



Research Activities

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Agency reauthorization passes with wide bipartisan support

The U.S. Congress has passed and President Clinton has signed into law legislation reauthorizing the Agency for Health Care Policy and Research (AHCPR). Under the legislation, AHCPR will now be known as the Agency for Healthcare Research and Quality (AHRQ). In signing the legislation, President Clinton said that AHRQ will help close the numerous data gaps throughout the health care delivery system, and it will also serve as a bridge between the best science in the world with the best health care in the world.

As noted by John M. Eisenberg, M.D., the Agency's director, this vote culminates a period of rebuilding for the Agency from which it has emerged as an important source of unbiased, evidence-based information for the health care industry and policymakers. This action reflects strong, bipartisan support for the role AHCPR has played—and AHRQ will continue to play—in improving the quality of health care through research. Although this legislation brings with it new research challenges and opportunities, it has strengthened—not changed—the

Agency's core mission to support, conduct, and disseminate research that improves access to care and enhances the outcomes, quality, cost-effectiveness, and use of health care services.

Congress also has voted \$205 million for the Agency in fiscal year 2000. About two-thirds of the Agency's budget is awarded as grants and contracts to researchers at universities and research institutions around the country. In addition, the Agency supports many other activities, including the Medical Expenditure Panel Survey, the National Guideline Clearinghouse, the Healthcare Cost and Utilization Project (HCUP), the U.S. Preventive Services Task Force, the evidence-based practice initiative, and the Consumer Assessment of Health Plans Survey (CAHPS®).

Editor's note: For more information on AHRQ and the reauthorization legislation, see page 13 under "AHRQ News and Notes." ■



Study findings call into question quality of hospital care provided to seriously ill elderly blacks

New research sponsored by the Agency for Healthcare Research and Quality shows black Medicare patients hospitalized for heart failure or pneumonia in three large States received poorer overall quality of care than other Medicare patients treated for the same illnesses. Racial disparities occurred even in basic hospital services, such as physical exams, simple diagnostic tests, standard drug therapies, and patient history-taking.

The researchers also found that quality of care differences for the black heart failure patients tended to be more pronounced in community hospitals than in teaching facilities (mostly large, urban medical centers associated with medical schools).

The quality disparities may have caused one additional death among every 200 patients treated, according to the study's lead author, Harvard

Medical School researcher John Z. Ayanian, M.D. This represents a one-half percent increase in the 30-day death rate of the black patients.

In this study, the researchers found, for example, that only 32 percent of the black pneumonia patients were given antibiotics within 6 hours of admission, compared with 53 percent of the other Medicare patients being treated for the same condition. The black patients also were less likely to have had their blood cultures collected on the first or second day of hospitalization. Prompt administration of antibiotics and collection of blood cultures have been associated with lower mortality rates in prior research.

The researchers also looked at the quality of care being provided to male and female Medicare patients, regardless of race. Overall, the quality was roughly equivalent.

However, the men received better care than women from doctors, while the women tended to receive better nursing care than men.

The findings are based on reviews by separate panels of physicians and nurses of the medical records of nearly 2,200 Medicare patients 65 years of age and older treated for heart failure or pneumonia in 1991 and 1992 in 501 hospitals in

Illinois, New York, and Pennsylvania.

The physicians provided implicit review, meaning they studied each patient's medical record for aspects of care such as prognosis, tests and treatments given, treatment goals, and the discharge plan, following which they rated the patient's care according to a scale ranging from excellent to very poor. The registered nurse panel reviewed patients' records for adherence to explicit process criteria, such as how thoroughly doctors examined patients' hearts and lungs or how closely nurses monitored their blood pressure. All the reviewers were blinded to the researchers' hypothesis that the quality of care would differ by the patients' race and sex. Roughly 35 percent of the heart failure patients and 23 percent of the pneumonia patients were black. The researchers controlled for the patients' age, sex, race, household income, severity of illness on admission, and the characteristics of the hospitals where they were treated.

The authors said that although the data used for the analysis were derived from 1991 and 1992 medical records, clinical practice for heart failure and pneumonia has not changed since that time in systematic ways that would likely alter their findings.

The study was conducted as part of an AHRQ-funded research project (HS06331) to use patient outcomes to assess quality of health care. The project was directed by Harvard School of Public Health researcher Arnold M. Epstein, M.D.

AHRQ is allocating \$13.5 million this fiscal year for studies that will

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Hospitalization of elderly blacks

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help speed the pace of translating research into practice to help reduce or eliminate differences in quality of care. About half this amount is

earmarked for projects that specifically address racial and ethnic disparities by identifying and implementing quality improvement strategies focused on minority populations.

For more information, see "Quality of care by race and gender

for congestive heart failure and pneumonia," by Dr. Ayanian, Joel S. Weissman, Ph.D., Scott Chasen-Taber, Ph.D., and Dr. Epstein, in the December 1999 issue of *Medical Care* 37(12), pp. 1260-1269. ■

Clinical Decisionmaking

Alternative to medication for a common type of tachycardia may improve patients' quality of life

A common form of tachycardia (abnormally fast heart rate), atrioventricular nodal reentrant tachycardia (AVNRT), while rarely life-threatening, frequently causes symptoms and occasionally disability. Symptoms range from a racing or fluttering heart and chest pain to fatigue, unexplained sweating, light-headedness, and shortness of breath. Medication has been reasonably successful in preventing frequent symptomatic episodes, but drug side effects can impair a person's quality of life. However, radiofrequency catheter ablation (RFA) of the slow pathway of the atrioventricular node can reduce the frequency of symptoms that patients experience and improve their quality of life, finds a study supported in part by the Agency for Healthcare Research and Quality (HS08362).

The study, which was conducted by researchers at the Stanford University School of Medicine and the Kaiser Santa Teresa Medical Center in San Jose, CA, assessed quality of life before and after RFA in highly symptomatic patients aged 18 years or older (median age 55 years) who underwent RFA for AVNRT between 1993 and 1996 at a large HMO medical center in

California. The number of symptoms reported by patients declined from a mean of 5.8 to 3.1 per patient. The number of moderate to severe symptoms declined to an even greater extent, from a mean of 4.6 to 1.1 per patient.

In the 111 patients with at least 1 year of followup, urgent care visits for tachycardia decreased from a mean of 4.6 in the year before to 0.4 in the year after RFA. Also, after the RFA procedure, 79 percent of the patients were not taking medications for treatment of their abnormal heart rhythm, the numerical rating score for health improved from a mean of 56.6 to 77.3, and patient ratings of their quality of life improved from a mean of 0.71 to 0.88. Unfortunately, RFA costs more than \$15,000 for physician and hospital charges, and cost-effectiveness of the procedure has not been established. However, the striking 90 percent reduction in use of emergency department and urgent care centers 1 year after RFA may partially offset the cost of the procedure.

See "Quality of life before and after radiofrequency catheter ablation in patients with drug refractory atrioventricular nodal reentrant tachycardia," by Mary S. Larson, M.D., Kathryn McDonald,

M.M., Charlie Young, M.D., and others, in the August 15, 1999 *American Journal of Cardiology* 84, pp. 471-473. ■

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Patients should be involved in prostate cancer screening decisions

Use of the tumor marker prostate-specific antigen (PSA) to test for prostate cancer is controversial for several reasons. First, prostate cancers that will never progress and cause harm are extraordinarily common. That's why even advocates of PSA screening recommend against it in men with less than a 10-year life expectancy (for example, a 75-year-old man in average health).

Due to the lack of data on whether prostate cancer screening does more good than harm, experts disagree on whether it should be done routinely. Owing to this uncertainty, the American College of Physicians-American Society of Internal Medicine recommends that clinicians discuss the pros and cons of prostate cancer screening with male patients in their 50s and 60s.

A reasonable approach is for physicians to share the PSA decision with patients, concludes Michael J. Barry, M.D., of Massachusetts General Hospital. He is principal investigator of the Prostate Patient Outcomes Research Team, which is supported by the Agency for Healthcare Research and Quality (HS08397). In a recent book chapter, Dr. Barry notes that PSA tests can find many cancers earlier than digital rectal examination (DRE),

but that DRE does detect tumors missed by PSA testing. In any case, the sensitivity and specificity of PSA measurements are poorly defined.

