AHRQ

Research Activities

No. 260, April 2002

Highlights

Departments

Regular Features

Nationwide study confirms that older patients who need certain high-risk surgeries fare better in more experienced hospitals

Elderly patients who had any of 14 high-risk cardiovascular or cancer operations in hospitals performing a high volume of their particular procedure were more likely to survive than those who went to hospitals with a low volume of their type of surgery, according to a nationwide study supported in part by the Agency for Healthcare Research and Quality (HS10141). Going to the high-volume hospitals made the biggest difference for patients undergoing surgery for cancer of the pancreas. Only 4 percent of such patients at the highest volume hospitals died, compared with 16 percent at the lowest volume hospitals—a 12 percentage point difference.

Death rates differed to a similar degree for patients undergoing surgery for cancer of the esophagus (8 percent at highest volume hospitals versus 20 percent at lowest volume hospitals). The study also found that hospital volume was important for patients undergoing heart valve replacement, abdominal aneurysm repair, and surgery for lung, stomach or bladder cancer. For each of these procedures, death rates at the highest volume hospitals were from 2 percent to 5 percent lower than at the lowest volume hospitals.

Hospital volume was least important for patients undergoing coronary artery bypass graft (CABG) surgery, carotid endarterectomy (an operation to prevent stroke), and surgery for colon or kidney cancer. Death rates at the highest and lowest volume hospitals for these procedures differed by less than 2 percent. Each year in the United States more than 20,000 elderly patients die undergoing one of these 14 high-risk operations.

The research was led by John D. Birkmeyer, M.D., Associate Professor of Surgery at Dartmouth Medical School. Dr. Birkmeyer also received funding for this study from the Department of Veterans Affairs Health Services Research and Development Program. The nationwide study, which examined outcomes in approximately 2.5

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High-risk surgeries

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million Medicare patients undergoing surgery between 1994 and 1999, was based on data from the national Medicare database and AHRQ's Nationwide Inpatient Sample from the Healthcare Cost and Utilization Project (HCUP).

The researchers defined surgical volume as the average number of procedures performed by each hospital annually. The volume averages used to define high- and low-volume hospitals varied widely by procedure.

For more details, see "Hospital volume and surgical mortality in the United States," by Dr. Birkmeyer, Andrea E. Siewers, M.P.H., Emily V.A. Finlayson, M.D., and others in the April 11, 2002, issue of the *New England Journal of Medicine* 346(15), pp. 1128-1137. ■

Heart Disease

Directing certain bypass patients from low- to high-volume hospitals could balance clinical benefits with patient choice

Several studies have clearly shown that, when it comes to coronary artery bypass graft (CABG) surgeries, practice does make perfect, that is, hospitals that perform many CABG surgeries each year have better outcomes than hospitals that perform few such surgeries. Sending all patients to regional high-volume CABG hospitals could improve surgical outcomes, but it would also reduce patient access and choices. Targeted regionalization—that is, sending only patients at moderate or high surgical risk to high-volume CABG hospitals—could balance the clinical benefits of regionalization with patients' desires for choice and access, concludes a study supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00053).

Brahmajee K. Nallamothu, M.D., M.P.H., of the University of Michigan Medical School, and colleagues assessed CABG outcomes at 56 U.S. hospitals using 1997 administrative and clinical data from a national outcomes database. They predicted in-hospital mortality rates classified into five groups based on surgical risk: minimal, low, moderate, high, and severe. They evaluated the outcomes of 2,029 patients who underwent CABG at 25 low-volume hospitals and 11,615 who underwent CABG at 31 high-volume hospitals. There were significant differences in mortality among patients hospitalized in low- and high-volume hospitals in patients at moderate (5.3 vs. 2.2 percent) and high risk (22.6 vs. 11.9 percent) but not in patients at minimal, low, or severe risk. Hospital costs and lengths of stay were similar across each of the five risk groups.

Based on these results, targeted regionalization of patients at moderate or high risk to high-volume hospitals would have resulted in an estimated 370 transfers and avoided 16 deaths. In contrast, full regionalization would have led to 2,029 transfers and avoided 20 deaths. The researchers conclude that targeted regionalization is likely to be a more acceptable option for patients, local providers, and hospitals.

See "The role of hospital volume in coronary artery bypass grafting: Is more always better?" by Dr. Nallamothu, Sanjay Saint, M.D., M.P.H., Scott D. Ramsey, M.D., Ph.D., and others, in the December 2001 *Journal of the American College of Cardiology* 38(7), pp. 1923-1930. ■

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Referring children who need cardiac surgery to high-volume regional hospitals reduces deaths but increases travel distance

Referring children who need cardiac surgery from low-volume to high-volume hospitals that conduct many pediatric cardiac surgeries a year (regionalization of surgery) can save children's lives, even though the children and their families would have to travel further for the surgery. However, more studies are needed to determine if regionalization is the most feasible and cost-effective way to reduce surgery-related deaths in these children, concludes a study supported in part by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00028).

Ruey-Kang R. Chang, M.D., M.P.H., of Harbor-University of California, Los Angeles (UCLA) Medical Center, and Thomas S. Klitzner, M.D., Ph.D., of the UCLA School of Medicine, studied discharge data from California hospitals that performed 10 or more pediatric cardiac surgeries from 1995 to 1997. They simulated regionalization of surgery by redistributing patients from low-volume hospitals (less than 70 pediatric cardiac surgeries per year) or medium volume hospitals (70 to less than 170 surgeries per year) to the nearest high-volume hospital (170 or more surgeries per year). During the 2 years studied, 6,592 children underwent cardiac surgeries in California, with 352 in-hospital deaths (5.34 percent). Regionalization of pediatric cardiac surgery had no apparent effect on reducing surgical deaths until more than one-third of low-volume hospitals were "closed," that is, patients were sent to the nearest high-volume hospitals.

The overall mortality rate decreased from 5.34 percent to 4.08 percent (avoidance of 83 deaths), when all cases from both low- and medium-volume hospitals were referred to high-volume hospitals. However, this required closure of three-fourths of the pediatric cardiac centers (41 percent of all patients). When only high-risk surgeries were selectively referred from low- and medium-volume to high-volume hospitals (11 percent of patients), the overall mortality rate decreased to 4.6 percent (49 deaths avoided). On average, children had to travel 45.4 miles, which increased by 12.7 miles when all surgeries were referred to high-volume hospitals.

More details are in "Can regionalization decrease the number of deaths for children who undergo cardiac surgery?" A theoretical analysis," by Drs. Chang and Klitzner, in the February 2002 *Pediatrics* 109(2), pp. 173-181. ■

Lipid-lowering medication should be considered early in treatment of blacks with diabetes and high LDL cholesterol levels

People who have diabetes are at higher risk than those without diabetes for cardiovascular disease (CVD), probably due in part to elevated blood lipids. Also, CVD-related deaths are higher among people with diabetes, especially blacks, than among other patients.

A recent study of urban blacks (mean age of 57 years) with type-2 (adult-onset) diabetes and LDL cholesterol levels above clinically recommended targets found that neither improved blood-sugar (HbA_{1c}) control nor weight loss

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Lipid-lowering medication

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alone was sufficient to affect LDL cholesterol levels, but adding lipid-lowering medication was effective. Doctors should strongly consider using lipid-lowering medications early in the course of diabetes management for blacks with diabetes who have high LDL cholesterol levels to reduce their risk of cardiovascular complications, according to the researchers who conducted the study.

With support from the Agency for Healthcare Research and Quality (HS09722), they analyzed initial and 1-year followup lipid values among 345 predominantly black and overweight patients at an urban outpatient diabetes clinic. The subjects had an initial average LDL cholesterol level of 140 mg/dl (recommended level is less than 130 mg/dl). They examined the independent effects of lipid-specific medications, glycemic (blood-sugar) control, and weight loss on serum total cholesterol, LDL ("bad") cholesterol, HDL ("good") cholesterol, and triglyceride levels.

Patients who lost more than 1 kg of weight did not have significantly decreased LDL cholesterol. The mean HbA_{1c} levels of the 243 patients not taking lipid-lowering medication declined significantly compared with the initial visit (9.2 to 8.2 percent; 7 percent is the target level). However, total cholesterol, LDL cholesterol, and triglyceride concentrations remained about the same (208 vs. 210 mg/dl, 138 vs. 137 mg/dl, and 141 vs. 140 mg/dl, respectively). The 102 patients who received lipid-lowering medications reduced their HbA_{1c} levels (9.8 to 8.2), as well as total cholesterol (247 to 219), LDL cholesterol (174 to 145 mg/dl), and triglycerides (164 to 146 mg/dl). HDL cholesterol levels stayed about the same in both groups (50 mg/dl).

See "The impact of outpatient diabetes management on serum lipids in urban African-Americans with type 2 diabetes," by Diane M. Erdman, Pharm.D., Curtiss B. Cook, M.D., Kurt J. Greenlund, Ph.D., and others, in the January 2002 *Diabetes Care* 25(1), pp. 9-15. ■

Researchers examine cost-effectiveness of implantable defibrillators and amiodarone medication

Heart attack victims who survive to leave the hospital have a 5 to 10 percent risk of dying suddenly within the next 12 months. Use of amiodarone medication or implantable cardioverter defibrillators (ICDs) to prevent ventricular arrhythmias in heart attack patients with severely depressed functioning of the heart's left ventricle may extend their lives, according to a study supported by the Agency for Healthcare Research and Quality (HS08362). The researchers examined how the efficacy of these prophylactic interventions would affect their cost-effectiveness.

This assessment, based on a theoretical model, highlights the importance of ongoing clinical trials of ICDs and amiodarone in patients who have had heart attacks, note Gillian D. Sanders, Ph.D., lead author, and Mark A. Hlatky, M.D., principal investigator, both of Stanford University. Their model was based on estimated survival, cardiac death, and inpatient costs included in the Myocardial Infarction, Triage, and Intervention Registry, as well as data derived from research studies. They compared the effects of ICD or amiodarone to no treatment for extending life years, quality-adjusted life years (QALYs), costs, and cost-effectiveness for patients who had previously suffered a heart attack but had not experienced sustained ventricular arrhythmia.

Compared with no treatment, ICD use was predicted to lead to the greatest gains in QALYs and the highest expenditures. Amiodarone use would result in intermediate QALYs and costs. With $75,000/QALY taken as the criterion, ICDs or amiodarone would be cost effective compared with no therapy in patients with severely depressed left ventricular function as long as ICDs reduced arrhythmic death by 50 percent, and amiodarone reduced total death by 7 percent. Neither approach seemed likely to be cost effective in patients with

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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.

Implantable defibrillators

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well-preserved ventricular function, unless amiodarone were to be extremely effective in reducing total mortality (greater than 15 percent). Amiodarone generally would be more cost effective than the ICD.

See "Potential cost-effectiveness of prophylactic use of the implantable cardioverter defibrillator or amiodarone after myocardial infarction," by Dr. Sanders, Dr. Hlatky, Nathan R. Every, M.D., and others, in the November 2001 *Annals of Internal Medicine* 135, p. 870-883. ■

Elderly heart attack patients treated in VA and non-VA hospitals are equally likely to receive appropriate medications

Many have criticized the Veterans Health Administration (VA) hospitals for providing poorer quality of care than non-VA health care facilities. Yet, elderly men being treated for heart attack at VA hospitals were as likely or more likely than similar Medicare fee-for-service (FFS) patients treated at non-VA hospitals to receive medications of known benefit, according to a recent study that was supported in part by the Agency for Healthcare Research and Quality (HS08071).

The researchers analyzed clinical data on 2,486 VA and 29,249 FFS patients discharged with a diagnosis of acute myocardial infarction (AMI, heart attack) from 81 VA hospitals and 1,530 non-VA hospitals. They examined appropriate use of medications for AMI among ideal candidates (those considered candidates for these medications based on current guidelines for AMI treatment). Ideal VA candidates were 40 percent more likely to undergo thrombolytic (clot-busting) therapy at hospital arrival, much more likely to receive angiotensin converting enzyme (ACE) inhibitors or aspirin at discharge, and equally likely to receive beta-blockers at discharge as ideal candidates treated in non-VA hospitals.

Several reasons may explain why VA patients were more likely to receive some of the treatments studied. The VA disseminates information on best practices to practitioners, collects and monitors data, and provides feedback on performance measures to clinicians. Also, many more VA hospitals are affiliated teaching hospitals (81 vs. 34 percent), which have been shown to have better care processes and patient survival rates than nonaffiliated hospitals. A previous study by these researchers showed similar mortality rates among VA and Medicare patients being treated for AMI. They suggest that the appropriate use of AMI medications at VA hospitals may not offset the disadvantage of known lower use of invasive procedures in VA patients.

