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New HIV therapies have led to a decline in hospital costs for most patients

A nationwide study supported in part by the Agency for Healthcare Research and Quality (HS08578) has found that expenditures for hospital inpatient care for HIV fell more than 40 percent by mid-1997 in the wake of the introduction early the preceding year of highly active combination antiretroviral therapy, a mixture of protease inhibitors and other drugs. The decrease in demand for hospital care, along with a more modest reduction in the use of outpatient care, helped drive down overall treatment expenditures for HIV patients by one-sixth between early 1996 and late 1998.

According to the HIV Cost and Services Utilization Study (HCSUS), which was conducted by a consortium led by RAND Health, the mean monthly expenditures per HIV patient—including expenses for hospital and outpatient care and drug therapy—declined from \$1,792 in 1996 to \$1,359 roughly a year later and then rose slightly to \$1,410 by the end of the study

period. After adjustment for illness severity, patient deaths, and other factors, the average annual per patient expenditure declined from \$20,300 to \$18,300 during the same period.

Overall expenditures for HIV care declined in all patient groups, but not all HIV patients saw a shift from hospital to outpatient care. By late 1998, hospital care remained the largest treatment cost item for members of underserved groups, accounting for up to half of all spending for HIV care of women, blacks, and patients in the Eastern region of the United States, as well as HIV patients whose care was paid for by the Medicaid program. In contrast, 75 to 90 percent of the money spent for treating other HIV patients went toward outpatient drug therapy and clinic visits.

These findings indicate that highly active combination antiretroviral therapy reduced the need for expensive hospital inpatient care among HIV patients as a whole, but it did not affect disadvantaged patient groups to the same degree. Another concern is that demand for inpatient care

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New HIV therapies

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may be on the rebound for all HIV patient groups, according to the HCSUS co-principal investigator and the study's lead author, Samuel A. Bozzette, M.D., Ph.D., a senior scientist with RAND and professor of medicine at the University of California, San Diego. Dr. Bozzette, who also heads the health services research unit of the Veterans Affairs Hospital in San Diego, notes that there have been recent reports of treatment failures involving highly active combination antiretroviral therapy and that expenditures for the hospital care of HIV patients appeared to be rising by the end of 1998.

For this project, which was also supported by the Health Resources and Services Administration and other components of the Department of Health and Human Services, the researchers periodically interviewed a randomly selected sample initially consisting of 2,864 adult HIV patients.

For more details, see "Expenditures for HIV care in the era of highly active therapy: Results from the HIV Cost and Services Utilization Study," by Dr. Bozzette, Geoffrey Joyce, Ph.D., Daniel F. McCaffrey, Ph.D., and others, in the March 15, 2001 *New England Journal of Medicine* 344, pp. 817-823. ■

Minority Health

Racial matching of patients and physicians does not necessarily lead to better quality of care

Some people advocate increasing the number of black doctors to enhance medical care in black communities and improve health outcomes among the poor and disadvantaged. They believe that black doctors understand the cultural and social context of illness in the black community, more effectively communicate with black patients, and thus deliver better care to them. However, it is not necessary for black patients to be treated by black doctors to achieve better care, concludes a study

supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00032).

University of North Carolina researchers examined how racial matching between 2,867 elderly North Carolina patients and their regular physicians related to effectiveness of care, use of services, and satisfaction with care. The researchers interviewed the patients and screened them for high blood pressure (hypertension). They found that elderly black patients with hypertension were more likely to take antihypertensive medication than whites, regardless of their physician's race. Also, white elders with black doctors were more likely to delay suggested care, while black elders were less likely to delay care, regardless of their physician's race.

White elders with white physicians were less likely than any other elder-physician dyad to be told that they had high blood pressure, to have been given medicine for it, or to be currently taking that medicine. Patients with black doctors were less likely to be very satisfied than were patients of white doctors (26 vs. 40 percent). White elders with black doctors were most likely to be very dissatisfied with care among all racial dyads (11 percent), while white elders with white doctors were most likely to be very satisfied with care (43 percent).

See "Physician-patient racial matching, effectiveness of care, use of services, and patient satisfaction," by Daniel L. Howard, Ph.D., Thomas R. Konrad, Ph.D., Catherine Stevens, and Carol Q. Porter, in the January 2001 *Research on Aging* 23(1), pp. 83-108. ■

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Most women undergoing hysterectomy for benign conditions are satisfied with the outcome and their recovery

More than 9 out of 10 women who undergo hysterectomies for benign conditions are satisfied with the results. They feel the surgery provided relief from painful symptoms and improved their quality of life and that the recovery was reasonable. The few women dissatisfied with the operation were those who had to be readmitted for complications such as adhesions or infections, according to the results of a study supported by the Agency for Healthcare Research and Quality (HS06865).

University of Maryland researchers interviewed about 1,300 women—most of whom were premenopausal—who underwent hysterectomy at 28 Maryland hospitals. They interviewed the women before surgery and at 3, 6, 12, 18, and 24 months after surgery.

About two-thirds of the women (65 percent) underwent abdominal hysterectomy, 12 percent underwent laparoscopically assisted vaginal hysterectomy, and about 23 percent underwent vaginal hysterectomy. When surveyed 1 and 2 years after the operation, 96 percent of women said that the hysterectomy had completely or mostly resolved the problems or symptoms they were experiencing before they had the surgery. Also, 93 percent and 94

percent, respectively, said that the results of the operation were better than or about what they expected; from 82 to 85 percent said that their health was better than before the hysterectomy; and from 88 to 93 percent reported being totally recovered. Fewer than 1 percent of the women studied said the surgery had not resolved at all the symptoms or problems that they had before surgery.

Hospital readmission due to complications after hospital discharge was the factor most strongly and consistently associated with women's reports of negative outcomes from hysterectomy. For example, women who were readmitted to the hospital during the first year after hysterectomy were 23 times more likely to report that the results of the surgery were worse than they had expected, after adjustment for all other factors. About 5.4 percent of women were readmitted at least once to the hospital during the 2 years of followup, and 4 percent were readmitted during the first year. The most common reasons for readmission were incision problems, surgery for adhesions, intestinal blockage, and urinary tract problems.

For more information, see "Patient satisfaction with results of hysterectomy," by Kristen H.

Kjerulff, Ph.D., Julia C. Rhodes, Ph.D., Patricia W. Langenberg, Ph.D., and Lynn A. Harvey, in the December 2000 *American Journal of Obstetrics & Gynecology* 183, pp. 1440-1447. ■

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Community-based programs offer a way to reach disadvantaged women and encourage them to have mammograms

Although a 1998 survey showed that 68 percent of women over age 40 had received a mammogram in the past 2 years, serious concerns remain about the many women who do not receive screening mammograms or are screened less frequently than recommended. Poor and minority women, who are less likely to visit doctors' offices where they could be reminded about mammograms, are the least likely to obtain them. Community-based screening programs may have a better chance of reaching such women, suggest Joanna E. Siegel, Sc.D., and Carolyn M. Clancy, M.D., of the Agency for Healthcare Research and Quality, in a recent commentary.