A large study of "baseline" PSA in banked frozen plasma from men (mean age, 63 years) recruited to the Physicians' Health Study found that the PSA level was elevated at more than 4.0 ng/mL in 73 percent of men who were diagnosed with prostate cancer within the next 4 years and in 46 percent within the next 10 years. In the same study, the PSA level was 4.0 ng/mL or less in 91 percent of men who were not diagnosed with prostate cancer over the next 10 years. Transrectal ultrasonography (TRUS) is insufficiently sensitive and specific to be used as a primary screening test. However, it is commonly used to follow up suspicious DRE or PSA results. TRUS results are then typically followed by prostate biopsies.

See "Nonpalpable prostate cancer" by Dr. Barry, in Black, E., Bordley, D.R., Tape, T., and Panzer, R., editors, *Diagnostic Strategies for Common Medical Problems*. Philadelphia: American College of Physicians, 1999, pp. 540-548. ■

Cholesterol reduction guidelines for primary prevention should complement more effective secondary prevention efforts

The National Cholesterol Education Program (NCEP) clinical guidelines for screening and treating elevated cholesterol levels are rapidly becoming the standard of care in the United States. However, secondary prevention—that is, reducing cholesterol levels among men and women who already have coronary heart disease—is more effective than preventing elevated cholesterol levels in people without coronary artery disease (primary prevention). Thus, NCEP primary prevention guidelines should complement the more appealing strategies of secondary prevention, concludes a study supported by the Agency for Healthcare Research and Quality (HS06258).

Milton C. Weinstein, Ph.D., of the Harvard School of Public Health, and colleagues used a simulated model of the U.S. population, aged

35 to 84 years, to estimate the potential for the NCEP guidelines, under varying assumptions, to reduce coronary heart disease morbidity and mortality and overall mortality from the years 2000 to 2020. They calculated that primary cholesterol prevention efforts would yield only about half of the benefits of secondary prevention, despite requiring nearly twice as many person-years of treatment. Also, the projected increase in quality-adjusted years of life per year of treatment for secondary prevention was 3- to 12-fold higher than for primary prevention.

The larger benefits of secondary prevention are due to the higher risks of men and women who already have coronary heart disease and the more aggressive goal of LDL cholesterol reduction for this group. Their annualized risk of death due to coronary heart disease is 10 percent

to 130 percent higher in women and 15 to 50 percent higher in men compared with high-risk and medium-risk women and men without coronary heart disease who are 30 years older. Annualized risks for heart attacks follow a similar pattern. The LDL cholesterol reduction goal for secondary prevention (100 mg/dl) is much greater than for high-risk primary prevention (130 mg/dl) or medium-risk primary prevention (160 mg/dl).

Details are in "The relative influence of secondary versus primary prevention using the National Cholesterol Education Program adult treatment panel II guidelines," by Lee Goldman, M.D., M.P.H., Pamela Coxson, Ph.D., Maria G.M. Hunink, M.D., Ph.D., and others, in the September 1999 *Journal of the American College of Cardiology* 34(3), pp. 768-776. ■

Certain factors indicate which patients are at risk of cardiac problems after major noncardiac surgery

You don't have to undergo heart surgery to experience cardiovascular complications. Even patients undergoing major noncardiac surgery may have such problems. However, the findings from a recent study may make it easier to predict which patients are at risk of developing cardiovascular complications. The researchers identified several risk factors that can be used as an index to predict cardiac risk in noncardiac surgery patients. They found that patients who undergo a high-risk type of surgery (intraperitoneal, intrathoracic, or suprainguinal vascular surgery), have a history of ischemic heart disease, history of congestive heart failure, history of cerebrovascular disease, preoperative treatment with insulin, or have preoperative serum creatinine greater than 2.0 mg/dL are at increased risk of cardiovascular complications.

Researchers from Brigham and Women's Hospital and Harvard Medical School studied 4,315 patients aged 50 years or older undergoing elective major noncardiac procedures in a tertiary-care teaching hospital. They identified major cardiac complications, which occurred in 2 percent of the 2,893 patients from whom they

derived the cardiac risk index. They later validated the index in another group of 1,422 patients.

The rate of major cardiac complications with zero, one, two, or three or more of these factors were 0.5 percent, 1.3 percent, 4 percent, and 9 percent, respectively, in the derivation group and 0.4 percent, 0.9 percent, 7 percent, and 11 percent, respectively, in the validation group. The presence of two or more of these factors identified patients with moderate (7 percent) and high (11 percent) complication rates in the validation group. How this index should be used by clinicians remains to be defined. One approach would be to confine routine use of noninvasive testing to patients with moderate risk for complications. This study was supported by the Agency for Healthcare Research and Quality (HS06573).

See "Derivation and prospective validation of a simple index for prediction of cardiac risk of major noncardiac surgery," by Thomas H. Lee, M.D., S.M., Edward R. Marcantonio, M.D., S.M., Carol M. Mangione, M.D., S.M., and others, in the September 7, 1999 *Circulation* 100, pp. 1043-1049. ■

Surgeons' attitudes toward surgery are the major source of area variation in use of knee replacement surgery

Rates of knee replacement surgery—an effective but expensive procedure—vary up to six-fold depending on geographic region. Surgeons' attitudes about knee replacement surgery as a solution to knee problems is the major source of area variation in the use of this surgery, concludes a study by the Total Knee Replacement Patient Outcomes Research Team (PORT), which was supported by the Agency for Healthcare Research and Quality (HS06432). Thus, changing surgeons' attitudes toward this procedure is the key to reducing regional variations in its use, according to PORT leader, Deborah A. Freund, Ph.D., M.P.H., formerly of Indiana University where PORT

research was conducted. Dr. Freund is now at Syracuse University.

Dr. Freund and her colleagues examined the effect of several factors on county knee replacement rates in Ontario, Canada: characteristics and opinions of surgeons, family physicians, and rheumatologists; patients' severity of disease before knee replacement; access to knee replacement surgery; surgeons' use of other surgical treatment; and county population characteristics. After accounting for these factors, orthopedic surgeons' enthusiasm for the procedure was the dominant modifiable determinant of area variation. The researchers measured physician enthusiasm by their propensity to perform knee replacement and perceptions of

expected outcome of the procedure, such as relief of pain, improved ability to walk, and complication rates.

The propensity of an individual orthopedic surgeon to perform knee replacement surgery was determined by adding the differences between how 34 patient characteristics affected that surgeon's decision to perform the surgery and the median responses of other surgeons. The propensity to operate was correlated with surgeons' perceptions about the operation's outcome and therefore explained 27 percent of the variance in county surgery rates. As expected, counties with older populations or the presence of teaching hospitals had higher per capita rates of knee

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Knee replacement surgery

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replacement surgery. Patient severity of disease before knee replacement

was not related to county variation in its use.

See "Physician enthusiasm as an explanation for area variation in the utilization of knee replacement

surgery," by James G. Wright, M.D., M.P.H., Gillian A. Hawker, M.D., M.S.C., Claire Bombardier, M.D., and others, in *Medical Care* 37(9), pp. 946-956, 1999. ■

Managed Care

Many women enrolled in HMOs prefer to see an OB/GYN for routine gynecological care

Some managed care plans encourage women to accept gynecological care as part of the routine care they receive from their primary care physician providers. However, a recent study suggests that many women prefer to receive routine gynecological care from an obstetrician/gynecologist. Survey responses from 5,164 women (35 years and older) in a large group model health maintenance organization (HMO) in Northern California revealed that 56 percent of the women had seen a gynecologist for their last pelvic examination, 26 percent had seen a nurse practitioner, and only 18 percent had seen their own primary care physician (PCP). Of these women, 60 percent said they preferred a gynecologist for basic gynecology care, 13 percent preferred a nurse practitioner, 13 percent preferred their own PCP, and 14 percent had no preference.

A woman's prior experience was the strongest predictor of physician preference. For example, the strongest independent predictor of preferring a gynecologist over a PCP was having seen a gynecologist for the last pelvic exam. The past policies of this particular HMO often dictated that women see either gynecologists or nurse practitioners for routine

gynecologic care. Thus, most women in this HMO had become accustomed to relying on practitioners other than their PCP to provide basic pelvic exams and breast cancer screening and they had received care in a system that treated this as the norm. Women who had been with their PCP longer and women who saw family physicians were more apt to prefer that physician as the provider of their basic gynecological care.

