



Research Activities

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Certain patients are less likely than others to undergo needed angiography after heart attack

Coronary angiography, a diagnostic procedure that x-rays the heart anatomy and blood vessels after infusion of a contrast dye, is critical to patient care following a heart attack. It helps physicians visualize the extent of heart damage and narrowing of blood vessels following the attack to determine the need for coronary artery bypass graft (CABG) surgery or coronary angioplasty. Nevertheless, a recent study found that 42 percent of people who suffered a heart attack (acute myocardial infarction, AMI) from various U.S. regions did not undergo needed coronary angiography following the attack.

The study, which was supported by the Agency for Healthcare Research and Quality (HS08071), showed that underuse of the procedure ranged from 24 to 58 percent across regions. Disparities in care were related both to sociodemographic factors and the technological capabilities of hospitals. However, regional variation in underuse was not related to regional differences in patient or hospital characteristics.

Researchers from Harvard University, Brigham & Women's Hospital, Boston University, and St. Louis University used data from the Cooperative Cardiovascular Project on 9,458 Medicare patients in 95 hospital referral regions in seven States. The patients were hospitalized for AMI in 1994 and 1995, and angiography was rated necessary based on clinical criteria. The researchers calculated underuse of the procedure based on patient and hospital characteristics.

The odds of not undergoing necessary angiography were 49 percent higher among black patients compared with white patients and 28 percent higher among females compared with males. Among patients treated by a generalist physician, the odds of not undergoing necessary angiography were more than twice that of patients treated by a cardiologist.

Patients treated at a hospital with angiography or angiography and CABG services were much more likely to receive needed angiography than those treated at hospitals that lacked these

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Angiography after heart attack

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capabilities. Finally, patients with certain clinical characteristics—such as prior CABG surgery, congestive heart failure, and renal

insufficiency—were less likely to undergo angiography. However, some of these conditions may make the procedure more risky than beneficial and may represent appropriate clinical judgment.

More details are in “Understanding individual and

small area variation in the underuse of coronary angiography following acute myocardial infarction,” by Pushkal P. Garg, M.D., Mary Beth Landrum, Ph.D., Sharon-Lise T. Normand, Ph.D., and others, in *Medical Care* 40(7), pp. 614-626, 2002. ■

Cardiovascular Disease

Aspirin is a cost-effective therapy to prevent a second heart attack or stroke

Antiplatelet medications like aspirin, which reduce blood-coagulating platelets, lower by 30 percent the rate of another heart attack, stroke, or death from vascular causes among patients who have previously suffered from these coronary heart disease (CHD) problems. Clopidogrel, another antiplatelet medication, also reduces the relative risk of these CHD problems in patients with prior cardiovascular disease, but it has much higher daily costs than aspirin.

Use of aspirin for the secondary prevention of CHD is cost effective, but use of the more expensive clopidogrel is currently unattractive, unless restricted to patients who are ineligible for aspirin, according to

a study that was supported in part by the Agency for Healthcare Research and Quality (HS06258).

Researchers in Switzerland, the Netherlands, and in the United States at Harvard and the University of California, San Francisco, carried out the study. They used a computer simulation of the U.S. population with CHD over age 35. They estimated the cost-effectiveness of four strategies to reduce the rate of cardiovascular events in these patients over the period 2003-2027. The strategies studied were aspirin for all eligible patients (not allergic or intolerant to aspirin), aspirin for all eligible patients plus clopidogrel for patients who were ineligible for aspirin, clopidogrel for all patients, and the combination of aspirin and clopidogrel for all patients.

The extension of aspirin therapy from the current levels of use to all eligible patients for 25 years would have an estimated cost-effectiveness ratio of about \$11,000 per quality-adjusted life year (QALY) gained. The addition of clopidogrel for the 5 percent of patients who are ineligible for aspirin would cost about \$31,000 per QALY gained. Clopidogrel alone in all patients or in routine combination with aspirin had an incremental cost of more than \$100,000 per QALY gained and remained financially unattractive across a wide range of reasonable assumptions. Except in highest risk patients, clopidogrel became relatively cost effective (less than \$50,000 per QALY gained) only if its cost was reduced substantially.

See “Cost effectiveness of aspirin, clopidogrel, or both for secondary prevention of coronary heart disease,” by Jean-Michel Gaspoz, M.D., Pamela G. Coxson, Ph.D., Paula A. Goldman, M.P.H., and others, in the June 6, 2002 *New England Journal of Medicine* 346(23), pp. 1800-1806. ■

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Disparities Research

Poor health literacy may contribute to excess diabetes-related complications among disadvantaged groups

People with type 2 diabetes are often called upon to self-manage their chronic disease. They must interpret blood sugar values to monitor blood glucose, manage multiple medications, visit several providers, maintain foot hygiene (due to poor sensation and circulation), adhere to diet and meal plans, and exercise. Patients who have problems reading materials such as prescription bottles, educational brochures, and nutrition labels are more likely than patients with diabetes who are more literate to have poor blood-sugar control and higher rates of diabetes-related complications, according to a study supported by the Agency for Healthcare Research and Quality (HS10856).

Strategies are needed to enhance communication with disadvantaged diabetes patients, who often are poorly educated, immigrants, elderly, or members of minority groups. Poor health literacy may contribute to the greater burden of diabetes-related complications seen

among these patients, suggest the researchers who conducted the study. They used the short-form Test of Functional Health Literacy in Adults (TOFHLA) in English and Spanish to assess the health literacy of 408 patients from two public-hospital-affiliated primary care clinics who had type 2 (adult-onset) diabetes. They compared the TOFHLA scores with clinical data and the presence of self-reported diabetes complications, such as retinopathy (eye disease).

After adjusting for other socioeconomic and clinical factors affecting glycemic control, patients with inadequate health literacy had nearly one-half the odds of patients with adequate health literacy of achieving tight glycemic control (hemoglobin HbA_{1c} of 7.2 percent or less) and a two-fold greater odds of having poor glycemic control (HbA_{1c} of 9.5 percent or more) and to report having retinopathy. A similar association between health literacy and other self-reported

diabetes complications did not reach statistical significance.

More details are in "Association of health literacy with diabetes outcomes," by Dean Schillinger, M.D., Kevin Grumbach, M.D., John Piette, Ph.D., and others, in the July 24, 2002 *Journal of the American Medical Association* 288(4), pp. 475-482. ■

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Researchers examine variations in asthma medication use

Asthma is more prevalent and usually less well-controlled among poor children, especially among racial and ethnic minorities. In fact, underuse of recommended antiinflammatory medications to control persistent asthma (controller medications) is widespread among poor children insured by Medicaid managed care plans, according to a study

supported by the Agency for Healthcare Research and Quality (HS09935). The researchers also found that underuse of controller medications was less likely when indicators of quality care were present (i.e., usual source of care, specialist care, and a written action plan).

A second AHRQ-supported study (National Research Service

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Asthma medication use

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Award training grant T32 HS00063) recommends a better way to identify whether patients are being prescribed asthma medication and whether they are using a sufficient amount of the medication. Both studies are described here.

Finkelstein, J.A., Lozano, P., Farber, H.J., and others. (2002, June). "Underuse of controller medications among Medicaid-insured children with asthma." *Archives of Pediatric and Adolescent Medicine* 156, pp. 562-567.

Antiinflammatory (controller) medications such as inhaled corticosteroids or mast-cell stabilizers are recommended on a regular basis to control persistent asthma. However, these researchers found widespread underuse of these controller medications by Medicaid-insured children, especially those who are black, Hispanic, or have parents with less than a high school education. The researchers surveyed the parents of 1,648 children and adolescents aged 2 to 16 years with asthma, who were insured by one of five geographically dispersed Medicaid managed care plans. The survey included demographic factors, number of symptomatic days in the prior 2 weeks, and medication use. The researchers also identified the child's Physical Function Score on the American Academy of Pediatrics (AAP) Child Health Status Assessment of Asthma.

Children who had asthma symptoms such as cough, wheeze,

shortness of breath, or limited activity on 5 or more days during the past 2 weeks and those who were using daily controller medications were considered to have persistent asthma. Guidelines recommend that these children (more than 2 symptom-days per week) use daily controller medications. Of the 1,083 children with persistent asthma, 73 percent underused controller therapy, 49 percent reported no controller use, and 24 percent reported less than daily use.

A model that adjusted for age, managed health care organization, and AAP Physical Function Score found that blacks and Hispanics were at substantially increased risk of underuse of controller medications, and that parental education beyond high school reduced the risk by 40 percent. Children with persistent asthma who were less likely to underuse controller medications were those who had a primary care doctor, a written action plan about which medications to use depending on symptom severity or a followup visit, or had seen an asthma specialist. The underlying reasons for underuse of controller agents remains unclear.

Glauber, J.H., and Fuhlbrigge, A.L. (2002, May). "Stratifying asthma populations by medication use: How you count counts." *Annals of Allergy, Asthma, and Immunology* 88, pp. 451-456.

It is important to identify asthma patients who overuse bronchodilators that quickly open the airways (an indication that their

asthma is not controlled) or underuse antiinflammatory medications (the controller medications of choice) so that they can be targeted for programs to improve their use of controller medications and perhaps avert costly hospital and emergency department use. This study concludes that a novel canister-equivalent method for counting dispensed asthma medications yields different and more accurate profiles of medication underuse than simple asthma medication counts.

The investigators compared two methods for counting the use of bronchodilators and antiinflammatory medication among adult and pediatric asthma patients receiving care at one of 14 health maintenance organization practices. One approach used simple counts of dispensed medication. The alternative, canister-equivalent method standardized these medications based on variation in both potency and medication days supplied per prescription. Inhaled antiinflammatory medications vary in potency, recommended daily dose, quantity of medication per canister, and ultimately in days of medication supplied. Bronchodilators may be administered orally, by metered-dose inhaler, or by nebulizer. The canister-equivalent method determined the days supplied of a particular formulation based on the defined daily dose, that is, the amount of daily medication used at recommended doses.

Relative to simple counts, the canister-equivalent method resulted

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Asthma medication use

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in a 40 percent increase in the population identified as having high bronchodilator use and chronic antiinflammatory

medication use. When stratified by each method, 36 percent of physicians were assigned to different quartiles of the antiinflammatory:bronchodilator prescribing ratio. Specifically, nearly one-fifth of physicians

placed in the lowest quartile by the simple-count method, and potentially targeted for educational outreach to improve prescribing, were placed in higher quartiles by the canister-equivalent method. ■

Almost three-fourths of rural residents with HIV or AIDS go to urban areas for health care

Of the estimated 231,000 adults who received care for HIV infection during the first 2 months of 1996, only 4 percent lived outside of a metropolitan area. Yet nearly three-fourths of these rural residents received HIV/AIDS health care in urban areas. The majority of these patients (85 percent) said that their urban care was not conveniently located, they had twice the mean travel times of patients with rural providers, and over 25 percent had put off obtaining care in the past 6 months because of travel considerations.