Drs. Siegel and Clancy discuss a recent study that examined the cost and cost-effectiveness of the Los

Angeles Mammography Program (LAMP), which involved 45 churches and 2 interventions to improve rates of mammography screening: mail counseling (which did not work) and telephone counseling. The LAMP effort generated 3.24 additional screenings among 56 women, with most of this effect among women who previously had received at least one mammogram in the preceding 2 years. It is not clear whether this level of increase was adequate to make a difference in outcomes.

Future cost-effectiveness studies on this topic should be very clear about the chain of effectiveness linking program impact and behavioral or other changes and health outcomes, assert the authors. They also recommend that church-based and other community

programs be compared with a range of alternative programs targeting women with limited access to mammography. These might include radio programming, health fairs, and outreach programs conducted by local community health workers. Drs. Siegel and Clancy point out that this is an area in which clinical solutions have fallen short, and they recommend that careful consideration be given to community-based and other approaches that may be outside the traditional purview of medicine.

More details are in "Community-based interventions: Taking on the cost and cost-effectiveness questions," by Drs. Siegel and Clancy, in the December 2000 *Health Services Research* 35(5), pp. 905-909. Reprints (AHRQ Publication No. 01-R032) are available from AHRQ.** ■

Increasing the quality and quantity of prenatal care may not reduce low birthweight among low-income black women

Several approaches have been used to reduce low birthweight (LBW) and preterm birth among poor minority women who are at higher risk for such births. While high-quality prenatal care can improve knowledge about pregnancy risk, social support, care satisfaction, and a sense of control over their lives, it does not reduce low birthweight among poor black women at high risk for LBW infants. This is the conclusion of a recently published study by the Low Birthweight Patient Outcomes Research Team (PORT) and supported by the Agency for Healthcare Research and Quality (PORT contract 290-92-0055).

The PORT was led by Robert L. Goldenberg, M.D., of the University of Alabama at Birmingham.

Dr. Goldenberg and his colleagues Lorraine Klerman, Dr.P.H., and Sharon Ramey, Ph.D., randomly assigned 318 Medicaid-eligible pregnant black women (less than 26 weeks gestation) to augmented prenatal care and 301 similar women to usual care. These women had at least one of ten or more risk factors for having LBW babies.

Augmented care included educationally oriented peer groups, additional appointments (two a month

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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.

Prenatal care for low-income women

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and then weekly after 36 weeks), extended time with clinicians, and other supports. Specific risk-reduction programs addressed smoking cessation, weight gain, vitamin/mineral supplementation, and resolution of psychosocial stress/isolation. Also, the program provided transportation, child care, appointment reminders, patient education, and discussion groups, and members of the women's social support systems were encouraged to come to the center.

Both groups had lower than predicted rates of LBW, but augmented care did not reduce LBW. Although the mean birthweight of live-born infants was somewhat higher in augmented care than in usual care (6.75 lbs vs. 6.68 lbs), the percentage of infants weighing less

than 5.5 lbs was slightly higher in augmented care (12.5 vs. 11.2 percent). However, women who had given birth before said that care at the Mother and Family Specialty Center (augmented care) was better this time (74 vs. 30 percent for usual care). Women in augmented care rated their care as more helpful, they knew more about their risks for giving birth to LBW babies, and they spent more time with their nurse-providers than did women in usual care. Also, women in the augmented care group participated in prenatal or childbirth groups more than women receiving usual care (79 vs. 17 percent), and more smokers in augmented care quit smoking.

See "A randomized trial of augmented prenatal care for multiple-risk, Medicaid-eligible African American women," by Drs. Klerman, Ramey, Goldenberg, and others, in the January 2001 *American Journal of Public Health* 91, pp. 105-111. ■

Heart Disease

Despite intensified efforts to prevent cardiovascular disease, disparities continue for some groups and regions

Cardiovascular disease (CVD) has been the dominant cause of death in the United States for at least 50 years, with heart disease ranking first and stroke ranking third as specific causes of death. A National Conference on Cardiovascular Disease Prevention was convened in September 1999 to assess the magnitude and causes of trends in coronary heart disease (CHD), stroke, and other CVD; examine disparities in levels and trends of CVD rates by race/ethnicity, socioeconomic status, and geography; and explore strategies for CVD prevention.

Findings from the conference indicate that CHD mortality rates are especially high in middle-aged black men, and stroke mortality rates are strikingly higher in blacks in general. CVD mortality rates also vary markedly by U.S. region, with age-adjusted CHD rates varying more than two-fold among certain States. Rural and poor areas have particularly high CHD mortality rates.

Since 1990, there has been little or no progress in reducing risk factors for CVD, such as smoking (currently at 25 percent of the population), physical inactivity (29 percent report no regular physical activity outside of work), and hypertension (only 11 of 43 million U.S. residents with hypertension are treated and controlled). Moreover, there is a trend suggesting greater dietary intake of calories (50 to 60 percent of adults are overweight), a rapid rise in obesity prevalence (20 to 25 percent of adults), and a striking increase of type-2 diabetes to 7 percent of adults.

More can and should be done for population-based primary prevention, notes Daniel Stryer, M.D., of the Agency for Healthcare Research and Quality. Dr. Stryer and his coauthors note that within the health care sector, fewer than 50 percent of patients will reliably have their risk factors assessed, treated, or controlled. Similar disparities are observed in

secondary prevention, despite widely accepted guidelines. To restore and even accelerate the decline in CVD mortality, conference participants recommended a strategy that emphasizes primary risk factor prevention, detection, and management; attention to all population subgroups, especially those at high risk; and mobilization of multifaceted resources needed to effectively implement this strategy.

See "Trends and disparities in coronary heart disease, stroke, and other cardiovascular diseases in the United States: Findings of the National Conference on Cardiovascular Disease Prevention," by Richard Cooper, M.D., Jeffrey Cutler, M.D., Patrice Desvigne-Nickens, M.D., and others, in the December 19, 2000 *Circulation* 102, pp. 3137-3147. Reprints (AHRQ Publication No. 01-R021) are available from AHRQ.** ■

Programs that successfully reduce or prevent smoking and alter sedentary lifestyles can reduce hospital admissions

Smoking and a sedentary lifestyle remain the leading causes of death in the United States. Hospital admissions can be substantially reduced by interventions to prevent smoking, help smokers quit, and encourage inactive people to become active, according to a study supported by the Agency for Healthcare Research and Quality (HS07002). The study findings suggest that eliminating smoking and inactivity would reduce annual rates of hospitalization among older adults 11 percent and 7 percent, respectively, 5 years later and 9 percent and 5 percent, respectively, 20 years later.

Overall, men gain more from smoking cessation and women more from increasing exercise. Smoking cessation had its greatest

impact for men aged 45-64, with reductions in the hospitalization rate of 17 percent in year 5 and 14 percent in year 20. Reductions in hospitalization for women aged 45-64 and men aged 65-74 also were substantial, while those for women aged 65-74 were a mere 1 percent. The elimination of sedentary lifestyles had the greatest impact on women. Their hospitalization rates fell 8 to 10 percent during followup, while the rates for middle-aged men fell less than 5 percent and those for elderly men less than 2 percent.