See "Comparison of use of medications after acute myocardial infarction in the Veterans Health Administration and Medicare," by Laura A. Petersen, M.D., M.P.H., Sharon-Lise T. Normand, Ph.D., Lucian L. Leape, M.D., and Barbara J. McNeil, M.D., Ph.D., in the December 11, 2001 *Circulation* 104, pp. 2898-2904. ■

Clinical Decisionmaking

Mode of delivery may be related to bleeding problems among very low birthweight newborns

Low birthweight (LBW) newborns (3 pounds or less) are more likely than other infants to suffer from low blood platelet counts (neonatal thrombocytopenia, NT) and intraventricular hemorrhage (IVH), and type of delivery affects this likelihood, finds a new study. Platelets play an important role in blood coagulation, with low platelets leading to thinner blood and an increased risk of IVH. In turn, IVH can lead to learning disabilities and mild neurodevelopmental problems, explains Douglas K. Richardson, M.D., M.B.A., of Harvard Medical School.

With support from the Agency for Healthcare Research and Quality (HS07015), Dr. Richardson and his colleagues prospectively studied the incidence of NT and IVH (confirmed by cranial ultrasound) and

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Very low birthweight infants

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delivery method of 1,283 LBW infants admitted to 6 neonatal intensive care units (NICUs) over 21 months. Overall, 11 percent of the infants suffered from NT (platelet count less than 100x109/L).

NT was more prevalent among the smallest infants and declined with increasing birthweight (less than 750 g, 25 percent; 750-799 g, 9 percent; and 1,000-1,499 g, 7 percent). NT also occurred more often among the sickest infants and those considered small for gestational age. Nearly twice as many newborns with NT than without NT had IVH (45 vs. 24 percent), which usually occurs within the first few days of life. However, non-NT infants who were delivered vaginally had over twice the incidence of IVH as those delivered by cesarean section (36 vs. 16 percent). NT infants who were delivered vaginally had the highest incidence of IVH (63 vs. 38 percent for cesarean section).

In fact, vaginal delivery independently increased the risk of IVH by nearly 3 times and severe NT (platelets less than 50x109/L) by 11 times during an infant's first day in the NICU. Some researchers have suggested that increased pressure and cranial distortion/molding that occurs during labor and vaginal delivery may have detrimental effects and predispose neonates to IVH, but there continues to be debate over which delivery method is safer.

More details are in "Association of thrombocytopenia and delivery method with intraventricular hemorrhage among very-low-birthweight infants," by Doron J. Kahn, M.D., Dr. Richardson, and Henny H. Billett, M.D., in the January 2002 *American Journal of Obstetrics & Gynecology* 186, pp. 109-116. ■

Poor asthma knowledge and exposure to indoor allergens complicate recovery after an acute asthma episode

Inner-city residents who are poor and have asthma are more likely than others with the condition to have uncontrolled asthma that prompts expensive and frightening emergency department (ED) visits and hospitalizations. Poor knowledge of asthma management and exposure to indoor allergens (known to worsen asthma) hinder their recovery after an acute asthma episode, according to a recent study led by Yvonne M. Coyle, M.D., of the University of Texas Southwestern Medical Center at Dallas.

In the study, which was supported by the Agency for Healthcare Research and Quality (HS09461), the researchers prospectively studied 309 adults, most of whom were poor and black, who were treated for acute asthma at a public hospital ED and then followed for 2 to 3 weeks. They assessed peak expiratory flow rate (PEFR), an indicator of breathing capacity at the time of the ED visit and at followup and the potential factors that predicted less improvement in the PEFR. These factors were smoking, upper respiratory infection, nonadherence to asthma medication, and indoor allergen and ozone exposure assessed over the 2-3 week followup, as well as lower asthma knowledge. With the exception of ozone exposure, these factors were assessed by patient questionnaire. The indoor allergen exposure was assessed by patient questionnaire and allergy skin testing.

The researchers examined which of these factors correlated with PEFR 2 to 3 weeks after ED treatment of the acute asthma episode, statistically adjusted for the patient's asthma severity, age, sex, and educational level. Greater asthma severity and being female were significantly correlated with less improvement in PEFR following the acute episode. Indoor allergen exposure and less asthma knowledge significantly predicted less improvement in PEFR, whether or not patients were treated with a course of systemic corticosteroids following the acute episode.

The findings from this study suggest that these patients need more than medication to treat an acute asthma episode. Asthma management typically requires patients to carry out complex medication regimens; use strategies to reduce or avoid indoor allergens such as dust mites, mold, tobacco smoke, cockroaches, and pet dander; detect and self-treat most asthma exacerbations (for example, monitoring the PEFR by blowing into a peak flow meter and adjusting asthma medication accordingly); and communicate effectively with their doctor.

Disadvantaged inner-city residents may lack the knowledge and motivation to adhere to such a complex process. They need interventions that target patient risk factors, indoor allergen exposure, and poor asthma knowledge in order to better manage their asthma and reap the most benefit from acute asthma care, concludes Dr. Coyle.

See "Predictors of short-term clinical response to acute asthma care in adults," by Dr. Coyle, Linda S. Hynan, Ph.D., Rebecca S. Gruchalla, M.D., Ph.D., and Ron J. Anderson, M.D., in the *International Journal for Quality in Health Care* 14(1), pp. 69-75, 2002. ■

Training, feedback on performance, and clinical reminders may encourage doctors to intensify therapy for patients who need it

Doctors frequently treat patients with hypertension, high cholesterol, and diabetes. Abnormal blood pressure, cholesterol, and glucose values alone generally are sufficient to warrant treatment without further diagnostic maneuvers. Limitations in managing such problems often are due to "clinical inertia"—the failure of clinicians to initiate or intensify such therapy when indicated.

In cases of clinical inertia, providers recognize the problem but fail to act. For example, blood pressure control is adequate in only about 45 percent of patients treated for hypertension; only 14 to 38 percent of patients with high low-density lipoprotein cholesterol levels are treated to reach cholesterol guideline goals; and only 33 percent of patients treated for diabetes reach recommended blood-sugar levels of less than 7 percent.

Clinical inertia is due to at least three problems, notes Lawrence S. Phillips, M.D., of the Emory University of School of Medicine, in a recent commentary. First, doctors often overestimate the care they provide. For example, doctors typically overestimate the frequency of foot examinations, blood-sugar measurements, and urine protein screening they conduct for their patients with diabetes. Second, physicians use "soft" reasons to avoid intensification of therapy. They may tell themselves, for instance, that a patient who has diabetes is beginning to improve his or her blood-sugar control or will now begin to adhere to a special diet. Third, doctors may lack the education, training, or practice organization needed to achieve therapeutic goals.

Doctors may not have been taught and may not appreciate the extent to which escalation of dosage and polypharmacy are needed for disease management, according to Dr. Phillips and his colleagues. Also, clinical experiences and training focused on "treating to target"—intensifying therapy to meet standard-of-care goals—are uncommon in most medical school and residency programs. Medical education should be modified to prepare primary care physicians to improve management of patients with problems such as hypertension, elevated cholesterol, and diabetes. Altering practice structure to include feedback on performance and/or clinical reminders will be important as well, conclude the researchers. Their study was supported in part by the Agency for Healthcare Research and Quality (HS09722).

See "Clinical inertia," by Dr. Phillips, William T. Branch Jr., M.D., Curtis B. Cook, M.D., and others, in the November 2001 *Annals of Internal Medicine* 135, pp. 825-834. ■

Misconceptions about cancer clinical trials occur often among patients and researchers

Both patients and physician investigators often have misconceptions about cancer clinical trials in which they participate. Efforts are needed to educate them, says Steven Joffe, M.D., of the Dana-Farber Cancer Institute. In a study supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00063), Dr. Joffe and colleagues analyzed responses to a standard questionnaire from 207 adult cancer patients who had recently enrolled in a clinical trial at one of three hospitals. They also surveyed the physician who obtained each patient's consent. On average, physicians spent much time discussing the trial with potential participants, most of whom took several days to consider their participation.

Ninety percent of the cancer patients were satisfied with the informed consent process, and most considered themselves to be well informed about the clinical trial. Yet, many did not recognize nonstandard treatment (74 percent), the potential for incremental risk from participation (63 percent), the unproven nature of the treatment to be the best one for their cancer (70 percent), the uncertainty of benefits to self (29 percent), or that clinical trials are done mainly to benefit future patients (25 percent). Most cancer patients in phase III trials (48 of 53) were aware that they were being randomly assigned to treatment, but fewer phase I participants (22 of 50) knew that their trial involved dose-escalation to assess a medication's toxic effects.

Unfortunately, many physicians shared some of the same misconceptions as participants. For example, only 46 percent of physician/investigators recognized

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Cancer clinical trials

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that the main reason for clinical trials is benefit to future patients. After all, many physicians encourage patients to enroll in these trials because they believe a trial offers them the best therapeutic option at that point. Also, up to one-third of providers were uncertain whether clinical trials always use nonstandard treatments or procedures, whether the treatments assessed are by definition unproven, and whether the trials involve some incremental risk or discomfort.

More details are in "Quality of informed consent in cancer clinical trials: A cross-sectional survey," by Dr. Joffe, E. Francis Cook, D.Sc., Paul D. Cleary, Ph.D., and others, in the November 24, 2001 issue of the *Lancet* 358, pp. 1772-1777. ■

Health Care Delivery

U.S. hysterectomy rates stayed constant in the 1990s and continued to be much higher than in most European countries

Every year 600,000 women in the United States undergo hysterectomy (surgical removal of the uterus and sometimes the ovaries and fallopian tubes). In fact, by the age of 60, nearly one in three women will have undergone the procedure. Despite concern about the inappropriate overuse of hysterectomy for reproductive problems, hysterectomy rates in the United States from 1990 to 1997 remained stable. However, the type of hysterectomy performed changed, according to a study by researchers at the Centers for Practice and Technology Assessment, and Organization and Delivery Studies, Agency for Healthcare Research and Quality.

Cynthia M. Farquhar, M.D., and Claudia A. Steiner, M.D., M.P.H., analyzed hospital discharge data from the Nationwide Inpatient Sample of the Healthcare Cost and Utilization Project discharge data from a 20 percent sample of U.S. community hospitals to identify all women who underwent hysterectomy from 1990 to 1997. Rates of hysterectomy for benign uterine conditions remained about the same during the study period, at 5.5 per 1,000 women in 1990 and 5.6 per 1,000 women in 1997. Abdominal hysterectomy (long incision is made in the abdomen) remained the most common procedure, accounting for 63 percent of all hysterectomies in 1997, with the most common indication being uterine fibroids. At the same time, laparoscopic hysterectomies (requiring a few small incisions in the abdomen) increased 30-fold and accounted for nearly 10 percent of hysterectomies in 1997.

Vaginal hysterectomies (incision made above the vagina)— which are associated with shorter hospital stays, reduced complications and costs, and better surgical outcomes—remained fairly constant over the 8 years. They accounted for 23 percent of the procedures in 1997, compared with 40 to 50 percent of hysterectomies in France and Australia. The introduction of alternatives to hysterectomy for controlling abnormal uterine bleeding, such as endometrial ablation, has not had an impact on hysterectomy rates, and there has only been a limited increase in laparoscopic approaches.

See "Hysterectomy rates in the United States 1990-1997," by Drs. Farquhar and Steiner, in the February 2002 *Obstetrics & Gynecology* 99(2), pp. 229-234. Reprints (AHRQ Publication No. 02- R049) are available from AHRQ.** ■

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Having a regular source of primary care helps adults with diabetes manage their diet and improve glucose control

About 90 percent of all people with diabetes in the United States receive their medical care from a primary care provider (PCP). A new study found that for adults with adult-onset (type 2) diabetes, continued care from the same PCP was significantly associated with better blood glucose control (HbA_{1c} level), regardless of how long the patient had suffered from diabetes.

In the study, which was supported in part by the Agency for Healthcare Research and Quality (HS07397), Jacqueline A. Pugh, M.D., and colleagues at the University of Texas Health Sciences Center prospectively studied a random sample of 256 adults with type 2 diabetes seen at five community health centers. They assessed changes in diet and exercise and average blood glucose levels during the previous 8 to 12 weeks at two patient interviews at least 1 year apart.

