



Research Activities

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Women who have angina and report more physical symptoms are at increased risk for coronary artery disease

Research studies suggest that a smaller proportion of women with angina (crushing chest pain) have coronary artery disease (CAD) than men with angina. This may have contributed to the perception that chest pain is less serious in women. However, CAD risk is raised in certain women with angina. This is particularly true for women who have a poor cardiovascular risk profile and more physical symptoms, such as shortness of breath, concludes a study supported in part by the Agency for Health Care Policy and Research (HS06516). Specifically, the women in this study were more apt to be obese, have high blood pressure, high cholesterol, and more electrocardiogram abnormalities than women without angina, even though these factors were more weakly associated with angina than in men.

Researchers from University College London and Glasgow University used the Rose Questionnaire—the most widely used instrument to measure angina—to examine correlates of angina in younger men and women (aged 35 to 55 years). The questionnaire asked about the type, duration, and circumstances of chest pain. The researchers also asked participants

about the presence of 16 different symptoms for a symptom score, as well as health behaviors such as exercise and smoking.

As expected, more females than males had angina (4 percent vs. 2.4 percent). However, there was a stronger relationship between overall symptom reporting (ranging from premenstrual irritability and bloating to shortness of breath) and angina in women than in men. The women in the top quartile of symptom reporting were also more apt to be receiving treatment for high blood pressure, and they tended to have a poor cholesterol profile.

Furthermore, with few exceptions, the associations between cardiovascular risk factors and angina were significant among women in the top quartile. Angina related to CAD may be concentrated in this group of more symptomatic women, conclude the researchers.

More details are in "Rose Questionnaire angina in younger men and women: Gender differences in the relationship to cardiovascular risk factors and other reported symptoms," by Amanda Nicholson, Ian R. White, Peter Macfarlane, and others, in the *Journal of Clinical Epidemiology* 52(4), pp. 337-346, 1999. ■

Heart Disease

Experts agree about some, but not all, indications for coronary angiography following heart attack

If an expert panel can agree on the appropriate indications for coronary angiography (imaging of the heart after injecting a dye to track blood flow and detect blockages) following a heart attack, it will permit development of a guideline for clinicians to follow when using this procedure. However, expert agreement is not unilateral, finds a study supported by the Agency for Health Care Policy and Research (HS08071).

A multispecialty panel of nine medical experts rated the appropriateness of using coronary angiography to diagnose heart disease in a group of patients who had just suffered a heart attack (acute myocardial infarction, AMI). In round one, the panel rated the appropriateness of the procedure on a 9-point scale for patients presenting with each of the indications for the procedure, and then rated it again in round two after a panel discussion.

The experts agreed that angiography was inappropriate for older patients with no post-AMI angina, good ventricular function, maximal medical therapy, negative or no noninvasive test results, and no evidence of silent ischemia. They also tended to agree that angiography was highly appropriate for younger patients with positive results in noninvasive tests, such as

the treadmill stress test. However, variability in expert opinion significantly contributed to overall variability in appropriateness ratings. Experts who had strong beliefs about the benefits of angiography tended to rate all indications as more appropriate than those with less strong beliefs in the procedure's benefits, notes Barbara J. McNeil, of Harvard Medical School.

Experts disagreed the most about the usefulness of coronary angiography within 12 hours of symptom onset for five indications describing older patients with shock complicating their AMI. Although there was more agreement on ratings in round two than in round one, the panel discussion following round one was clearly unable to resolve the differences in opinion regarding the impact of age, shock, pulmonary edema, post-AMI angina with mild exertion, and silent ischemia on angiography appropriateness after an AMI. However, overall, the presence of clinical complications far outweighed the impact of patient age or time since symptom onset in viewing angiography as useful during hospitalization for AMI.

See "Understanding variability in physician ratings of the appropriateness of coronary angiography after acute myocardial infarction," by Mary Beth Landrum, Ph.D., Barbara J. McNeil, M.D., Laurie Silva, Ph.D., and Sharon-Lise T. Normand, Ph.D., in the April 1999 *Journal of Clinical Epidemiology* 52(4), pp. 309-319. ■

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People over 80 are at much higher risk of death following coronary angioplasty than younger patients

The so-called "frail elderly" (80 years or older) who undergo coronary angioplasty are eight times more apt to die in the hospital after the procedure than younger elderly patients. They also face a marginal increase in the risk of heart attack after the procedure, according to a study supported in part by the Agency for Health Care Policy and Research (HS06813).