These findings suggest that women's preferences are not set in stone. They may come to value the continuity and comprehensiveness of basic gynecological care provided by their own PCP once they have had a chance to build a significant relationship with that provider, suggests principal investigator Joe V. Selby, M.D., M.P.H., of the Kaiser Permanente Medical Care Program, Northern California Region. This research was supported by the Agency for Healthcare Research and Quality (HS08269).

See "Women's provider preferences for basic gynecology care in a large health maintenance organization," by Julie Schmittiel, M.A., Dr. Selby, Kevin Grumbach, M.D., and Charles P. Quesenberry Jr., Ph.D., in the *Journal of Women's Health and Gender-Based Medicine* 8(6), pp. 825-833, 1999. ■

Monthly recertification of Medicaid eligibility may undermine delivery of quality health care for children

About one in five U.S. children is enrolled in a State Medicaid program. Children continuously enrolled in Medicaid throughout the year are much more likely to always or sometimes have an assigned primary care physician (PCP) and receive better care for middle ear infections (otitis media) than those who are discontinuously enrolled and lack a PCP.

Children who are continuously enrolled are far less likely to visit the emergency department (ED) for middle ear infections, more apt to fill antibiotic prescriptions for the condition, and more likely to be referred for needed ear surgery such as tube placement and/or adenoidectomy, according to a recent study. Findings from the study, which was supported by the

Agency for Healthcare Quality and Research (HS07816), suggest that current monthly recertification of Medicaid eligibility leads to frequent shifts on and off the program, which may undermine delivery of cost-effective quality care.

Clearly, 12 months of continuous Medicaid enrollment and an assigned PCP improved the care of

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Health care for children

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children with middle ear infections in the study by Stephen Berman, M.D., and colleagues at the University of Colorado Health Sciences Center. They analyzed the Medicaid Medical Events Database and Medicaid claims data to track otitis media-related diagnoses, antibiotics, outpatient visits, and surgeries for children enrolled in Colorado's Medicaid program from January 1 through December 31, 1991.

Continuously enrolled children were more than 4 times (odds ratio, 4.2 and 4.9) as likely to always or sometimes have a PCP compared with children who were discontinuously enrolled. The likelihood of ever using the ED for an otitis media-related visit was increased by 26 percent and 50 percent, respectively, when a child sometimes or never had an assigned PCP compared with always having an assigned PCP. The likelihood of ever filling an antibiotic for the condition was reduced by 23 percent and 34 percent, respectively, when a child sometimes or never had an

assigned PCP compared with always having one. Finally, surgical rates per 1,000 child-years for children age 13 to 18 months and 31 to 36 months were higher when they always had an assigned PCP compared with sometimes or never having one.

For more details, see "The influence of having an assigned Medicaid primary care physician on utilization of otitis media-related services," by Dr. Berman, Jessica Bondy, M.H.A., Dennis Lezotte, Ph.D., and others, in the November 1999 *Pediatrics* 104(5), pp. 1192-1197. ■

Researchers compare expenditures for Medicare beneficiaries enrolled in two types of HMOs

In addition to the traditional Medicare inpatient and outpatient services covered by the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) for TEFRA-risk health maintenance organizations (HMOs), social health HMOs (S/HMOs) provide long-term care (LTC) benefits and case management services for chronic illness. However, a recent study supported by the Agency for Healthcare Research and Quality (HS07171) found that S/HMO membership does not offer any overall savings, not even savings from substitution of S/HMO-specific services like home care for traditional services such as nursing home care.

Bryan Dowd, Ph.D., of the University of Minnesota, and his colleagues examined expenditures of enrollees in both plans, which were part of a Minneapolis S/HMO

demonstration project. Enrollees in both plans used the same physicians and hospitals, and both plans were operated by the same parent organization. Because the S/HMO was capitated for both acute care and LTC services beyond the basic Medicare benefit, the S/HMO had an incentive to make cost-effective substitutions of one type of care for another. Covered LTC services of the S/HMO demonstration included homemaking services, personal care services, public health nursing, in-home physicals, occupational and speech therapy, adult day care, and medical transportation.

Results showed that outpatient services common to both the S/HMO and TEFRA HMO were about 16 percent higher for S/HMO enrollees, and expenditures for all services were about 20 to 22 percent higher for S/HMO enrollees. The researchers speculate that care

coordinators and home care workers might have discovered health problems that otherwise would have gone undetected, recommended medical attention for chronic problems, and helped to link patients with other medical providers, resulting in higher expenditures for S/HMO enrollees. Nevertheless, the S/HMO was providing services that were highly valued by its members. A study after termination of the S/HMO in Minnesota found that former enrollees were receiving fewer home care services, their family caregivers reported increased burden and stress, and they had more out-of-pocket expenses.

See "S/HMO versus TEFRA HMO enrollees: Analysis of expenditures," by Dr. Dowd, Steve Hillson, M.D., Tom VonSternberg, M.D., and Lucy Rose Fischer, Ph.D., in the Summer 1999 *Health Care Financing Review* 20(4), pp. 7-23. ■

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

Financial incentives may influence health care providers' mental health treatment decisions

The mental health services a person receives depends not only on the benefits covered by his or her plan, but also the financial incentives offered to doctors that encourage them to use or withhold such services. A recent study underscores the major role played by financial incentives offered on access to mental health services. The study, which was supported by the Agency for Healthcare Research and Quality (HS09660), found that when a managed behavioral health organization (MBHO) changed the way it contracted for outpatient mental health care with its network providers from a fee-for-service (FFS) system to a case-rate system (fixed payment for all covered treatment per patient), mental health visits went down 25 percent.

More intense utilization review of mental health service use nearly doubled the effect of the case rate. The share of revenue from FFS patients worked in the opposite direction. FFS revenue raised visits by 34 percent relative to the case-rate effect with no FFS revenue. The effect of physician financial risk sharing on treatment choices also seemed to depend on the level of

the case-rate payment associated with a given patient. For example, a \$100 increase in the case rate would result in only a 10 versus 25 percent reduction in visits relative to FFS.

Also, providers who shared the financial risk appeared to tap into collateral services that were less costly to themselves, although not necessarily to patients or other stakeholders, as substitutes for their own services. For instance, case-rate patients were more likely than FFS patients to receive medications, to be referred to self-help programs, and to be referred to a community mental health center, notes study author, Meredith B. Rosenthal, Ph.D., of the Harvard School of Public Health. She surveyed 26 group practices and independent practice associations about financial incentives, organizational factors influencing mental health treatment choice, and internal reimbursement schemes to examine the impact of provider risk sharing on number of mental health visits.

For more details, see "Risk sharing in managed behavioral health care," by Dr. Rosenthal, in the September 1999 *Health Affairs* 18(5), pp. 204-213. ■

New schizophrenia therapies show promise, but treatment continues to be inadequate for many patients

The brain disorder schizophrenia affects about 2.5 million Americans and 20 to 30 percent of the homeless. The symptoms of this chronic psychotic condition range from hallucinations, hearing voices, paranoia, and social withdrawal to unusual behavior and disorganized thinking. These symptoms make it difficult if not impossible for patients to carry on at home, school, or work. Until recently, drugs used to treat schizophrenia had such severe side effects that patients were reluctant to keep taking them.

Recent advances in drugs and psychosocial therapies have made it possible, at least in theory, for people with schizophrenia to return

to more normal lives. However, treatment of many patients with schizophrenia, particularly those cared for under the auspices of public programs like Medicaid and Medicare, remains inadequate, concludes the Schizophrenia Patient Outcomes Research Team (PORT). The PORT was supported by the Agency for Healthcare Research and Quality (contract 290-92-0054).

The PORT, led by Anthony F. Lehman, M.D., M.S.P.H., of the University of Maryland School of Medicine, issued its treatment recommendations in January 1998. Yet in a recent survey of people being treated for schizophrenia, the researchers found that less than half of the 700 patients surveyed

were receiving treatment that met its recommendations. Dr. Lehman and his colleagues cite institutional and system barriers to good care, such as restrictions on prescriptions for newer antipsychotic medications, which are much more expensive than conventional agents, to lack of evening and weekend hours to accommodate family-support programs.

