI), ritonavir (RTV) plus saquinavir (SQV), or efavirenz (EFV). However, a recent clinical trial demonstrated that initial EFV-based combination antiretroviral therapy was associated with higher rates of HIV suppression than PI-based therapy. A new study based on 545 HIV-infected individuals treated at an urban HIV clinic came to the same conclusion.

In a study that was supported in part by the Agency for Healthcare Research and Quality (HS07809), Richard D. Moore, M.D., and colleagues at the Johns Hopkins University School of Medicine compared the virologic and immunologic effectiveness of initial combination therapy with nucleoside reverse transcriptase inhibitors plus either: a single PI; RTV/SQV; or EFV (all but PI are non-nucleoside reverse transcriptase inhibitors). They examined HIV-infected patients with little previous exposure to HAART for a change in the number of copies of HIV RNA within 8 months and a change in CD4 cell count within 12 months of starting therapy.

Nearly three-fourths (72 percent) of patients in the EFV group achieved initial viral suppression (less than

400 HIV RNA copies/ml) compared with 49 percent in the single PI group and 51 percent in the RTV/SQV group. Among patients who achieved initial viral suppression, time to viral rebound (greater than 1,000 HIV RNA copies/ml) was similar in the three groups. Durable viral suppression (three or more consecutive HIV RNA levels less than 400 copies/ml for more than 6 months) was achieved by 53 percent of patients in the EFV group, 26 percent in the single PI group, and 29 percent in the RTV/SQV group.

In this clinic, the probability of HIV disease progression or death was 18 percent in patients who did not achieve viral suppression versus 9 percent in patients who did. The median CD4 cell count increase was  $139 \times 10^6$  cells/l and was similar in the three groups.

See "Comparison of initial combination antiretroviral therapy with a single protease inhibitor, ritonavir and saquinavir, or efavirenz," by Gregory M. Lucas, M.D., Richard E. Chaisson, M.D., and Dr. Moore, in the September 2001 *AIDS* 15(13), pp. 1679-1686. ■

## Frail elderly people are more likely than home care professionals to rate home health care as sufficient

As the home health care industry has grown, so too have concerns about the quality of in-home care. A new study shows that chronically ill elders who are recently discharged home from the hospital are more likely than professional caregivers to rate their care as sufficient to meet their need for help with various daily activities ranging from bathing to housekeeping.

Elderly people cared for at home may lower their own standard of acceptability in regard to meal preparation, bathing, housekeeping, etc., when faced with the reality of their needs and their available resources. They also may not be willing to criticize their caregivers, especially family members, by assigning low sufficiency ratings. On the other hand, professionals can maintain their standards of acceptable care with less concern

about the consequences of the deficiency, according to the Washington University researchers.

In a study supported in part by the Agency for Healthcare Research and Quality (HS06406), the researchers used telephone interviews and nurse clinical reports based on in-home interviews with over 100 elderly people recently discharged home from a large Midwestern hospital. The goal was to assess how the nurses and the elderly patients evaluated the sufficiency of the informal (family and friends) and formal (professional) care provided to the elderly person, including help with activities ranging from transfer (for example, from bed to chair) to shopping and money management.

Professionals tended to rate the amount of care as less sufficient than the elderly patients did (2.73

vs. 3.21 on a 4-point scale). Elderly patients rated the sufficiency of care higher than the nurses in five need areas (medications, bathing, shopping, money management, and housekeeping). The amount of formal vs. informal services had no relationship with sufficiency of care for care recipients. However, for professionals, higher amounts of formal care were associated with less sufficient care. These findings suggest that a focus on formal care at the expense of informal care is not sufficient to improve the quality of in-home supportive care.

See "How much is enough? Perspectives of care recipients and professionals on the sufficiency of in-home care," by Nancy Morrow-Howell, Ph.D., Enola Proctor, Ph.D., and Philip Rozario, M.S.W., in the *Gerontologist* 41(6), pp. 723-732. ■

## Misunderstandings and miscommunication are hallmarks of a problematic doctor-patient relationship

The outpatient setting provides an opportunity for residents to develop long-term mutually satisfying relationships with their patients.

However, misunderstandings and miscommunication can lead to feelings of frustration and anxiety in the patient, physician, or both parties. A recent study examined the characteristics of a problematic doctor-patient relationship from the perspective of the patient and found that patients are more likely to have problematic relationships with residents whom they see as less available or less capable of handling medical complaints.