Seeking urban care clearly places a huge burden on this group and suggests some inadequacy in rural HIV care, conclude Martin F. Shapiro, M.D., Ph.D., of RAND and the University of California, Los Angeles, and Samuel A. Bozzette, Ph.D., of RAND and the University of California, San Diego. They are co-principal investigators of the HIV Cost and Services Utilization Study (HCSUS), a nationally representative sample of HIV-infected adults receiving care in the United States that is supported in part by the Agency for Healthcare Research and Quality (HS08578).

The study reported here was limited to people who made at least one visit for HIV/AIDS care during a 2-month period in early 1996. The number of providers

available and the providers' level of HIV experience seemed to drive decisions to seek urban or rural care. For example, 84 percent of those rural residents who traveled to an urban usual source of care (USOC) characterized their provider as one who primarily cared for people with HIV/AIDS compared with half of those using a rural USOC. Also, the mean number of physicians per 1,000 population was almost twice as high in the counties where people receiving care at a rural USOC resided compared with those counties where people with an urban USOC resided.

Surprisingly, use of HIV medications was similar across these urban and rural settings (68 percent at urban USOCs vs. 63 percent at rural USOCs). The researchers caution that they were not able to account for the location of the closest HIV clinic, the prevailing attitude toward HIV in a given community, or other factors that may have affected the chosen site of care.

See "Where to seek care: An examination of people in rural areas with HIV/AIDS," by Claudia L. Schur, Ph.D., Marc L. Berk, Ph.D., Jennifer R. Dunbar, M.H.S., and others, in the Spring 2002 *Journal of Rural Health* 18(2), pp. 337-347. ■

Health Care Decisionmaking

Family attitudes and patient wishes, not timing of the request, usually determine consent for organ donation

When a loved one is dying from an irreversible neurological brain injury, family members weigh a number of factors in deciding whether to donate their loved one's organs. Timing of the organ donation

request from health professionals makes little difference. Rather, active consideration of the patient's donation wishes and a clear understanding of the family's initial inclination toward donation are strongly associated with organ

donation consent, according to findings from a large national study supported in part by the Agency for Healthcare Research and Quality (HS08209).

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Organ donation

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Laura A. Siminoff, Ph.D., and colleagues at Case Western Reserve University School of Medicine used data from a study of 420 organ donor-eligible patients and their families from nine trauma hospitals to examine factors affecting families' decisions about organ donation at the time of a family member's death. They conducted in-depth interviews with family members, health professionals, and organ procurement organization staff involved in the process.

Some previous studies have suggested that asking families about organ donation after their loved one has died (often referred to as "decoupling"), instead of before or at the time of death, would increase consent for organ donation. However, Dr. Siminoff and colleagues found only a weak effect for timing on the donation decision and not the one generally reported. Families donated most frequently when donation was raised prior to declaration of death (near determination of brain death), followed by after the declaration of death.

A family was more likely to consent to organ donation if the

donor patient was younger, the family had stronger positive attitudes about donation, and the family felt that they had enough information about the patient's wishes. Donation was also associated with the health care professional understanding the family's initial response (favorable, unsure, or not favorable) to the request for organ donation.

More details are in "Decoupling: What is it and does it really help increase consent to organ donation?" by Dr. Siminoff, Renee H. Lawrence, Ph.D., and Amy Zhang, Ph.D., in the March 2002 *Progress in Transplantation* 12(1), pp. 52-60. ■

Quality Improvement

Changing the process for administering drugs and fluids during surgery could improve anesthesia care

Providing anesthetized patients with intravenous drugs and fluids during surgery is a complex process. Syringes must be prepared individually, and several doses of up to 20 different drugs may be administered intravenously during a single case. Furthermore, resuscitation drugs (for example, ephedrine or atropine) may be needed in the event of intraoperative emergencies.

Unfortunately, current processes for administering intravenous drugs and fluids in the operating room are inefficient and may predispose to medical error. A reengineering approach to these processes could improve anesthesia care, according to a study supported in part by the Agency for Healthcare Research and Quality (HS11375 and HS11521).

Researchers from the University of California, San Diego (UCSD), and the Veterans Medical Research Foundation had an operating room observer categorize 20 anesthesia providers' activities during 35 surgeries into 66 drug/fluid tasks to identify errors and inefficiencies. The observer studied both initial operating room set up at the beginning of a typical work day and cardiac and noncardiac general anesthesia cases. Drug/fluid tasks consumed almost 50 and 75 percent, respectively, of the set-up for noncardiac and

cardiac cases, with drug preparation far outweighing drug administration tasks.

Often, anesthesiologists found it difficult to acquire needed drugs due to poorly organized anesthesia carts and mislabeled or illegibly labeled medications. Their work surfaces, typically the top of the anesthesia cart, were small and usually cluttered. Added to these drug preparation problems were administration problems such as infusion device failure, leaking or maladjusted stopcocks (which can interfere with intravenous fluid flow), and tangled intravenous lines. Existing infusion systems were bulky, heavy, awkward, and did not communicate effectively with each other or other medical devices.

Improving anesthesia supply systems and development of new technologies for drug packaging, drug/fluid delivery, and information management are critical to improving anesthesia care, conclude the researchers. The research team was led by Matthew B. Weinger, M.D., director of the San Diego Center for Patient Safety and professor of anesthesiology at UCSD.

See "Reengineering intravenous drug and fluid administration processes in the operating room," by Deborah B. Fraind, B.S., Jason M. Slagle, M.S., Victor Tubbesing, B.S., and others, in the July 2002 *Anesthesiology* 97(1), pp. 139-147. ■

Consumers may be willing to accept restrictions on provider access in exchange for very high quality of care

Consumers may be willing to accept restricted access to health care providers if a plan provides very high quality of care, concludes a study supported by the Agency for Healthcare Research and Quality (T31 HS00046 and HS10367). This implies that relatively small plans that restrict provider access can successfully compete against less restrictive plans when they can demonstrate high quality. However, based on the results of this study, the level of quality required for consumers to accept access restrictions may be so high as to be unattainable, notes study author, Katherine M. Harris, Ph.D., of RAND.

Dr. Harris administered a survey to 206 relatively affluent and healthy adults in Los Angeles. Participants had private insurance

obtained through an employer or purchased individually, which asked respondents to make choices among hypothetical sets of plan alternatives. She examined the impact of consumer and expert evaluations of network provider quality of care and network features (percent of local doctors in the network, out-of-network coinsurance, ability to see a specialist without a referral, and presence of one's personal doctor in the network) on respondents' hypothetical willingness to enroll in health plans with restrictive provider networks.

Respondents used both expert and consumer assessments of quality when available. However, the quality ratings were less important than access to specialists and having one's own doctor in the network. Even a 100 percent point

difference was not sufficient to make respondents indifferent to restricted access in a high quality plan. The only quality measure as influential as either of these two network features was satisfaction with results of care. Quality ratings based on the proportion of survey respondents who were extremely satisfied with the results of care had the greatest impact on plan choice, while the proportion of network doctors affiliated with university medical centers had the least.

See "Can high quality overcome consumer resistance to restricted provider access? Evidence from a health plan choice experiment," by Dr. Harris, in the June 2002 *Health Services Research* 37(3), pp. 551-571. ■

Health plan report cards may have limited relevance for certain vulnerable patient groups

The purpose of releasing public data on the quality of various health insurance plans, so-called report cards, is to empower consumers to make informed health plan choices. However, this information may offer little to patients from vulnerable groups, such as the poor, poorly educated, minorities, and those who are chronically ill, according to A. Eugene Washington, M.D., M.Sc., of the University of California, San Francisco.

In a recent commentary on the subject, Dr. Washington and his colleagues cite several areas of concern. For example, these vulnerable groups are among those

least likely to have health care choices in the first place and are less likely to access and be able to make sense of the data. The areas of health care measured may have only limited relevance to their everyday health concerns. Also, these vulnerable patients are likely to have been underrepresented in the samples from which the measures were calculated, which may not reflect the sorts of experiences that they can expect from the same health plans.

The public release of data skewed away from the interests of vulnerable patient groups may further enhance neglect of services for them, if indeed, "what gets measured gets attention." Finally,

for fear of looking bad in publicly released data, health plans and providers may avoid caring for hard-to-manage individuals, whose care costs are often higher and whose outcomes are poorer.

The researchers, whose work was supported by the Agency for Healthcare Research and Quality (HS07373), recommend development of new measures relevant to vulnerable groups, for example, how health plans perform in the care of sickle-cell disease or access to culturally appropriate care. They also suggest oversampling of minority groups and stratifying the data (for

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Health plan report cards

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example, by age, ethnicity, or socioeconomic status) to highlight the care of those with distinctive health care experiences and comparing care of similar groups

in similar organizations. They further recommend that reimbursement strategies account for the difficulties and excess costs associated with caring for those in hard-to-manage groups.

See "Health care report cards: Implications for vulnerable patient

groups and the organizations providing them care," by Huw T.O. Davies, M.A., M.S.C., Ph.D., Dr. Washington, and Andrew B. Bindman, M.D., in the June 2002 *Journal of Health Politics, Policy and Law* 27(3), pp. 379-399. ■

Health Care for the Elderly

Elderly patients often discontinue use of cholesterol-lowering drugs that help to prevent heart problems and stroke

Lipid-lowering statin drugs substantially reduce the incidence of coronary heart disease-related problems and death as well as strokes in both elderly and non-elderly patients who remain on the medications for an average of 5 years. Unfortunately, many elderly patients stop taking statin drugs within the first 6 months of therapy.

Interventions that encourage maintenance of statin treatment (for example, patient education, counseling, reminders, and reinforcement) should be instituted early in treatment and among patients who are more likely to quit therapy, according to the first study to observe statin use in routine care settings. The study was supported in part by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00020).

Led by Milton C. Weinstein, Ph.D., of the Harvard School of Public Health, the researchers studied statin use among 34,501 elderly patients enrolled in the New Jersey Medicaid and Pharmaceutical Assistance to the Aged and Disabled programs who began statin treatment between 1990 and 1998. They followed these patients until death, disenrollment, or December 31, 1999. They examined the proportion of days covered

(PDC) by a statin in each quarter during the first year of therapy and every 6 months thereafter.

About 75 percent of patients did not maintain a PDC of at least 80 percent after 5 years, which is much higher than the 6 to 30 percent 5-year discontinuation rates reported in clinical trials. The proportion of patients with a PDC less than 80 percent increased in a linear fashion, accounting for 40, 61, and 68 percent of the group after 3, 12, and 120 months, respectively. Among elderly patients, those less likely to continue long-term therapy were black, older than 75 years, had lower income, had fewer cardiovascular problems when they began therapy, suffered from depression or dementia, or suffered from coronary heart disease problems such as a heart attack after starting treatment (perhaps because they perceived the drug to be ineffective).