Age has been found to be an independent risk factor for death in other cardiovascular studies. Thus, it is likely that the increased death rate in the very elderly reflects, in part, a decreased myocardial reserve as well as a decreased system reserve in general. These are risks that should be carefully considered by both physicians and

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Coronary angioplasty

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their elderly patients, recommends David E. Wennberg, M.D., M.P.H., of the Maine Medical Center, the study's lead author.

Dr. Wennberg and his colleagues collected data from 1989 through 1993 on coronary angioplasty outcomes for more than 12,000 patients hospitalized at five New England hospitals considered to be regional centers for bypass surgery and angioplasty. They explored the relationship between older age and clinical presentation, procedural success, and inpatient outcomes across four age groups (less than 60, 60 to 69, 70 to 79, and 80 years and above). Patients 80 or older (4 percent of patients) were more apt to be women and to have multiple vessels blocked, more severe blockage, and complex lesions. The proportion of patients with two or more vessels with

significant blockage increased from 32 percent for those under 60 years to 58 percent in those 80 years and older.

Despite more severe disease, the oldest patients had angiographic success that was nearly identical to that of younger patients. According to the authors, this was probably due to the experience and expertise of the regional heart centers. Nevertheless, they had more than an eight-fold increase in the rate of inpatient post-angioplasty death compared with those less than 60 years of age (3.16 vs. 0.36 percent). There also was a slight nonsignificant increase in heart attacks following the procedure for patients over 80 compared with those under 60 years (3.35 vs. 2.05 percent).

See "Percutaneous transluminal coronary angioplasty in the elderly: Epidemiology, clinical risk factors, and in-hospital outcomes," by Dr. Wennberg, David J. Malenka, M.D., M.S., Anjana Sengupta, Ph.D., and others, in the April 1999 *American Heart Journal* 137, pp. 639-645. ■

Primary Care

Physician preference plays a large role in scheduling patient return visits

Patient health status does not necessarily determine how physicians time followup visits, which can range from 1 week to over 1 year. Instead, a recent study supported by the Agency for Health Care Policy and Research (HS07350) indicates that revisit intervals are consistently long for some physicians and consistently short for others. Even after accounting for important patient characteristics and regardless of whether the visit was routine or required a change in management, physicians' mean revisit intervals in this study varied five-fold.

The most common revisit intervals were 12 and 16 weeks. Patients rated in fair or poor health had an average revisit interval of 7 weeks, while patients in excellent or good health had an average interval of 13 weeks. Fair or poor mental health was associated with a 4-week shorter revisit interval, as was fair or poor medical stability. The revisit interval for nonroutine visits was about 9 weeks shorter than for routine visits. Similarly, the interval for visits when

there was a change in management was about 9 weeks shorter than for visits without such a change.

Physicians tend to schedule return visits sooner for sicker patients and also when there is a change in management of a patient's condition—for example, starting or changing medication or the ordering of a diagnostic test. Yet some physicians always tend to schedule shorter followup intervals, and others tend to schedule longer followup visit intervals within that range, explains John H. Wasson, M.D., of Dartmouth Medical School. The researchers surveyed 11 primary care physicians in the Dartmouth Primary Care Cooperative Research Network at the end of visits with 164 patients with hypertension, angina, diabetes, or musculoskeletal pain.

For more details see, "Setting the revisit interval in primary care," by Lisa M. Schwartz, M.D., M.S., Steven Woloshin, M.D., M.S., Dr. Wasson, and others, in the April 1999 *Journal of General Internal Medicine* 14, pp. 230-235. ■

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Primary care physicians spend an average of 16 minutes per visit with their adult patients

Adults visited with their primary care physician (PCP) a mean of 16 minutes per visit in 1991 and 1992. However, the length of individual visits was influenced by both patient and practice characteristics, as well as procedures performed during the visit, according to a study supported by the Agency for Health Care Policy and Research (HS07892). For instance, older patients, patients new to the physician's practice, those referred by another physician, and patients with psychosocial problems had significantly longer visits. Patients insured by health maintenance organizations (HMOs) or Medicaid had visits that were shorter by 2 percent and 5 percent, respectively. Patients who had eye or dental problems or were pregnant also had shorter visits (16 percent and 6 percent shorter, respectively).

Taking into account patient-related factors when allotting time for an individual patient's visit could improve patient scheduling, physician productivity, and patient satisfaction, concludes David Blumenthal, M.D., M.P.P., of Harvard Medical School. Dr. Blumenthal and his colleagues analyzed the results of physician interviews and data from the 1991-1992 National Ambulatory Medical Care Survey on 19,192 visits by adults to 686 PCPs.