The study was conducted by Cornell University researchers Carla Boutin-Foster, M.D., M.S., and Mary E. Charlson, M.D., and supported by the Agency for Healthcare Research and Quality (National Research

Service Award training grant T32 HS00066). Their objective was to identify the characteristics of a problematic doctor-patient relationship from the perspective of primary care patients who were cared for by medical residents for an average of 1.6 years (an average of five visits). Prior studies have focused mainly on the perspective of the physician.

The researchers administered questionnaires about several aspects of the doctor-patient relationship to 151 patients whose primary care physicians were senior internal medicine residents. Among patients in relationships described as satisfying by their resident (half of all patients), 10 percent viewed the relationship as problematic. Of the other half of the patients involved in relationships described as

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## Problematic doctor-patient relationships

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problematic by their resident, 23 percent also viewed their relationship as problematic. Compared with residents in satisfactory relationships, those involved in relationships rated as problematic were more likely to be rated poor in availability (72 vs. 28 percent) and their ability to handle patients' medical complaints (56 vs. 44 percent).

There was no association between the demographic characteristics of the physician and the patient's

perception of the relationship. However, patients who rated the relationship as problematic were much more likely to also report low social support (for example, from family or friends) compared with patients involved in relationships described as satisfying (76 vs. 16 percent). Recognizing that patients may be equally frustrated with the care they are receiving may prompt physicians to more closely examine their own role in the relationship.

See "Problematic resident-patient relationships," by Drs. Boutin-Foster and Charlson, in the November 2001 *Journal of General Internal Medicine* 16, pp. 750-754. ■

## Posttraumatic stress disorder affects nearly a third of trauma patients and hampers their recovery

People who suffer from posttraumatic stress disorder (PTSD) often have crippling recurrent flashbacks of the trauma, avoid related situations or people, and experience emotional numbness, nightmares, sleeping difficulty, irritability, and jumpiness. PTSD affects nearly a third (32 percent) of trauma victims and profoundly affects their recovery and quality of life, according to researchers involved in the Trauma Recovery Project, which was supported by the Agency for Healthcare Research and Quality (HS07611).

Led by Troy L. Holbrook, Ph.D., of the University of California, San Diego, the project team enrolled 1,048 adult trauma patients triaged at four trauma center hospitals between 1993 and 1996. These patients had been injured in a motor vehicle accident, been assaulted, or suffered a penetrating injury. The researchers assessed patients' quality of life after injury

and early symptoms of acute stress reaction at discharge, and they diagnosed PTSD at 6, 12, and 18 months after discharge. Thirty-two percent of trauma patients were diagnosed with PTSD 6 months after discharge.

Early symptoms of acute stress reaction were substantially higher in patients who developed PTSD (52 vs. 26 percent). Scores on a Quality of Well-being Scale were markedly lower at 6, 12, and 18 months followup for patients with PTSD compared with trauma patients who did not suffer from PTSD (0.576 vs. 0.658, 0.620 vs. 0.691, and 0.620 vs. 0.700, respectively). Uninjured healthy adults usually score from 0.830 to 0.900, with 1.0 representing optimum functioning.

Patients who perceived a threat to their life during the traumatic event or felt there was a medium to high chance of the traumatic event happening again were nearly twice as likely to develop PTSD. PTSD

was more frequent in women than in men (39 vs. 29 percent) and in younger low-income patients, as well as those who suffered penetrating trauma and assaults. Severity of injury or body region injured did not affect the likelihood of PTSD. These findings underscore an enormous, previously unrecognized problem in recovery from serious injury, conclude the researchers.

See "Perceived threat to life predicts posttraumatic stress disorder after major trauma: Risk factors and functional outcome," by Dr. Holbrook, David B. Hoyt, M.D., F.A.C.S., Murray B. Stein, M.D., and William J. Sieber, Ph.D., in the August 2001 *Journal of Trauma* 51(2), pp. 287-293. ■

### Dental diagnostic and preventive care procedures have increased since 1987

According to the most recent published data, Americans now are more likely to see a dentist to get their teeth examined and cleaned than they are to get them filled or removed. Sixty-five percent of all procedures reported in 1996 were described as either diagnostic (exams and x-rays) or preventive (cleanings, fluoride, and sealants), up from 56 percent in 1987. However, these numbers are lower for poorer, less educated, and black and Hispanic Americans.