The researchers also calculated a PCP continuity score, which was independent of the total number of outpatient visits, with the score ranging from 0 (each visit was to a different PCP) to 1 (all visits were to the same PCP). Higher PCP continuity scores were significantly associated with better blood glucose control at followup, even after adjusting for other factors affecting blood glucose level. Patients who improved their diet had a higher continuity score than those who did not improve their diet (0.91 vs. 0.86). Although both groups had an increase in their HbA_{1c} between baseline and followup, those who failed to improve their diets had a significantly larger increase in their HbA_{1c} (0.67 vs. 0.06), suggesting more poorly controlled diabetes.

There was no significant difference in mean continuity scores between those who improved their exercise habits and those who did not improve. Patients were more likely to improve diet management (58 percent) than exercise (35 percent). This finding may reflect the historic emphasis on diet as the key self-management strategy for patients with type 2 diabetes.

The researchers conclude that continuity of care significantly improved glucose control, with a small but significant part of the improvement (8 percent) mediated by improved diet. These findings suggest that a sustained relationship with a doctor may improve patients' glucose control as a result of their willingness to follow the doctor's advice.

For more details, see "Continuity of care, self-management behaviors, and glucose control in patients with type 2 diabetes," by Michael L. Parchman, M.D., Dr. Pugh, Polly Hitchcock Noel, Ph.D., and Anne C. Larme, Ph.D., in *Medical Care* 40(2), pp. 137-144, 2002. ■

Certain verbal and nonverbal behaviors by physicians are associated with favorable patient outcomes

Patients who participate with their doctors in medical decisions affecting their health are more likely to comply with treatment recommendations. However, such joint decisionmaking usually depends on good physician-patient communication, which is not always the case. A new study has identified certain verbal and nonverbal approaches that seem to improve communication between primary care doctors and their patients, as well as patient outcomes.

Researchers from the University of North Carolina reviewed studies conducted from 1975 to 2000 that used neutral observers to evaluate office interactions between primary care physicians (PCPs) and patients. They analyzed 14 studies of verbal communication and 8 studies of nonverbal communication.

Verbal behaviors related to gathering information, relationship development, and decisionmaking and management were positively associated with short-term health outcomes (patient recall, satisfaction, intention to comply, and trust), intermediate outcomes (compliance with therapy), and long-term outcomes (symptom resolution, health status, quality of life, and mortality). These behaviors included empathy, reassurance and support, various patient-centered questioning techniques, increased visit time, more time spent on history taking, explanations of treatment, humor, psychosocial talk (focused on problems of daily living, social relations, feelings, and emotions of the patients), time spent on health education and

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Effects of physician behavior

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information sharing, friendliness, courtesy, and summarization and clarification of findings.

Nonverbal behaviors that suggest interest in the patient and were positively associated with outcomes included head nodding, forward lean, direct body orientation, uncrossed legs and arms, arm symmetry, and less mutual gaze. Unduly dominant, attentive, nervous, and directive behavior by the doctor should be avoided, suggest the researchers. Their study was supported in part by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00032).

More details are in "Physician-patient communication in the primary care office: A systematic review," by Rainer S. Beck, M.D., Rebecca Daughtridge, and Philip D. Sloane, M.D., M.P.H., in the January 2002 *Journal of the American Board of Family Practice* 15, pp. 25-38. ■

Patients welcome discussions with their doctors about smoking and other behaviors that affect their health

Half of all deaths in the United States are due to destructive health behaviors, such as smoking and overeating, and about 1.3 million people each year die from conditions that could have been prevented or delayed by healthier habits. Nevertheless, fewer than half of smokers are advised to quit by their doctors.

According to a recent study, patients welcome counseling about smoking cessation from their family physician and are more satisfied with doctors who provide this counseling. Furthermore, they are not put off when doctors discuss diet, exercise, alcohol and drug use, and prevention of sexually transmitted diseases, says a study supported in part by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00059).

These findings should reinforce physicians' confidence in discussing health habits with patients, conclude David A. Barzilai, B.A., B.S., of Case Western Reserve University, and his colleagues. In their study, research nurses observed health habit counseling during 2,459 adult outpatient visits to 138 community-based family physicians in Ohio. The researchers assessed patient satisfaction using a visit exit questionnaire. Physicians and patients were told only that the study was examining the content of family practice.

One or more behavioral issues were discussed during 48 percent of visits. Topics ranged from diet and exercise to tobacco and alcohol history and counseling, contraception and condom use, and prevention of sexually transmitted diseases. However, after adjustment for patient mix, only discussion of tobacco use and counseling about quitting smoking were significantly associated with patient satisfaction with their physician. Patients counseled about smoking (which can take as little as 3 minutes to be effective) were more likely to be very satisfied with their physician than those who were not counseled. Whether physicians advised patients about other health-related behaviors did not significantly affect how satisfied patients were with their doctors.

See "Does health habit counseling affect patient satisfaction?" by Mr. Barzilai, Meredith A. Goodwin, M.S., Stephen J. Zyzanski, Ph.D., and Kurt C. Stange, M.D., Ph.D., in *Preventive Medicine* 33, pp. 595-599, 2001. ■

Blacks often are less satisfied with their health care, perhaps because they feel "socially distant" from their doctors

Blacks usually are less satisfied with their doctors and health care than whites. This may be due in part to their greater "social distance" from their doctors compared with whites, suggests a study supported in part by the Agency for Healthcare Research and Quality (HS09894). Doctors are highly educated, usually have higher incomes, tend to come from upper class families, and seldom are black. White patients are more likely than black patients to have similar socioeconomic status and race as their doctors and thus less social distance from them, which can

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Health care satisfaction

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lead to more satisfying interaction, explains Jennifer Malat, Ph.D., of the University of Cincinnati.

Dr. Malat analyzed data from the 1995 Detroit Area Study, in which 1,140 adults (586 were black) were asked to rate their doctor from poor to excellent on respectful treatment and time spent with them during their last office visit. More than 64 percent of whites rated their doctor as excellent on respect and time, but only 47 percent of blacks conferred a similar rating; 46 percent of whites and 35 percent of blacks rated their doctor as excellent on time spent with them. Increasing per capita household income was associated with increasing likelihood of reporting more respectful treatment and time spent. The relationship between educational level and time was not significant. However, the least educated individuals were most likely to report excellent respect (perhaps due to lower expectations of how much respect doctors should show them).

Those who visited a doctor of their race rated their provider higher on both respect and time, but the relationship was significant only for respect. Overall, whites were almost twice as likely as blacks to rate their doctors highly for respect, even after controlling for other factors such as age, health status, and source of care. The race effect for time was lower but still significant. Overall, the socioeconomic status variables reduced the coefficient for race by 24 percent in the model predicting respect and by 28 percent in the model predicting time.

See "Social distance and patients' rating of healthcare providers," by Dr. Malat, in the December 2001 *Journal of Health and Social Behavior* 42, pp. 360-372. ■

Rural Health

Researchers examine rural long-term care

Long-term care services for older and seriously disabled people are absorbing an ever-larger share of the Medicare and Medicaid program costs. The Federal Government and States are searching for new managed care strategies, such as capitated financing and coordinated case management, to better integrate the financing and delivery of primary, acute, and long-term care services. The goal is to encourage substitution of less costly and more appropriate home and community-based services for high-cost and long-term care services. For rural communities, this approach may help address long-standing problems of limited access to long-term care services.

The rural long-term care delivery system has relied more heavily on nursing home care and has been characterized by more limited service options, particularly in the areas of rehabilitation, residential care, and home care. Participants at two conferences, supported in part by the Agency for Healthcare Research and Quality (HS09850), explored current research on the integration of rural long-term care. Three articles arising from these conferences examined the barriers to and opportunities for integrating rural long-term care services, as well as fledgling model programs developed to accomplish this. They are summarized here.

Beaulieu, J., Rowles, G.D., and Kuder, L.C. (2001, December). "Current research in rural models of integrated long-term care." ***Journal of Applied Gerontology*** **20(4), pp. 379-385.**

Rural regions have both barriers to and opportunities for implementing integrated long-term care, according to these authors. For example, the small population pools found in rural areas make risk contracts difficult to implement but are an advantage for coordinating care across providers. In that sense, coordination, rather than integration per se, may be more appropriate for developing rural long-term care systems. Cooperation is hampered, however, when professionals lack the skills to work in teams and when long-term care and acute care providers do not understand each others' language. Small rural hospitals also can expand their role. For example, between 1987 and 1996, they provided 25 percent more swing beds, skilled nursing beds, or hospice beds and increased services to the elderly, such as assisted living or retirement housing.

The objectives of long-term care models that integrate multiple sources of financing (Medicaid, Medicare, and private funds) are to modify eligibility requirements that differ by payment sources, reduce service discontinuity caused when

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benefits are exhausted, and build incentives for providing the right types of services in the right amount. States' Medicaid programs historically have borne the burden of public long-term care financing. In fact, many States have implemented Medicaid demonstration programs to reduce or stabilize the rate of increase in long-term care expenditures.

Demonstration program features in some rural communities can be generalized to service development in other rural communities: local leadership and local control, cooperation and trust among partners, communication between medical providers and long-term care providers, limits on competition, efficient program management for small populations, and favorable Federal and State policy. Case management systems specifically serving rural long-term care clients, which can coordinate care across social and health services, across service providers, and across funding sources, have not been sufficiently demonstrated. Best practices that capitalize on the opportunities in existing rural service systems build innovative teams for client advocacy and coordinate services in a timely manner, often including the family in long-term care decisions.

Coburn, A.F. (2001, December). "Models for integrating and managing acute and long-term care services in rural areas." *Journal of Applied Gerontology* 20(4), pp. 386-408.

This author points out that development of integrated long-term care programs requires an intensive investment of capital and organizational leadership that often is lacking in rural areas. Also, development of the organizational, administrative, and clinical systems needed to integrate and manage care, especially in a capitated or risk-based financing system, is well beyond the capacity of the average rural provider or health system. What's more, rural providers have limited managed care experience and are not likely to be inclined or prepared to participate in managed care programs for high-risk, vulnerable populations such as the frail elderly. Finally, there are limited services (for example, physical therapists or psychiatrists) and service delivery mechanisms in rural areas.

In States like Minnesota and Wisconsin, where the Medicaid and State long-term care programs have been active in developing new financing and managed care arrangements for the chronic care population, there is a far greater likelihood of rural participation and experimentation with different integrated models of acute and long-term care financing and service delivery. The key features of State programs involved in long-term care system reform efforts include: expansion of noninstitutional care alternatives for at-risk individuals (for example, home care and nonmedical residential care); development of financing approaches that support better management of complex medical and social support needs and problems; and better coordination or integration of services across primary, acute, and long-term care systems.

However, the author cautions that integration is not necessarily the gold standard for improving the care of the elderly. Other strategies that involve linkage or coordination approaches may be just as effective and certainly more feasible in most rural areas. Coordination strategies can range from coordination of benefits to the development of mechanisms that share clinical information among providers.

Kuder, L.C., Beaulieu, J., and Rowles, G.D. (2001, December). "State and local initiatives on research questions for rural long-term care models." *Journal of Applied Gerontology* 20(4), pp. 471-479.

This paper describes a few rural long-term care models. One is the Mountain Empire Older Citizens (MEOC) in rural Appalachia, which has integrated multiple health and social services under one organizational umbrella. The MEOC is designated to serve as the area agency on aging and public transit provider for four extremely isolated areas with limited community resources. MEOC's goal is to prevent the unnecessary and inappropriate institutionalization of at-risk individuals and provide support to families caring for them. Through partnering and building on local strengths to meet identified community needs, MEOC has amassed a $5 million budget from sources ranging from Medicare and Medicaid to State transportation, job training, and local nutrition funds. It offers more than 25 different services, ranging from adult day care to wellness programs for seniors, all with outreach programs.

The Oregon Senior and Disabled Services Division is the most advanced State effort to provide integrated acute and long-term care services. The State mandates coordination of community services, creation of health and social services for all seniors, preventive and primary health care services, and prevention of inappropriate or premature institutionalization. A single State agency was created to administer Medicaid long-term care, the Older

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Americans Act, and services for the disabled and to work in partnership with local governments, including rural communities, to develop a system of community-based programs.