However, if only 10 percent of individuals who smoked or were sedentary changed their behavior—a percentage that reflects the effectiveness of current interventions—then hospitalization rates would decline less than 2

percent in all age-sex groups, explains Louise Russell, Ph.D., of Rutgers University. Using data from a representative sample of nearly 8,000 U.S. adults, Dr. Russell and her colleagues linked clinical/behavioral determinants of hospitalization and simulation modeling of health outcomes to develop a model projecting the impact of risk factor modification on subsequent hospitalizations over a period of 20 years.

See “Preventable smoking and exercise-related hospital admissions: A model based on the NHEFS,” by Dr. Russell, Steven M. Teutsch, M.D., M.P.H., Rizie Kumar, M.A., and others, in the January 2001 *American Journal of Preventive Medicine* 20(1), pp. 26-34. ■

Interactive video games can motivate health behavior change in children and adolescents

In randomized clinical trials, children and adolescents improved their self care and significantly reduced their use of emergency clinical services after playing health education and disease management video games. Debra A. Lieberman, Ed.M., Ph.D., of the University of California, Santa Barbara, examined the effectiveness of three such games: “Bronkie the Bronchiasaurus,” for asthma self-management; “Packy & Marlon,” for diabetes self-management; and “Rex Ronan,” for smoking prevention. The Agency for Healthcare Research and Quality provided support for initial development of the smoking prevention game (contract 213-92-0051).

In these interactive video games, which were developed by Click Health, Inc., children and adolescents assume the role of a main character who also has their chronic condition or is battling the effects of smoking and nicotine addiction. According

to Dr. Lieberman, children who took these games home and used them for 1 week (smoking prevention) to 6 months (diabetes self care) increased their resolve not to smoke, markedly improved their ability to manage their asthma or diabetes, and reduced by as much as 77 percent, on average, their urgent or emergency care visits related to their illness.

The “Rex Ronan” video game graphically portrays the physiological effects of smoking. It is intended to strengthen preadolescents’ (ages 10 to 12) antismoking attitudes and intentions not to begin smoking. Although many youngsters in this age group already hold these attitudes, their resolve notoriously weakens when they reach 13 or 14, the age at which many people begin smoking.

In the video game, Dr. Rex Ronan shrinks to near microscopic size and enters the body of a smoker who has a multitude of tobacco-related illnesses. Using his

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Interactive video games

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powerful laser scalpel, he attempts to destroy the tar, plaque, precancerous cells, and other debris and deposits that are consequences of tobacco use. The player maneuvers Dr. Ronan through the body and controls the laser scalpel. After playing the game at home for 1 week, 10- and 11-year-old children

participating in a 1997 study in Georgia gained a better understanding of the physiological effects of smoking and strengthened their resolve not to smoke.

For more information, see "Management of chronic pediatric diseases with interactive health games: Theory and research findings," by Dr. Lieberman, in the January 2001 *Journal of Ambulatory Care Management* 24, pp. 26-38. ■

Outcomes/Effectiveness Research

Researchers examine long-term outcomes of very preterm infants born in The Netherlands nearly 20 years ago

One out of 10 Dutch teenagers, who were born as very preterm infants in 1983, suffers from a severe disability or handicap. Over half of them face serious difficulties in everyday life and have to cope with learning, attention, and social-emotional problems. In fact, it is possible that as many as 40 percent of these Dutch adolescents will not be able to become fully independent adults. These are the sobering conclusions of a long-term study of Dutch preterm infants, which was supported in part by the Agency for Healthcare Research and Quality (HS08385).

Despite advances in neonatal intensive care since the 1980s, it is not certain that long-term consequences for these infants have improved, note researchers at Leiden University Medical Center and the TNO Institute for Prevention and Health in The

Netherlands who conducted the study. However, their study suggests that the long-term outcomes of modern neonatal care can be evaluated at a much earlier age than previously thought. For example, they found that a severe handicap (unable to function without help either due to blindness, deafness, mental retardation, or other disability) was easily detected before 2 years of age and did not disappear thereafter. Much of the impairment in this group of children was also identified at 5 years of age but was not considered to be important, since these children had been very small and/or very sick and were expected to outgrow their impairments. However, later followup demonstrated that such impairments were very predictive for later problems at school.

The incidence of disabilities or mild handicaps increased over time.

When the growing child was no longer able to meet increasing expectations in school, the drop-out rate increased. This phenomenon also explained the increasing incidence of school problems with advancing age among the Dutch children. These findings are based on perinatal data on 1,338 infants born in 1983 with a gestational age of under 32 weeks and/or birthweight less than 1,500 g. The infants were assessed at 2 years of age by their pediatricians, at 5 years by a team of investigators, and at 9-14 years by questionnaires completed by parents, teachers, and the children themselves.

See "Looking back in time: Outcome of a national cohort of very preterm infants born in The Netherlands in 1983," by Frans J. Walther, A. Lya den Ouden, and S. Pauline Verloove-Vanhorick, in *Early Human Development* 59, pp. 175-191, 2000. ■

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Elderly veterans who suffer heart attacks have similar clinical outcomes at VHA and non-VHA hospitals

Eligible U.S. veterans 65 years of age or older may receive health care funded either by the Veterans Health Administration (VHA) or by the Health Care Financing Administration (HCFA) under Medicare. Some believe that patients cared for in VHA institutions receive poorer quality care than those cared for in non-VHA institutions, but data are lacking to prove or disprove this belief. A recent study, supported by the Agency for Healthcare Research and Quality (HS08071), finds that veterans treated at VHA hospitals have similar outcomes for heart attacks as male Medicare beneficiaries treated at non-VHA hospitals.

The researchers compared the coexisting medical conditions, severity of illness, and outcomes of 2,265 matched pairs of heart attack

patients treated in VHA and non-VHA hospitals using nationally representative clinical data. They compared survival among those who were treated within the VHA system and those who were not, within each type of hospital, and in each 5-year age group. VHA patients had more coexisting conditions and were much more likely than Medicare patients to have a history of hypertension (64 vs. 57 percent), chronic obstructive pulmonary disease or asthma (31 vs. 24 percent), diabetes (35 vs. 29 percent), stroke (20 vs. 14 percent), or dementia (7 vs. 5 percent).

The use of thrombolytic (clot-busting) agents was similar in both groups. However, more VHA than Medicare patients were receiving beta-blockers, angiotensin-converting-enzyme inhibitors, or aspirin at discharge, which at least

partly accounted for similar outcomes with less ill Medicare patients. After adjusting for differences in medical risks between the two groups, the researchers found no significant difference in 30-day or 1-year mortality, suggesting similar quality of care for both groups of veterans.