More details are in "Long-term persistence in use of statin therapy in elderly patients," by Joshua S. Benner, Pharm.D., Sc.D., Robert J. Glynn, Ph.D., Sc.D., Helen Mogun, M.S., and others, in the July 24, 2002 *Journal of the American Medical Association* 288(4), pp. 455-461. ■

Pneumonia and influenza vaccination rates continue to be suboptimal among elderly inner city residents

Half of all pneumonia-related deaths occur among people 65 years of age and older, and elderly people are more likely than younger people to die from influenza. Despite this, a recent study of inner city neighborhood health centers in Pittsburgh found

that only 60 percent of elderly blacks and 79 percent of elderly whites were vaccinated against influenza. Furthermore, only 59 percent of elderly blacks and 70 percent of elderly whites were vaccinated against pneumonia.

Blacks were less likely than whites to think that their doctors would want them to be vaccinated against influenza (83 vs. 93 percent), and they were more likely to say that pneumonia vaccination

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Vaccination rates

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(which is only needed one time) was more trouble than it was worth (21 vs. 10 percent). However, there were few other significant differences between blacks and whites in health beliefs about vaccinations, according to the study. The study was supported by the Agency for Healthcare Research and Quality (HS09874 and HS10864).

Richard K. Zimmerman M.D., M.P.H., and his colleagues at the University of Pittsburgh surveyed 220 people aged 66 and older—most of whom were poor but

insured women—who were randomly selected from Pittsburgh neighborhood health centers in 2000. They were asked about their vaccination status as well as their beliefs about the risks, benefits, and need for these vaccinations.

Almost all respondents were aware of recommendations for the elderly to receive the influenza vaccine, but about half said they knew little about the pneumonia shot. Immunization rates varied substantially by practice site. Nearly all those interviewed said it was easy to get to a place to be vaccinated, but only two-thirds knew that Medicare covered the cost of these vaccines. The most

common reason for not being vaccinated was the belief that they were not likely to contract the disease. The researchers recommend that health centers offer walk-in influenza vaccine clinics in the fall and use standing orders to vaccinate any elderly men and women who have not been vaccinated against pneumonia.

See “Immunization rates and beliefs among elderly patients of inner city neighborhood health centers,” by Dr. Zimmerman, Tammy A. Mieczkowski, Ph.D., and Stephen A. Wilson, M.D., in the April 2002 *Health Promotion Practice* 3(2), pp. 197-206. ■

Many prostate biopsies are done on very elderly men who are less likely than younger men to benefit from treatment

Most authorities, even those that recommend prostate cancer screening, agree that screening does not make sense for elderly men whose life expectancy is less than 10 years. That's because these men are much more likely to die from a cause other than slowly progressive prostate cancer. Yet more than 20 percent of prostate biopsies, usually done as a followup to abnormal prostate-specific antigen (PSA) tests, are being done on this group, according to a recent study that was supported by the Agency for Healthcare Research and Quality (HS08397).

These men are very unlikely to benefit from the biopsy or subsequent treatment. In fact, 40 percent of men with limited life expectancy will die or be hospitalized within the year following biopsy. Doctors should clearly communicate to these men that a PSA

test and prostate biopsy are very unlikely to be helpful to them, suggests Michael J. Barry, M.D., of Massachusetts General Hospital, principal investigator of the Prostatic Diseases Patient Outcomes Research Team (PORT-II) project.

Dr. Barry and his colleagues examined a 5 percent sample of Medicare claims for 1993 through 1997 for use of prostate biopsy in men aged 65 and older, who had no known history of prostate cancer. They found that 22 percent of those who underwent a prostate biopsy had a limited life expectancy (80 years or older or age 65-79 with a coexisting condition). This corresponded to a rate of 1,420 biopsies per 100,000 men, compared with a rate of 2,360 per 100,000 men with a life expectancy of 10 years or more (age 65-79

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Prostate biopsies

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without coexisting conditions). This biopsy rate did not change substantially between 1993 and 1997.

Men with limited life expectancies were less likely to undergo prostate cancer treatments and more likely to be hospitalized after biopsy. In the year after biopsy, 1.6 percent of these men had radical prostatectomy, 2.3 percent had external-beam radiation, and 39 percent were hospitalized compared with 9.2 percent, 3.6

percent, and 24 percent, respectively, of men with greater life expectancy. Rates of transurethral resection of the prostate were similar for both groups (5.5 vs. 5.1 percent).

See "Prostate biopsies in men with limited life expectancy," by John H. Wasson, M.D., Thomas A. Bubolz, Ph.D., Grace Lu Yao, Ph.D., and Dr. Barry, in the May 2002 *Effective Clinical Practice* 5(3), pp. 137-142. ■

More elderly patients are receiving eye care, but Medicare costs have remained constant

A greater proportion of elderly patients insured by Medicare fee-for-service (FFS) plans received eye care in 1998 than in 1991. However, overall Medicare eye care costs did not increase during the 8-year period, since the amount Medicare reimbursed for eye care services per beneficiary (allowable charges) declined.

The proportion of beneficiaries receiving eye care increased from 41.4 percent to 48.1 percent over the 8-year period. Yet physician charges attributable to eye care decreased from 12.5 percent to 10.4 percent, with annual inflation-adjusted charges per beneficiary decreasing 25 percent from \$235 to \$176 (1998 dollars), according to a study supported by the Agency for Healthcare Research and Quality (Contract 290-95-2002).

In each of the 8 years, 60 percent of eye care involved eye exams and other evaluation and management services. Medicare fees increased for these services, but they decreased for cataract and other surgical procedures, explain Leon B. Ellwein, Ph.D., of the National Eye Institute, and Carol J. Urato, M.A., of Health Economics Research, Inc. They reviewed fee-for-service physician claims from a 5 percent sample of Medicare beneficiaries 65 years of age and older. The researchers compared use of eye care services and procedures, frequency of ocular diagnoses, and allowed charges for each year from 1991 through 1998.

Eye care increased for most of the 16 diagnostic categories. Cataract-related cases were particularly common, with an 18 percent increase in cases between

1991 and 1997 (from 23 to 28 per 100 beneficiaries). Glaucoma cases increased nearly 40 percent from 7 per 100 beneficiaries in 1991 to 10 per 100 beneficiaries in 1998, followed by retinal diseases, which had a 47 percent increase. Much of the decline in the cost of eye care was associated with a decrease in cataract-related charges. Retinal disease claims accounted for 15.4 percent of eye care charges in 1998, up from 10.7 percent in 1991. Glaucoma claims accounted for nearly 10 percent of eye care charges each year.

See "Use of eye care and associated charges among the Medicare population," by Drs. Ellwein and Urato, in the June 2002 *Archives of Ophthalmology* 120, pp. 804-811. ■

Elderly people in rural areas receive fewer home health care services and have worse outcomes than those in urban areas

Elderly men and women who live in rural areas receive fewer services per home health care episode, and they have poorer outcomes than their city-dwelling counterparts, according to a recent study supported by the Agency for Healthcare Research and Quality (HS08031). Robert E. Schlenker, Ph.D., of the University of Colorado Health

Sciences Center, and his colleagues used Medicare data, home health care agency records, and health status assessments by agency nurses to compare home health care use and patient outcomes for a national random sample of 3,869 rural and urban elderly home health care patients in 1995 and 1996. They followed

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Home health care

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the patients for 120 days or until discharge from home care, whichever occurred first.

After adjustment for differences in rural-urban case mix and agency differences, elderly people living in rural areas received fewer mean total visits per home health episode than their urban counterparts (33.7 vs. 35.6), and they received less costly care due to use of fewer high-cost professionals such as physical or occupational therapists (\$2,317 vs. \$2,527). The rural elderly were more likely to receive visits involving less costly resources such as home health aides.

Rural elderly patients also had less favorable outcomes than the urban elderly. Fewer of them were discharged from home health care meeting health goals (38.6 vs. 52.7 percent), and more were hospitalized (30.3 vs. 24.9 percent) or not discharged

(18.5 vs. 10 percent), that is, still needed more home care. Also, average length of stay in home health care was longer for rural patients (54.1 vs. 46.7 days).

These findings may represent adaptation of rural home health providers to rural realities such as lower availability of certain health care personnel (such as physical therapists) and longer travel distances or to the greater amount of informal outside support for rural patients. Rural agencies will likely find it even more challenging to serve the elderly since implementation of prospective payment under which Medicare pays the same amount for a home health care episode (case-mix adjusted) regardless of the services provided, an incentive to limit services.

More details are in "Rural-urban home health care differences before the Balanced Budget Act of 1997," by Dr. Schlenker, Martha C. Powell, Ph.D., and Glenn K. Goodrich, M.S., in the Spring 2002 *Journal of Rural Health* 18(2), pp. 359-372. ■

Organization/Delivery of Health Care

Local clinical hypertension specialists are developing a hypertension reduction plan for their area

About 50 million adults in the United States have hypertension, and about 40 million of these patients do not have their blood pressure controlled to a goal of less than 140/90 mm Hg. This increases their risk of stroke, congestive heart failure, coronary heart disease, and kidney failure.

The American Society of Hypertension's regional chapter in South Carolina has begun a 5-year program in that State to train a network of regional primary care physicians (PCPs) to become certified clinical hypertension specialists. Since patterns of hypertension vary across communities, these local specialists are in the best position to help develop a hypertension reduction plan for their area, suggest the researchers who are from the

Medical University of South Carolina and the Ralph H. Johnson Veterans Affairs Hospital in Charleston. Their research was supported in part by the Agency for Healthcare Research and Quality (HS10871).

The researchers note, for example, that the median age of the population is rising more rapidly in the "Sunbelt," as retirees from the north relocate to warmer climates. The Southeast has a larger percentage of blacks than the United States overall. Both blacks and Hispanics have a higher rate of hypertension than whites. The South Carolina chapter of the American Society of Hypertension anticipates that locally trained hypertension specialists can educate local primary care providers about procedures that promote blood pressure (BP)

control, receive referrals of patients with complicated hypertension, monitor progress in meeting hypertension control goals, provide feedback to clinicians, and participate in multicenter trials. The 5-year plan is to develop a State-wide network of hypertension specialists that includes about 5 percent of PCPs practicing in South Carolina.