Oregon's success in decreasing the number of nursing home beds exemplifies the success of substituting home- and community-based services for more expensive nursing home and other institutional-based care. The system has spurred a redesign of community-based home care options such as adult foster homes and residential care facilities, as well as assisted and specialized living facilities. Oregon's 18 area agencies on aging are the focal point of the delivery system. ■

Health Care Costs and Financing

Medicare payment is related to use of breast-conserving surgery and mastectomy among elderly women with breast cancer

Seventy percent of women with breast cancer are diagnosed at an early stage of the disease. Since the late 1980s, it has been generally accepted that breast-conserving surgery (BCS), which is usually followed by radiation therapy, and mastectomy (MST) equally affect the survival of women with early stage breast cancer. Apparently, Medicare fees paid to physicians for MST and BCS influence their choice of treatment for elderly women with breast cancer. A 10 percent higher BCS Medicare fee was associated with a 7 to 10 percent higher BCS rate, while a 10 percent higher MST fee was associated with a 2 to 3 percent lower proportion of women receiving BCS, according to a study supported in part by the Agency for Healthcare Research and Quality (HS08395).

Jack Hadley, Ph.D., Jean M. Mitchell, Ph.D., and Jeanne Mandelblatt, M.D., M.P.H., of Georgetown University used data from Medicare files, the American Hospital Association's Annual Survey of Hospitals, and the 1990 census to investigate whether Medicare fees for BCS and MST affected the rate of BCS across 799 ZIP code areas in 1994. The average fees paid by Medicare across the areas studied were $350 for BCS and $824 for MST, with a greater variation in the BCS fee.

Besides higher Medicare fees for MST, factors that significantly lowered the likelihood that women would receive BCS were other medical problems besides breast cancer; longer distance to a radiation therapy hospital, teaching hospital, or cancer center; and a greater percentage of poverty-stricken women in the area (who were less likely to be able to afford the out-of-pocket costs associated with BCS outpatient visits). Higher hospital input costs (for example, average salary per full-time hospital employee) were associated with a higher rate of BCS, which often can be performed as an outpatient procedure. Variations in age, race, and metropolitan populations had small or insignificant effects.

See "Medicare fees and small area variations in breast-conserving surgery among elderly women," by Drs. Hadley, Mitchell, and Mandelblatt, in the September 2001 *Medical Care Research and Review* 58(3), pp. 334-360. ■

Researchers examine the impact of prescription medicine coverage and copayments on medication use

The cost of prescription drugs is growing faster than any other segment of health care. In response, many health insurance plans require members to pay a higher copayment when they choose brand name over generic drugs. However, consumers still demand greater choice in this matter, which has led some plans to implement multi-tiered prescription copayments or other similar cost-sharing arrangements. Anecdotal reports show that many elderly patients on limited incomes respond to high prescription costs by cutting their medication dosage or simply not taking prescribed drugs. Findings from recent studies, however, are mixed. This situation has led to increased interest in a prescription drug benefit for Medicare.

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Two recent studies that were supported in part by the Agency for Healthcare Research and Quality examined these issues. The first study (AHRQ grant HS10066) found that three-tiered prescription copayments controlled drug costs without increasing use of health care services. The second study (AHRQ grant K02 HS00006) demonstrated that elderly people who are poor, minorities, and suffer from chronic health problems are most likely to restrict their use of medications when they have no prescription drug coverage. Both studies are summarized here.

Motheral, B., and Fairman, K.A. (2001). "Effect of a three-tier prescription copay on pharmaceutical and other medical utilization." ***Medical Care*** **39(12), pp. 1293-1304.**

By the spring of 2000, 80 percent of health plans with prescription benefits were offering three-tier copay options, compared with only 36 percent 2 years earlier. With this approach, generic medications have the lowest copay, formulary brand medications (list of medications provided by the insurer) a somewhat higher copay, and non-formulary brand medications the highest copay. This study found that 6,881 members of a commercial preferred provider organization (PPO), whose employer moved them to the three-tier copayment system (intervention group), had lower medication costs and use than the 13,279 PPO members whose employers kept them in the two-tier plan (control group). What's more, there were no significant differences between the two groups in visits to the doctor's office, hospitalizations, or emergency room use.

This suggests that the three-tier drug prescription copayments controlled drug costs without resulting in patients needing more health care services, conclude the researchers. They used medical and pharmacy claims to evaluate the outcomes of PPO members with two- and three-tier copayments. Before implementation of the three-tier structure, both groups had a copayment of $7 for generic and $12 for brand medications filled through network pharmacies, and $10 for generic and brand drug prescriptions filled via mail order. With the three-tier plan, copayments for prescriptions obtained through network pharmacies were $15 for formulary brand products, $25 for nonformulary brand products, and $8 for generic medications.

No difference in generic fill rate was seen across groups for the affected tiers of medications. However, the control (two-tier) group had significantly greater increases than the intervention (three-tier) group in total prescription claims, tier-two claims, and tier-three claims. The higher copayments required of the three-tier group may have restrained their spending, considerably reducing net costs for the insurer when combined with the higher copays in the three-tier plan. For example, members' copayment outlays increased by 50 percent and 16 percent and insurers' net costs by 3 and 24 percent, in the intervention and control groups, respectively.

Steinman, M.A., Sands, L.P., and Covinsky, K.E. (2001). "Self-restriction of medications due to cost in seniors without prescription coverage." ***Journal of General Internal Medicine*** **16, pp. 793-799.**

Elderly patients who are poor, members of a minority race, and suffer from chronic medical problems are most likely to restrict their use of medications when they have no prescription coverage, according to these researchers. They examined medication use based on prescription coverage using data from the 1995-1996 wave of the Survey of Asset and Health Dynamics Among the Oldest Old, a population-based survey of Americans aged 70 and older.

The survey asked seniors whether they had taken less medicine than prescribed for them because of medication cost over the prior 2 years. Of the 4,896 seniors who regularly used prescription medications, 8 percent with no prescription coverage said they restricted their use of medications because of cost, as did 3 percent with partial coverage, and 2 percent with full coverage.

Overall, 39 percent reported no prescription coverage, 44 percent had partial coverage, and 17 percent had full coverage. Out-of-pocket prescription drug costs were substantially higher for those without coverage (median and 75th percentile costs of $60 and $119 per month for those with no coverage compared with $24 and $50 per month for those with partial coverage). Among elderly people with no prescription drug coverage, the strongest independent predictors of medication restriction were minority race compared with white race, annual income under $10,000 compared with income of at least $20,000, and out-of-pocket prescription drug costs of more than $100 per month compared with $20 per month. The prevalence of medication restriction in members of these three risk groups was 21 percent for minorities, 16 percent for those

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with low income, and 13 percent with high monthly out-of-pocket costs (indicative of chronic health problems). Almost half (43 percent) of those with all three risk factors and no prescription coverage reported restricting their use of medications.

After adjusting for other factors affecting use of medications, these high-risk elderly people with no coverage had 3 to 15 times higher odds of medication restrictions than elderly people with partial or full coverage. The researchers caution that cost savings of drug policies that do not cover prescription drugs may be offset by increased use of other health services by elderly patients who cannot afford to use essential medications.

Editor's note: See the next issue (May 2002) of *Research Activities* for more information on this topic. Findings from three additional studies on drug pricing and copayments will be summarized in the May issue. ■

Clinical trial participation does not increase the cost of routine care

The reluctance of insurers to pay for the routine care costs of clinical trial participants (so-called investigational or experimental therapies) is based on the assumption that these costs are substantially higher than they would have been if the patient had not been enrolled in a research study. This is not the case, according to a recent study supported in part by the Agency for Healthcare Research and Quality (HS08362).

Researchers from the Stanford University School of Medicine, the University of Washington School of Medicine, and the Henry Ford Hospital in Detroit compared care costs for total initial hospitalization of heart attack patients enrolled in a clinical trial and similar patients not participating in a trial. They analyzed data from the Myocardial Infarction Triage and Intervention Trial and Registry (1988 to 1991) and the registry of all patients admitted to 19 Seattle area coronary care units (1988 to 1993).

The trial group consisted of 264 patients who received thrombolytics (clot-busting medications) and had available cost data. The 335 patients in the control group met the clinical criteria for trial entry but were not enrolled; they received thrombolytics and had available cost data. Total hospital cost was not significantly different between trial patients (median $11,516) and control patients (median $14,200), leading investigators to conclude that participation in the trial had an insignificant effect on the cost of routine care.

Significant predictors of cost included hospital of admission, length of stay, and coronary revascularization procedures. The authors point out that additional trial-related laboratory tests or ancillary procedures are small ticket items that are unlikely to have a major effect on the overall cost of care. Also, the cost of the intervention studied, in this case a medication, is usually borne by the sponsor, lowering the cost of care for the trial group.

See "Does enrollment in a randomized clinical trial lead to a higher cost of routine care?" by J. Peter Weiss, M.D., M.S., Lori S. Parsons, B.S., Nathan R. Every, M.D., M.P.H., and others, in the January 2002 *American Heart Journal* 143, pp. 140-144. ■

Health Insurance

Employers may be able to lower their costs for health insurance by offering more plans and making employees more price sensitive

Many economists and policymakers have argued that for employers to lower their health insurance costs, they should stimulate competition for enrollees among plans by contributing a fixed dollar amount towards premiums and offering employees multiple health plans. A new study by researchers at the Agency for Healthcare Research and Quality examines the determinants of competition among health plans in the context of a two-stage theoretical model. They show that focusing competition on the more price sensitive buyer—which can be either the employer or the employee—leads to lower

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prices. While the theory suggests this can be achieved either by offering very few plans or else by offering many plans, the empirical evidence suggests that prices are lowest with multiple plans and a fixed dollar contribution structure.

When employers made a fixed dollar contribution towards all plans and offered employees more than two plans, their premiums for single coverage were lowered by $480 when compared with premiums for employers offering two plans. However, increasing the number of plans led to higher premiums if the employer paid the full premium cost. Under the employer-pays-all scenario, single and family premiums increased by $441 and $1,853, respectively, when employers offered three or more plans compared with offering two plans.

These findings suggest that an employer's choice of contribution methods affects the premiums charged by health plans, note AHRQ researchers Jessica P. Vistnes, Ph.D., and Philip F. Cooper, Ph.D., and Gregory S. Vistnes, of Charles River Associates. The researchers also note that these premium differences are one of many factors employers need to consider when deciding on the number of plans to offer employees and how to structure employer contributions. Their findings are based on a two-stage theoretical model of competition in the employment-related health insurance market and an analysis of data from the Medical Expenditure Panel Survey-Insurance Component (MEPS-IC), a large national sample of employers. In the two-stage model, health plans first compete to be selected by employers and subsequently compete to be chosen by employees.

See "Employer contribution methods and health insurance premiums: Does managed competition work?" by Drs. Vistnes, Cooper, and Vistnes, in the *International Journal of Health Care Finance and Economics* 1, pp. 159-187, 2001. Reprints (AHRQ Publication No. 02-R035) are available from AHRQ.** ■

Employees who are given health plan quality information are more likely to switch to high-quality plans

When employees are provided with information comparing the quality of health plans available to them, they are more likely to switch from low-quality to high-quality plans, according to a study supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00055). Even after controlling for other plan characteristics, a higher quality-of-care rating was positively related to the probability of plan choice. Also, some employee characteristics appeared to be related to plan switching and the relative importance of different plan characteristics, notes Nancy Dean Beaulieu, Ph.D., of Harvard University.

Dr. Beaulieu's study of health plans offered by Harvard University analyzed the effects of providing performance data (ranging from ease of getting an appointment to preventive care) on six health plans offered to university employees on plan switching during the open enrollment period. The plans included health maintenance organizations (HMOs), preferred provider organizations, and independent practice associations. Harvard's contribution to plan premiums was a fixed percentage of the lowest-priced plan. The set of plans it offered allowed employees to choose higher rated quality at a lower price but at the expense of a more restricted provider network.

Age of the policyholder and type of policy purchased moderated the effects of plan characteristics on plan choice. For example, there were two groups of employees for whom a broader provider network was likely to be important: employees purchasing family policies and older employees. Families seemed to value the higher quality, lower price, and smaller network combination offered by certain HMOs in the study. Older families coped with smaller networks by selecting the point of service option more frequently. Younger individuals appeared to be the most price-sensitive of all and least concerned with provider networks.

More details are in "Quality information and consumer health plan choices," by Dr. Beaulieu, in the *Journal of Health Economics* 21, pp. 43-63, 2002. ■

Consumers perceive quality differences across health systems and factor these differences into health plan choices

Report cards on health plan performance often do not reflect how individuals value specific health plan features that could affect their plan choices. A recent survey of how employees value various plan features found that the employees did not perceive differences in provider quality across options but did perceive differences in access to specialists and premiums.

The survey involved employees (who were unmarried and had no dependents) of 24 self-insured employers in Minnesota who were offered 15 care plans by a coalition of the employers. The employees were asked to rate attributes related to quality, convenience (of hours and location), and premiums for five plans on a 1 to 10 scale, with 10 being most important.