The exact nature of the visit also influenced its length. For instance, the performance of four or more diagnostic tests (compared with none) increased visit length more than any other variable (71 percent or 11 minutes). Pap smears increased visit length by 34 percent, ambulatory surgical procedures by 34 percent, patient admission to the hospital by 32 percent, and

performing three or more preventive screening tests increased visit length by 25 percent. In cases where no followup was planned, visit length was decreased by 8 percent.

Several physician practice factors also decreased visit length. PCPs who practiced in four or more locations had 43 percent shorter visits with patients than those who practiced in a single location. Also, those in practices with 6 to 25 full-time employees (compared with none) had 13 percent shorter visits. PCPs in the West visited with their patients 11 percent longer than PCPs in the Northeast.

See "The duration of ambulatory visits to physicians," by Dr. Blumenthal, Nancyanne Causino, Ed.D., YuChiao Chang, Ph.D., and others, in the April 1999 *Journal of Family Practice* 48(4), pp. 264-271. ■

Clinical Decisionmaking

Some patients with deep venous thrombosis can be treated safely at home

A certain group of patients suffering from lower extremity deep venous thrombosis (DVT), that is, blood clot in a deep vein of a leg, can be treated safely at home, concludes a study support in part by the Agency for Health Care Policy and Research (National Research Service Award F32 HS00124). These are patients who are not at high risk for bleeding or recurrent clotting, and who do not have pulmonary embolism, limited cardiopulmonary reserve, or another illness that requires hospitalization.

Using these criteria, none of the patients in this study who were treated at home developed complications. They were treated with subcutaneous injections of low-molecular-weight heparin (LMWH)—an anticoagulant—instead of the unfractionated intravenous (IV) heparin,

which is the traditional treatment for hospitalized patients with DVT.

The benefit of home treatment includes infrequent and safer subcutaneous dosing, without the need for repeated blood tests to monitor partial thromboplastin time (blood coagulation time), which is required to avoid internal bleeding with IV heparin, explains Roger D. Yusen, M.D., of Washington University School of Medicine. Dr. Yusen and his colleagues developed the criteria for outpatient treatment eligibility. They retrospectively applied the criteria to 195 hospitalized patients at one hospital who were newly diagnosed with proximal lower extremity DVT to determine the proportion of patients eligible for outpatient therapy.

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Deep venous thrombosis

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Nine percent of patients were classified as eligible and 9 percent as possibly eligible for outpatient therapy. None of these patients developed complications. Of the 82 percent of patients classified as ineligible, 8 percent died or developed serious complications. Thus, the eligibility criteria had a sensitivity of 100 percent and a

negative predictive value of 100 percent for predicting serious complications. These findings suggest that objective criteria may be used to select patients for proximal lower extremity DVT home therapy.

More details are in "Criteria for outpatient management of proximal lower extremity deep venous thrombosis," by Dr. Yusef, Brennan M. Haraden, M.D., Brian F. Gage, M.D., M.Sc., and others, in the April 1999 *Chest* 115, pp. 972-979. ■

Skill in communicating with patients is particularly important for surgeons

Communication during routine visits between patients and surgeons focuses on biomedical issues, with the largest portion of time devoted to discussions about patients' medical conditions and treatment options. In fact, almost half the visits are dedicated to patient education and counseling by surgeons, whose patients are typically referred to them for surgery. Hence, their job is to discuss the medical condition, explain treatment options, including a possible surgical procedure, and to help the patient understand the procedure in detail. The focus on patient education is strikingly different from the emphasis on medical history and physical examination typical of primary care visits, according to a study supported in part by the Agency for

Health Care Policy and Research (HS07289).

Thus, it seems particularly important for surgeons to develop skills that enhance patient education and counseling, conclude Wendy Levinson, M.D., and Nigel Chaumeton, Ph.D., of the University of Chicago. They analyzed the structure and content of audiotaped routine office visits with 29 general surgeons and 37 orthopedic surgeons in urban community practice. They also examined post-visit questionnaires about visit content that were filled out by the surgeons and their patients.

Patients spent a mean of 13 minutes with the surgeon for surgical consultation. The typical visit consisted of an opening, medical history, physical examination, patient

education/counseling, and closure. Surgeons usually asked closed-ended questions about specific medical and therapy issues, with these issues comprising 90 percent of visit content. Patient education and counseling lasted a mean of 5.5 minutes, accounting for almost half the average visit length. However, these visits did not place much emphasis on the psychosocial or emotional concerns of patients (only 1.3 percent of dialog), which if added to the discussion could enhance patient satisfaction, note the authors.