These findings are based on a comparison of data from the 1996 Medical Expenditure Panel Survey (MEPS) and the 1987 National Medical Expenditure Survey (NMES), both from the Agency for Healthcare Research and Quality. These nationally representative surveys collected data on the civilian noninstitutionalized population of the United States. The study was carried out by researchers in AHRQ's Center for Cost and Financing Studies.

Specific data include:

- During 1996, approximately 115 million Americans made at least one visit to a dentist, and approximately 422 million dental procedures were performed.

- Diagnostic procedures increased from 25.9 percent of all procedures in 1987 to 35.2 percent in 1996.
- The numbers of restorative, prosthetic, surgical, and endodontic procedures (including fillings, crowns, bridges, dentures) all declined between 1987 and 1996.
- In 1996, black, Hispanic, and poorer respondents reported relatively fewer preventive visits and more oral surgery visits than whites and those with higher income.

For more information, see "Use of dental services: An analysis of visits, procedures, and providers, 1996," by Richard J. Manski, D.D.S., M.B.A., Ph.D., and John F. Moeller, Ph.D., in the February 2002 *Journal of the American Dental Association* 133(2), 167-175. Reprints (AHRQ Publication No. 02-R050) are available from AHRQ.\*\* ■

## Consumer Health Information

### Researchers examine demand for and use of consumer health information

The 1996 Healthwise Communities Project, carried out in Boise, ID, provided all Boise households with a self-care reference guide, toll-free telephone advice nurses, and computerized information (Healthwise Knowledgebase that could be accessed by home computers or those set up in public libraries, businesses, and health care settings). Two studies, supported in

part by the Agency for Healthcare Research and Quality (HS09997) and led by Todd H. Wagner, Ph.D., of the Stanford University School of Medicine, evaluated the impact of the project on consumer demand for and use of health information.

The first study found that the project increased demand for information. The second study found that those in poor health were more interested in health

information, and people suffering from depression made the most use of all three sources of health information.

**Wagner, T.H., Hu, T-W., and Hibbard, J.H. (2001). "The demand for consumer health information." *Journal of Health Economics* 20, pp. 1059-1075.**

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## Consumer health information

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These researchers compared the demand for consumer health information in Boise, ID—the experimental site of the Healthwise Communities Project (HCP)—with the demand in two control sites, Billings, MT, and Eugene, OR. They gathered data from random household surveys at all three sites before (early 1996) and after (1998) initiation of the HCP. They found that the project increased the use of medical reference books, advice nurses, and computers for health information by about 15 percent, 6 percent, and 4 percent, respectively. Only 3.5 percent of those without a computer used a computer for health information, probably due to the inconvenience and costs associated with traveling to a publicly available computer.

In 1998, medical reference books were much more widely used than computers for health information. However, this is probably changing as more consumers turn to the Internet. Drawbacks to online information sources include the length of time needed to search for information and wide variation in the accuracy of online health information. Although the American Medical Association has issued guidelines for Internet health information, additional private and public regulations may be needed to make it easier for consumers to get high

quality health information online, suggest the researchers.

Their findings also suggested that the Boise project was associated with a decreased reliance on health professionals for information. Boise residents called their physician significantly less frequently than residents in the control cities (9 percent less, and 13 percent less for people with children). Thus, encouraging consumers to use self-care resources may reduce demands on health care providers' time.

**Wagner, T.H., and Hibbard, J.H. (2001). "Who uses self-care books, advice nurses, and computers for health information?" *International Journal of Technology Assessment in Health Care* 17(4), pp. 590-600.**

The researchers randomly sampled households in Boise, ID, and two control cities about their use of health information in 1996, shortly before the HCP distributed health information to all Boise residents. They conducted a followup survey in 1998. Results revealed that few access, health, or demographic factors were consistently associated with using any of the project's health information resources. However, ownership of a computer and access to the Internet were highly associated with using a computer for health information.

People with a computer also were more likely to use a self-care book. Those with private insurance were more likely than the

uninsured to use a computer for health information, perhaps due to the online services many health plans make available to their members. Household income and employment status were not related to using any of the three information sources.