The team found evidence that treatment programs which combine medications with psychosocial services ranging from reality-based and cognitive "problem-solving" therapy to family education and support. The new antipsychotics

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New schizophrenia treatment

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are as effective as conventional agents (for example, chlorpromazine and haloperidol), reducing relapse rates 40 to 50 percent in usual

practice, and they have fewer unpleasant neurologic side effects. Also, patients on medication whose families receive schizophrenia education, support, and communication training have 50

percent lower relapse rates than patients on medication alone.

See "Quality of care in mental health: The case of schizophrenia," by Dr. Lehman, in the September 1999 *Health Affairs* 18(5), pp. 52-65. ■

New program helps local managed care practices improve depression care provided by primary care doctors

Depression affects one in ten Americans every year, and half of these patients are cared for by primary care physicians (PCPs). However, PCPs have a poor record of diagnosing and appropriately treating depression, despite the presence of national depression care guidelines. Once symptoms are detected by the PCP, patients require at least 30 minutes of initial assessment and education followed by active treatment and monitoring for up to 1 year. These are daunting tasks for PCPs, whose typical appointment slot is 15 minutes. Also, mental health specialists are less integrated into primary care practices than medical specialists, so PCPs often must struggle with difficult cases on their own.

However, a recent study of 46 primary care clinics in network or staff-model health maintenance organizations shows that local managed care practices can successfully implement an expert-designed collaborative care program to improve depression care by primary care doctors. The Partners in Care program involves a team-based approach that enhances the practice's capacity for patient assessment, education, and treatment-monitoring for depression through use of nurse depression specialists and provides mechanisms for improved primary care/mental health specialty partnerships.

Partners in Care is the Patient Outcomes Research Team (PORT) project on improving the cost-effectiveness of care for depression in managed primary care. The project is supported by the Agency for Healthcare Research and Quality (HS08349) and led by Kenneth B. Wells, M.D., M.P.H., of the RAND Corporation and the UCLA Neuropsychiatric Institute.

This study found that when the clinical leaders of local managed care practices were trained in multimodal quality improvement programs, practices achieved above 70 percent adherence rates for most intervention components. For example, they were near 100 percent for hiring depression nurse specialists and reducing copayments for psychotherapy. Adherence rates were lower in some areas, however. For example, only 55 percent of patients on antidepressants were followed by nurses to monitor symptoms, side effects, and medication compliance for the full expected duration (6 or 12 months).

Details are in "Evidence-based care for depression in managed primary care practices," by Lisa V. Rubenstein, M.D., M.S.N.S., Maga Jackson-Triche, M.D., M.P.H., Jurgen Unutzer, M.D., M.P.H., and others, in the September 1999 *Health Affairs* 18(5), pp. 89-105. ■

Rural Health

Virginia rural cancer outreach program benefits patients and hospitals

Cancer is the second most common cause of death for rural Americans, who are more apt to be poor and illiterate and to have less access to cancer specialists than urban Americans. The Rural Cancer Outreach Program (RCOP) established by the Medical College of Virginia campus of Virginia Commonwealth University's

Massey Cancer Center (MCC) provided rural patients with access to state-of-the-art cancer care and, at the same time, increased patient volume and profits at MCC and two rural hospitals. These are the findings of a recent study supported in part by the Agency for Healthcare Research and Quality (HS06589).

As part of the RCOP, patients diagnosed with cancer at one of two rural hospitals were seen within 1 week of diagnosis by an MCC team, including medical oncologists and nurse clinical specialists who

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Cancer outreach

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traveled weekly to the RCOP clinic at the rural hospitals. Between clinic visits, the patients received continuing cancer care at the rural hospital from their primary care physicians based on the care plan. Cancer care was provided regardless of insurance status or ability to pay. Previously, no specific cancer services except general surgery had been available at rural hospitals. With the RCOP, chemotherapy and palliative care services, including home and hospice care, were developed at each RCOP site. Radiation was done only at MCC, which provided free daily van service.

The researchers examined cancer patient clinic logs and their charges and costs during the 2-year period prior to the RCOP program, 1987 and 1988, and during a 2-year period after full implementation, 1991 and 1992. After RCOP implementation at the first site, more than 70 percent of breast cancer patients had breast conservation compared with less than 20 percent prior to RCOP implementation. Improvements in adjuvant treatment and pain control were seen as well. The RCOP greatly increased access to academic specialist oncology care for rural patients to receive services both locally and at MCC, with a total volume increase of 452 percent. MCC increased its net profit by 68

percent, and the two rural hospitals increased profits by \$2.5 million. More importantly, the cost of admitting a rural patient fell by 40 percent, consistent with findings from other research in coordinated palliative care. The total cost of care per patient declined dramatically due to a shift in outpatient care, a lower cost site of care, and coordination.

See "A rural cancer outreach program lowers patient care costs and benefits both the rural hospitals and sponsoring academic medical center," by Christopher E. Desch, M.D., Michael A. Grasso, M.S., Michael J. McCue, D.B.A., and others, in the Spring 1999 *Journal of Rural Health* 15(2), pp. 157-167. ■

HIV/AIDS Research

Azithromycin is the most cost-effective option for preventing a common, serious infection among AIDS patients

Azithromycin is the most cost-effective medication to prevent the common, serious disseminated infection, *Mycobacterium avium* complex (MAC), among AIDS patients if begun when their CD4 cell count has declined to 50/ μ l, concludes a new study. This is the point at which so-called opportunistic infections like MAC and cytomegalovirus (CMV) attack these patients' weakened immune systems and reduce their survival chances.

Researchers from Johns Hopkins School of Public Health, Yale School of Medicine, Harvard School of Public Health, and Boston University's Schools of Medicine and Public Health developed a simulation model in which one hypothetical patient at a time was followed from a CD4 lymphocyte cell count between 201 and 300/ μ l to death. Using several AIDS databases

and clinical trial results, they projected costs, life expectancy, and cost-effectiveness of five different drug regimens to prevent MAC in patients with AIDS: initial therapy with azithromycin, rifabutin, clarithromycin, azithromycin/rifabutin combination therapy, and clarithromycin/rifabutin combination therapy.

Initiating azithromycin prophylaxis (and changing to clarithromycin and then rifabutin if needed because of drug toxicity) after a patient's CD4 count had fallen to 50/ μ l was the best option. It had a cost-effectiveness ratio of \$25,000 per quality-adjusted life year (QALY) saved compared with only using prophylaxis for *Pneumocystis carinii* pneumonia (PCP) and decreased to \$21,000 per QALY if the risk of MAC was lower, as appears to be the case with currently used combination

antiretroviral therapy. Overall, baseline results suggest that it would cost \$4.3 billion to care for 100,000 patients with AIDS from a CD4 count of 300/ μ l to death, if PCP prophylaxis were the only prophylaxis used. An additional \$89 million would buy azithromycin prophylaxis for MAC, which would increase survival by about 3,600 years for the entire group. This research was supported by the Agency for Healthcare Research and Quality (HS07317).

Details are in "The cost-effectiveness of prophylaxis for *Mycobacterium avium* complex in AIDS," by Julie A. Scharfstein, A. David Paltiel, Milton C. Weinstein, Elena Losina, Kenneth A. Freedberg, and others, in the *International Journal of Technology Assessment in Health Care* 15(3), pp. 531-547, 1999. ■

Nurse researchers are encouraged to apply for Agency research grants

Six percent of all funded grants from the Agency for Healthcare Research and Quality (formerly the Agency for Health Care Policy and Research, AHCPR) were awarded to nurse principal investigators (PIs) in FY 1994, 9 percent in FY 1995, 4 percent in FY 1996, and 2 percent in FY 1997. For corresponding years, nurse PIs represented 7 percent, 7 percent, 4 percent, and 5 percent of the total pool of AHRQ research grant applicants. Thus, nurse PIs have been successful in receiving funding when they applied for Agency grants, and they should build on this success by submitting more grant applications, according to Cheryl Bland Jones, Ph.D., R.N., a senior health services researcher at the Agency.