The study was supported in part by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00046), and led by Katherine Harris, M.A.E., Ph.D., of RAND. After inclusion of employee personal characteristics, the addition of one doctor in care system 2 (indicating greater access to care) increased the probability of choosing care system 2 by 0.09 percent. A one-point increase in the importance of low monthly premiums increased the probability of choosing care system 2 by 0.30. However, controlling for provider and service quality increased this estimated effect to 1.22 percent, which was roughly equivalent to relocating care system 2 a mile closer to an average employee.

Changes in the importance of access to specialists had a slightly larger effect on care system choice probabilities than changes in the importance of premiums and other dimensions of provider and service quality. The results suggest that consumers do recognize quality differences across health systems, and that they take these differences into account when making enrollment choices. This finding reinforces the value of collecting and disseminating plan performance measures to consumers.

See "Measuring consumer perceptions of quality differences among competing health plans," by Dr. Harris, Jennifer Schultz, Ph.D., and Robert Feldman, Ph.D., in the *Journal of Health Economics* 21, pp. 1-17, 2002. ■

Employee characteristics affect the generosity of health plans and the likelihood of employers offering a choice of plans

Most individuals with private health insurance in the United States obtain it through their employer. Employee characteristics do affect the generosity of the health plans offered by employers and the likelihood that they offer a choice of plans, according to a new study. It found that employers with a greater proportion of high-wage workers were more likely to offer more generous plans, and those with workers with more varied health risks and wages were more likely to offer a choice of plans. Nevertheless, the overall effects of worker characteristics on plan offerings were quantitatively small, notes M. Kate Bundorf, Ph.D., of Stanford University School of Medicine.

With support from the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00009), Dr. Bundorf developed a theoretical model to examine the relationship between the preferences for health insurance among employees within a firm and the health benefits offered by employers. The model developed a measure of plan generosity based on plan characteristics, and expected health expenditures were used as proxies for worker preferences for coverage (for example, prior high health expenditures would indicate less healthy employees and a preference for greater coverage).

Interactions within the models revealed that both worker wages and firm size were positively correlated with the probability of offering health insurance. Larger firms were more likely to offer health insurance and to offer more generous plans and a choice among plans. Shifting the distribution from all workers earning less than $10,000 to all earning over $20,000 was associated with an increase in average plan generosity of $56 or 5 percent of the average value of plan generosity and an increase in average predicted probability of offering a choice of plans from 0.19 to 0.23 among study firms. Mean employee health risk had a small but significant negative effect on average plan generosity, while variation in health risk had a positive effect. Better data on individual workers within a firm may generate stronger results.

More details are in "Employee demand for health insurance and employer health plan choices," by Dr. Bundorf, in the *Journal of Health Economics* 21, pp. 65-88, 2002. ■

Elderly people find new Medicare information materials useful in navigating the maze of health plan choices

More than one in eight Americans is age 65 or older. Since many older Americans suffer from one or more chronic health problems, it is especially important for them to understand their health care options and make informed choices about health insurance coverage. However, plowing through the maze of choices available to them is not always easy. For many, the choices include up to 10 standardized commercial supplemental plans, various forms of Medicare managed care plans, basic Medicare, employer-sponsored retirement supplemental options, and a Medicare private fee-for-service option.

In a large study of Medicare beneficiaries in the Kansas City area, researchers examined whether a set of information materials improved beneficiaries' knowledge of Medicare and helped guide them in their choice of a Medicare health plan. The materials included versions of the *Medicare & You* handbook and the Medicare Consumer Assessment of Health Plans Study (CAHPS®) survey report. The results of the study, which was supported in part by the Agency for Healthcare Research and Quality (HS09218), are described in three articles, which are summarized here.

Harris-Kojetin, L.D., McCormack, L.A., Jael, E.M., and Lissy, K.S. (2001, fall). "Beneficiaries' perceptions of new Medicare health plan choice print materials. ***Health Care Financing Review*** **23(1), pp. 21-35.**

These researchers examined what dually eligible (for Medicaid and Medicare) Medicare beneficiaries who participated in seven Kansas City focus groups thought of the pilot version of the *Medicare & You 1999* handbook (part of the National Medicare Education Program) and the 1998 Medicare CAHPS survey report for the Kansas City area. The 52-page Medicare handbook included information about Medicare costs and benefits, new managed care options, patient rights, and multiple information sources. It also provided comparative cost and benefit information for local Medicare health maintenance organizations (HMOs) and worksheets to facilitate plan comparisons. The CAHPS survey report provided comparative results of a survey showing how Medicare beneficiaries in the Kansas City area assessed the quality of care they received from five local Medicare HMOs.

Beneficiaries generally had a positive response to both booklets. They saw the handbook as a comprehensive reference tool, which they could save and consult over time as the need arose. They saw the survey report as a short, easy-to-read booklet. They felt, however, that neither booklet could stand alone, and that they would need more information before making a plan choice.

More highly educated beneficiaries in the focus groups found the handbook and survey report easy to understand than those with less education (this is corroborated by the outcome evaluation survey results from the Kansas City area of 97 vs. 67 percent and 96 vs. 64 percent, respectively). Beneficiaries in the focus groups found most useful the survey's two-page guide on how to compare plans using the CAHPS data and the handbook's four-page worksheet, which provides a more detailed comparison process than the report.

Some participants said that they were more likely to fully read the survey report than the handbook because the report was short and easier to read than the handbook, suggesting that more information is not necessarily better. The booklets were not entirely responsive to the needs of beneficiaries with special situations, such as those with disabilities or people eligible for both Medicare and Medicaid, who may need targeted supplemental materials.

McCormack, L.A., Garfinkel, S.A., Hibbard, J.H., and others. (2001, fall). "Beneficiary survey-based feedback on new Medicare informational materials." ***Health Care Financing Review*** **23(1), pp. 37-46.**

This study reported results of a survey of 951 new and 1,156 experienced Medicare beneficiaries in the Kansas City area assigned either to a control group or one of three treatment groups. The first treatment group received the 8-page *Medicare & You* tri-fold bulletin; the second treatment group received the longer *Medicare & You 1999* handbook; and the third treatment group received both the handbook and the Medicare CAHPS survey report. Treatment group members were interviewed immediately after they were mailed the Medicare & You materials in fall 1998. Control group beneficiaries received no study information and were interviewed before the mailing.

Beneficiaries in all three treatment groups were significantly more likely to find the information they received useful compared with control group members, who only received information outside the study. Eighty percent of

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beneficiaries rated the Medicare & You materials as good to excellent at helping them understand the advantages and disadvantages of the different Medicare options, with more highly educated beneficiaries finding the materials more helpful. About 4 in 10 beneficiaries found them easier to understand relative to information they had received in the past. However, nearly half found them to be about the same level of difficulty, and 5 percent found them more difficult.

Three-fourths of respondents found the CAHPS survey report very or somewhat easy to understand, just over 10 percent found it very or somewhat hard, and the remainder said it was neither hard nor easy. The differences in reported levels of understanding by beneficiary education were not significant. Beneficiaries who knew more initially about the Medicare program and had greater exposure to other sources of information were more likely to find the materials useful. Those who received the lengthier and more complex materials and survey report did not view them as more useful than those who received the shorter materials. The study's findings suggest room to improve the print materials, as well as a need for other kinds of information for this population.

McCormack, L.A., Anderson, W., Kuo, M., and others. (2001, fall). "Measuring beneficiary knowledge in two randomized experiments." ***Health Care Financing Review*** **23(1), pp. 47-62.**

This article reports the results of two different surveys of the Medicare population—an evaluation of the pilot version of the *Medicare & You 1999* handbook conducted in the Kansas City area and a national evaluation of the *Medicare & You 2000* handbook. The surveys were developed to measure beneficiary knowledge of the Medicare program and related health insurance options, use of Medicare information sources, and attitudes about health plan choice and decisionmaking. Both surveys included two groups: a control group that received no information as part of the study and a treatment group that received the handbook.

Overall, the researchers found modest gains in Medicare-related knowledge in both the Kansas City and the national evaluation studies. The Kansas City survey revealed that before the mailing, only 50 percent of beneficiaries were aware of how the benefits in original Medicare compared with benefits offered by other Medicare health care plan options; 65 percent understood Medicare's relationship with other Medicare health insurance plans; and 75 percent were knowledgeable about the availability of original Medicare. However, almost 80 percent recognized that original Medicare will not pay for all health care costs, and that they could remain in the health care plan of their choice. After the mailing of the handbook, beneficiaries' knowledge was significantly greater in three of these five areas.

In the national survey, there was a significant increase in knowledge levels in 12 of 15 questions as a result of receiving the mailed materials. Respondents gained between 2 and 17 percentage points in the multi-item knowledge indexes that served as the dependent variable in multivariate models. However, most respondents were able to answer correctly only 5 of the 15 survey questions, indicating a generally low level of beneficiary knowledge. Also, they lacked knowledge in some of the most critical areas—being able to differentiate between original Medicare and Medicare managed care, issues in obtaining a Medigap policy, and knowing how to get more information on the Medicare program. ■

Conference attendees examine employers' use of risk adjustment to contend with adverse selection from health plans

Over 90 percent of people under age 65 who have private health insurance obtain it through their employers. In fact, private employers are the largest purchasers of health plan membership. Unless plan payments adequately reflect the expected health needs of a plan's enrollees, health plans have incentives to "risk select," that is, avoid enrollees who are expected to have high costs for health care. The plan may choose not to contract with an employer if the premiums don't adequately reflect the anticipated health care costs of the employees. For this reason, health economists recommend that private employers use a formula based on risk adjusters—such as employee age, sex, health indicators, and prior health care use—to calculate premiums to pay plans, so-called formal risk adjustment. Indeed, Medicare makes extensive use of formal risk adjustment in setting plan premiums.

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Risk adjustment

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The conference, "Private Employers and Risk Adjustment," was held in February 2000 to determine why private employers, unlike Medicare, usually do not use formal risk adjustment. The conference was sponsored by the Agency for Healthcare Research and Quality and the Management Sciences Group of the Department of Veterans Affairs. Summaries of a conference overview and six conference papers, supported in whole or part by AHRQ (HS10077), follow.

Glazer, J., and McGuire, T.G. (2001, fall). "Why don't private employers use risk adjustment? Conference overview." *Inquiry* 38, pp. 242-244.

As the authors of this conference overview point out, employers have mechanisms other than formal risk adjustment to deal with risk differences and adverse selection. These include: introducing regulations into their contracts with health plans; negotiating with plans on the basis of experience (the prior year's health plan expenditures) to set the level of individual and family premiums; paying some part of the costs incurred by plans; and setting employee contributions to accommodate selection concerns (for example, greater contributions for a generally sicker employee population).

Keenan, P.S., Buntin, M.J., McGuire, T.G., and Newhouse, J.P. (2001, fall). "The prevalence of formal risk adjustment in health plan purchasing." *Inquiry* 38, pp. 245-259.

These researchers examined the frequency with which Medicare, Medicaid, State governments, and private payers made use of formal risk adjustment in their plan payments in 1998. In that year, formal risk adjustment was used for about one-fifth of all enrollees in capitated health plans. Although Medicare and Medicaid relied on formal risk adjustment for virtually all their health plan enrollees, the practice was used for only about 1 percent of the 63.1 million people for whom private employers made health insurance payments. When the 43 percent of insured employees who had a choice of plans and the 23 percent who had a choice of carrier were considered, the use of formal risk adjustment by private employers increased to 3 percent and 5 percent, respectively. Medicare paid by a formula for all of its 5.3 million beneficiaries in health plans, and some risk adjustment (largely on the basis of age and sex) was used for 96 percent of the 9.2 million Medicaid-eligible people in health plans. These findings raise the question of why the public sector has taken one direction in plan payment, and the private sector has taken another.

Glazer, J., and McGuire, T.G. (2001, fall). "Private employers don't need formal risk adjustment." *Inquiry* 38, pp. 260-269.

Private employers who are purchasing health care coverage for their employees can pick and choose among plans as they please. They have tools that are better than formal risk adjustment for dealing with adverse selection, suggest these authors. For example, one reason for a formal risk adjustment system is to avoid problems of individual access—that is, the inclination of health plans to take only enrollees with low health care costs (for example, young over old employees). However, outright denial of membership to an employee is a violation of a plan's contract with an employer. On the other hand, employers do face group access problems—for example, if one of three plans offered by an employer anticipates getting the sicker (and more costly) group of employees. In this case, employers can pay a higher premium to plans anticipating more costly employees.