People in poor health and those who had a chronic illness were more likely to use health information, with people suffering from depression consistently using more of all three resources. People with a high school education or less were less likely to use self-care books, but education was not associated with using a telephone advice nurse or a computer. Older adults were much less likely to use a telephone advice nurse than younger adults. Neither age nor education were related to using computers for health information. However, other studies have found lower use of computers and the Internet among lower income blacks than others. Even when people find relevant information, it may be too technical, in a different language, or overwhelming, all potential barriers to needed health information, conclude the researchers. ■

## AHRQ's FY 2003 budget proposal

**O**n February 4, 2002, President Bush proposed a fiscal year 2003 budget of \$251.7 million for the Agency for Healthcare Research and Quality. This is a 16.2 percent decrease from the Agency's FY 2002 budget level of \$300.4 million.

Because of the financial challenges facing the Federal budget and increased spending on bioterrorism and defense, AHRQ and other agencies in the Department of Health and Human Services are facing a cut in FY 2003.

The proposed FY 2003 budget earmarks new and continued funding for six important AHRQ

programs: patient safety research, the Medical Expenditure Panel Survey (MEPS), the Healthcare Cost and Utilization Project (HCUP), Translating Research Into Practice (TRIP), the Consumer Assessment of Health Plans Study (CAHPS), and the Current Population Survey. For additional information on the funding proposed for these programs, go to: <http://www.ahrq.gov/about/cj2003/budbrf03.htm>.

The magnitude of the cut, coupled with the earmarks for these programs, would have a dramatic effect on how we do business every day. If enacted, this proposed budget would mean that AHRQ would not be able to fund

any new grants in FY 2003. In addition, existing grants (large or small) would be cut by 46 percent and existing contracts by 31 percent.

This is the first step in the process. We don't know what the final budget number will be. We are continuing to accept applications; please contact your project officer if you would like more information. Or, you can send an e-mail message to [info@ahrq.gov](mailto:info@ahrq.gov). ■

## Announcements

### AHRQ and the VA announce a joint research priority for translating research into practice

**T**he Agency for Healthcare Research and Quality and the Department of Veterans Affairs have issued a joint Program Announcement (PA) encouraging research that addresses a critical priority for the quality of health care in the United States: the translation of research findings into improved quality, patient safety, and health care outcomes.

The challenge of translating evidence-based practices into measurable improvements in care has been clearly described by the Institute of Medicine and other health care leaders. Research supported under this PA will build on work currently underway to provide essential information to health care decisionmakers about implementing evidence-based improvements in care. This new joint program is described in the PA, "Translating Research into Practice – Joint Program Announcements" (PA-02-066),

published in the February 22 *NIH Guide to Grants and Contracts*.

Because the challenge of translating research into practice confronts all health care organizations, this PA is an unprecedented collaboration between AHRQ and the VA to encourage evaluation of improvement strategies that can be broadly replicated.

For more information about this PA, see the February 22 *NIH Guide* at <http://grants.nih.gov/grants/guide/pa-files/PA-02-066.html>.

Additional inquiries should be directed to Margaret Coopey at 301-594-4022 or Diane Brown at 301-594-4019 at AHRQ, or you may e-mail them at [mcoopey@ahrq.gov](mailto:mcoopey@ahrq.gov) or [dbrown@ahrq.gov](mailto:dbrown@ahrq.gov). Inquiries also may be directed to Lynn McQueen, Dr.P.H., at the VA; call Dr. McQueen at 202-273-8227 or send an e-mail to [lynn.mcqueen@hq.med.va.gov](mailto:lynn.mcqueen@hq.med.va.gov). ■

## AHRQ announces availability of 1999 NIS data

The 1999 Nationwide Inpatient Sample (NIS) database for 1999 and accompanying documentation are now available on CD-ROM from the National Technical Information Service. The NIS is a component of the Healthcare Cost and Utilization Project (HCUP), a Federal-State-industry partnership to build a standardized multi-State health data system and companion set of resources, which is maintained by the Agency for Healthcare Research and Quality.

NIS data include more than 100 clinical and nonclinical variables, such as primary and secondary diagnoses, medical and surgical procedures, length of stay,

discharge status, patient sex and race, median income of the patient's ZIP code, payment source, and hospital charges. Users can enhance the analytical power of the NIS by linking it with selected other databases, such as the Bureau of Health Professions' Area Resource File of the Health Resources and Services Administration and the American Hospital Association's Annual Survey of Hospitals. The 1999 NIS database is based on information from approximately 7 million inpatient stays at over 1,000 hospitals in 24 States spanning the country, including uninsured patients.