See "Communication between surgeons and patients in routine office visits," by Drs. Levinson and Chaumeton, in the February 1999 *Surgery* 125, pp. 127-134. ■

Note: Only items marked with a single (*) or double (**) asterisk are available from AHCPR. Items marked with a single asterisk (*) are available from AHCPR's clearinghouse. Items with a double asterisk (**) are also available through AHCPR 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.

Outcomes/Effectiveness Research

Depression PORT publishes latest findings

At least 40 percent of people who suffer from major depression receive some mental health care from primary care physicians (PCPs). Many managed care organizations (MCOs) encourage PCPs to treat depression. However, some wonder how knowledgeable PCPs are about depression and how capable they are of treating it. The Depression Patient Outcomes Research Team (PORT) is a 5-year project to evaluate the cost effectiveness of alternative practice strategies and specific treatments for depression in prepaid group medical practices. The PORT is led by Kenneth B. Wells, M.D., M.P.H., of the RAND Corporation, and is supported by the Agency for Health Care Policy and Research (HS08349).

Two studies using data from the Depression PORT are summarized here. The first shows that policies within an MCO may encourage or discourage primary care treatment of depression. The second study finds that age per se does not affect a person's preferences regarding treatment risks and outcomes.

Meredith, L.S., Rubenstein, L.V., Rost, K., and others. (1999, January). "Treating depression in staff-model versus network-model managed care organizations." *Journal of General Internal Medicine* 14, pp. 39-48.

In staff/group-model MCOs, all providers work within a relatively large, uniform clinical practice structure. These MCOs typically include both primary care and specialty care providers within the same organization, and they are all

paid by a single source. In contrast, network-model MCO providers manage their clinical practices independent of plan dictates. Primary care providers and specialty care providers often work in different small practices linked only by the payment plan, and they may serve multiple payers.

These organizational differences affect primary care treatment of depression, finds this study. For instance, compared with network-model providers, staff/group-model providers believed more strongly that treating depression was burdensome to their practice and that time was a barrier to optimal depression treatment. More network-model providers reported limited access to mental health specialists as a barrier to referral. Not surprisingly, staff/group-model providers were more apt than network-model providers to treat patients with major depression through referral (51 percent vs. 38 percent) or to assess but not personally treat depression (17 percent vs. 7 percent). Network-model providers were more likely to treat depression themselves by prescribing antidepressant medications (57 percent vs. 36 percent) as first-line treatment. Providers in both types of MCOs were equally knowledgeable about treatment of depression.

These findings were based on a survey of 410 providers from 80 outpatient clinics in 11 MCOs. The clinics participated in four studies (including the Depression PORT) designed to improve the quality of care for depression provided in primary care.

Sherbourne, C.D., Keeler, E., Unutzer, J., and others. (1999, June). "Relationship between age and patients' current health state preferences." *The Gerontologist* 39(3), pp. 271-278.

Today, people in the United States are living longer, but they often have chronic conditions that affect their quality of life. Increasingly, older individuals are interested not only in adding years to their life, but also in adding "life to their years," that is, improving the quality of their lives. This study shows that although older primary care patients assessed their current health as worse than younger patients, they were no more willing than younger adults to give up years of life in exchange for perfect health—a sign of the high value to them of their remaining years, even if in less than perfect health.

Older individuals, like younger people, varied in their circumstances and their preferences for different health outcomes. Thus, health care providers should assess individual preferences regarding treatment risks and outcomes, without regard to age, conclude the researchers. They analyzed data from 17,707 adult outpatients visiting 46 primary care managed care practices. They assessed patient preferences for their current health by methods of time trade-off (years of life an individual is willing to give up for perfect health until death, relative to 10 years in his or her current health state) and standard gamble (maximum risk of death an individual is willing to face for treatment that results in either complete cure or death).

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Depression PORT

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The mean number of reported chronic conditions increased significantly from the youngest to oldest patients, the level of physical functioning decreased with age, yet mental health status was lowest in younger patients (aged 18 to 44

years). The majority of patients (70 percent) were not willing to give up any months of life or take any chance of death. Among all patients, the average months of life they were willing to give up for perfect health was 7.6 months (out of a maximum of 10 years). They were willing to take a 5.1 percent chance of death

for a given procedure in exchange for perfect health. After accounting for health differences, age was not a factor in these preferences. For instance, for the standard gamble, the chance of death the patient was willing to risk for perfect health did not vary much across age groups (5 to 6 percent). ■

Managed Care

Patients in managed care plans want primary care physicians to be coordinators, not gatekeepers

Nine of every 10 California patients in managed care plans say that they value having a primary care doctor provide their everyday care, and 89 percent say they value having a primary care doctor coordinate their specialty care. These are the findings of a recent study supported by the Agency for Health Care Policy and Research. But nearly one-fourth of the patients studied had difficulty getting referrals to specialty care, which according to researchers is a reason why some may lose trust and confidence in their primary care doctors.