For more details, see "Outcome of myocardial infarction in Veterans Health Administration patients as compared with Medicare patients," by Laura A. Petersen, M.D., M.P.H., Sharon-Lise T. Normand, Ph.D., Jennifer Daley, M.D., and Barbara J. McNeil, M.D., Ph.D., in the December 28, 2000 *New England Journal of Medicine* 343(26), pp. 1934-1941. ■

Clinical Decisionmaking

Inappropriate prescribing of a popular heartburn drug continues despite FDA regulatory action

The heartburn drug, cisapride, continues to be inappropriately prescribed for patients with medical conditions that contraindicate its use. This is in spite of June 1998 regulatory action by the U.S. Food and Drug Administration (FDA) outlining contraindications to cisapride. Even letters to physicians and drug label warnings were not sufficient to spark more appropriate prescribing a year later, according to a recent study led by Walter Smalley, M.D., M.P.H., of the Vanderbilt University School of Medicine.

After marketing of cisapride began in the United States in 1993, it soon became clear that the drug could cause life-threatening cardiac arrhythmia in susceptible patients. The reasons for this susceptibility, outlined in 1998 by the FDA, included current use of medications that interfere with cisapride metabolism (for example, the antibiotic erythromycin) or prolong a

heart rhythm interval (for example, cyclic antidepressants), as well as the presence of other diseases that predispose patients to such arrhythmias.

The FDA informed health care practitioners of these contraindications to cisapride via additions to the boxed warning label on cisapride and a "Dear health care professional" letter sent by the drug's manufacturer. Unfortunately, these actions only reduced contraindicated prescribing of the drug by about 2 percent (two patients per 100 cisapride users).

Dr. Smalley and his colleagues analyzed data for the 1-year period before (July 1997 to June 1998) and after (July 1998 to June 1999) the FDA regulatory action from the population-based pharmacoepidemiology research databases of two managed care organizations (sites A and B) and a State Medicaid program site (site C). In the year prior to

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Inappropriate prescribing of heartburn drug

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regulatory action, cisapride use was contraindicated for 26 percent, 30 percent, and 60 percent of users in study sites A, B, and C, respectively. In the year after regulatory action, use was contraindicated for 24 percent, 28 percent, and 58 percent of users. The researchers cite the need for more effective ways to communicate with clinicians about drug safety.

This study was supported by the FDA and the Agency for Healthcare Research and Quality through a Centers for Education and Research in Therapeutics cooperative agreement (HS10384).

For more details, see “Contraindicated use of cisapride: Impact of Food and Drug Administration action,” by Dr. Smalley, Deborah Shatin, Ph.D., Diane K. Wysowski, Ph.D., and others, in the December 20, 2000 *Journal of the American Medical Association* 284(23), pp. 3036-3039. ■

Veterans seeking help for posttraumatic stress disorder generally admit to their abuse of drugs

Being able to accurately evaluate substance abuse in veterans suffering from posttraumatic stress disorder (PTSD) is important for assessment and treatment planning. However, some suspect that veterans seeking treatment for PTSD may not be truthful about substance abuse because they fear losing entitlement to PTSD-related financial compensation. Yet few veterans seeking help for PTSD lie about substance abuse, according to a study supported in part by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00079).

Researchers from Duke University Medical Center and the Veterans Affairs Medical Center (VAMC) in Durham, NC, compared drug urine screening results with self-reports of drug use by 341 male veterans referred to a VAMC PTSD specialty clinic.

Through urine tests, patients were screened for use of amphetamines, barbiturates, benzodiazepines, cannabinoids, cocaine, opiates, and phencyclidine. Veterans also completed a questionnaire asking about their use of these and other drugs during the previous 6 months.

Only 8 percent of veterans with drug screens denied using substances that were detected by urine screen. Self-reports and urine results were consistent in 71 percent of cases. Veterans diagnosed with PTSD who reported substance abuse were more likely to use only marijuana or depressants (79 percent) than stimulants (21 percent). Those who underreported substance use had lower socioeconomic status than accurate reporters or overreporters (those reporting use of drugs not detected by urine testing). However, underreporters did not differ from the others by race, age,

level of combat exposure, PTSD diagnosis, or other factors. If all those who refused drug testing, denied using drugs, or underreported substance use (as detected by urine drug screens) were grouped together, only 11 percent of veterans studied would have underreported substance use. Given the validity of self-reports and their many advantages (low cost, ease of administration, and noninvasiveness), they are desirable for this population, conclude the researchers.

For more details, see “Drug use and validity of substance use self-reports in veterans seeking help for posttraumatic stress disorder,” by Patrick S. Calhoun, Hayden B. Bosworth, Michael A. Hertzberg, and others, in the *Journal of Consulting and Clinical Psychology* 68(5), pp. 923-927, 2000. ■

Quality improvement programs improve primary care clinician knowledge about depression treatment over 18 months

Clinician education is usually a component of quality improvement programs for chronic diseases, but it is unclear whether such programs can lead to sustained gains in knowledge about treatment. A new study supported in part by the Agency for Healthcare Research and Quality (HS08349) suggests that in the case of depression, gains in knowledge can be both substantial and sustained beyond the period of active clinician education, even when clinician participation in education activity is voluntary.

Researchers led by Kenneth B. Wells, M.D., M.P.H., of RAND and the University of California, Los Angeles School of Medicine, randomized 46 matched primary care practices in 7 managed care organizations across the United States to usual care (mailed written practice guidelines only) or comprehensive, practice-initiated quality improvement (QI) programs for depression. The programs included institutional commitment to QI and training of local experts to implement the interventions. The experts provided education

opportunities to local practice clinicians over a 6-month period, through a mixture of lectures, academic detailing, and/or audit and feedback. In addition, intervention practices had nurse depression specialists trained by the study who were available to help with patient assessment, education, and referral to care. Further, practices had supplemental resources—either continuing availability of the nurse specialist for 6 or 12 months to support medication compliance or lower copayments during the first 6 months for patients to visit local therapists trained in an efficacious form of psychotherapy for depression.

Clinician and patient participation in all intervention activities was voluntary; 161 of 181 enrolled primary care clinicians completed mailed surveys at baseline and at 18-month followup. The surveys included a true-false test about appropriate treatment with antidepressant medications or with psychotherapy, based on points covered in the clinician

training materials and practice guidelines.

At baseline, primary care clinicians had higher knowledge scores about medication management than about efficacious psychotherapy. Only the QI clinicians had greater treatment knowledge at 18-month followup; usual care clinicians did not improve appreciably or significantly in knowledge. The knowledge gain for QI clinicians was chiefly in the area of efficacious psychotherapy. In contrast, medication knowledge scores changed little for any group. These knowledge gains from QI are of longer duration than have been reported by other studies of implementation of QI programs.

More details are in “Quality improvement for depression enhances long-term treatment knowledge for primary care clinicians,” Lisa S. Meredith, Ph.D., Maga Jackson-Triche, M.D., M.S.H.S., Naihua Duan, Ph.D., and others, in the December 2000 *Journal of General Internal Medicine* 15, pp. 868-877. ■

Long-Term Care

Elderly men and women are fairly accurate in predicting their need for nursing home care in the next few years

A typical 75-year-old person in good health has only a 6 percent chance of entering a nursing home in the next 5 years. For those in worse health, the probability ranges from 17 percent for major illness to 44 percent for cognitive impairment. Surprisingly, elderly people's expectations about

entering a nursing home in the next 5 years are reasonably close to the actual probability of nursing home entry, according to a recent study which was supported in part by the Agency for Healthcare Research and Quality (HS09515). This contradicts the

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presumption that few elderly people purchase private long-term care insurance to cover nursing home care because they underestimate their probability of entering a nursing home.