The NIS can be run on desktop computers and comes in ASCII format for ease of use with numerous off-the-shelf products, including SAS and SPSS. It also includes weights for producing national and regional estimates. The database comes with full documentation in Adobe Acrobat®. SAS and SPSS users are provided programs for converting ASCII programs.

The cost of the 1999 NIS database is \$160; please use the NTIS accession number (PB2002-500020) when ordering. See the back cover of *Research Activities* for ordering information.\*\*\* ■

## Research Briefs

**Bader, J.D., Shugars, D.A., and Bonito, A.J. (2001, October). "Systematic reviews of selected dental caries diagnostic and management methods." (AHRQ contract 290-97-0011). *Journal of Dental Education* 65(10), pp. 960-968.**

These authors systematically reviewed the research literature on several methods for diagnosis and management of dental caries. Based on the literature reviewed, they could not establish point estimates or reasonable range estimates for the diagnostic validity of methods used to diagnose carious lesions. There were too few reports of diagnostic performance involving primary teeth, anterior teeth, and root surfaces. Studies on managing individuals at high risk of carious lesions showed fair evidence for the efficacy of

fluoride varnish to prevent dental caries; evidence for other methods was incomplete.

**Bosco, L. (2001). "Databases for outcomes research: What has 10 years of experience taught us?" *Pharmacoepidemiology and Drug Safety* 10, pp. 445-456.**

This author describes how various programs are related to the mission of the Agency for Healthcare Research and Quality. For example, the Evidence-based Practice Center program was developed to provide systematic reviews on common and expensive conditions and health technologies and to ensure that the information is used to improve health care outcomes and costs. The National Guideline Clearinghouse™ provides an Internet-based source of clinical practice guidelines that

are produced by clinical specialty organizations to improve health care delivery and outcomes. AHRQ also has supported the development of databases to track hospital use on a State-by-State basis. The Healthcare Cost and Utilization Project (HCUP) allows comparisons between States and within regions of individual States. The Centers for Education and Research on Therapeutics program was developed to conduct real world evaluations to better understand the benefits and risks of single and combined therapy. Reprints (AHRQ Publication No. 02-R031) are available from AHRQ.\*\*

**Cardon, J.H., and Showalter, M.H. (2001). "An examination of flexible spending accounts."**

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## Research briefs

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**(AHRQ grant HS10829).** *Journal of Health Economics* 20, pp. 935-954.

Flexible spending accounts (FSAs) for health and child care expenses are exempt from Federal, State, and payroll taxes and thus are attractive to both employees and employers. A recent survey of 681 major U.S. firms suggests that 79 percent of these employers offered such accounts in 1995, and that a rapidly growing share of employees are taking advantage of these offerings. These authors developed a framework for analyzing FSA participation and usage and explored patterns of FSA usage using data from a benefits firm for 1996, including an examination of types of FSA expenditures and their timing. In this paper, they estimate some simple econometric models of participation decisions and also the decision of how much to put into an FSA. Some evidence suggests that much of an FSA election amount is based on foreknowledge of expenditures, and that participants tend to spend their election amount early, thus obtaining an interest-free loan.

**Chapman, G.B., Brewer, N.T., Coups, E.J., and others. (2001).** “Value for the future and preventive health behavior.” (AHRQ grant HS09519). *Journal of Experimental Psychology* 7(3), pp. 235-250.

Recent research on decisionmaking has explored intertemporal choice, that is, making decisions that involve a trade-off between something now and something later. Although much research has assessed discounting of delayed outcomes by using hypothetical scenarios, little research has examined whether

these discounting measures correspond to real-world behavior. These authors report the findings from three studies that examined the relationship between scenario measures of time preference and preventive health behaviors that require an up-front cost to achieve a long-term benefit. Responses to time preference scenarios showed weak or no relationship to influenza vaccination, adherence to a medication regimen to control high blood pressure, and adherence to cholesterol-lowering medication. The finding that scenario measures of time preference have a surprisingly weak relationship to actual behavior representing intertemporal trade-offs places limits on the application of time preference research to the promotion of preventive health behavior.