For more information, see "American Society of Hypertension regional chapters: Leveraging the impact of the clinical hypertension specialist in the local community," by Brent M. Egan, M.D., Daniel T. Lackland, Ph.D., and Jan N. Basile, M.D., in the April 2002 *American Journal of Hypertension* 15, pp. 372-379. ■

America uses more neonatal intensive care than other developed nations, but infant survival is not consistently better

The United States has substantially greater neonatal intensive care resources per capita than Australia, Canada, and the United Kingdom without having consistently better infant survival, finds a study supported in part by the Agency for Healthcare Research and Quality (National Research Service Award training grant T32 HS00070). This calls into question the effectiveness of the current distribution of U.S. reproductive care resources and its emphasis on neonatal intensive care, according to the Dartmouth Medical School investigators who conducted the study. They compared selected indicators of reproductive care and mortality from 1993-2000 through a systematic review of journal and government publications and interviews with leaders in perinatal and neonatal care in the four countries.

Unlike the United States, the other countries provide free family planning services and prenatal and perinatal physician care, and the United Kingdom and Australia pay for all contraception. The United States has high neonatal intensive care capacity, with 6.1 neonatologists per 10,000 live births; Australia has 3.7; Canada, 3.3; and the United Kingdom, 2.7. The United States also has

3.3 intensive care beds per 10,000 live births; Australia and Canada have 2.6; and the United Kingdom has 0.67.

Compared with the United States, the relative risk of neonatal mortality for infants weighing less than 2.2 pounds was 0.84 (1 is equal risk) for Australia, 1.12 for Canada, and 0.99 for the United Kingdom; for 2.2 to 5 pound infants, the relative risk was 0.97 for Australia, 1.26 for Canada, and 0.95 for the United Kingdom. The notably higher rates of low birthweight infants in the United States account in part for the Nation's high mortality rates. Although neonatal care is indisputably vital to some infants' survival, perhaps there is a threshold where additional neonatal resources yield little measurable benefit, note the researchers. They suggest that the United States maintain level neonatal intensive care resources, while improving funding for preconception and prenatal care.

More details are in "Is more neonatal intensive care always better? Insights from a cross-national comparison of reproductive care," by Lindsay A. Thompson, M.D., M.S., David C. Goodman, M.D., M.S., and George A. Little, M.D., in the June 2002 *Pediatrics* 109(6), pp. 1036-1043. ■

Changes in Medicaid reimbursement have led to increased ER visits by adults to treat emergency dental problems

Poor and minority patients, who suffer from more dental problems than other groups, also are more likely to be insured by State Medicaid health plans than private plans. A change in Maryland's Medicaid policy a decade ago—which eliminated dentist reimbursement for adult emergency services, reducing payments to dentists from about \$7.5 million to \$0—seems to have increased the use of hospital emergency departments (EDs) to treat dental problems ranging from abscesses and cysts to periodontitis and broken teeth. However, more research is needed to determine the overall impact of this policy change on disadvantaged adults, notes Leonard A. Cohen, D.D.S., of the University of Maryland Dental School.

Dr. Cohen, Richard J. Manski, D.D.S., M.B.A., Ph.D., an AHRQ Dental Scholar-in-Residence, and their colleagues analyzed claims data from the Maryland Medicaid Management Information System (which included all Maryland hospitals). They compared patients' use of hospital EDs to treat mouth pain and infections associated with the teeth and periodontal tissues from February 16, 1991 through February 15, 1993 with such ED use after the Medicaid program change (February 16, 1993 through February 15, 1995). A total of 3,639 people visited EDs for treatment of dental problems sometime during the 4-year study period.

Results revealed 12 percent more ED dental-related claims in the postchange period than in the prechange period, after controlling for patient age, race, and sex. Higher

rates of ED claims were seen for men, whites, and patients 21 through 44 years of age. Blacks had 13 percent fewer claims, and those aged 45-64 years and 65 years and older had 61 and 96 percent fewer claims, respectively. The magnitude of this increase nevertheless paled in comparison to the reduction in dentist-provided emergency services that resulted from the policy change and was not sufficient to substitute for the eliminated dentist-delivered services, conclude the authors.

See "Dental visits to hospital emergency departments by adults receiving Medicaid," by Dr. Cohen, Dr. Manski, Laurence S. Magder, Ph.D., and Daniel Mullins, Ph.D., in the June 2002 *Journal of the American Dental Association* 133, pp. 715-724. Reprints (AHRQ Publication No. 02-R086) are available from AHRQ.** ■

Evidence-Based Medicine

Researchers identify practices to prevent problems arising from health care

As one element of a multifaceted response to concerns about patient safety and the risks inherent in medical care, the Agency for Healthcare Research and Quality commissioned the University of California, San Francisco-Stanford University Evidence-based Practice Center (EPC) to develop a compendium of evidence-based patient safety practices. The EPC researchers produced an evidence report that identifies 83 health care safety practices supported by 70 systematic research reviews and 293 additional primary studies.

The EPC defined patient safety practice as a type of process or structure to reduce the probability of adverse events resulting from health care rather than to reduce "medical errors" per se. Safety practices such as computerized physician order entry and strategies to prevent falls among hospitalized elderly patients were based on demonstrated evidence of effectiveness and safety.

Two recent journal articles focus on the EPC's work in this area. The first article describes the methodology used by the EPC in developing the report and discusses some of the pros and cons of applying the principles of evidence-based medicine to patient safety practices. The second article discusses measures that can be taken to reduce the incidence of catheter-related infections in intensive care unit (ICU) patients.

The journal articles are briefly summarized here. The evidence report, *Making Health Care Safe: A Critical Analysis of Patient Safety Practices*, AHRQ Evidence

Report/Technology Assessment No. 43 (AHRQ Publication No. 01-E058) and a summary (AHRQ Publication No. 01-E057b) are available online at www.ahrq.gov and from the AHRQ Publications Clearinghouse.* See the back cover of *Research Activities* for ordering information.

Shojania, K.G., Duncan, B.W., McDonald, K., and Wachter, R.M. (2002, July 24). "Safe but sound: Patient safety meets evidence-based medicine." (AHRQ contract 290-97-0013). *Journal of the American Medical Association* 288(4), pp. 508-513.

The patient safety evidence report, which contains concise summaries of the evidence supporting more than 80 safety practices and a description of the methods employed in developing the report, has generated a substantial amount of attention. More than 500,000 copies have been ordered or downloaded from AHRQ's Web site.

In this article, researchers from the UCSF-Stanford EPC respond to some of the questions and controversies that have emerged following publication of the report. They discuss the definition of patient safety used in developing the report, identify the patient safety practices included in the review, explain how the principles of evidence-based medicine were applied to the patient safety literature, and respond to some of the concerns raised by several experts in the fields of patient safety and quality improvement.

Saint, S., Savel, R.H., and Matthay, M.A. (2002). "Enhancing the safety of critically ill patients by reducing urinary and central venous catheter-related infections." (Based in part on work performed for AHRQ under contract 290-97-0013). *American Journal of Respiratory and Critical Care Medicine* 165, pp. 1475-1479.

Indwelling urinary and central venous catheters (CVCs), commonly used in critically ill patients, are a major source of hospital-induced (nosocomial) infections in ICUs. These infections jeopardize patient safety and lead to unnecessary health care costs.

The EPC researchers identified several proven methods to reduce the incidence of catheter-related infections. For example, use of silver alloy urinary catheters may reduce nosocomial urinary tract infection among critically ill patients. Catheters coated with antibacterial substances other than silver also have been evaluated but to a much lesser extent. Urinary catheters of any type should be discontinued as soon as catheterization is no longer required, aseptic techniques should be used to insert and manage the catheter, and the drainage system should be manipulated as infrequently as possible.

Controlled trials of CVC infections suggest that routine changes of central venous and systemic arterial catheters do not reduce bloodstream infections and appear unnecessary. Also, use of

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Patient safety practices

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maximum sterile barriers during CVC insertion, including sterile gloves, long-sleeved gowns, and full-size drape, as well as a nonsterile mask and often a nonsterile cap, dramatically reduce

CVC infections compared with the usual practice of using only sterile gloves and a sterile small drape. The studies also recommend use of CVCs coated with antimicrobial agents in high-risk patients requiring short-term (2-20 days) catheterization; use of

chlorhexidine gluconate (CHG) as the antiseptic to be applied to the skin at the CVC insertion site; and avoidance of unnecessarily prolonged catheterization and catheterization of the femoral vein. ■

Projects focus on ways to integrate research and evidence into clinical practice

Studies show that only 60 percent of patients with chronic conditions like asthma and diabetes receive recommended care. Yet research has shown that there are effective strategies to manage most of these conditions, and they could help improve patient outcomes if implemented successfully. To accomplish this, it is necessary to translate the findings of well-designed research studies into everyday clinical practice.

Toward that end, the Agency for Healthcare Research and Quality funded 27 Translating Research into Practice (TRIP) grants in 1999 and 2000, which targeted a variety of health care providers, settings, and patients. These projects are summarized in a recent article authored by agency staff. In a second article on integrating research findings into practice, staff from AHRQ and the Centers for Disease Control and Prevention review the evidence on population- and health systems-based interventions for smoking cessation. Both articles are discussed here.

Farquhar, C.M., Stryer, D., and Slutsky, J. (2002). "Translating research into practice: The future ahead." *International Journal for Quality in Health Care* 14(3), pp. 233-249.

This review of the 27 3-year TRIP projects funded by AHRQ in 1999 and 2000 points out that the overall goal of these projects was to evaluate clinical interventions, based on findings derived from sound research, for their effectiveness at changing processes and/or outcomes of care and to demonstrate whether they are sustainable, reproducible, and generalizable. A second goal was to demonstrate that the translation of research into practice leads to measurable and sustainable improvements in health care. The TRIP projects, mostly randomized controlled trials, focused on a wide variety of health care providers, patients, and settings. The framework for change was most often organizational theory or adult learning.

Typical TRIP interventions examined in these projects included: communication/behavioral interventions to improve diabetes care for indigent patients at community health centers; just-in-time reminders for nurses doing home visits; patient education for patients with heart failure and cancer; computer-based clinical decision support systems to reduce adverse drug events among long-term care residents; decision support and coaching for patients after heart attack; Web-based training for primary care physicians and clinic nurses to test sexually

active teens for chlamydia; personalized data feedback and educational office visits for adult cigarette smokers; and use of asthma management programs to improve care for children with asthma.

The most common TRIP interventions were multifaceted educational strategies, with academic detailing, opinion leaders, and feedback on practices commonly used. More than half of the projects (17) planned to use information technology, and 13 projects focused on reducing medical errors. Most of the projects provided evidence of collaborations between networks of health care providers and hospitals and the researchers. AHRQ anticipates that such relationships will determine whether research translation efforts are truly effective when applied in health care settings. Reprints (AHRQ Publication No. 02-R083) are available from AHRQ.**

Husten, C.G., Hopkins, D.P., and Williams, C.G. (2002, June).