Encinosa, W.E., and Selden, T.M. (2001, fall). "Designing employer health benefits for a heterogeneous workforce: Risk adjustment and its alternatives." *Inquiry* 38, pp. 270-279.

With formal risk adjustment, employers offer insurers larger premium contributions for high-risk workers than for low-risk workers. Although employers rarely use formal risk adjustment, they do use strategies that accomplish some of the same objectives at lower administrative cost, according to these AHRQ researchers. They may link their contributions to health plan characteristics and premiums rather than individual worker risk types—that is, make larger premium contributions to plans with higher premiums, essentially subsidizing employee choice at a fixed percentage rate. Or, employers can set their contributions based on actuarial assessments of plan generosity. This strategy requires actuarial tables to form an estimate of the coverage cost difference between two plans for, say, a high-cost enrollee. The result is an unequal contribution strategy that is essentially identical to a formal risk adjustment strategy. Also, firms can self-fund coverage or offer only

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Risk adjustment

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a single health plan with a partial employee contribution, which would help them to provide at least some workers with coverage without imposing undue burdens on low-risk workers. The percentage of all plans that required partial or full employee contributions grew steadily from 54 percent in 1979 to 71 percent in 1994. Reprints (AHRQ Publication No. 02-R029) are available from AHRQ.**

Feldman, R., Dowd, B.E., and Maciejewski, M. (2001, fall). "A demand-side view of risk adjustment." *Inquiry* 38, pp. 280-289.

Employers who offer multiple health plans often make larger contributions to the premiums of high-cost plans because without such premium subsidies (a form of demand-side risk adjustment), too few employees would choose the high-cost plans preferred by workers at high risk for health problems, suggest these authors. In fact, their study found that indeed employers were more likely to provide a subsidy when they offered plans preferred by high-risk workers. They estimated a model of the employer premium subsidy, using data from a telephone survey of large public employers in 1994.

Only 47 employers made a level-dollar contribution to single-coverage health plans; in contrast, 216 paid at least part of the extra cost of high-cost plans. Fifty-seven employers paid a level-dollar premium for family plans in contrast to 177 cases with a subsidy for high-cost plans. High-cost plans typically provide easy access to medical specialists, one indicator of health care quality. By reducing an employee's out-of-pocket premium for high-cost plans, an employer can provide an indirect incentive for high-quality care.

Frank, R.G., and Rosenthal, M.B. (2001, fall). "Health plans and selection: Formal risk adjustment vs. market design and contracts." *Inquiry* 38, pp. 290-298.

According to these authors, three factors reduce the value of risk adjustment from a plan's point of view. First, only a relatively small segment of privately insured Americans face a choice of competing health plans. Second, health plans share much of their insurance risk with payers, providers, and reinsurers. Third, the experience rating (previous year's health care costs for a firm's employees) that occurs during the premium negotiation process and management of benefit coverage appear to substitute for risk adjustment. A 1997 national survey of all U.S. employers with 10 or more employees found that 41 percent of firms negotiated with plans over premiums. A substantial share of both self-insured firms and those that purchase insurance engaged in premium negotiations (42 percent and 38 percent, respectively). Overall, it is the average premium that a plan gets for the enrollees that determines its profits. Plans are essentially indifferent to the way average revenue is packaged.

Ellis, R.P. (2001, fall). "Formal risk adjustment by private employers." *Inquiry* 38, pp. 299-309.

The reason that adoption of formal risk adjustment has been slow is because many agents, including consumers, employers, health plans, and providers, haven't demanded it, says this author. He describes several reasons why this approach has rarely been used by U.S. private employers: lack of data, difficulties of using potentially distorted signals, need for market power, availability of alternative strategies, and the existing historical structure of health care markets. Data problems are paramount. Employers report that claims information is not reliably coded or not available from all competing health plans on a comparable basis. Survey-based information is too expensive, and individual-level cost information is not available from managed care plans under capitation to evaluate and calibrate payments to these plans. In addition, many large U.S. employers tend to have employees who are geographically dispersed, so they lack the geographic concentration that increases market power and facilitates the negotiation of risk-adjusted premiums. ■

School-based dental sealant programs can improve the dental health of poor children at minimal cost

Poor and minority children have far more cavities than other children. However, a school-based dental sealant program could substantially improve the dental health of poor school-aged children at no cost or only slightly increased cost relative to ordinary dental care. That's the conclusion of a new study supported in part by a cooperative agreement between the Agency for Healthcare Research and Quality and the Health Resources and Services Administration's Bureau of Primary Health Care. The investigators did a cost-effectiveness analysis of a successful school-based dental sealant program for low-socioeconomic-status children in New York.

The program was set up in response to the observation that these children often did not keep their dental appointments due to their family situations and barriers they encountered in trying to access dental care. School program services offered at no cost to children ages 6 to 14 years included oral hygiene instruction, weekly fluoride rinses, dental sealants for permanent molars, and referrals to students' family dentists for comprehensive dental care. At the study's inception, these children had a 30 percent higher rate of dental cavities than similar children in surrounding communities and a high proportion (54 percent) of untreated dental cavities.

During the 5-year followup period, cavity incidence was 6.8 among matched control children in another school and 2.2 in the sealant group. Among the control group, 6 permanent teeth were lost. The sealant group had fewer decayed and filled surfaces than the control group (increase of 62 vs. 159) but more untreated cavities (78 vs. 66 percent). Total discounted costs of treatment in the control group during the 5-year study period amounted to $2,100 and $1,720 for the sealant group. Also, outcomes for the group given sealants were substantially better than for the control group. Even at private rates, the program would lead to substantially better outcomes at minimally increased cost.

More details are in "Cost-effectiveness analysis of a school-based dental sealant program for low-socioeconomic-status children: A practice-based report," by Georgina P. Zabos, D.D.S., M.P.H., Sherry A. Glied, Ph.D., Jonathan N. Tobin, Ph.D., and others, in the *Journal of Health Care for the Poor and Underserved* 13(1), pp. 38-48, 2002. ■

Medicaid-insured and minority children have poor access to dental care and more cavities than other youths

Untreated dental decay afflicts one-fourth of children entering kindergarten in the United States. Low-income and minority children have more dental cavities, but they see the dentist less often than other children. In fact, fewer than one of every five poor children with State Medicaid insurance receives preventive dental services in a given year.

A new study supported by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00032) reveals specific barriers to dental care among poor and minority children. A second study by AHRQ researcher, Richard J. Manski, D.D.S., M.B.A., Ph.D., and colleagues details profound disparities in the use of dental services by poor and minority youths. Both studies are described here.

Mofidi, M., Rozier, R.G., and King, R.S. (2002, January). "Problems with access to dental care for Medicaid-insured children: What caregivers think." ***American Journal of Public Health*** **92(1), pp. 53-58.**

These researchers examined the comments of a racially and ethnically diverse group of 77 caregivers, who participated in 11 focus groups to discuss problems they had in obtaining dental care for their Medicaid-insured children. Many recounted negative experiences with dentists and dental office staff, who they said often treated them with disdain. Some said that they sometimes were made to wait for hours while non-Medicaid-insured patients who

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Access to dental care

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arrived later were seen ahead of their children. Hispanic parents had the further obstacle of language barriers, both on the telephone and in person.

Moreover, the frustrating and time-consuming search for a dentist, arranging an appointment, and finding transportation left caregivers exhausted and discouraged. They reported that very few dentists accepted Medicaid patients, only saw them at certain times, only saw one Medicaid patient out of each family a day, or simply put them on the back burner for months. Most caregivers did not own a car and had to rely on free transportation provided by social services, which was both unreliable and inconvenient. They were often late for appointments or couldn't make them at all.

Sometimes children missed school because of appointment restrictions imposed by the dental system and transportation difficulties. Delayed appointments often left children with prolonged tooth decay and pain or tooth discoloration, which prompted ridicule by other children at school. Even when they successfully made it to a dental appointment, caregivers still had to navigate some formidable barriers in the dental setting, including long waiting times and judgmental, disrespectful, and discriminatory behavior from staff and providers. The researchers conclude that proposed increases in Medicaid reimbursement rates and patient education will not be sufficient to remove the barriers to dental care cited by these caregivers.

Macek, M.D., Edelstein, B.L., and Manski, R.J. (2001). "An analysis of dental visits in U.S. children, by category of service and sociodemographic factors, 1996." ***Pediatric Dentistry*** **23(5), pp. 383-389.**

These investigators analyzed data from the 1996 Medical Expenditure Panel Survey (MEPS) of 23,230 people (6,595 children) representing about 268 million U.S. residents (75 million children). They determined the distribution of diagnostic, preventive, surgical, and other dental visit types received by U.S. children up to age 18. They found substantial disparities in the level of dental services obtained by poor and minority youths, who are most at risk of developing cavities, compared with other children. Overall, 39 percent of children had a diagnostic or preventive visit, 4 percent had a surgical visit, and 16 percent had a visit for a restorative or other service during the year.

For every type of dental service, use was higher among white than black and Hispanic children and among non-poor than poor children, although there were no differences by sex. These findings suggest that State Medicaid health insurance programs for poor children fail to assure comprehensive dental services for eligible children, and that substantial improvements in dental care for minority and poor children will be necessary to meet national health objectives for 2010.

Age-specific associations varied. The highest proportion of children receiving diagnostic, preventive, and surgical services were in the 6-10 year age category, with a low rate of these services for preschoolers and children over age 10. This suggests that professional guidelines calling for early dental care were not widely followed or accepted by the public or dentists. In contrast, use of restorative and other services increased steadily across age categories, reflecting the cumulative and progressive nature of dental caries. Reprints of this article (AHRQ Publication No. 02-R045) are available from AHRQ.**■

Consumption of sugared soda has not increased youngsters' cavities, perhaps due to increased fluoride use

Many U.S. school districts have entered into contracts with soft drink companies that give the companies an exclusive right to stock their sodas in the schools' vending machines and concession stands. Dentists are among those in the public health community who are concerned about this policy. Dentists worry that soda's inherent acidity will lead to enamel erosion and its high sugar content to more cavities.

A new study shows that sugared soda consumption indeed does increase cavities among adults over age 25 but not in younger people. The soda-cavity connection seen in the older group may be due to the cumulative effects of long-term soda consumption. On the other hand, the absence of cavity effects among soda-consuming younger people may be related to the increased use of fluorides since the 1960s, concludes Keith E. Heller, D.D.S., M.P.H., Dr.P.H., of the University of Iowa College of Dentistry.

In the study, which was supported in part by the Agency for Healthcare Research and Quality

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Consumption of sugared soda

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(HS09554), Dr. Heller and his colleagues used data from the 1988-1994 Third National Health and Nutrition Examination Survey to examine associations between dental cavities (decayed, missing, and filled permanent tooth surfaces, DMFS) and soda consumption. The highest consumption of sugared soda was seen in the 17- to 24-year-old age group, who drank an average of about one 12 oz can or slightly more of soda per day. Children aged 12 to 16 years drank an average of 9 to 12 oz of soda a day, those aged 6 to 11 years drank about 6.5 oz, and children aged 2 to 5 drank an average of 2.3 oz per day.

There were no differences in DMFS relative to soda consumption among those younger than 25. However, for those older than 25, the number of cavities increased with the more sugared soda they consumed each day. After controlling for sex, poverty status, and other sugared food consumption, adults aged 25-34 who consumed 6 oz or less of soda per day had a mean DMFS of 21.9, while those who consumed 30.1 oz or more of soda per day had a mean DMFS of 26.5.

For more information, see "Sugared soda consumption and dental caries in the United States," by Dr. Heller, B.A. Burt, B.D.S., M.P.H., Ph.D., and S.A. Eklund, D.D.S., M.H.S.A., Dr.P.H., in the *Journal of Dental Research* 80(10), pp. 1949-1953, 2001. ■

Mental Health

Disparities between men and women in minor mental health problems may reflect differences in social roles

Many studies have suggested that women have more minor mental health problems such as anxiety and depression than men. However, often these studies have not taken into account the distribution of social roles, that is, the different contexts in which women and men live and work. For this reason, generalizations about sex-based differences in minor mental health problems can be unhelpful, according to a study by British researchers. The study was supported in part by the Agency for Healthcare Research and Quality (HS06516).

The researchers distributed questionnaires to men and women working in white collar jobs in three organizations (government agency, bank, and university) in the United Kingdom. They examined mental health problems using the 12-item General Health Questionnaire (GHQ); demographic variables, including access to a car and home ownership; and occupational grade within the organization.