**Glance, L.G., and Osler, T.M. (2001, November).** “Comparing outcomes of coronary artery bypass surgery: Is the New York Cardiac Surgery Reporting System model sensitive to changes in case mix?” (AHRQ grant K08 HS11295). *Critical Care Medicine* 29(11), p. 2090-2096.

New York State has published mortality rates for coronary artery bypass graft (CABG) surgery since 1991. This information has served as a report card for the State’s hospitals and cardiac surgeons. These mortality rates have been risk-adjusted, that is, adjusted for the severity of illness of patients. For this study, the researchers used a database that included information on all patients undergoing CABG surgery in 32 New York hospitals in 1996. They used the New York State Cardiac Surgery Reporting System (CSRS) model to assess the impact of case-mix variation on the standardized

mortality ratio (SMR), which is defined as the ratio of a hospital’s observed mortality rate to the expected mortality rate, given the severity of illness of a hospital’s patients. The SMR is used to quantify health care outcomes. They found that changes in patient case mix were associated with significant changes in the SMR. However, there was no difference in the identity of quality outliers (hospitals that performed significantly better or worse than the benchmark) when using either the SMR or the SMR adjusted for the effects of case mix. The researchers conclude that risk-adjusted measures of outcomes in CABG patients using the CSRS mortality model may not completely adjust for differences in case mix.

**Hunt, L.M., and Arar, N.H. (2001).** “An analytical framework for contrasting patient and provider views of the process of chronic disease management.” (AHRQ grant HS07397). *Medical Anthropology Quarterly* 15(3), pp. 347-367.

An important role of medical anthropologists is to help explain the health behaviors of patients to clinicians—for example, patients’ noncompliance with treatment recommendations. In this paper, medical anthropologists present an analytical framework for contrasting patient and physician goals, strategies, and evaluation criteria in chronic disease management, using examples from research on management of care for patients with type 2 diabetes. Their approach examines the contrasting views of patients and providers within the dynamic process of long-term care. They present several case studies to illustrate patient and physician differences in this regard.

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## Research briefs

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**Miller, M.R., Elixhauser, A., Zhan, C., and Meyer, G.S. (2001, December).** “Patient safety indicators: Using administrative data to identify potential patient safety concerns.” *Health Services Research online* at [www.hsr.org/AliceHersh/07-Miller.pdf](http://www.hsr.org/AliceHersh/07-Miller.pdf).

Based on 2.4 million discharge records in the 1997 New York State Inpatient Database, these authors developed patient safety indicators (PSIs) to identify potential in-hospital patient safety problems for the purpose of improving hospital quality of care. They examined the prevalence of PSI events and associations between PSI events and patient-level and hospital-level characteristics, length of stay, in-hospital mortality, and hospital charges. As a result, the researchers developed PSIs for 12 distinct clinical situations and an overall summary measure. The 1997 event rates per 10,000 discharges varied from 1.1 for foreign bodies left during a procedure to 84.7 for birth traumas. Discharge records with PSI events involved longer hospital stays, higher rates of in-hospital mortality, and higher total charges than records without PSI events. The researchers conclude that until better error reporting systems are developed, the PSIs can serve to shed light on the problem of medical errors. Reprints (AHRQ Publication No. 02-R039) are available from AHRQ.\*

**Parkerson, G.R., Harrell, F.E., Hammond, W.E. and Wang, X-Q. (2001).** “Characteristics of adult primary care patients as predictors of future health services charges.” (AHRQ grant HS09821). *Medical Care* 39(11), pp. 1170-1181.

Estimating the differential use of health services based on patient

characteristics (that is, case mix), so-called utilization risk assessment, is a potentially useful approach for resource allocation or risk adjustment in managing health care. However, precise measurement is difficult. These authors observed adult primary care patients to test whether health-related quality of life (HRQOL), severity of illness, and diagnosis at a single primary care visit were comparable case-mix predictors of future 1-year charges in all clinical settings within a large health system. Of 1,202 patients, 84 percent had followup in the primary care clinic, 63 percent in subspecialty clinics, 15 percent in the emergency room, and 10 percent in the hospital. The researchers found that HRQOL, severity of illness, and diagnosis were all comparable predictors of 1-year health services charges in all clinical sites. However, they were most predictive for primary care charges and were more accurate in combination than alone.