"Making the most of evidence-based research: Translating research into practice." *Preventive Medicine in Managed Care* 3(3), pp. 73- 83.

These authors review research evidence related to the design of

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Integrating research into practice

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smoking cessation programs that involve population- and health systems-based interventions, as well as interventions focused on individuals. Efforts directed at the individual clinician have had limited results. For example, some evidence showed that fewer than 30 percent of smokers were advised to stop smoking during a clinical visit. Tobacco dependence is a long-term chronic condition much like diabetes and hypertension, which involves periods of relapse and remission, requires ongoing rather than acute care, and has effective treatment to achieve long-term or permanent abstinence. Therefore, health care systems should be committed to long-term treatment.

Recent guidelines from the U.S. Public Health Service (PHS), the

Task Force on Community Preventive Services, Office of the Surgeon General, the Centers for Disease Control and Prevention (CDC), the Cochrane Collaboration, and the U.S. Preventive Services Task Force have examined the effectiveness of various smoking cessation interventions. They recommend patient screening for tobacco use, brief advice to quit from a health care provider, more intense counseling (individual, group, telephone), and pharmacologic treatment (for example, use of nicotine gum, patch, nasal spray, inhaler, or Bupropion SR). Studies suggest that price increases for tobacco, media-based activities, reducing out-of-pocket costs for treatment, and provider reminders alone or in combination with provider education are effective system- and population-based strategies.

The guidelines make it clear that managed care organizations that want to have an impact on tobacco control should focus on system- and population-level interventions, as well as individual tobacco users. They make the following system-level recommendations. First, all health insurance plans should include as a reimbursed benefit the counseling and drug treatments identified as effective. Second, clinicians should be reimbursed for providing treatment for tobacco dependence just as they are reimbursed for treating other chronic conditions. The CDC's National Tobacco Control Program Framework involves four components: community interventions, counter-marketing (anti-smoking campaigns), policy interventions, and surveillance/evaluation. Reprints (AHRQ Publication No. 02-R082) are available from AHRQ.** ■

Bioterrorism Preparedness

Survey on eve of anthrax attacks shows need for bioterrorism training

A survey taken shortly after September 11, 2001, showed that on the eve of last year's anthrax attacks, primary care doctors felt unprepared for bioterrorism incidents that could expose their patients to the unusual diseases that might be spread by terrorists. The survey was sponsored by the Agency for Healthcare Research and Quality and the American Academy of Family Physicians (AAFP).

Researchers led by the AAFP's John Hickner, M.D., and Frederick M. Chen, M.D., of AHRQ, found that three-quarters of doctors said at that time they felt unprepared to recognize bioterrorism-related illnesses in their own patients. The national survey of family physicians, conducted in October 2001, also found that 38 percent rated their knowledge of the diagnosis and management of bioterrorism-related illnesses as poor.

AHRQ and other HHS agencies are working with private-sector partners on a broad training initiative that recognizes the key role of family physicians who may be among the first to recognize and respond to unusual symptoms that may signal a bioterrorist attack. According to HHS Secretary Tommy Thompson, HHS is supporting wide new training, information, and communication resources throughout the Nation's public health and health care systems. Earlier this year, HHS provided more than \$1 billion in new grants to States and major metropolitan areas to support training, communications, disease surveillance, and epidemiology networks, as well as hospital improvements.

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Bioterrorism training

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In the survey, roughly 18 percent of the 614 family physicians said that they had prior bioterrorism training, and these doctors were much more likely than those without such training to report having the skills and knowledge necessary for responding to a bioterrorist attack. Nearly all the family physicians agreed that it was important to be trained to identify a bioterrorist attack, and 93 percent said they would like to have such training.

Family physicians felt more comfortable responding to natural disasters and public health emergencies such as natural infectious disease outbreaks involving well-known pathogens. But being familiar with the public health system for such events did not prepare them for knowing what to do in case of a bioterrorist attack. While 93 percent of the doctors said that they report notifiable infectious disease cases to their health department, only 57 percent reported knowing at the time of the survey whom to call to report a suspected bioterrorism case.

These findings underscore the importance of preparedness for primary care physicians. Because the symptoms caused by many bioterrorism agents mimic those of common illnesses, patients may seek care first from their primary care physicians.

The AAFP, which represents more than 93,500 physicians and medical students, promotes Web-based training resources for physicians through its Web site www.aafp.org/btresponse. AHRQ is expanding the medical providers' bioterrorism training Web site that the Agency sponsors at the University of Alabama at Birmingham <http://www.bioterrorism.uab.edu> to include courses for the Nation's 265,000 primary care physicians.

AHRQ's effort is part of a broad initiative by several HHS agencies to provide training and information for health care providers:

- AHRQ has developed an online bioterrorism preparedness tool for use by hospitals. See page 18 for more details.
- The Centers for Disease Control and Prevention (CDC) supports the Centers for Public Health Preparedness program. It funds centers, based at universities and elsewhere, to train State and local health care providers and public health officials. More than 200,000 individuals have received training so far. In addition, CDC is collaborating with the Association of American Medical Colleges to launch a new program called "First Contact, First Response" that will provide curricula through medical schools for medical students and physicians. CDC is also working with the Association of Public Health Laboratories to provide more training and information to public health lab workers in dealing with potential agents for bioterrorist attacks.
- The National Institutes of Health (NIH) has been working to educate physicians about biodefense through a variety of efforts, including educational conferences in the Washington, DC, area, monthly biodefense lectures to internal medicine residents who rotate through the NIH inpatient wards, and technical assistance to physicians on an ad hoc basis.
- HHS also has provided training in emergency preparedness for first-responders through the Department's National Disaster Medical System.
- The Health Resources and Services Administration (HRSA) plans to launch next year a \$60 million training program on bioterrorism preparedness for hospital workers.
- CDC's Health Alert Network also links over 1 million medical, public health, and emergency workers with up-to-date information on disease outbreaks. The network reaches all 50 States and is being further expanded to reach every county health department in the Nation.

For more details, see "On the front lines: Family physicians' preparedness for bioterrorism," in the September 2002 *Journal of Family Practice* 51(9):745-750. Reprints (AHRQ Publication No. 02-R091) are available from AHRQ.** ■

Agency News and Notes

AHRQ research is focusing on ways to improve health care for people with disabilities

An estimated 15 percent of the U.S. population has some activity limitation, and nearly 5 percent of these individuals are unable to work or carry out other major activities. These people with disabilities (PWDs) are more likely to be older, black, Native American, or to live in rural areas. The Agency for Healthcare Research and Quality supports studies to improve the healthcare of disabled people through the agency's Office of Priority Populations Research.

In a recent article written to provide a context for a series of papers commissioned by AHRQ and published in the *Milbank Quarterly*, Carolyn M. Clancy, M.D., Acting Director of AHRQ, and Elena M. Andresen, Dr.P.H., of Saint Louis University, describe the Agency's agenda for disability-related health services research.

Agency-supported studies to improve the health of PWDs could include a focus on disability-relevant outcomes such as independence. Many current research projects on specific clinical conditions could be expanded to important areas of disability, such as which financial

and organizational characteristics support the provision of patient-centered care, which is particularly important for PWDs. Concerns of people with disabilities about poorly coordinated services across settings and providers are not very different from those of people with specific chronic conditions, note Drs. Clancy and Andresen. They also note the potential for adding disability supplements to national surveys of health care costs and use and including PWDs in priority research areas such as patient safety.

They identify opportunities for PWD-specific health services research, such as studies that determine medical necessity and insurance coverage for PWDs. Such studies might address the basis for insurance coverage, when the evidence is limited, for things such as durable medical equipment and selective rehabilitative services. They also observed the paucity of studies on support for caregivers; intersection of health and supportive social services; the effects of multiple factors associated with vulnerability, such as race and disability; use of restorative technologies;

effectiveness of various rehabilitative services; and discrimination by health care providers.

Details are in "Meeting the health care needs of persons with disabilities," by Drs. Clancy and Andresen, in the *Milbank Quarterly* 80(2), pp. 381-391, 2002. Reprints (AHRQ Publication No. 02-R084) are available from AHRQ.**

Editor's note: The following papers were commissioned by AHRQ and appear in the same issue of the *Milbank Quarterly*:

- DeJong, G, Palsbo, S.E., Beatty, P.W., and others. "The organization and financing of health services for persons with disabilities," pp. 261-301.
- Perrin, J.M. "Health services research for children with disabilities," pp. 303-324.
- Jette, A.M., and Keysor, J.J. "Uses of evidence in disability outcomes and effectiveness research," pp. 325-345.
- Iezzoni, L.I. "Using administrative data to study persons with disabilities," pp. 347-379. ■

Health services research prize conferred posthumously on John Eisenberg

In recognition of his outstanding efforts to advance global health services research, John M. Eisenberg, M.D., former Director of the Agency for Healthcare Research and Quality, was awarded posthumously the prestigious 2002 Baxter International Foundation

Health Services Research Prize. Dr. Eisenberg died March 10, 2002, after a year-long illness caused by a brain tumor.

The prize was conferred by the Association of University Programs in Health Administration at their annual meeting on June 22 in

Washington, DC. A committee comprising renowned health services academicians and clinicians from around the world selected Dr. Eisenberg for the award based on his work as a

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Research prize

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clinician, academician, researcher, and advocate for health services research.

Dr. Eisenberg's work as a clinician and leader in the field of health services research spanned more than 30 years. He held academic appointments at many leading institutions, including the University of Pennsylvania, Stanford University, and

Georgetown University, where he served as the Chairman of the Department of Medicine from 1992 until 1997, when he left to assume the directorship of AHRQ.

Since 1986, the Baxter International Foundation has funded the health services research prize in recognition of researchers who have made major contributions to the health of the public through innovative research in health services. The prize includes a

\$25,000 contribution—\$10,000 to the individual and \$15,000 to a not-for-profit institution that supports the awardee's work. Dr. Eisenberg's family has presented his portion of the prize to the Dr. John M. Eisenberg Healthcare Fund of the Community Foundation for the National Capital Region. The fund will support health care initiatives for research, education, service, and policy. ■

Announcements

AHRQ unveils hospital bioterrorism preparedness tool

The Agency for Healthcare Research and Quality has released a new online survey (<http://www.ahrq.gov/about/cpcr/bioterr.pdf>) that hospitals can download and use as a checklist for assessing their capacity to handle potential victims of bioterrorism attacks or for evaluating existing emergency plans.

The 42 questions in AHRQ's Bioterrorism Emergency Planning and Preparedness Questionnaire for Healthcare Facilities cover subjects such as biological weapons training for personnel, procedures to permit rapid recognition of credentialed staff from other facilities, on-call nursing policies, and designated areas of emergency overflow for patients. The survey also asks hospitals about other preparedness factors, such as their supply of selected antibiotics and the diagnostic capability of their in-hospital laboratory.