In each organization, women were overrepresented in the lowest grades and underrepresented in the higher grades. In the university, 93 percent of clerical workers, 27 percent of technical workers, and 22 percent of academics were female; in the bank, 72 percent of clerical workers, 35 percent of supervisors, and 8 percent of managers were female; and in the government sample, 72 percent of clerical workers (low grades), 30 percent of executive and professional workers (middle grades), and 11 percent of administrators (high grades) were female.

After adjustment for sociodemographic characteristics, women in all three organizations had higher GHQ rates (more minor mental health problems) than men, but the differences were not great. The researchers conclude that men and women continue to work in very different occupations, particularly in Western Europe, and that studies of mental health differences should take into account their different work and life situations.

More details are in "Gender differences in mental health: Evidence from three organizations," by Carol Emslie, Rebecca Fuhrer, Kate Hunt, and others, in *Social Science & Medicine* 54, pp. 621-624, 2002. ■

Severe liver toxicity occurs with certain HIV medications, especially among people coinfected with HIV and hepatitis

Patients infected with the human immunodeficiency virus (HIV) that causes AIDS are increasingly prescribed antiretroviral regimens, which include HIV-1-specific non-nucleoside analog reverse transcriptase inhibitors (NNRTIs), such as nevirapine (NVP) and efavirenz (EFV). Recently, these medications have been found to be associated with severe liver injury.

According to a new study, severe liver toxicity was more common among NNRTI patients prescribed NVP, those coinfected with hepatitis B virus and hepatitis C virus, and those who also received protease inhibitors. Severe liver toxicity didn't appear until after the first 12 weeks of therapy. Thus, doctors should frequently monitor liver enzymes after starting a patient on antiretroviral therapy and continue the monitoring throughout the treatment period, according to the Johns Hopkins' researchers who conducted the study. Their work was supported in part by the Agency for Healthcare Research and Quality (HS07809).

The researchers prospectively studied the incidence of severe liver toxicity (grade 3 or 4 change in alanine or aspartate transaminase levels) among 568 patients receiving NNRTI-containing antiretroviral therapy, including 312 and 256 patients prescribed EFV and NVP, respectively. They detected hepatitis C virus in 43 percent of patients and hepatitis B virus in nearly 8 percent of patients. Nearly 16 percent of patients prescribed NVP and 8 percent of those prescribed EFV developed severe liver toxicity. However, only 32 percent of NVP- and 50 percent of EFV-associated episodes of toxicity were detected during the first 12 weeks of therapy.

Toxicity risk was two-fold higher among people with chronic viral hepatitis (69 percent of cases) and much greater among those who were also taking protease inhibitors (82 percent of cases). The highest incidence of severe liver toxicity occurred among patients with hepatitis C who were receiving EFV or NVP in combination with a protease inhibitor. The seven patients who experienced severe NVP-associated liver toxicity did not develop the problem during subsequent EFV therapy, suggesting that the toxicity was drug, rather than class, specific.

See "Hepatotoxicity associated with nevirapine or efavirenz-containing antiretroviral therapy: Role of hepatitis C and B infections," by Mark S. Sulkowski, M.D., David L. Thomas, Shruti H. Mehta, and others, in the January 2002 *Hepatology* 35, pp. 182-189. ■

Researchers examine treatment issues for HIV-infected women

Use of highly active antiretroviral therapy (HAART) to treat infection with the human immunodeficiency virus (HIV) that causes AIDS has prolonged life and revolutionized patient care since its introduction in April 1996. Yet questions remain about who does and does not have access to the latest and most potent therapies. According to a recent study, women who are college-educated, not black, privately insured, and have no history of injection drug use are much more likely to receive HAART than other women.

A second study focused on evaluation and management of HIV infection in women. According to the author, the rate of newly diagnosed cases of AIDS in the United States is growing fastest among women who are infected with HIV primarily through heterosexual transmission. About 60 percent of these women are black and 18 percent are Hispanic. They usually are diagnosed when they seek medical attention for a gynecologic infection. The author uses a question and answer format to address treatment issues specific to HIV-infected women.

Both of these projects are from the Women's Interagency HIV Study (WIHS), which is funded through a cooperative agreement between the National Institutes of Health, the Centers for Disease Control and Prevention, and the Agency for Healthcare Research and Quality. The WIHS is a multicenter investigation of the natural history of HIV disease in women. The two studies are described here.

Cook, J.A., Cohen, M.H., Grey, D., and others. (2002, January). "Use of highly active antiretroviral therapy in a cohort of HIV-seropositive women." *American Journal of Public Health* 92(1), pp. 82-87.

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HIV-infected women

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The researchers analyzed antiretroviral medication use among 1,690 HIV-positive women beginning in 1994 (preceding HAART availability) at 6-month study visits until September 1998. The majority of the women were black or Hispanic, nearly half lived in poverty, and only 12 percent had private health coverage. Before HAART availability, women's likelihood of using any antiretroviral therapy was associated with clinical indicators such as CD4 cell count, viral load, and symptoms and behavioral factors such as drug and alcohol use and past participation in clinical trials.

After HAART became commercially available, other factors affected its use: a woman's race, educational level, insurance status, and past use of illicit drugs. Black women were about 20 percent less likely to report HAART use at any study visit after April 1996, as were women with a history of injection drug use or recent drug or alcohol use. On the other hand, women with some college education were significantly more likely to report HAART use, as were those with private health insurance and those who had previously participated in clinical drug studies. These findings held even after adjustment for clinical laboratory markers, CD4 count, and viral load.

The researchers note the need for special outreach and medical education efforts to help black women and those involved with drugs and alcohol make informed decisions about HAART use. Likewise, efforts are also needed to educate physicians about the vulnerability of disadvantaged women, whom they may view as unlikely to adhere to the complicated and expensive HAART regimens that require near-perfect adherence to be effective.

Levine, A.M. (2002, February). "Evaluation and management of HIV-infected women." ***Annals of Internal Medicine*** **136(3), pp. 228-242.**

As this researcher notes, a gynecologic infection is the most common symptom that leads to initial medical evaluation and diagnosis of HIV infection in women. She recommends that doctors initially measure a woman's CD4 lymphocyte count (lower counts indicate a less competent immune system and more advanced disease) and HIV-1 RNA level (higher counts indicate more advanced disease) and conduct a gynecologic examination including a Pap smear. Decisions about beginning antiretroviral therapy depend on the patient's clinical diagnosis, willingness to adhere to treatment, and CD4 lymphocyte and HIV-1 RNA levels.

Levels of HIV-1 RNA may be somewhat lower in women than in men at the same CD4 count, whereas women have higher CD4 lymphocyte counts at the time of AIDS diagnosis. However, prospective trials have not yet indicated the need to change the threshold CD4 lymphocyte counts or HIV-RNA levels for initiation of therapy in women. The efficacy of antiretroviral therapy appears to be similar in men and women, although women are more likely to suffer from medication-related toxicities.

About 40 percent of women have abnormal Pap smears at baseline, and 58 percent are infected with human papillomavirus. The prevalence of both of these conditions increases with lower CD4 lymphocyte counts and higher HIV-1 RNA levels. Precursor lesions to cervical cancer may be effectively treated, but almost 50 percent recur within 1 year, mandating careful followup. Physicians should refer women for specialized gynecologic care and for issues related to HIV itself, since survival is prolonged in patients treated by doctors who are experienced in treating HIV. Finally, when HIV-infected women are provided the same access to care, they have similar prognoses as HIV-infected men, concludes the author. ■

HCSUS studies examine Pap screening followup for HIV-positive women and lifestyle changes following HIV diagnosis

Two recent studies from the HIV Cost and Services Utilization Study (HCSUS) address issues in preventive screening and health-promoting behavior among people with HIV infection. Individuals who have HIV infection need to be concerned about detection of possible comorbid conditions. In addition, developing a more healthy lifestyle can have clinical benefits.

One HCSUS report found that 81 percent of HIV-positive women had a Pap test in the prior year, and 95 percent of those with initially abnormal Pap test results had scheduled followup Pap testing or colposcopy (insertion of a magnifying lens into the vagina to examine the tissues of the cervix and vagina). A second HCSUS study concluded that most people

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HIV-positive women

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diagnosed with HIV make healthy changes in their lifestyle following diagnosis.

HCSUS is led by Samuel A Bozzette, M.D., Ph.D., of the University of California, San Diego, and RAND, and Martin F. Shapiro, M.D., Ph.D., of RAND and the University of California, Los Angeles. The studies, which are summarized here, were supported in part by the Agency for Healthcare Research and Quality (HS08578).

Stein, M.D., Cunningham, W.E., Nakazono, T., and others. (2001, August). "Screening for cervical cancer in HIV-infected women receiving care in the United States." ***Journal of Acquired Immune Deficiency Syndromes*** **27, pp. 463-466.**

Invasive cervical cancer is a serious gynecologic manifestation of HIV infection, and it occurs in HIV-infected women three times as often as in uninfected women. Regular Pap tests with appropriate followup when results are abnormal could prevent nearly all deaths from cervical cancer. Current opportunistic infection guidelines recommend annual Pap smears after two initial smears, 6 months apart, are normal. However, the benefit of Pap testing depends on access of HIV-infected women to this screening.

The investigators examined sociodemographic, clinical, and provider factors associated with screening for cervical cancer among 624 women being treated for HIV infection, part of the nationally representative HCSUS cohort. Women were asked if they had received a Pap test in the past year and whether, if the results were abnormal, they were scheduled for another Pap test or colposcopy within 3 months.

Of these HIV-positive women, 81 percent had received a Pap test in the past year. Women who had a gynecologist and primary care physician at the same clinical site were almost twice as likely as other women to report Pap testing. Among the women who reported abnormal Pap test results and who did not have vaginal infections, 95 percent were scheduled for a repeat Pap test or colposcopy, and 85 percent had received a repeat Pap test or colposcopy within 3 months.

Earlier studies associated lower socioeconomic status and lack of health insurance with lower screening rates, but this study did not replicate these findings. The high rates of Pap testing and referral for followup of abnormal results were encouraging. Organizing care so that gynecologic and general HIV services are provided at the same site appears to be one promising strategy to improve these rates further.

Collins, R.L., Kanouse, D.E., Gifford, A.L., and others. (2001). "Changes in health-promoting behavior following diagnosis with HIV: Prevalence and correlates in a national probability sample." ***Health Psychology*** **20(5), pp. 351-360.**

Certain behaviors may have especially harmful effects among people with HIV infection. Cigarette smoking has been linked to greater risk of infections among HIV-positive people and also to maternal-fetal transmission of HIV. Alcohol use is related to poor immune functioning in HIV disease. Perhaps the most important effect of improving diet and exercise is to reduce cardiovascular risk, which may be high in the HIV-positive population in part due to possible vascular complications of antiretroviral therapy.

Most of the nationally representative HCSUS sample of 2,864 people receiving HIV care had made healthy changes in their lifestyle since HIV diagnosis. Nearly half (43 percent) increased their physical activity, and over half (59 percent) improved their diet. Also, nearly half (49 percent) of smokers and 80 percent of alcohol and drug users either quit or cut down.

People with more education were most likely to improve their diets, and those with higher emotional well-being and lower propensity to deny their HIV illness were more likely to reduce substance use. People who were younger, functioned well physically, did not have wasting syndrome, and had high self-rated health were more likely to increase their physical exercise. People diagnosed with *Pneumocystis carinii* pneumonia were more likely to reduce smoking than those who had not contracted this opportunistic infection.

These healthy behavior changes apparently reflected an effort to cope with and control a potentially devastating disease. Individuals who made these positive changes tended to want more information about HIV and its treatment, wanted to be more involved in their own medical care, and tried to cope in positive ways with HIV infection. Most individuals had made healthy changes since HIV diagnosis, but the time elapsed since testing HIV positive was not related to change. This suggests that the change toward healthier behaviors may have taken place very soon after an individual learned of his or her infection. If so, this may be a critical time for counseling, skills training, and education designed to encourage lifestyle changes and healthy behaviors. ■

New national survey details Americans' experiences with health care services

New data from the Agency for Healthcare Research and Quality indicate that slightly more than half of those Americans age 18 and older (53.8 percent) who do not live in institutions or serve in the military always received urgent medical care as soon as they wanted it in calendar year 2000. Although there was very little difference between blacks and whites aged 18 to 64 in their reports of timeliness of receiving urgent care—51.5 percent and 52.9 percent respectively—only 41.2 percent of Hispanics reported always receiving urgent care when they wanted it.