Dr. Jones and her Agency colleagues Lorraine Tulman, D.N.Sc., R.N., F.A.A.N, and Carolyn M. Clancy, M.D., recently published an article that describes research funding opportunities at AHCPR—now AHRQ—and discusses contributions made by nurse researchers. They point out that the outlook for nurse PIs to receive Agency funding is good for two reasons. AHRQ is interested in many of the same research topics of interest to nurses, for example, disease prevention, health promotion, primary care, quality of care delivery,

and service delivery. Also, the Agency's budget has increased from roughly \$45 million in 1989 to more than \$200 million in FY 2000. At the same time that funding has increased, current commitments are ending, and the existing application pool is small (but growing). This makes now a very opportune time for nurse PIs to apply for AHRQ funding, particularly since the Agency wants to strengthen its relationship with the nursing research community.

Research applications submitted to the Agency should be innovative and well written. In addition to the health services research focus, proposals should include an interdisciplinary research team and focus on the timeliness and relevance of the proposal. Investigators should also address the practical and applied clinical origin of the proposal, anticipated impact of the proposed study on health care decisionmaking at all levels, and strengths of the research design and methodology.

See "Research funding opportunities at the Agency for Health Care Policy and Research," by Drs. Jones, Tulman, and Clancy, in the July 1999 *Nursing Outlook* 47(4), pp. 156-161. Reprints (AHCPR Publication No. 99-R080) are available from AHRQ.** ■

Technology Assessment

Technology assessment provides crucial information for clinical decisionmaking

Physicians should be active users of medical technology and technology assessments, according to John M. Eisenberg, M.D., Director of the Agency for Healthcare Research and Quality. He believes clinicians should seek out and use such evidence each and every day as they work with their patients to make health care decisions. Health care technologies will not reach their full potential to improve patient care unless they are translated, used, and continuously evaluated, notes Dr. Eisenberg. His views were presented in November

at a meeting of the British Medical Association in London and published as a commentary in the November 17, 1999, issue of the *Journal of the American Medical Association*.

Most people would agree that health care technology has advanced physicians' ability to improve their patients' health and quality of life, yet there continues to be disagreement about which technologies they should use, how much technology is too much, and whether the technologies clinicians use are cost

effective. These questions are particularly relevant today, in a health care system that is dominated by intense competition between clinicians and organizations competing for a greater share of the market, whether for hospital beds, ambulatory services, drugs, or devices. Dr. Eisenberg says the proliferation of new and sometimes expensive health care technologies in a period of constrained health care spending is spurring demand for more of the information needed to

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Technology assessment

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make decisions that affect both patients' lives and the bottom line of health care costs.

Over the past 10 years, the Agency for Health Care Policy and Research (AHRQ's predecessor agency), sponsored and carried out research on the outcomes and use of medical technology. Dr. Eisenberg points to 10 lessons that stand out from that body of work.

- Innovation and flexibility should guide assessment.
- Technology is more than devices.
- Research and assessments should be linked with coverage.
- Technology assessment is not a one-time exercise.

- New measures of outcomes should be developed.
- The community of practice is a laboratory for technology assessment.
- Training and capacity-building in technology assessment should be emphasized.
- Better international collaboration will result in global synergy.
- National resources on technology assessment should be linked.
- Technology assessments should be translated into improved practice.

Technology is rarely inherently good or bad; nor is it always or never useful. The challenge is to evaluate when in the course of an

illness it is effective, for whom it will enhance outcomes, and how it should be implemented or interpreted. Continued development of medical technologies has brought enormous benefits to patients, but at the same time, these advances bring with them a collective responsibility to ensure that technologies are deployed appropriately, concludes Dr. Eisenberg.

For more information, see Dr. Eisenberg's commentary, "Ten lessons for evidence-based technology assessment," in the November 17, 1999, issue of the *Journal of the American Medical Association* 282(19), pp. 1865-1869. Reprints (AHCPR Publication No. 00-R008) are available from AHRQ.** ■

Research Methodology

Journal supplement explores the use of qualitative methods in health services research

For the past several years, the Agency for Healthcare Research and Quality has been grappling with how to foster qualitative research. In December of 1998, AHRQ's Center for Organization and Delivery Studies coordinated and cosponsored an invitational conference on qualitative methods in health services research with the Robert Wood Johnson Foundation. The conference brought together qualitative and quantitative researchers from within the field of health services research and from the basic and applied social sciences to discuss qualitative research methods, their applications in health services research, and ways of improving the "quality" of qualitative research.

The presented papers and discussion papers from the

conference are now being shared with the broader health services research community through a special supplement to the December 1999 issue of the journal *Health Services Research*. This thought-provoking issue provides a rich resource for both quantitative and qualitative researchers interested in examining fundamental research design and methods issues.

An editorial by Stephen M. Shortell, Ph.D., challenges the field to remove the barriers that constrain investigators' ability to conduct and disseminate well-done qualitative research. He argues that the field needs to move beyond the debate over the relative merits of quantitative and qualitative research to produce findings that can be used to improve the financing,

organization, delivery, and outcomes of care. Increasingly, this may involve the creative combination of quantitative and qualitative methods.

In addition to Dr. Shortell's editorial, the supplement also contains the following articles:

- An introduction, pp. 1091-1099, by Thomas Rundall, Kelly Devers, and Shoshanna Sofaer provides background information on the conference and sets the stage for the papers that follow.
- "Qualitative methods: What are they and why use them?" pp. 1101-1118, by Shoshanna Sofaer, provides an overview of why and how qualitative methods have been used and can

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Qualitative methods

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be used in health services and health policy research, describes a range of specific methods, and gives examples of their application.

- “Qualitative research and the profound grasp of the obvious,” pp. 1119-1136, by Robert Hurley, discusses the views of four respected researchers on the value of promoting coexistent and complementary relationships between qualitative and quantitative research methods.
- “The distinctiveness of case-oriented research,” pp. 1137-1152, by Charles Ragin, argues that important and often overlooked distinctions between quantitative and qualitative research, which he labels “case-oriented” and “variable-oriented” research (respectively), are differences in their goals and strategies.
- “How will we know ‘good’ qualitative research when we see it? Beginning the dialogue in

health services research, pp. 1153-1188, by AHRQ researcher Kelly Devers, lays the foundation for an explicit review and dialogue about the criteria that should be used to evaluate qualitative health services research. Reprints of this article (AHCPR Publication No. 00-R011) are available from AHRQ.*

- “Enhancing the quality and credibility of qualitative analysis,” pp. 1189-1208, by Michael Quinn Patton, examines ways of enhancing the quality and credibility of qualitative analysis by dealing with three distinct but related concerns: rigorous methods, the credibility and competency of the researcher, and the philosophical beliefs of evaluation users.
- “Enhancing the quality of case studies in health services research,” pp. 1209-1224, by Robert K. Yin, provides guidance on improving the quality of case studies and explains how the case study method can become a valuable tool for health services research.

- “Using qualitative comparative analysis to study causal complexity,” pp. 1225-1239, by Charles Ragin, discusses why and how different combinations of causal conditions lead to the same outcome and ways qualitative research can contribute to understanding in these circumstances.
- “Analyzing qualitative data with computer software,” pp. 1241-1263, by Eben A. Weitzman, presents an overview of the qualitative data analysis process and the role of software within it, provides a principled approach to choosing among software packages, discusses the potential benefits and limitations of such software, and forecasts some of the developments that can be expected in the field in the near future.

A limited number of free copies of the special supplement are now available from AHRQ (Publication No. OM99-0017).* See the back cover of *Research Activities* for ordering information. ■

AHRQ News and Notes

Agency reauthorization brings new challenges and renews a strong commitment to health services research

On December 6, 1999, President Clinton signed legislation that transformed the Agency for Health Care Policy and Research into the Agency for Healthcare Research and Quality. This legislation was enacted less than 2 weeks before AHCPR was to celebrate its 10th anniversary on December 19. On that day in 1989, President Bush signed the legislation that created AHCPR and set forth the Agency’s primary objective to enhance the quality, appropriateness, and effectiveness of health care services and access to care.

John M. Eisenberg, M.D., formerly AHCPR’s Administrator, will continue to lead the Agency in his

new role as AHRQ Director. Lisa Simpson, M.B., B.Ch., M.P.H., also continues in her role as Deputy Director.