The survey was developed as part of AHRQ's \$5 million bioterrorism initiative launched in 2000 to examine the needs for health system preparedness and capacity for bioterrorism attacks. The main purpose of the project was to develop and pilot test tools that will help hospitals and public health systems assess their ability to respond effectively to a bioterrorism attack.

The survey is the second online tool provided by the Agency to help medical practitioners prepare for bioterrorism events. AHRQ also sponsors a Web site (<http://www.bioterrorism.uab.edu>) at the University of Alabama's Center for Disaster Preparedness that offers free, online continuing education courses for hospital-based physicians, nurses, radiologists, and other medical personnel on topics such as the identification of potential bioterrorism agents, including smallpox and anthrax, and commonly associated illnesses. ■

National survey details Americans' experiences with health care for chronic conditions

New data from the Agency for Healthcare Research and Quality (AHRQ) indicate that 23 percent of Americans aged 18 and older report that they have high blood pressure. The self-reported data, which come from AHRQ's Medical Expenditure Panel Survey (MEPS), also indicate that 10.3 percent report that they

have heart disease; 9.1 percent, asthma; and 6.2 percent, diabetes. The data are included in a new statistical brief, *Medical Care and Treatment for Chronic Conditions, 2000*.

MEPS collects information annually on health care use, access, health status and quality from a nationally representative sample of

people. The survey includes people living in U.S. households but does not include people living in nursing homes (or other long-term health facilities), in prisons, or serving in the active military. The survey does include families of active-duty military personnel.

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Health care for chronic conditions

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Beginning in 2000, MEPS was enhanced to collect data from people about selected chronic conditions and the preventive services or treatments they use. These new measures will enable researchers to perform in-depth analyses on the quality of health care received by Americans and will be included in the National Quality Report, which will be published for the first time in 2003.

The detailed findings from 2000 include:

- Nearly 43 percent of people aged 18 and older with public insurance reported that they have high blood pressure, compared with 21.5 percent of people with any private insurance and 13.2 percent of the uninsured.
- Hispanics aged 18 and older were less likely than blacks or whites and people of other races to report having heart disease, high blood pressure, or asthma.
- Both Hispanics and blacks aged 18 and older were more likely than whites and people of other races to report having diabetes.
- Uninsured people with diabetes aged 18-64 were less likely than those with private insurance to report having had a hemoglobin A_{1C} test, or to have had their feet checked for sores or irritations.
- Among people with heart disease, those aged 65 and older were more likely than those aged 18-64 to report that they had their blood pressure checked in the last year (98.6 percent vs. 92.9 percent). People aged 65 and older with heart disease also were more likely to have had a routine checkup in the past 12 months than those aged 18-64 with heart disease (89.2 percent vs. 75.3 percent).
- Of people aged 18 and older who had a stroke, 58.7 percent reported that they had been advised by a medical provider to exercise more; 59.1 percent reported that they had been advised to change their diet.

The statistical brief is available on the Web at <http://www.meps.ahrq.gov/PrintProducts/PrintProdShowNew.asp?PubID=175>. General information about MEPS is available at <http://www.meps.ahrq.gov>. ■

Hospitals get new software tool to improve clinical care

Free software released recently by the Agency for Healthcare Research and Quality provides the Nation's hospitals with a quick and relatively easy-to-use quality check on their inpatient care. AHRQ's Inpatient Quality Indicators (IQI) software can be downloaded from the Agency's Web site at www.ahrq.gov/data/hcup/inpatqi.htm.

The IQI software uses hospital discharge data to flag potential quality problems including overly high death rates for patients admitted for conditions like heart attack (acute myocardial infarction) or hip fracture or for surgical procedures including abdominal aortic aneurysm repair and coronary artery bypass graft (CABG) surgery.

The IQIs also can spot questionable overuse, underuse, or even misuse of procedures such as cesarean section and percutaneous transluminal coronary angioplasty. Hospitals can use these data as a prompt to investigate quality problems and make improvements.

The IQI software contains indicators for mortality rates for 13 diagnoses and inpatient procedures and use rates for nine procedures at the hospital and area levels. In addition, the IQIs contain indicators for how often operations such as carotid endarterectomy and pediatric heart surgery are performed. Research indicates that a patient's outcome from a certain procedure may be related to the number of such procedures performed in a hospital.

The software is the newest product in AHRQ's Quality Indicators series, derived from the widely used original HCUP (Healthcare Cost and Utilization Project) Quality Indicators but refined and expanded by the UCSF-Stanford Evidence-based Practice Center under a contract (290-97-0013) with the Agency. The first software set, the *Prevention Quality Indicators*, was released in November 2001, and the final product, *Patient Safety Indicators*, will be available in late 2002. ■

Attention researchers: Full-day seminars on health services research methods will be held November 4-6, 2002 in Washington, DC. The seminars will focus on using Federal and State databases and will include in-depth courses on two AHRQ databases: the Healthcare Cost and Utilization Project (HCUP) and the Medical Expenditure Panel Survey (MEPS). In addition, researchers will have an opportunity to learn about the National Center for Health Statistics' National Health Interview Survey and National Health Care Survey, VA databases in health services research, and the National Library of Medicine's products and services. The opening day includes workshops on data privacy, the use of non-health databases to supplement health databases, and the NCHS Trends in Health and Aging database warehouse. To register and for more information, visit www.academyhealth.org/seminars/fall2002. ■

New data now available from MEPS, HCUP, and the new HIVnet

AHRQ recently released new data from the Medical Expenditure Panel Survey (MEPS) and the Healthcare Cost and Utilization Project (HCUP), as follows:

- **MEPS.** In the first half of 2001, 16.7 percent of the U.S. civilian noninstitutionalized population, or 45.9 million people, had no health insurance coverage, according to data from the 2001 MEPS. Young adults, ages 19-24, were the age group at the greatest risk of being uninsured, with 33.9 percent of this group lacking health insurance. Hispanics accounted for 26.3 percent of the uninsured non-elderly population, even though they represented only 13.1 percent of the entire population under 65. The full *Statistical Brief* is available at http://www.meps.ahrq.gov/PrintProducts/PrintProd_Detail.asp?ID=157. The complete data file is available at <http://www.meps.ahrq.gov/papers/st4/stat04.htm> and includes graphics representing some of these statistics.
- **HCUP.** Data from the 2000 State Inpatient Databases (SID), State Ambulatory Surgery Databases (SASD), and Nationwide Inpatient Sample (NIS) are now available for purchase. These powerful HCUP databases, which come in uniform format to aid researchers, cover all patients regardless of payer, include the uninsured, and contain charge information. The SID 2000 data are available for 16 States: Arizona, California, Colorado, Florida, Iowa, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Oregon, South Carolina, Utah, Washington, and Wisconsin. The SASD 2000 data

are currently available for Colorado, Maryland, New Jersey, New York, and Wisconsin. The 2000 SID comprise discharge abstract data from all community hospitals in those 16 States. The 2000 SASD capture information on surgeries performed at hospital-affiliated ambulatory surgery sites in the five States. The 2000 NIS includes discharge information on roughly 7 million hospital stays from about 1,000 community hospitals in 28 States. The NIS approximates a 20 percent sample of community hospitals. For information on purchasing these data and earlier-year data, go to <http://www.ahrq.gov/hcup/hcupflyr.htm> and click on "online."

In addition to these new MEPS and HCUP resources, AHRQ recently announced the online availability of HIV health care use statistics, as follows:

- **HIVnet.** Public health officials and others can now access HIV health care use data online through AHRQ's HIVnet. This interactive service provides statistical answers in real time to questions about HIV patients' use of outpatient and inpatient care by age, sex, race/ethnicity, HIV risk group, insurance status and type, protease inhibitor use, and other variables. Current data, drawn from the AHRQ-supported HIV Research Network, are for 1999, but 2000 data will be added later this year. Go to <http://www.ahrq.gov/data/hivnet.htm> to view the data. ■

HCUP databases provide national data on insured and uninsured patients and are easily accessed

The Agency for Healthcare Research and Quality's Healthcare Cost and Utilization Project (HCUP) has evolved over the years into a family of databases that provide multi-State, inpatient and outpatient discharge records on insured and uninsured patients. HCUP databases include the State Inpatient Databases (SID); the Nationwide Inpatient Sample (NIS); the Kids' Inpatient Database (KID); and the State Ambulatory Surgery Databases (SASD). The HCUP databases are described in a recent article by AHRQ researchers Claudia Steiner, M.D., M.P.H., Anne Elixhauser, Ph.D., and Jenny Schnaier, M.A.

These databases contain clinical and nonclinical data ranging from a patient's age and sex, medical

conditions, and procedures the patient received, to length and cost of hospital stay and who will pay for it. The SID contains each participating State's community hospital inpatient discharge records. The NIS is a 20 percent sample of all U.S. community hospitals that includes about 1,000 hospitals with about 7 million discharge records that are weighted to national estimates. The KID provides data on a sample of patients 18 years and younger discharged from hospitals in all participating States. The SASD includes records from hospital-affiliated ambulatory surgery sites. The collection of emergency department data is currently underway as a pilot activity.

All of these databases facilitate health services research on a

variety of topics, such as the use and cost of hospital services, quality assessment, medical treatment variations, diffusion of new medical technology, impact of health policy changes, access to care (inference), small-area variations, and care of special populations. For information on accessing HCUP databases, including data use agreements and, in some cases, costs, please visit the HCUP Web site at www.ahrq.gov/data/hcup.

More details are in "The Healthcare Cost and Utilization Project: An overview," by Drs. Steiner and Elixhauser and Ms. Schnaier, in the May 2002 *Effective Clinical Practice* 5(3), pp. 143-151. Reprints (AHRQ Publication No. 02-R085) are available from AHRQ.** ■

New online tool can help employers improve the value of health services they purchase for workers

Private employers estimate their health care costs in 2002 will be nearly 14 percent higher than they were in 2001. The recent surge in costs, coupled with the current economic uncertainty, is prompting many employers to question the value of their health care spending.

Although a growing number of large businesses are developing and implementing strategies intended to improve the value of the health services they purchase, there is very little evidence so far on the impact of these efforts. Now there is a new Web-based tool for use by businesses and other health care purchasers to help them evaluate the effectiveness of their health insurance contracting processes so they can obtain better quality care for covered workers and their families.

The new tool is an online guide, *Evaluating the Impact of Value-Based Purchasing Initiatives: A Guide for Purchasers*, which is available at <http://www.ahrq.gov/about/cods/valuebased/index.html>.

The guide encourages formal evaluations of value-based purchasing activities and provides a highly detailed, step-by-step evaluation process that users can adapt to their individual programs.