**Rosko, M.D., (2001, December).** “Impact of HMO penetration and other environmental factors on hospital X-inefficiency.” (AHRQ grant HS09845). *Medical Care Research and Review* 58(4), pp. 430- 454.

Many analysts have suggested that increased health maintenance organization (HMO) market penetration has led to hospital cost savings and increased efficiency. Findings from this study support that contention. The researchers examined the impact of HMO market penetration and other internal and external environmental factors on hospital X-inefficiency (the difference between optimal performance and actual performance) in a national sample of urban U.S. hospitals in 1997. They estimated average X-inefficiency in study hospitals at

about 13 percent, meaning that they produced 13 percent less than they were capable of producing. Increases in managed care penetration, dependence on Medicare and Medicaid, membership in a multihospital system, and location in areas where competitive pressures and the pool of uncompensated care were greater were associated with less X-inefficiency. Not-for profit ownership was associated with increased X-inefficiency.

**Selden, T.M., Levit, K.R., Cohen, J.W., and others. (2001, Fall).** “Reconciling medical expenditure estimates from the MEPS and the NHA, 1996.” *Health Care Financing Review* 23(1), pp. 161-178.

These authors compared 1996 estimates of national medical care expenditures from the Medical Expenditure Panel Survey (MEPS) and the National Health Accounts (NHA). The MEPS estimate for total expenditures in 1996 was \$548 billion, and the NHA estimate for personal health care in 1996 was \$912 billion. Apparently, much of this difference arose from differences in the scope of MEPS and NHA, rather than from differences in estimates for comparably defined expenditures, note the researchers. Once they adjusted the NHA for differences in included populations and types of services covered, they found a much smaller difference between MEPS and a comparably-defined NHA. However, given the magnitude of adjustments needed to align the NHA and MEPS, they conclude that any NHA-MEPS comparisons—especially comparisons pertaining to specific services or payment sources—should be viewed more as approximations than as precise

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## Research briefs

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estimates. Reprints (AHRQ Publication No. 02-R027) are available from AHRQ.\*

**Sherbourne, C.D., Unutzer, J., Schoenbaum, M. and others.** “Can utility-weighted health-related quality-of-life estimates capture health effects of quality improvement for depression?” (AHRQ grant HS08349). *Medical Care* 39(11), pp. 1246-1259.

Because different services compete for health care dollars, it is desirable to present cost-effectiveness (CE) results that compare alternative treatments or interventions. Utility methods that are responsive to changes in desirable patient outcomes are needed for CE analyses and to help in decisions about resource allocation. These investigators evaluated the responsiveness of different methods that assign utility weights to subsets of items on the Short-Form Health Survey (SF-36), a health status questionnaire, to average improvement in health resulting from quality improvement (QI) interventions for depression in 46 primary care clinics in six

managed care organizations. Several utility-weighted measures showed increased utility values for patients in one of the QI interventions, relative to usual care, that paralleled the improved health effects for depression and emotional well being on the SF-36. However, QALY gains were small. Directly elicited utility values paradoxically showed a lower utility for patients who received the QI intervention than controls during the first year of the study. This raises concerns about the use of direct single-item utility measures or utility measures derived from generic health status measures in effectiveness studies for depression. Choice of measure may lead to different conclusions about the benefits and CE of treatment.

**Zaslavsky, A.M. (2001).** “Statistical issues in reporting quality data: Small samples and casemix variation.” (AHRQ grants HS09473 and HS09205). *International Journal for Quality in Health Care* 13(6), pp. 481-488.

With broader understanding of case-mix adjustment and methods for analyzing small samples,

quality data for individual clinical units can be analyzed and reported more accurately, concludes this author. He notes that case-mix variation is relevant to quality reporting when the clinical units being measured have differing distributions of patient characteristics that also affect the quality outcome. When this is the case, adjustment using stratification or regression may be appropriate. Such adjustments may be controversial when the patient characteristic does not have an obvious relationship to the outcome. Stratified reporting poses problems for sample size and reporting format, but it may be useful when case mix effects vary across units. Although there are no absolute standards of reliability, high reliabilities are desirable for distinguishing above- and below-average units. When small or unequal sample sizes complicate reporting, precision may be improved using indirect estimation techniques that incorporate auxiliary information. “Shrinkage” estimation can help to summarize the strength of evidence for clinical units with small samples. ■

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