Most of the factors that affect actual entry also had significant effects on expectations about entry. For example, elderly people with a low expected probability of living had the highest mean expectation about entering a nursing home; those with a high expected probability of living had the lowest mean expectation of entering a home. A clear trend also existed for health characteristics. Those with more risk factors had lower expectations of living than those with fewer risk factors. Also, it has been presumed that expectations about nursing home care would lead to changes in financial behavior. For example, individuals who expected to enter a nursing home might set up trusts or transfer assets to their children to qualify for Medicaid reimbursement by avoiding

asset spend-down. However, in this study, financial assets did not affect expectations about nursing home entry.

Researchers led by Edward C. Norton, Ph.D., of the University of North Carolina, Chapel Hill, modeled expectations about entering a nursing home as a function of expectations about living beyond 10 years, expectations about leaving a bequest, health shocks, and other factors. They used data from the Study of Assets and Health Dynamics Among the Oldest Old and limited the sample to those who answered the following questions in both 1994 and 1996: their chance of moving to a nursing home in the next 5 years, the expectation that they would leave a financial inheritance, and their chance of living to be at least 100, 95, 90, 85, and 80.

More details are in "Expectations among the elderly about nursing home entry," by Richard C. Lindrooth, Ph.D., Thomas J. Hoerger, Ph.D., and Dr. Norton, in the December 2000 *Health Services Research* 35(5), pp. 1181-1202. ■

Emergency Medicine

Maryland's EMS system has effectively managed mass casualty incidents involving 10 to 40 people

It is estimated that 25,000 of the 150,000 trauma deaths each year are preventable, and that trauma systems are effective in reducing preventable deaths by as much as 80 percent. The Maryland emergency medical services (EMS) system is considered by many to be a national pioneer and leader in emergency care. As with many States, Maryland's preparation for mass casualty incidents (MCIs) has been integrated into its overall EMS systems planning. This approach has been very effective in managing these traumatic events, according to a study of EMS responses to eight such incidents involving from 10 to nearly 40 injuries each (a total of 203 injuries) over a 3-year period.

The study was supported in part by the Agency for Healthcare Research and Quality (HS09326)

as part of the Trauma Resource Allocation Model for Ambulances and Hospitals (TRAMAH) program. It showed that a total of 78 percent of injuries required ambulance transportation. Less than 2 percent of the injured patients were taken to hospitals outside of Maryland, with an average of three hospitals involved per incident. These traumatic incidents included the unintentional discharge of a canister of tear gas inside a school bus, which poisoned 19 children; a car crashing into a restaurant; a train derailment; a mass gunshot incident; a bus crash injuring 38 people; a rowhouse fire; the collision of two commuter trains; and a head-on crash of a passenger car into a school bus carrying 33 children.

None of these incidents required more than a level 1 response, that is, they could be handled by local EMS and rescue resources within the State of Maryland. Seven of the MCIs occurred within an area of the State where the number of day-to-day severe injuries was most concentrated (Baltimore-Annapolis-Washington triangle) and where the EMS system was most intensified in terms of hospital and ambulance resources.

Extremely high-casualty disasters or multiple simultaneous MCIs occur so rarely that they could hold a State EMS system "financially hostage" in trying to fully plan for them, according to Charles C. Branas, Ph.D., of the University of Pennsylvania School of Medicine. The researchers

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Maryland's EMS system

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suggest that an annual record of smaller MCIs that have a high probability of recurrence can provide a more realistic basis of

planning for EMS systems. Their analysis of these eight cases was based on use of administrative and public record data from May 1993 to May 1996.

See "A case series analysis of mass casualty incidents," by Dr.

Branas, Ronald F. Sing, D.O., and Andrew D. Perron, M.D., in the October 2000 *Prehospital Emergency Care* 4(4), pp. 299-304. ■

Health Care Costs and Financing

AHRQ researchers examine trends in health care costs

Three articles dealing with trends in the costs of health care services over the last 10 years and written by researchers from the Agency for Healthcare Research and Quality are featured in the March/April 2001 issue of *Health Affairs*. The authors discuss distribution of health care expenditures among the population in general, expenditures for mental health services, and insurance status for the near-elderly worker, defined as between 55 and 64 years of age.

For the past 20 years, the U.S. health care system has been undergoing tremendous change. Although there have been a multitude of empirical studies that have quantified and qualified this reshaping of health care in America, they have not provided substantial information on the long-term consequences of these changes. To begin to address this lack of information, AHRQ provided substantial support for the publication of the March-April 2001 issue of *Health Affairs*. In addition to the three AHRQ staff-authored articles, it also includes many other papers that analyze long-term trends in the health care system, further explore the practices of the pharmaceutical industry, and examine Federal policy as it relates to graduate medical education. The articles authored by AHRQ staff are summarized here.

Berk, M.L., and Monheit, A.C. (2001, March/April). "The concentration of health care expenditures revisited." *Health Affairs* 20, pp. 204-213.

Over the last decade, more and more providers have begun operating under managed care arrangements, adding constraints to the way they can provide care, in an effort by the organizations to control costs. But researchers have found that there has been little change in the way resources are expended in the aggregate on behalf of high-cost illnesses.

Authors Marc L. Berk, Ph.D., director of Project HOPE's Center for Health Affairs, and Alan C. Monheit, Ph.D., of AHRQ, found that the

concentration of health care expenditures has remained stable since 1987. One percent of the population accounts for 27 percent of health expenditures for the noninstitutionalized population. Those who are privately insured continue to use resources intensively, while the uninsured incur much lower expenditures, even when they are among the top 5 percent of users. The authors caution that further efforts to reduce costs will require close examination about the level of care provided to those with the greatest need.

Reprints (AHRQ Publication No. 01-R049) are available from AHRQ.**

Zuvekas, S.H. (2001, March/April). "Trends in mental health services use and spending: 1987-1996." *Health Affairs* 20, pp. 214-224.

Ambulatory mental health and substance abuse (MH/SA) services and the use of psychotropic medications in the community population increased substantially between 1987 and 1996. However, despite these apparent gains in access, author Samuel H. Zuvekas, Ph.D., concludes that there is still significant unmet need for MH/SA treatment.

Dr. Zuvekas found that the cost of psychotropic drugs accounts for most of the increased expenditures for MH/SA services in the community. He also found that out-of-pocket costs remain high, likely deterring many people from seeking treatment for their mental and addictive disorders.

Reprints (AHRQ Publication No. 01-R048) are available from AHRQ.**

Monheit, A.C., Vistnes, J.P., and Eisenberg, J.M. (2001, March/April). "Moving to Medicare: Trends in the health insurance status of near-elderly workers, 1987-1996." *Health Affairs* 20, pp. 204-213.