Developed for the Agency for Healthcare Research and Quality by Dennis P. Scanlon, Ph.D., a professor at Pennsylvania State University, the guide helps users define their organization's value-based purchasing activities and goals; determine the necessity, appropriateness, and feasibility of an evaluation; choose a research design to assess impact; implement the research; and summarize the results and interpret the implications.

In addition to the online tool, print copies of *Evaluating the Impact of Value-Based Purchasing Initiatives: A Guide for Purchasers* (AHRQ Publication No. 02-0029) are also available from AHRQ. See the back cover of *Research Activities* for ordering information. ■

Grant final reports now available from NTIS

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

Biofeedback and Urinary Incontinence in Older Women.
Elizabeth Dugan, Ph.D., Wake Forest University School of Medicine, Winston-Salem, NC. AHRQ grant HS10663, project period 7/1/00-12/31/01.

The prevalence, cost, and treatment outcomes associated with urinary incontinence (UI) provide compelling reasons to study novel treatments. The primary aims of this 1-year pilot study were to assess the ability to recruit participants to take part in a randomized clinical trial of the efficacy of biofeedback in treating UI; develop experience with intervention materials, data collection procedures, and participant management related to the proposed clinical trial; and develop confidence in the hypothesis that the proposed biofeedback regimen is associated with clinically meaningful treatment effects. The multidisciplinary investigative team randomized postmenopausal women for biofeedback treatment to either three visits or six visits. The study identified some necessary modifications to the enrollment scheduling procedures. Results on two key indicators (change in frequency of UI and quality of life) suggest that three sessions of biofeedback therapy should be used in the followup study. (Abstract, executive summary, and final

report, NTIS accession no. PB2002-105097; 13 pp, \$23.00 paper, \$12.00 microfiche)***

Cause and Effect of Hospital Distress and Closure.
Richard C. Lindrooth, Ph.D., Northwestern University, Evanston, IL. AHRQ grant HS10730, project period 9/30/99-9/29/01.

Most metropolitan areas and many rural communities have been affected by hospital closure, raising concerns that closure will affect access to care in their communities. These researchers found that in urban markets, hospital closure occurs in markets with an excess supply of beds. The hospitals that do close tend to be inefficient hospitals; and the efficiency of the market improves after closure. However, hospitals that close also treat a relatively large proportion of Medicaid patients, and this may be correlated with uncompensated care. In rural markets, hospitals that survive tend to be more diversified. Surviving hospitals tend to have a larger proportion of outpatient surgeries, outpatient visits, and more high-tech equipment that is used in an outpatient setting. Hospital mergers that result in the closure of one of the facilities lead to significant cost savings. Other types of mergers do not result in any consistent cost savings over time. This result is also due to the desirability of closing excess beds in the face of low occupancy rates. None of these results suggest that hospitals should be encouraged to close; rather, in markets where access is not a problem, hospitals should not be prevented from closing. Further research is needed to determine the optimal occupancy rate in light of uncertain future demand for beds. (Abstract, executive summary, and final report, NTIS accession no. PB2002-

104719; 40 pp, \$25.50 paper, \$12.00 microfiche)***

Comparison of Quality of Life Measures in Heart Failure.
Susan J. Bennett, D.S.N., Indiana University, Indianapolis. AHRQ grant HS09822, project period 7/1/98-6/30/01.

Health-related quality of life (HRQOL) instruments have been used to measure HRQOL in heart failure patients, but how different instruments compare in the same groups of patients is not known. The purpose of this study was to compare the reliability and validity of three HRQOL measures in 211 heart failure patients recruited from clinics affiliated with an urban hospital. Two disease-specific instruments, the Chronic Heart Failure Questionnaire (CHQ) and the Living with Heart Failure Questionnaire (LHFQ), and one generic instrument, the Short-Form 12 (SF-12), were administered. Patients reported moderate to low HRQOL scores. Floor or ceiling effects were noted in the disease-specific instruments. Internal consistency and reliability of the CHQ and LHFQ were satisfactory. Construct, convergent, and discriminant validity were supported for each instrument. All three instruments were satisfactory for measuring HRQOL, but the disease-specific instruments were preferable to the generic instrument. (Abstract, executive summary, and final report, NTIS accession no. PB2002-104720; 34 pp, \$25.50 paper, \$12.00 microfiche)***

Effectiveness of NHLBI Guide on Childhood Asthma Outcomes.
Philip V. Scribano, D.O., Connecticut Children's Medical Center, Hartford. AHRQ grant

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HS09825, project period 9/30/98-9/29/01.

In 1997, the National Asthma Education Program consensus panel, organized by the National Heart, Lung and Blood Institute (NHLBI), revised the guidelines for the care and management of children and adults with asthma. The impact of these guidelines on asthma care in the United States is unclear, since hospitalization rates and mortality continue to rise. The researchers examined the impact of using clinical practice guidelines on the quality of asthma care as defined by a reduction in the 7-day relapse rate and improvement in functional outcome using the Child Health Questionnaire. They evaluated the efficacy of a program designed to adhere to the NHLBI guidelines on asthma management in an emergency department observation unit setting. The study involved a prospective cohort design of all children aged 1 to 18 seen in the Connecticut Children's Medical Center emergency department for an asthma exacerbation. The researchers examined whether or not care in the alternative observation unit can provide similar outcomes to traditional inpatient hospitalization. (Abstract and executive summary, NTIS accession no. PB2002-104710; 17 pp, \$23.00 paper, \$12.00 microfiche)***

***Efficacy of Telemedicine Colposcopy.* Daron G. Ferris, M.D., Medical College of Georgia, Augusta. AHRQ grant HS08814, project period 9/30/97-9/29/01.**

The purpose of this study was to estimate the efficacy of telecolposcopy for rural health care sites. Women with an indication for colposcopy were examined by local

colposcopists at one of two rural clinics, and the images were transmitted to a tertiary care center for interpretation by a distant expert colposcopist. Another colposcopist (site expert) in attendance at the rural site also examined the same subjects. Colposcopists independently determined the exam adequacy, colposcopic impression, biopsy intent and site, and management. Agreement between colposcopic impressions and cervical histology were assessed. Teleconsultation was required for 36.2 percent of examinations. A significantly lower percentage of satisfactory colposcopic exams were noted by the distant colposcopists (60 percent) compared with the other colposcopists. Colposcopic impression agreement with histology varied minimally, 59.7 percent for local colposcopists, 52.7 percent for site experts, and 55.7 percent for distant experts. The researchers conclude that telecolposcopy may help reduce barriers to medical access for women in rural areas. (Abstract, executive summary, and final report, NTIS accession no. PB2002-104713; 62 pp, \$27.00 paper, \$12.00 microfiche)***

***Ensuring Quality Cancer Care: Symposium.* Charles L. Bennett, M.D., Ph.D., Northwestern University, Evanston, IL. AHRQ grant HS10933, project period 9/30/00-9/29/01.**

The Robert H. Lurie Comprehensive Cancer Center of Northwestern University convened a cancer care symposium in November 2000. The objectives of the 1-day meeting were to discuss and define quality cancer care, identify methodologies for defining quality, describe those factors (particularly those related to culture and ethnicity) that impede access to quality cancer care, and instruct

participants in the use of evidence-based oncology to improve cancer care outcomes. (Abstract, executive summary, and final report of symposium, NTIS accession no. PB2002-104711; 10 pp, \$23.00 paper, \$12.00 microfiche)***

***Health Care Privacy: Measuring Performance.* Matthew K. Wynia, M.D., M.P.H., American Medical Association, Chicago, IL. AHRQ grant HS10928, project period 8/15/00-8/14/01.**

The Ethical Force Program is a broad-based collaborative effort to develop and validate performance measures for ethics that will be useful throughout the health care system and serve as overall markers of health care quality. A primary domain for performance measure development in ethics is the protection of privacy and confidentiality in health care. This project involved an expert working conference on the development of measures to assess organizational privacy and confidentiality protections. The meeting was held November 14-15, 2001 in Washington, DC. Attendees worked on refining and/or developing workable performance measures and the creation of organization-specific toolkits for assessing ethics quality in four discrete types of organizations (hospitals, physician groups, health plans, and employer/purchasers). Plans were devised for field-testing the measures. (Abstract and executive summary, NTIS accession no. PB2002-104712; 12 pp, \$23.00 paper, \$12.00 microfiche)***

***Improving Emergency Medical Services for Children Through Outcomes Research: An Interdisciplinary Approach.* Ellen F. Crain, M.D., Ph.D., Ambulatory Pediatric**

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Association, McLean, VA. AHRQ grant HS10942, project period 1/1/01-12/31/01.

This project provided support for a conference focused on strategies to overcome barriers to research in pediatric emergency medicine. The goals were to review existing outcome measures, including their strengths and weaknesses and their applicability to pediatric emergency medicine; identify areas where new measures are needed; promote dialogue between health services researchers, representatives of Federal agencies, and pediatric emergency medicine investigators; and foster a new generation of pediatric emergency medicine researchers with improved understanding of health services research methodology. (Abstract, executive summary, and final report, NTIS accession no. PB2002-106800; 34 pp, \$25.50 paper, \$12.00 microfiche)***

Primary Care Fellowship Evaluation. Diane Brannon, Ph.D., Pennsylvania State University, University Park, PA. AHRQ grant HS10714, project period 9/30/99-9/29/01.

The U.S. Public Health Service's (PHS) Health Resources Services Administration has conducted the Primary Care Policy Fellowship program annually since 1991. The goal of the fellowship is to enhance the capabilities of mid-career primary care academicians, researchers, administrators, and practitioners concerning primary care policy development, the legislative process, resource identification, and leadership skills. As of 1999, some 260 fellows had completed the program. These researchers evaluated the long term impact of the fellowship on participants' career activities and

on the capabilities of the nominating organizations. Content analysis of annual evaluation reports, a survey of past fellows, and interviews with organizational stakeholders were conducted. Of the 48 percent of surveyed fellows responding, the large majority (83 percent) did cite specific ways in which the fellowship had influenced their careers. Organizational stakeholders also identified specific projects completed by fellows. Recommendations for improvement focused on broadening the impact at the nominating organization level. (Abstract, executive summary, and final report, NTIS accession no. PB2002-104721; 42 pp, \$25.50 paper, \$12.00 microfiche)***

Second National Conference on Health Care Journalism. Melinda S. Voss, M.P.H., Association of Health Care Journalists, Minneapolis, MN. AHRQ grant HS10927, project period 1/15/01-1/14/02.