For the past 10 years, AHCPR has sponsored and conducted health services and outcomes research, provided leadership to the field, fostered the development of new research tools and methodologies, and disseminated information on a wide variety of health care topics to enhance health care decisionmaking. Agency staff can look back on a decade of challenges met, obstacles overcome, and accomplishments that have helped to change the face of health care in the Nation. Now AHCPR has become

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Agency reauthorization

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AHRQ, and Agency staff are looking to the future—a future that will include an expanded role in fostering improvements in health care quality through research.

The reauthorization legislation validates the Agency's core mission and its role as a "science partner," working collaboratively with public- and private-sector organizations to improve the quality and safety of patient care. Although the sponsors of the legislation emphasized quality and outcomes research, they also reaffirmed the Agency's commitment to supporting research on the costs and use of health care, as well as access to care. Indeed, the new legislation includes more references to this component of AHRQ's research portfolio than the previous statute.

The reauthorization legislation directs AHRQ to conduct and support research on the measurement and improvement of health care quality, including research on the most effective means of communicating findings to the public. As part of this effort, AHRQ will develop and disseminate annual reports to the Nation on health care quality and trends in health care disparities among various segments of the population.

In the area of medical errors/patient safety, AHRQ will support research and build partnerships with health care practitioners and health care systems to reduce medical errors. The authorizing legislation also establishes the Centers for Education and Research on Therapeutics (CERTs) as a permanent program. This initiative will help reduce drug-related medical errors by supporting timely research on the appropriate use of medications and increasing awareness of new uses of drugs and potential risks associated with drugs, biological products, and devices.

Finally, the reauthorization legislation requires AHRQ to advance the use of information technology for coordinating patient care and conducting quality and outcomes research. To address this requirement, the Agency will support the use of information systems to develop individual provider and plan-level comparative performance measures, create effective linkages between various sources of health information to enhance the delivery and coordination of evidence-based health care services, and promote the protection of patient information.

Congress has appropriated \$205 million in FY 2000 funding for AHRQ, only \$1 million less than the President's request. This increase of \$34 million is 20 percent over the FY 1999 level and is the largest dollar and percentage increase in the Agency's 10-year history. This level of funding reflects strong bipartisan support for AHRQ and its mission to foster the use of evidence

as the foundation for informed health care decisionmaking by patients, clinicians, health system leaders, purchasers, and policymakers.

AHRQ has adopted a theme for the new millennium—Closing the Gap, which represents a fitting goal for an Agency whose new acronym is pronounced "arc," to ensure that the knowledge gained through health care research is translated into measurable improvements. Four gaps in particular need to be addressed.

1. The gap between current knowledge and current practice in health care.
2. The gap between the evidence available now and the evidence still lacking in order to improve care in the future.
3. The gap between the questions confronting health care decisionmakers and the information they now have available.
4. The gap between minority populations and whites in access to health care services and the quality and outcomes of care.

To address these gaps, in FY 2000, AHRQ will fund research in three priority areas:

- **New research on priority health issues.** This includes the identification of conditions with national significance and a commitment of sufficient funds to achieve significant advancements in each area in the next 3 to 5 years, as well as a coordinating strategy to link researchers with those who will use the findings to facilitate rapid adoption of findings.
- **New tools and talent for a new century.** This includes the development of tools that will enable AHRQ to close the information gaps that interfere with effective decisionmaking at all levels of the health care system. To this end, AHRQ will work in partnership with decisionmakers to craft a system of sentinel indicators and an "early warning system" that can be used to track and understand changes in quality at the national, State, and community levels.
- **Translating research into practice.** Building on a 10-year foundation of health care research, AHRQ will identify goals for improvement in all areas of health care, establish public-private partnerships, support practice networks, and fund demonstration grants to systematically test strategies for implementing findings.

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Agency reauthorization

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Of AHRQ's \$205 million FY 2000 budget, \$5 million is specifically designated for research in the area of bioterrorism. More specifically, Congress has instructed AHRQ to support and conduct research on rapid response systems and the most effective clinical interventions to treat patients who have been exposed to chemical and biological agents.

You will be hearing more over the next few months about the new initiatives outlined in AHRQ's reauthorization legislation and in the Agency's FY 2000 budget. Many of you have been AHCPR grantees. You have helped to build an agency that is well prepared to take on the challenges and the opportunities facing the Agency for Healthcare Research and Quality. AHRQ will continue to work in partnership with you to facilitate improvements in health care quality through research. ■

Announcements

AHRQ funds new projects in four areas of emphasis

The Agency for Healthcare Research and Quality (formerly AHCPR, the Agency for Health Care Policy and Research) recently funded new research projects in four areas of emphasis: Improving quality of care for vulnerable children, translating evidence-based research into improved clinical practice, assessing quality improvement strategies, and improving the quality of care through nursing research. Readers are reminded that findings usually are not available until a project is concluded or nearing completion.

Quality of care for vulnerable populations. AHRQ has funded 12 new research projects aimed at developing measures of quality of care for vulnerable populations. Funding for these new projects is anticipated to total \$8.84 million over a 3-year period.

- **Measuring patient satisfaction: Low literacy populations.** Principal investigator: Judy Shea, Ph.D., University of Pennsylvania, Philadelphia. Grant HS10299; \$1,531,035; 09/30/99–09/29/02. This study will adapt AHCPR's Consumer Assessment of Health Plans (CAHPS®) survey to make it even more accessible to low-literacy populations by developing and testing two

alternative formats: illustrated and interactive voice-response. CAHPS® is a series of surveys and reporting formats that helps consumers and other purchasers make decisions about health plans by providing them with information on what members of various plans think about the care and services they receive.

- **Measuring quality of care for high-risk infants.** Principal investigator: Jeannette A. Rogowski, Ph.D., RAND, Santa Monica, CA. Grant HS10328; \$1,120,241; 09/30/99–09/29/02. Specific objectives of this project are to: (1) develop new methods for measuring quality of care for very low birthweight infants that can overcome the problems of small sample size, bias from patient mix, and the multidimensional nature of quality; (2) apply the methods to estimate past and predict future quality of care; and (3) identify and apply a minimum set of quality measures that summarize quality differences and economic performance across time and place (i.e., hospitals).
- **A patient-centered quality measure for Asian-Americans.** Principal investigator: Russell S. Phillips, M.D., Beth Israel Deaconess Medical

Center, Boston, MA. Grant HS10316; \$1,073,524; 09/30/99–09/29/02. These investigators will develop and validate a questionnaire to examine quality of care from the patient's perspective for Asian-Americans of Chinese and Vietnamese descent.

- **Measuring quality of care for vulnerable children.** Principal investigator: Michael Seid, Ph.D., Children's Hospital and Health Center, San Diego, CA. Grant HS10317; \$928,081; 09/30/99–09/29/01. The goal is to validate an existing pediatric health-related quality-of-life instrument, the Pediatric Quality of Life Inventory (PedsQL), as an outcome measure of quality of care for vulnerable children. In cooperation with the San Diego Unified School District, investigators also will examine the relationships among structures and processes of care, health-related quality of life, and outcomes in the context of HealthLink, a district-wide school health initiative. The project will include children and families that speak English, Spanish, Tagalog, and Vietnamese.