Alan C. Monheit, Ph.D., Jessica Vistnes, Ph.D. and John M. Eisenberg, M.D., considered how the health

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Trends in health care costs

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insurance status of near-elderly workers has changed over the past decade. In particular, they looked at enrollment, offer, and take-up rates over the last decade for workers by age and sex.

They found that near-elderly working women (aged 55 to 64) with health problems are especially at risk to lack employment-based insurance and to be uninsured. In addition, they also are more likely than those without health problems to have incomes less than twice the poverty line, making the purchase of alternative health insurance coverage more difficult.

Reprints (AHRQ Publication No. 01-R047) are available from AHRQ.**

These three articles are based on a comparison of data from two large-scale nationally representative surveys of the civilian, noninstitutionalized population, AHRQ's 1987 National Medical Expenditure Survey (NMES) and its successor, the 1996 Medical Expenditure Panel Survey (MEPS). More information about MEPS is available through the Web site, www.meps.ahrq.gov. ■

Agency News and Notes

AHRQ steps up efforts to develop and train a talented pool of health services researchers

Any meaningful improvement in health care access, cost, and quality in the United States requires a sufficiently large and skilled group of health care researchers, asserts John M. Eisenberg, M.D., Director of the Agency for Healthcare Research and Quality. In a recent article, Dr. Eisenberg, Francis D. Chesley, M.D., Director of AHRQ's Office of Research Review, Education and Policy, and Karen A. Rudzinski, Ph.D., Director of AHRQ's Division of Research Education, outline efforts by AHRQ to build a community of health services researchers.

In FY 2000 alone, the Agency funded more than 80 training and career development grants for a total of more than \$9 million. AHRQ also has increased funding for dissertation research, initiated fellowships for minority predoctoral students (who

traditionally are underrepresented in the research community), created career development opportunities for new investigators, and provided enhanced coverage for training-related expenses designed to build a community among trainees in the programs.

The Agency, through National Research Service (NRSA) training grants, supports 24 education centers of excellence. In 1998, AHRQ added the Innovative Incentive Award program to the NRSA institutional training program. The award program provides seed money for institutions to develop innovative curricula, form new training partnerships, and institute other novel approaches to education. In the near future, AHRQ will begin outreach programs to support infrastructure development in institutions that provide services to underserved minorities or serve

geographic areas with historically low success rates for applications submitted for AHRQ-funded research grants.

AHRQ also has expanded online access through the Internet to materials describing the training programs and encouraging contacts, providing links to university sites, and offering electronic copies of government policies and forms. These and other efforts are designed to enhance the research infrastructure needed to improve all aspects of health care quality and cost, use, and access.

See "Building a community of health services research training," by Drs. Chesley, Rudzinski, and Eisenberg, in the December 2000 *Health Services Research* 35(5), pp. xi-xvii. Reprints (AHRQ Publication No. 01-R031) are available from AHRQ.** ■

Latest statistics on the uninsured from MEPS are now available

In the first half of 1999, 15.8 percent of people in the United States, or 42.8 million people, were without health insurance coverage. Among people under 65, 17.9 percent, or 42.6 million people, were uninsured. This is according to the latest statistics from the Agency for Healthcare Research and Quality's Medical Expenditure Panel Survey (MEPS). Other MEPS data show the following:

- Young adults 19-24 years of age are more likely than other age groups to be uninsured. Almost one-third (32 percent) of young adults were uninsured in the first half of 1999.

- Among people under 65, Hispanics (36 percent) and blacks (21 percent) are much more likely than whites (14 percent) to be without health insurance.
- Among children under 18, 13.6 percent, or 9.8 million children, were uninsured in the first half of 1999.

For more information, see *Health Insurance Status of the Civilian Noninstitutionalized Population: 1999*. Research Findings #14 (AHRQ Publication No. 01-0011), which is available from AHRQ.* Full-year data from 1999 will be available in 2002.

Other recent MEPS publications available from AHRQ include:

- *Health Care Expenses in the United States, 1996*. Research Findings #12 (AHRQ Publication No. 01-0009).*
- *Expenses and Sources of Payment for Nursing Home Residents, 1996*. Research Findings #13 (AHRQ Publication No. 01-0010).*
- *HMO Enrollment in the United States: Estimates Based on Household Reports, 1996*. Research Findings #15 (AHRQ Publication No. 01-0014).*
- *Sample Design of the 1997 Medical Expenditure Panel Survey Household Component*. Methodology Report #11 (AHRQ Publication No. 01-0001).* ■

New fact sheet lists HCUP resources available from AHRQ

A new fact sheet is now available from AHRQ that lists State-specific and national hospital databases and other resources that are available from AHRQ and our partners in the Healthcare Cost and Utilization Project (HCUP). HCUP is a Federal-State-private industry partnership to build a standardized, multistate health data system and companion resources for use in health care research and analysis.

HCUP currently includes 22 State-specific hospital inpatient databases, 9 State-specific ambulatory surgery databases, and the Nationwide Inpatient Sample, a stratified probability sample drawn from the

State inpatient databases. HCUP databases contain a core set of clinical and nonclinical information on all patients, regardless of payer. Researchers and analysts use HCUP data to examine hospital use, access, charges, quality, and outcomes and to identify, track, analyze, and compare trends at the national, regional, and State levels.

To access the fact sheet, *Databases and Related Resources from the Healthcare Cost and Utilization Project (HCUP)*, go to www.ahrq.gov/data/hcup or order a printed copy from AHRQ (AHRQ Publication No. 00-P021).** ■

AHRQ announces a new online resource for measuring quality of care for children

The Agency for Healthcare Research and Quality has a new online resource—the Child Health Toolbox—which provides information on using performance measurement to assess the quality of care furnished to children in programs such as Medicaid, the State Children’s Health Insurance Program (SCHIP), and Title V maternal and child health programs. Go to www.ahrq.gov/chtoolbox to access the Toolbox.

The Child Health Toolbox is designed for State and local policymakers, program directors and their staff, consumer advocates, and other audiences. It explains performance measurement and how it is used, provides examples of established performance measurement sets that include child health measures, and offers links to many examples of State reports currently using performance measures. The Toolbox also provides guidance on modifying existing quality measures or

designing new measures to evaluate a specific State initiative.

For more information about the Toolbox, contact Steve Seitz, at 301-594-2066 or sseitz@ahrq.gov. The Toolbox is just one element of AHRQ’s initiative to improve outcomes, quality, and access to health care for America’s 70 million children and adolescents. Go to www.ahrq.gov/child to access other materials from AHRQ’s children’s health program. ■

AHRQ funds new projects

The Agency for Healthcare Research and Quality recently funded the following research projects, small project grant, and conference grants. Readers are reminded that findings usually are not available until projects are nearing completion.