This project provided support for a national conference on health care journalism held March 22-24, 2002 in Atlanta, GA. More than 150 journalists attended and took part in sessions on health care quality, access to care, prescription drugs, health care fraud, gun violence, genetics, obesity, health care reform, and other topics. (Abstract, executive summary, and final report, NTIS accession no. PB2002-10927; 18 pp, \$23.00 paper, \$12.00 microfiche)***

Spouse Involvement in Cardiac Patients' Exercise Behavior Change. Tantina B. Hong, Ph.D., Wayne State University, Detroit, MI. AHRQ grant HS11263, project period 9/30/00-9/29/01.

Health promoting behaviors such as exercise are known to be beneficial in lessening the

disabling effects of heart disease. This study examined the social processes underlying exercise behavior change in 80 married couples. (Abstract, executive summary, and dissertation, NTIS accession no. PB2002104715; 132 pp, \$36.00 paper \$17.00 microfiche)***

Use of Quality Report Cards by Patients, Physicians, and MCOs. Dana B. Mukamel, Ph.D., University of Rochester School of Medicine, Rochester, NY. AHRQ grant HS089803, project period 9/30/96-9/29/01.

Quality report cards, which provide the public with information about the performance of hospitals, physicians, and managed care organizations (MCOs), have become a permanent fixture of health care markets. This study was designed to evaluate their effectiveness in influencing the contracting practices of MCOs and referrals among fee-for-service (FFS) patients using the New York State Cardiac Surgery Reports. These reports provide information about surgeons' and hospitals' risk adjusted mortality rates (RAMR) and are considered to be highly valid and reliable. Survey data, data about contracting between MCOs and cardiac surgeons, and Medicare claims data were analyzed using statistical regression techniques. Results indicate that the information in these reports is associated with both MCO contracting practices and referrals in the FFS sector. MCOs are more likely to include in their provider panels cardiac surgeons with lower RAMR and those who have been designated as high quality outliers. Further, FFS patients are more likely to seek surgeons with lower RAMR. The importance of RAMR increased in the year following the

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first publication of the reports, while the importance of other signals for quality (such as price and experience of the surgeon) diminished. (Abstract, executive summary, and final report, NTIS accession no. PB2002-104716; 16 pp, \$23.00 paper, \$12.00 microfiche)***

Using Census Data to Monitor Care to Vulnerable Groups. Kevin Fiscella, M.D., M.P.H., Highland Hospital, Rochester, NY. AHRQ grant HS10295, project period 9/30/99-9/29/01.

Convenient practical measures of socioeconomic status are needed by health care organizations to monitor progress towards the Healthy People 2010 goal of eliminating disparities. This project had three goals: one, develop clinically relevant indicators that are sensitive to socioeconomic disparities in the quality of primary health care; two, examine the relative performance of census-based indicators for monitoring socioeconomic disparities in quality of care; and three, determine which primary care indicators are sensitive to racial/ethnic differences in quality of care after adjustment for socioeconomic status. Using data from the Medical Expenditure

Panel Survey Household Component (MEPS-HC), quality measures for preventive health, costs, and satisfaction were developed. Significant socioeconomic disparities were observed across most preventive and utilization measures. There were few socioeconomic, racial, or ethnic disparities in satisfaction, and there was no consistent variation by race or ethnicity in health care use. Adjustment for socioeconomic factors had little effect on these variations. (Abstract, executive summary, and final report, NTIS accession no. PB2002-104718; 56 pp, \$27.00 paper, \$12.00 microfiche)*** ■

Research Briefs

Berlowitz, D.R., Christiansen, C.L., Brandeis, G.H., and others. (2002). "Profiling nursing homes using Bayesian hierarchical modeling." (AHRQ grant HS09768). *Journal of the American Geriatrics Society* 50, pp. 1126-1130.

It is particularly difficult to profile the health care performance of nursing homes using statistical techniques. For example, many nursing homes are relatively small, so extreme values of the outcome are likely to arise by chance. However, a new statistical method, Bayesian hierarchical modeling, can successfully profile nursing home performance, according to these authors. They analyzed nursing home data from 1997 and 1998 to compare nursing home performance on risk-adjusted rates of pressure ulcer development (a marker of poor quality care) calculated using standard statistical techniques and Bayesian hierarchical modeling. The range of

risk-adjusted rates among nursing homes was 0 to 14.3 percent using standard methods and 1 to 4.8 percent using Bayesian analysis. Fifteen nursing homes were designated as outliers based on their z scores, but only two were outliers using Bayesian modeling.

Birkmeyer, N.J., Weinstein, J.N., Tosteson, A., and others. (2002). "Design of the spine patient outcomes research trial (SPORT)." (AHRQ grant K02 HS11288). *Spine* 27(12), pp. 1361-1372.

This article describes the rationale and design of the Spine Patient Outcomes Research Trial (SPORT). The objective is to assess the relative efficacy and cost-effectiveness of surgical and nonsurgical approaches to the treatment of common conditions associated with low back and leg pain. The SPORT project is being conducted at 11 clinical centers around the United States. It

involves three simultaneous multicenter, randomized, controlled clinical trials. The study includes patients with the three most common diagnoses for which spine surgery is performed: intervertebral disc herniation, spinal stenosis, and degenerative spondylolisthesis. It compares the most commonly used standard surgical and nonsurgical treatments for these patients. Patients are being followed for at least 2 years, with visits scheduled at 6 weeks and at 3, 6, 12, and 24 months.

Cegala, D.J., McClure, L., Marinelli, T.M., and Post, D.M. (2002). "The effects of communication skills training on patients' participation during medical interviews." (AHRQ grant HS09520). *Patient Education and Counseling* 41, pp. 209-222.

Patients often do not ask questions during doctor visits, even

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though virtually all patients claim they want as much information as possible. This study examined the effectiveness of a training booklet designed to enhance patients' communication skills in information exchange with doctors. A total of 25 doctors each saw six patients, two patients in each of three communication skills interventions (trained, informed, and control). Trained patients received a work booklet with examples and practice opportunities to describe symptoms and related medical history for various illnesses. The informed group received a brief summary of the major points covered in the booklet, and the control group received no intervention. Trained patients engaged in more effective and efficient information seeking, provided doctors with more detailed information about their medical condition, and used more summarizing statements to verify information they received from physicians. They also demonstrated a more patient-controlled style of communication compared with informed and untrained patients.

Deb, P. and Trivedi, P.K. (2002). "The structure of demand for health care: Latent class versus two-part models." (AHRQ grant HS09843). *Journal of Health Economics* 21, pp. 601-625.

These authors examine empirical strategies for modeling the demand for health services, which has importance for areas such as the price sensitivity of the demand for medical services and predicted likelihood of being extensive users of services. They contrast the two-part model (TPM) that distinguishes between users and non-users of health care with a latent class model (LCM) that

distinguishes between infrequent and frequent users. In model comparisons using data accounts of use from the RAND Health Insurance Experiment, the investigators found strong evidence in favor of the LCM. They showed that individuals in the infrequent and frequent user latent classes may be described as being healthy and ill, respectively. Although sample averages of price elasticities, conditional means, and event probabilities were not statistically different, the estimates of these policy-relevant measures were substantially different when calculated for hypothetical individuals with specific characteristics.

Finkelstein, J.A., Lozano, P., Streiff, K.A., and others. (2002, June). "Clinical effectiveness research in managed-care systems: Lessons from the pediatric asthma care PORT." (AHRQ grant HS08368). *Health Services Research* 37(3), pp. 775-789.

These authors use the Pediatric Asthma Care Patient Outcomes Research Team (PORT) to highlight the unique challenges of evaluative research to change medical practice in the "real world" settings of contemporary managed care organizations (MCOs). The Pediatric Asthma Care PORT is a 5-year initiative to study strategies for asthma care improvement in three MCOs in Chicago, Seattle, and Boston. It compares two care improvement strategies with usual care: first, a targeted physician education program using practice-based peer leaders (PLs) as change agents, and second, the PL intervention plus a planned asthma care intervention incorporating joint asthma check-ups by nurse-physician teams. For this article, the researchers reviewed the organization and implementation

challenges in conducting the PORT (as described by investigators at each health plan) for common themes and lessons that might be useful to investigators planning interventional research in similar care delivery settings.

Freburger, J.K., and Konrad, T.R. (2002, June). "The use of Federal and State databases to conduct health services research related to physical and occupational therapy." (National Research Service Award training grant T32 HS00032). *Archives of Physical and Medical Rehabilitation* 83, pp. 837-845.

With the aging of the population and increasing prevalence of chronic disease, the roles of physical therapy (PT) and occupational therapy (OT) are likely to become increasingly important. These researchers identified State and Federal databases maintained by the National Center for Health Statistics, the Agency for Healthcare Research and Quality, and the Centers for Medicare and Medicaid Services as having potential for answering questions related to the use and effectiveness of PT and OT. They explored these databases to determine if PT and OT had sufficient representation, and they identified potential questions that could be answered by examining the databases in more detail. They also identified some of the advantages, disadvantages, and methodologic issues of using the databases.

Hermann, R.C., Finnerty, M., Provost, S., and others. (2002). "Process measures for the assessment and improvement of quality of care for schizophrenia." (AHRQ grant HS10303). *Schizophrenia Bulletin* 28(1), pp. 95-104.

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Schizophrenia care studies have revealed gaps between actual and recommended care practices in the dosing of antipsychotic medications, use of depot medications, and the provision of effective psychosocial interventions. This report reviews the status of 42 process-of-care measures for schizophrenia care, which these researchers identified as part of a national inventory of mental health quality measures. A greater proportion of measures assessed pharmacotherapy than assessed psychosocial interventions or other clinical processes, such as assessment, continuity of care, or coordination of care. Twenty-five measures (60 percent) were based on research evidence linking measure conformance with improved patient outcomes, while

17 (40 percent) were based on clinical consensus or opinion. Only 12 measures (29 percent) were fully operationalized. Few were tested for validity or reliability. Several demonstration projects currently under way should expand the pool of well-developed and tested measures.

Newgard, C.D., and Lewis, R.J. (2002). "Statistical methods for prehospital care research." (AHRQ National Research Service fellowship F32 HS00148). *Prehospital Emergency Care* 6(2), pp. S9- S17.

These authors explore concepts underlying the statistical design and analysis of clinical research in the out-of-hospital setting. They describe type I error, type II error and power, power analysis and sample size determination, and several common parametric and

nonparametric statistical tests. Parametric tests are used to analyze numerical data and require that the data follow a normal distribution and that variances are equal for data from all groups. Nonparametric tests can be used for normally or non-normally distributed data and provide a more robust estimate of the p value, that is, an estimate less affected by the underlying distribution of the data than a parametric test. They also describe the use of confidence intervals, for example, to determine whether a new dispatch system results in less total out-of-hospital run time; multiple comparisons of different groups; interim data analysis, subgroup analysis, intention-to-treat analysis, and multivariate analyses; and the use of statistical consultants. ■

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