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- Quality measurement in residential care.** Principal investigator: M. Catherine Hawes, Ph.D., Menorah Park Center for the Aging, Beachwood, OH. Grant HS10315; \$720,911; 09/30/99–09/29/02. The researchers will develop quality measures for residential care facilities that can be used in external quality assurance systems, consumer report cards, and performance feedback systems for providers. Investigators will develop quality improvement protocols and a resident classification model that can be used to adjust for case-mix intensity for such facilities.
- Prescription benefits as a quality measure.** Principal investigator: Barry G. Saver, M.D., University of Washington, Seattle. Grant HS10318; \$617,145; 09/30/99–09/29/01. The researchers will evaluate whether the comprehensiveness of prescription drug coverage can serve as a measure of quality of care among elderly Medicare beneficiaries with chronic health conditions. They also will assess whether the magnitude of the relationship between comprehensive prescription drug coverage and quality of care is greater among indigent people.
- Computerized tool assessment in low-literacy patients.** Principal investigator: Elizabeth A. Hahn, M.A., Center on Outcomes Research and Education, Evanston, IL. Grant HS10333; \$594,939; 09/30/99–09/29/01. The researchers will develop and evaluate an audiovisual computer-based system to assess health status and quality-of-life outcomes for English-speaking cancer patients with low levels of literacy.
- Measuring quality of care for diabetes.** Principal investigator: Jack Needleman, Ph.D., Harvard University, Cambridge, MA. Grant HS10332; \$566,751; 09/30/99–09/29/01. Researchers will use Medicaid data from six States to develop claims-based quality measures for ambulatory diabetes care.
- Facility effects on racial differences in New Hampshire quality.** Principal investigator: Mary L. Fennell, Ph.D. Brown University, Providence, RI. Grant HS10322; \$541,447; 09/30/99–09/29/01. The researchers will examine how nursing home structure and local community contexts interact to affect the quality of care for white and minority nursing home residents.
- Quality measures for severe/persistent mental illness.** Principal investigator: Richard C. Hermann, M.D., Harvard University, Boston, MA. Grant HS10303; \$496,842; 09/30/99–09/29/01. The researchers will identify, inventory, and describe existing measures of the quality of mental health care for individuals with severe and persistent mental illness; develop selected measures and test their meaningfulness and feasibility; and implement selected measures as part of ongoing efforts to improve the quality of treatment provided to patients with severe and persistent mental illness.
- Cultural relevance of a continuity of care measure.** Principal investigator: Norma C. Ware, Ph.D., Harvard Medical School, Boston, MA. Grant HS10335; \$424,467; 09/30/99–09/29/01. The researchers will examine the cultural relevance of a new measure of continuity of care in mental health services for blacks, whites, and Puerto Ricans.
- Using census data to monitor care to vulnerable groups.** Principal investigator: Kevin Fiscella, M.D., Highland Hospital, Rochester, NY. Grant HS10295; \$225,005; 09/30/99–09/29/01. The goals of this study are to develop a series of practical, clinically relevant indicators that are sensitive to differences in quality of care provided to socioeconomically vulnerable populations; evaluate the performance of census-based data as proxies for socioeconomic conditions of individuals; and determine the extent to which socioeconomic measures account for racial disparities in quality of care.

Translating evidence-based research into improved clinical practice. AHRQ has funded four new research projects aimed at implementing research findings, evidence-based tools, and scientific information in everyday practice. Funding for these new projects is anticipated to total \$4.60 million over a 3-year period.

- Do urine tests increase chlamydia screening in teens?** Principal investigator: Mary-Ann Shafer, M.D., University of California, San Francisco. Grant HS10537; \$1,531,064; 09/30/99–09/29/02. The goal of this study is to improve screening for sexually transmitted diseases (STDs) among asymptomatic, sexually active teenagers attending Kaiser Permanente outpatient clinics. Investigators will design a small-group educational program for clinic personnel augmented with

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New projects

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weekly supervision and followup to reinforce the educational content.

- **Improving diabetes care collaboratively in the community.** Principal investigator: Marshall H. Chin, M.D., University of Chicago. Grant HS10479; \$1,353,930; 09/30/99–09/29/02. The objective of this study is to improve the quality of care and health outcomes of indigent, vulnerable patients with diabetes who receive care at rural and urban community health centers.
- **Evidence-based surfactant therapy for preterm infants.** Principal investigator: Jeffrey D. Horbar, M.D., University of Vermont, Burlington. Grant HS 10528; \$1,239,742; 09/30/99–09/29/02. The objective is to standardize practices in surfactant administration for the prevention and treatment of neonatal respiratory distress syndrome to reduce both mortality and morbidity of preterm infants.
- **Practice profiling to increase tobacco cessation.** Principal investigator: Susan H. Swartz, M.D., Maine Medical Assessment Foundation, Manchester. Grant HS10510; \$473,543; 09/30/99–09/29/02. The objective is to evaluate the effects of tobacco cessation profiling on provider and practice behavior—including screening for tobacco use and provision of tobacco cessation treatment—and evaluate the effects of the practice interventions on the quitting behavior of smokers.

Assessment of quality improvement strategies. AHRQ has funded five new research projects aimed at assessing quality

improvement strategies, including education, the use of information systems, continuous quality improvement, behavioral interventions, academic detailing, and use of regulations. Funding for these new projects is anticipated to total \$8.42 million over a 3-year period.

- **Organizational determinants of HIV care improvement.** Principal investigator: Paul D. Cleary, M.D., Ph.D., Harvard University, Boston, MA. Grant HS10408; \$2,381,217; 09/30/99–09/29/02. The researchers will assess the use of a rapid-cycle quality improvement strategy to improve the care of patients with HIV/AIDS who are being treated in clinics receiving Title-III Ryan White funds. They will assess the quality of HIV care provided by participating clinics, track changes in such care subsequent to quality improvement efforts, and analyze which organizational characteristics and policies were related to such changes.
- **Improving heart failure care in minority communities.** Principal investigator: Jane E. Sisk, M.A., Ph.D., Mount Sinai School of Medicine, New York, NY. Grant HS10402; \$2,307,609; 09/30/99–09/29/02. The objectives of this study are to evaluate the effects of nurse management of congestive heart failure (CHF) on hospitalization rates and functional status of patients and determine how these factors are related to measures of patients' knowledge, attitudes, and behaviors regarding CHF; evaluate patient satisfaction, costs, and cost-effectiveness of nurse management of CHF; and disseminate study results across

New York State via selected organizations.

- **Strategies for continuous quality improvement efforts: A national randomized trial.** Principal investigator: T.B. Ferguson, M.D., Society of Thoracic Surgeons, Chicago, IL. Grant HS10403; \$1,416,376; 09/30/99–09/29/02. The researchers will assess the impact of a national cardiac surgery database maintained by the Society of Thoracic Surgery in providing the infrastructure to conduct a national program of quality improvement for patients undergoing coronary artery bypass grafting procedures.
- **Hospital performance and beta-blocker use after AMI.** Principal investigator: Harlan M. Krumholz, M.D., Yale University, New Haven, CT. Grant HS10407; \$1,163,543; 09/30/99–09/29/02. This project will focus on efforts to increase the use of beta-blockers after heart attack. The researchers will study hospital characteristics associated with improved performance and identify hospital-based quality improvement interventions that are most effective in increasing the use of beta-blockers for these patients.
- **Evaluating quality improvement strategies.** Principal investigator: Charles J. Homer, M.D., Children's Hospital, Boston, MA. Grant HS10411; \$1,150,949; 09/30/99–09/29/02. The researchers will assess the impact of an office-based quality improvement strategy compared with "usual care" in the management of pediatric asthma in different practices in the same integrated health care delivery system.

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New projects

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Nursing Research to improve health care quality. Three new research projects have been funded in the area of nursing research and health care quality. The funding for these new projects is anticipated to total \$2.94 million over a 3-year period.

- **Evidence-based practice: From book to bedside.** Principal investigator: Marita Titler, Ph.D., R.N., School of Nursing, University of Iowa, Iowa City. Grant HS10482; \$1,463,673; 09/30/99–09/29/02. The objective is to promote the translation of research on acute pain management into clinical practice using a

multidimensional approach targeted to hospitalized elderly. The study will consist of a 3-year randomized evaluation in 12 hospitals across Iowa, Missouri, and Illinois.

- **Evidence-based “reminders” in home health care.** Principal investigator: Penny H. Feldman, Ph.D., Visiting Nurse Service of New York. Grant HS10542; \$1,001,798; 09/30/99–03/30/02. The goal of this project is to improve provider performance and promote adherence to evidence-based practice strategies among home health care nurses. Researchers will provide information on provider’s use of evidence-based guidelines in the treatment of two highly prevalent chronic

diseases: congestive heart failure and cancer and the impact of using the guidelines on the quality and cost of care.