The data, which are taken from a new questionnaire incorporated into AHRQ's Medical Expenditure Panel Survey (MEPS), indicate that among people aged 18 to 64, those without insurance were more likely than those with coverage to report sometimes or never receiving urgent care as soon as they wanted it (28.6 percent, uninsured; 19.1 percent, publicly insured; and 16.1 percent, privately insured). MEPS collects information yearly on health care use, access to care, health status, and quality from a nationally representative sample of 24,000 individuals and 10,000 households.

The questions were taken from AHRQ's CAHPS®, a research-based, validated survey tool that assesses people's experiences with their own health plans. Respondents were asked about the timeliness in which they received urgent and routine medical care and they also were asked about their experiences during care. These measures will be included in the AHRQ National Quality Report, first due out in 2003, which will provide information to policymakers, providers, and consumers to monitor the Nation's progress toward improved health care quality.

The detailed findings include:

- In 2000, 72.3 percent (145.4 million) of the U.S. population aged 18 and older visited a doctor or medical clinic in the 12 months prior to the survey. Of that total, 82.6 percent reported no problems receiving the care they or their doctor believed was necessary; 89.8 percent said their health care providers always or usually listened carefully to them; and 84 percent said their health providers always or usually spent enough time with them.
- Among those receiving care, blacks (64.4 percent) were more likely than whites (58.6 percent) or Hispanics (53.1 percent) to say their providers always explained things in a way they could understand.
- Fewer than half of all those surveyed (43 percent) said they always received an appointment at a clinic or doctor's office as soon as they wanted. But people age 65 and older (54.7 percent) were more likely to say they always obtained an appointment as soon as they wanted.
- A majority of patients who visited a doctor's office at least one time in the previous 12 months reported that health providers always treated them with respect (58.4 percent, always, 31.8 percent, usually; and 9.8 percent sometimes or never). People aged 65 and older were more likely than adults under 65 to report being treated with respect.
- Among people aged 18-64, those with private insurance (84.5 percent) were more likely to say it was no problem getting needed care compared with those who had only public coverage (71.5 percent) and the uninsured (72.9 percent).

Additional information about these new quality-of-care measures is available on the AHRQ Web site at www.meps.ahrq.gov/PrintProducts/PrintProd_Detail.asp?ID=149. Information about MEPS in general is available at www.meps.ahrq.gov. More information about CAHPS® is available online at www.ahrq.gov/qual/cahpsix.htm. ■

Expanded Web site will help primary care physicians diagnose smallpox, anthrax, and other bioterrorism-related infections

A Web site sponsored by the Agency for Healthcare Research and Quality is being expanded to help 265,000 primary care physicians across the country learn how to diagnose and treat rare infections and exposures to bioterrorism agents such as smallpox and anthrax. When it was launched in January, the Web site was the first of its kind to offer free continuing education credits in bioterrorism preparedness to 50,000 hospital-based clinicians.

An additional $400,000 in funding is being made available to expand the Web site's educational modules and make them accessible to an additional 265,000 office-based internists, family physicians, pediatricians, and dermatologists. This brings to 315,000 the total number of clinicians who can use the site.

Designed by researchers in the Center for Disaster Preparedness at the University of Alabama at Birmingham (UAB) under a contract from AHRQ, the site currently offers five online courses for hospital emergency department physicians, nurses, radiologists, pathologists, and infection control practitioners. Courses cover identification of potential bioterrorism agents and commonly associated syndromes, including smallpox and anthrax.

During the Web site's first 4 months of operation, there were more than 580,000 visits to the site, and more than 700 providers earned continuing education credits. There currently is no cost to take the courses, and each offers 1 hour of continuing education credit. The Web address is www.bioterrorism.uab.edu.

Courses were developed by a diverse group of researchers and clinicians representing various fields, including emergency medicine, health administration, public health, nursing, and education. Lead investigators for the project are Thomas Terndrup, M.D., Professor and Chair of the Department of Emergency Medicine at UAB and Director of UAB's Center for Disaster Preparedness, and Norman Weissman, Ph.D., Professor of Health Services Administration and Medicine and Director of UAB's Center for Outcomes Research and Education. ■

AHRQ announces availability of two new publications

The Agency for Healthcare Research and Quality has announced the availability of two new publications: an easy-to-read consumer brochure on preventing medical errors and a guide for clinicians to help them implement clinical preventive services in their practices. See the back cover of *Research Activities* for ordering information.

Ways You Can Help Your Family Prevent Medical Errors! This new easy-to-read, illustrated brochure describes the things individuals and families can do to decrease the likelihood that they will become victims of a medical error. Clinicians and organizations may request up to 100 copies of this brochure (AHRQ Publication No. 01-0017) free of charge.*

A Step-by-Step Guide to Delivering Clinical Preventive Services: A Systems Approach. This is the newest publication from AHRQ's Put Prevention Into Practice Program. Intended for use in primary care settings, it describes easy-to-follow, logical steps for establishing preventive care protocols; defines staff roles for delivering and monitoring preventive care; determines patient and material flow; and readjusts delivery and system standards. The guide breaks the process of delivering clinical preventive services into small, manageable tasks and provides practical tools such as worksheets, health risk profiles, and preventive care flow sheets that can be customized for use in various clinical settings. The guide was adapted from materials produced by the Texas Department of Health and is based on scientific and empirical evidence.

In addition to the guide, the PPIP program offers other patient and provider materials that support the delivery of clinical preventive services in the primary care setting. The PPIP program, based on the recommendations of the U.S. Preventive Services Task Force, helps clinicians deliver appropriate preventive services in clinical practice and tells patients which preventive services they should expect their health care professionals to provide.

Single copies of the implementation guide (AHRQ Publication No. APPIP 01-0001) are available free from AHRQ.* You can access the guide and other PPIP materials online and get more information about AHRQ prevention programs. Go to the AHRQ Web site at www.ahrq.gov/clinic/prevenix.htm. ■

Berlin, J.A., Santanna, J., Schmid, C.H., and others. (2002). "Individual patient- versus group-level data meta-regressions for the investigation of treatment effect modifiers: Ecological bias rears its ugly head." (AHRQ grant HS10064). ***Statistics in Medicine*** **21, pp. 371-387.**

Most meta-analyses of multiple studies are undertaken with published, group-level data. These investigators explored a real-world example (benefits of anti-lymphocyte antibody induction therapy among renal transplant patients) for which both group-level and individual patient-level data were available and compared the conclusions reached through both methods. They focused on whether there were subgroups of patients in whom therapy might prove particularly beneficial. The endpoint studied was allograft failure within 5 years. The patient-level analysis revealed that treatment was significantly more effective among patients with elevated (20 percent or more) panel reactive antibodies. These patients comprised a small subgroup of patients (15 percent) who benefitted from therapy. The group-level analysis failed to detect this interaction. The researchers suggest the use of individual patient data in meta-analyses to avoid the potential for ecological bias introduced by group-level analysis.

Hollingworth, W., Deyo, R.A., Sullivan, S.D., and others. (2002). "The practicality and validity of directly elicited and SF-36 derived health state preferences in patients with low back pain." (AHRQ grant HS09499). ***Health Economics*** **11, pp. 71-85.**

Many clinical trials now incorporate more than one measure of health-related quality of life. Some of these measures are: disease-specific instruments; generic health profiles (for example, the SF-36); preference-based indexes, for example, the standard gamble (SG) and time trade-off (TTO); and the non-choice-based visual analogue scale (VAS). These authors compared the practicality and validity of SF-36 derived preference scores with directly elicited TTO and VAS scores in a group of patients with low back pain. Choice-based methods (SG and TTO) yielded higher and more uniform estimates of preference than non-choice methods. Directly elicited TTO values were variable and had less power to distinguish among patients with differing severity of low back pain. SF-36 derived preferences demonstrated good practicality and construct validity in this setting. However, different methods will yield disparate estimates of marginal benefit. A standardized algorithm for deriving SF-36 preference scores is needed.

Meenan, R.T., Goodman, M.J, Fishman, P.A., and others. (2002, January). "Issues in pooling administrative data for economic evaluation." (AHRQ National Research Service Award training grant HS00069 and fellowship F32 HS00072). ***American Journal of Managed Care*** **8(1), pp. 45-53.**

Economic evaluations, which increasingly are being tailored to the perceived needs of health maintenance organizations (HMOs), are steadily gaining acceptance by policymakers responsible for health care resource allocation. This encourages use of HMO administrative data as an efficient source of resource use and cost measures. The best alternative to a nationally representative data set is to pool administrative data from multiple sites within one database. However, pooling administrative data is problematic because HMO data sources reflect differences in systems of care, costs, and coding. These authors describe issues inherent in the pooling of HMO administrative cost data for use in multisite economic evaluations. They describe the attributes of administrative data that are relevant to costing, discuss their implications for multisite economic evaluations, and offer suggestions for researchers working with such data.

Mukamel, D.P., Dick, A., and Spector, W.D. (2001). "Specification issues in measurement of quality of medical care using risk adjusted outcomes." ***Journal of Economic and Social Measurement*** **26, pp. 267-281.**

Governments and private organizations recently have begun publishing "report cards" that compare quality of hospitals, physicians, and health care plans. These report cards often include quality measures based on risk adjusted health outcomes of the patients treated by each health care provider. Until now, concerns about the accuracy of such measures have focused on their risk adjustment methodology and small sample sizes. These investigators raise a third issue related to the definition of quality measures as either the difference between observed and predicted outcome rates or the ratio between these rates. They present a theoretical analysis of the properties of the two measures. The

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researchers show that the two risk-adjusted outcome measures of quality may lead to different conclusions about relative quality among providers. They conclude that the choice of measure to be used depends on the underlying relationship between patient risks and quality of care in determining health outcomes. Reprints (AHRQ Publication No. 02-R053) are available from AHRQ.**

Mukamel, D.B., and Spector, W.D. (2002). "The competitive nature of the nursing home industry: Price mark ups and demand elasticities." ***Applied Economics*** **34, pp. 413-420.**

The demand for nursing home care is due primarily to Medicaid and private pay residents, who accounted for over 95 percent of all nursing home residents in New York State in 1991. The Medicaid demand is perfectly price elastic because the Medicaid payment rate is set by State Medicaid programs and is the same for all residents. On the other hand, private pay demand has been assumed in previous studies to be downward slowing, reflecting competitive market structure. Nursing home markets are likely to deviate from a competitive structure because of limitations on nursing home entry imposed by Certificate of Need (CON) regulations and the potential for product differentiation along such attributes as location, religious affiliation, and quality. These authors examine the structure of nursing home markets in New York by calculating price mark ups and residual private pay demand elasticities, an approach that allows estimation of demand elasticities in all markets whether or not CON regulations constrain bed supply. They show that the residual demand elasticity is bound by estimates based on price mark ups above marginal costs and above Medicaid rates. Reprints (AHRQ Publication No. 02-R052) are available from AHRQ.**

Normand, S.T., and Zhou, K.H. (2002). "Sample size considerations in observational health care quality studies." (AHRQ grant HS09487). ***Statistics in Medicine*** **21, pp. 331-345.**

Unlike cluster randomization trials, where clusters often are randomized to interventions to learn about individuals, the target of inference in health care quality studies is the cluster. These authors discuss approaches to sample size determination to compare providers when designing observational studies of health care quality. They focus on process-based measures because this approach has been widely adopted by many regulatory agencies and health plans. They use data from a study designed to develop and test a set of outpatient quality measures across a continuum of care sites, payment systems, and data sources for patients with cardiovascular disease. Drawing from experience gained from this study, they briefly review methods for calculating sample size using marginal models, but the focus is on hierarchical binomial models. The researchers conclude that investigators interested in comparing clusters should use hierarchical models.

Zhan, C., Sangl, J., Meyer, G.S., and Zaslavsky, A.M. (2002). "Consumer assessments of care for children and adults in health plans. How do they compare?" ***Medical Care*** **40(2), pp. 145-154.**

The Consumer Assessment of Health Plans Study (CAHPS®) surveys include an adult version and a child version for parents or caretakers to rate children's care in health plans. This study examined how adult and child assessments differed in ranking health plans. The researchers used data from 136 commercial health plans participating in the National CAHPS Benchmarking Database, which included 80,539 adults and 40,003 children. They compared mean assessments for adults and children on four global ratings and five composites and determined respondent characteristics predictive of these assessments. CAHPS scores for children were significantly higher than those for adults, except for customer service (lower for children) and specialist ratings. There was fair to moderate agreement between adult and child mean scores in ranking health plans. Since adult and child CAHPS surveys provide similar scores and plan rankings on many aspects of care, consumers who are concerned with quality of care for children may to some degree rely on results of the adult survey. Reprints (AHRQ Publication No. 02-R047) are available from AHRQ.** ■

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