Research Grants

Administrative data and general comorbidity models

Project director: George Stukenborg, Ph.D.
Organization: University of Virginia
Charlottesville, VA
Project number: AHRQ grant HS10134
Project period: 5/1/01 to 4/30/03
First year funding: \$177,903

Longitudinal study of influenza vaccine decisions

Project director: Gretchen Chapman, Ph.D.
Organization: Rutgers University
Piscataway, NJ
Project number: AHRQ grant HS10224
Project period: 3/1/01 to 8/31/04
First year funding: \$244,436

Patient outcomes: Quality of life and lost productivity

Project director: Jennifer Lofland, Ph.D.
Organization: Thomas Jefferson University
Hospital
Philadelphia, PA
Project number: AHRQ grant HS00005 (K08)
Project period: 3/1/01 to 2/28/05
First year funding: \$96,418

Small Grant

Bayesian cost-effectiveness analysis of HIV prevention

Project director: Ana Johnson-Masotti, Ph.D.
Organization: Medical College of Wisconsin
Milwaukee, WI
Project number: AHRQ grant HS11364
Project period: 3/1/01 to 2/28/02
Funding: \$99,971

Conference Grants

Achieving optimal outcomes in primary care

Project director: Emmanuel Quaye, M.D.
Organization: Morehouse School of
Medicine
Atlanta, GA
Project number: AHRQ grant HS10948
Project period: 3/1/01 to 2/28/02
Funding: \$25,000

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New projects

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Building bridges VII: Assessing policy decisions and their impact in health care delivery

Project director: Barbara Lardy, M.P.H.
Organization: American Association of Health Plans
Washington, DC

Project number: AHRQ grant HS10946
Project period: 3/1/01 to 2/28/02
Funding: \$50,000

Emergency department data conference

Project director: Denise Love
Organization: University of Utah
Salt Lake City, UT

Project number: AHRQ grant HS10944
Project period: 2/1/01 to 1/31/02
Funding: \$9,536

Enhancing outcomes in women's health: Translating psychosocial and behavioral research

Project director: Gwendolyn P. Keita, Ph.D.
Organization: American Psychological Association
Washington, DC

Project number: AHRQ grant HS10937
Project period: 2/1/01 to 1/31/02
Funding: \$20,000

Evidence-based geriatric physical therapy conference

Project director: Rita Wong, P.T.
Organization: Marymount University
Arlington, VA

Project number: AHRQ grant HS10939
Project period: 2/1/01 to 1/31/02
Funding: \$44,880

HMO research network national conference

Project director: Michael VonKorff, Sc.D.
Organization: Group Health Cooperative
Seattle, WA

Project number: AHRQ grant HS10951
Project period: 3/1/01 to 2/28/02
Funding: \$21,000

Organizational infrastructure for patient safety

Project director: Robert Wears, M.D.
Organization: University of Florida
Gainesville, FL

Project number: AHRQ grant HS10952
Project period: 3/1/01 to 2/28/02
Funding: \$41,215

Research agenda for pediatric burns outcomes measurement

Project director: Ronald Tompkins, M.D., Sc.D.
Organization: American Burn Association
Chicago, IL

Project number: AHRQ grant HS10950
Project period: 3/1/01 to 2/28/02
Funding: \$19,000

Synthesis of health services research for policymakers

Project director: Jason S. Lee, Ph.D.
Organization: Academy of Health Services
Research and Health Policy
Washington, DC

Project number: AHRQ grant HS10947
Project period: 3/1/01 to 2/28/02
Funding: \$42,000 ■

Correction: Page 18 of the February 2001 issue of *Research Activities* includes a description of an evidence report on diagnosis and management of dental caries that was published recently by the Agency for Healthcare Research and Quality. We should have noted that the National Institute of Dental and Craniofacial Research cosponsored the development of this report by the Research Triangle Institute/University of North Carolina at Chapel Hill Evidence-based Practice Center. ■

Hermann, R.C., Regner, J.L., Erickson, P., and Yang, D. (2000, November). "Developing a quality management system for behavioral health care: The Cambridge Health Alliance experience." (AHRQ grant HS10303). *Harvard Review of Psychiatry* 8, pp. 251-260.

These authors use a case study of one organization's experience to demonstrate the implementation of a quality management program in a behavioral health care delivery system. The case study emphasizes how theoretical frameworks were operationalized and how organizational structure and process were shaped to address challenges well known in quality management, such as authority, accountability, and follow-through. The study revealed that continuous quality improvement (CQI) activities had some impact in some areas. For example, CQI reduced high readmission rates for patients who were admitted for both a mental disorder and active substance abuse and who had previously left the program by changing off-unit privileges for patients undergoing detoxification. Adolescent inpatient services used interventions such as staff training in de-escalation techniques to reduce the high rates of physical restraint of adolescents.

Monheit, A.C., and Selden, T.M. (2000). "Cross-subsidization in the market for employment-related health insurance." *Health Economics* 9, pp. 699-714.

Most non-elderly individuals in the United States receive their health insurance through their employer. These researchers used data from the 1987 National Medical Expenditure Survey to examine the nature of equilibrium

in the market for employment-related health insurance. They examined coverage generosity, premiums, and insurance benefits net of expenditures on premiums. Despite a degree of market segmentation, there was a substantial amount of pooling of heterogeneous risks in 1987 among households with employment-related coverage. These results were largely invariant to firm size and whether or not employers offered a choice among health plans. The findings suggest the need for caution concerning the incremental reforms that would weaken the link between employment and insurance without substituting alternative institutions for the pooling of risks. Reprints (AHRQ Publication No. 01-R034) are available from AHRQ.**

Peterson, E.D., DeLong, E.R., Muhlbaier, L.H., and others. (2000). "Challenges in comparing risk-adjusted bypass surgery mortality results." (AHRQ grant HS09940). *Journal of the American College of Cardiology* 36(7), pp. 2174-2184.

Cardiovascular "report cards" often compare surgical outcomes after adjustment for patient risk factors. However, it is unclear to what extent the risk-adjustment process itself may affect these metrics. As part of the Cooperative Cardiovascular Project's Pilot Revascularization Study, these authors compared the accuracy of four coronary artery bypass graft (CABG) surgery clinical risk models to predict mortality among 3,654 Medicare patients undergoing CABG surgery at 28 hospitals in Alabama and Iowa. Although the four risk models had similar discriminatory abilities, certain

models tended to overpredict mortality in higher risk patients. There was a high correlation between a hospital's risk-adjusted mortality rates regardless of which model was used, supporting their use as a means of provider performance feedback. In contrast, there was limited agreement on identification of hospitals as "performance outliers" (with either superior or inferior performance compared with other hospitals), depending on which risk-adjustment model was used. For example, one model identified 10 significantly superior hospitals but no hospitals as inferior performers. Another model identified only one significantly superior hospital and four inferior hospitals.

Richardson, D.K., Corcoran, J.D., Escobar, G.J., and others. (2001). "SNAP-II and SNAPPE-II: Simplified newborn illness severity and mortality risk scores." (AHRQ grant HS07015). *Journal of Pediatrics* 138, pp. 92-100.