- **Quality of hypertension care for Asian refugees.** Principal investigator: Candice C. Wong, M.D., Ph.D., University of California, San Francisco. Grant HS10276; \$472,985; 09/30/99–09/29/01. The researchers will develop a measure of the quality of care for hypertension in a population of Hmong refugees in Fresno, CA. The goals are to define quality of care for hypertension from the Hmong perspective, develop a hypertension quality-of-care instrument for use with Hmong patients, and pilot-test the instrument. ■

Highlights from AHRQ’s Health Care Research Scholars Program

This is the second installment in our continuing series focusing on the recent achievements of current and former scholars who received support for their research education from the Agency for Healthcare Research and Quality (formerly the Agency for Health Care Policy and Research, AHCPR) through the Agency’s National Research Service Award (NRSA) institutional training grants program.

We are very proud of the accomplishments and recognition received by these current and former students, as well as the accomplishments of their training programs and advisors. We look forward to sharing their news with you from time to time.

These features will provide a window into the future of health services research and the individuals who have already begun to lead the way toward meeting the new challenges we will face in the years ahead. If you are a current or former scholar whose research education

was supported by AHRQ or its predecessor agencies (the Agency for Health Care Policy and Research, AHCPR, and the National Center for Health Services Research and Health Care Technology Assessment, NCHSR) and you would like to be mentioned in an upcoming issue of *Research Activities*, please send a message with appropriate information to our e-mail box training@AHRQ.gov. In particular, we are eager to hear about how your research findings have been translated into practice or how your research has affected health care in the United States. We look forward to hearing from you.

This month we are focusing on grant awards recently received by fellows and appointments of recent graduates of training programs.

Research Grant Awards to Fellows

- David Bott, Ph.D. (Dartmouth, 1996-present) recently

received an award from the American Compensation Association’s Emerging Scholars Program to research the impact of implementing managed care financial incentives on individual physician decisionmaking regarding resource use among fee-for-service vs. managed care patients.

- Carla Boutin-Foster, M.D. (Cornell Medical College, 1996-1999) received a pilot study grant from the Cornell Applied Gerontology Research Institute to examine the influence of a patient’s sex as a predictor of physicians’ assessment of difficult older patients.
- Joan Teno, M.D. (Brown University, 1989-1990) was awarded a grant for research on national, State, and local indicators of end-of-life care.

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Scholars Program

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Appointments of Recent Training Program Graduates

The following positions have been accepted by recent graduates:

University of Michigan T32 Program

- Christy Lemak, Ph.D. (1996-1997) – Assistant Professor, University of Florida Department of Health Services Administration.
- Dennis Scanlon, Ph.D. (1994-1995) – Assistant Professor, Penn State University, Department of Health Policy and Administration.
- Vicki Debold, Ph.D. (1999-Present) – Postdoctoral Fellow, AHRQ/Michigan Peer Review Organization.
- Renee Stiles, Ph.D. (1992-1993) – Project Manager for Guidelines Utilization Implementation, Development and Evaluation Studies (GUIDES), University of Michigan Health Systems.
- Bryan Weiner, Ph.D. (1993-1994) – Assistant Professor in the Department of Health Systems Management, School of Public Health and Tropical Medicine, Tulane University Medical Center.
- Timothy Hofer, M.D. (1991) – Assistant Professor, Division of General Internal Medicine, Department of Internal Medicine, University of Michigan Medical Center and Department of Ambulatory Care, Ann Arbor, MI.

University of Minnesota T32 Program

- Susan Farrell, Ph.D. (1992-1993) Acting Deputy Director, Division of Biometry and Epidemiology, National Institute on Alcohol Abuse and Alcoholism.
- Christopher Johnson, Ph.D. (1996) – Research Investigator, Michigan Veterans Administration.
- Matthew Maciejewski, Ph.D. (1993-1994) – Researcher, Family Dental Practice, University of Minnesota Dental School.

Oregon Health Sciences University T32 Program

- Janice Alexander, Ph.D. (1995-1997) – Epidemiologist, Oregon Health Division.
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Health Services Researcher at the University of Rochester Eastman Department of Dentistry; Member of the Federation of Special Care's Committee on Managed Care, charged with developing guidelines for quality treatment for patients with disabilities served within a managed care environment.

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Bader, J., Ismail, A., and Clarkson, J. (1999). “Evidence-based dentistry and the dental research community.” (AHRQ’s Dental Scholar-in-Residence Program). *Journal of Dental Research* 78(9), pp. 1480-1483.

The success of dental research in answering clinically relevant questions related to diagnosis, risk assessment, and outcomes of dental care has so far been limited. In some areas, there is evidence that has not been transferred into practice, and for others the evidence is either lacking or of poor quality. Evidence-based dentistry (EBD), if endorsed by the dental profession, may well influence the extent to which society values dental research. This commentary describes the notion of EBD, the current status of clinically relevant evidence in dentistry, and how to build an evidence base. Finally, it discusses the translation of evidence into dental practice. The authors encourage dental researchers to establish an international dialogue and collaboration to strengthen the evidence and improve the processes through which clinicians integrate evidence into their treatment decisions.

Choo, P.W., Rand, C.S., Inui, T.S., Lee, M-L. T., and others. (1999). “Validation of patient reports, automated pharmacy records, and pill counts with electronic monitoring of adherence to antihypertensive therapy.” (AHRQ grant HS07821). *Medical Care* 37(9), pp. 846-857.

The quantity of medication used and its timing are two important

dimensions of patient adherence to antihypertensive therapy. This study found that patients with hypertension tend to take the prescribed dose of antihypertensive medication more than they tend to take it at the right time intervals. Electronic adherence monitoring revealed that the proportion of prescribed doses consumed was higher (0.92) than the proportion of doses taken on time (0.63). The researchers evaluated the validity of patient report, pharmacy dispensing records, and pill counts as measures of antihypertensive adherence using electronic monitoring as the validation method. The study was conducted among 286 managed care organization members on monotherapy for hypertension. It found that pill counts and refill adherence ascertained from pharmacy dispensing records were more sensitive measures of the number of doses consumed than appropriate dose timing. The relatively low correlation of past pharmacy use with subsequent electronically measured adherence indicated that pharmacy dispensing frequency may have only modest ability to predict future adherence and may misclassify level of medication use.

Mayer, M.L. (1999, December). “Using Medicaid claims to construct dental service market areas.” (AHRQ grants HS09330 and HS06993). *Health Services Research* 34(5), pp. 1047-1062.

Compared with market areas constructed using patient origin data, county-based market areas are an adequate proxy for dental

markets. Using the county as the market area also avoids the time and computational costs associated with using a patient origin-based approach and facilitates the use of widely available data, concludes this study. The researchers used Medicaid claims data to construct patient origin-based market areas for dental services and compare constructed market areas with those based on the practice county. Because many providers do not see Medicaid patients, Medicaid patients who seek dental services may actually travel farther than private patients to obtain care. Thus, market areas based on Medicaid patient origin data may overstate the true market for dental services. Smaller geographic areas might better characterize dental market areas for private patients, which further supports the use of single-county markets for dental services.

Wyrich, K.W., Tierney, W.M., and Wolinsky, F.D. (1999). “Further evidence supporting an SEM-based criterion for identifying meaningful intra-individual changes in health-related quality of life.” (AHRQ grant HS07763). *Journal of Clinical Epidemiology* 52(9), pp. 861-873.

Health-related quality of life (HRQoL) instruments, both disease-specific and generic, must be reliable, valid, and sensitive to change. Ideally, an HRQoL instrument also needs established standards for identifying clinically important change for each patient population in which it is used.

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Correction: The October 1999 issue of *Research Activities* (page 19) included an article congratulating recent recipients of dissertation grants and their mentors/advisors. The article should have listed Sherry Glied, Ph.D., as mentor/advisor to Catherine DesRoches. John A. Capitman, Ph.D., is mentor/advisor to Iris A. Garcia-Caban. We apologize for any confusion this error may have caused.

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Health status measures that are reliable, valid, and sensitive must be able to detect these changes in individuals. This study used the standard error of measurement (SEM) to evaluate intra-individual change on both the Chronic

Respiratory Disease Questionnaire (CRQ) and the SF-36 health status questionnaire. After analyzing the reliability and validity of both instruments at baseline among 471 outpatients with chronic obstructive pulmonary disease, the SEM was compared with established minimal clinically important difference (MCID) standards for three CRQ

dimensions. A value of one SEM closely approximated the MCID standards for all CRQ dimensions. The authors conclude that the one-SEM criterion should be explored in other HRQoL instruments with established MCIDs. ■

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