These authors developed and validated simplified neonatal illness severity and mortality risk scores based on data on newborns treated at 30 neonatal intensive care units in the mid-1990s. The first-generation newborn illness severity score, Score for Neonatal Acute Physiology (SNAP), was cumbersome to use because of the number and complexity of items. These researchers started with the 34 data items of the SNAP to derive the most simple logistic model for in-hospital mortality using 10,819 randomly selected Canadian cases. SNAP-II includes six physiologic items. To this are added points for birthweight, low

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Research briefs

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Apgar score, and small for gestational age to create a nine-item SNAP-Perinatal Extension-II (SNAPPE-II). The authors validated SNAPPE-II on the remaining 14,610 cases. For all birthweights, SNAPPE-II had excellent discrimination and goodness of fit. The researchers conclude that SNAPPE-II and SNAPPE-II are empirically validated illness severity and mortality risk scores for newborn intensive care. They are simple, accurate, and robust across populations.

Schneeweiss, S., Maclure, M., Walker, A.M., and others. (2001, February). "On the evaluation of drug benefits policy changes with longitudinal claims data: The policy maker's versus the clinician's perspective." (AHRQ grant HS10881). *Health Policy* 55, pp. 97-109.

These authors explore evaluation of drug benefits policy changes using longitudinal claims data, using the example of differential cost sharing (DCS). In DCS, patients must pay a prescription copayment, which is higher for more expensive medications. In a policy model, estimates represent summary effects of benefits and harms, separately identifiable in those complying with the intended policy and those not complying. Results from a policy model apply only to a specific policy implementation and tend to underestimate effects when non-compliance is high. However, clinical decisionmakers and patients are interested in the consequences of patients' actual

compliance with the policy. A clinical model assesses the effects of DCS depending on the actual treatment in contrast to the treatment intended by the policy. The authors conclude that both policy and clinical models should be tested with a clear understanding of these different perspectives to evaluate the effects of drug cost-containment policies.

Selden, T.M., and Moeller, J.F. (2000). "Estimates of the tax subsidy for employment-related health insurance." *National Tax Journal* 53(4), pp. 877-887.

These AHRQ researchers employed the MEDSIM microsimulation model to compute new tax revenue estimates associated with the preferential tax treatment of employment-related coverage. They examine a range of methods for constructing estimates, exploring the impact of alternative methods for aging premiums, and comparing effective versus statutory Social Security tax rates. Their results, based on statutory Social Security rates, coincide closely with Congressional Budget Office estimates. However, those estimates overstate the tax expenditures in that they ignore the effect of higher taxable wages on future Social Security benefits. Switching to effective Social Security tax rates reduced their estimates of the tax expenditure by 17 percent. When they allowed for increased medical expense itemization and for reductions in duplicative coverage, their estimates of tax expenditures were reduced even more. Reprints (AHRQ Publication No. 01-R030) are available from AHRQ.**

Shortell, S.M., Bazzoli, G.J., Dubbs, N.L., and Kralovec, P. (2000, fall). "Classifying health networks and systems: Managerial and policy implications." (AHRQ grant HS09524). *Health Care Management Review* 25(4), pp. 9-17.

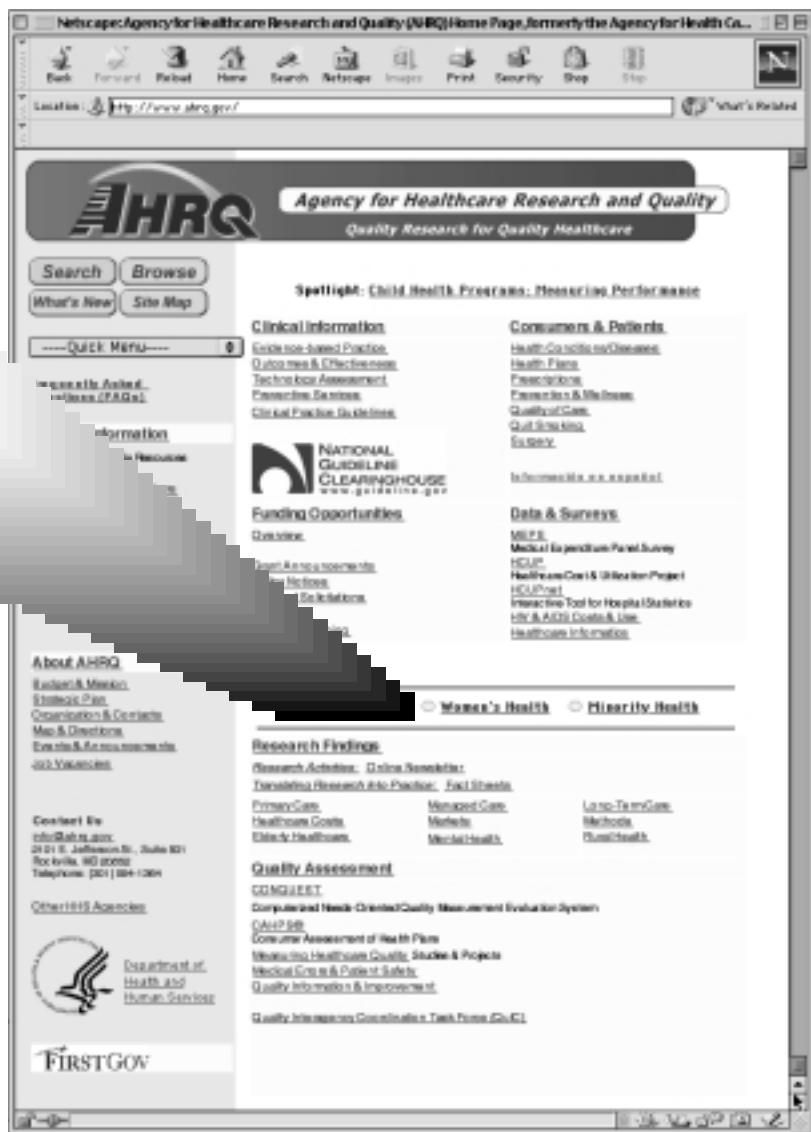
About 72 percent of U.S. hospitals now belong to a health network or system. These health networks and systems reflect complex relationships among hospitals, physician groups, and insurance plans that cannot be adequately captured by traditional hospital descriptors of ownership, size, teaching status, and/or location. New measures are needed to more appropriately reflect the restructuring of the U.S. health care system. These authors classified networks and systems into five categories: centralized health networks/systems, centralized physician/insurance health systems, moderately centralized health networks and systems, decentralized health networks/systems, and independent health networks/systems. They used three different health care systems to illustrate how this new approach to classification can be used to evaluate the readiness of health care organizations to accept risk. The classification system also can be used to assist executive and physician leaders in making decisions involving the centralization of services, the number of different services to offer, and whether or not to enter into various strategic alliances. The system can be updated to help track the evolution of the U.S. health care system over time. ■

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AHRQ's Web site—<http://www.ahrq.gov/>—makes practical, science-based health care information available in one convenient location. You can tap into the latest information about the Agency and its research findings and other initiatives, including funding opportunities and job vacancies. *Research Activities* is also available and can be downloaded from our Web site. Do you have comments or suggestions about the site? Send them to info@ahrq.gov.

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