The study team, led by Kevin Grumbach, M.D. of the University of California, San Francisco, and Joe V. Selby, M.D., M.P.H., of Kaiser Permanente Medical Care Program of Northern California, Oakland, asked approximately 7,700 patients in managed care plans who received care from one of several large medical groups in California about their attitudes toward their primary care physicians and their perceptions of barriers to specialty care. Patients were also asked to rate the performance of their primary care physicians on three

dimensions: trust, confidence in quality of care, and overall satisfaction.

The study also revealed that 75 to 91 percent of patients studied preferred to seek care first from their primary care physicians, depending on the specific medical problem. Most patients wanted their primary care physicians to assist in coordinating referrals to specialists when needed. The majority of patients (85 percent) reported that all or most of the time they trusted their primary care physicians to do the best for them.

Patients want their primary care physicians to have the freedom to refer them to a specialist when needed. However, as Dr. Grumbach points out, many managed care plans have financial incentives and other "gatekeeper" policies that may discourage primary care physicians from making these referrals.

For more information, see "Resolving the gatekeeper conundrum: What patients value in primary care and referrals to specialists," by Drs. Grumbach and Selby, Cheryl Damberg, Ph.D., and others, in the July 21, 1999 issue of the *Journal of the American Medical Association* 282, pp. 261-266. ■

Market factors affect pharmacy bargaining power with health insurers

Pharmacy trade associations object to the “take it or leave it” contracts of health insurers, who they say demand high quality from pharmacies but reimburse them at lower rates. They want exemptions from current anti-trust laws that prohibit independent pharmacies from collectively bargaining with insurers because these laws leave independents with no alternative except to close or merge with a chain. Paradoxically, existing anti-trust laws may have led to increased concentration in the retail pharmacy industry and the loss of innovative services provided by independent pharmacies, concludes a study supported by the Agency for Health Care Policy and Research (HS09541).

University of Iowa researchers, led by John M. Brooks, Ph.D., modeled the bargaining power of

pharmacies and insurers in price negotiations based on pharmacy claims data from several sources and a provider/insurer bargaining model. Their analysis showed that pharmacy bargaining power increased with the number of pharmacy employees per capita in a market area and when pharmacy ownership was concentrated in a market. Conversely, greater insurance presence in the market, as measured by the percentage of prescriptions in a market that are attributable to the insurer, resulted in lower pharmacy bargaining power with the insurer.

A higher percentage of independent pharmacies in a market lowered pharmacy bargaining power, yet independent pharmacies appeared to have greater bargaining power individually than chain pharmacies. Independents may have higher average costs than chain

pharmacies, making it impossible for independents to accept reimbursements as low as those accepted by chain pharmacies, explain the researchers. Insurers appear to take these circumstances into consideration when offering contracts to independent pharmacies. They may negotiate at first with larger chains willing to accept lower reimbursements and then successively add smaller chains and independents at higher reimbursement levels until their population is covered.

For more details, see “Factors affecting bargaining outcomes between pharmacies and insurers,” by Dr. Brooks, William Doucette, Ph.D., R.Ph., and Bernard Sorofman, Ph.D., R.Ph., in the April 1999 *Health Services Research* 34(1), pp. 439-451. ■

Managed care research has come of age

Four years ago, the Agency for Health Care Policy and Research and the American Association of Health Plans sponsored a conference to promote collaboration between managed care organizations (MCOs) and the health services research community and to potentially provide answers to some critical questions related to quality, access, and costs of managed care. Over the years, conference goals have expanded, and the conference agenda has changed to reflect these goals.

“Building Bridges IV: Improving the Public’s Health Through Research Partnerships,” was held May 7-9, 1998. Based on presentations made during the conference, a special supplemental issue of *Medical Care Research and Review* (volume 56, supplement 2) was published in April 1999. Articles contained in the issue illustrate how the conference agenda has developed and demonstrate just how far managed care research has evolved. For example, the conference agenda and discussion show that the two worlds of managed care and research are no longer distinct and separate. Rigorous, objective, public domain research is occurring both within and outside of MCOs. Also, many MCOs

have substantial research capacity within their own or affiliated organizations.

The 1998 conference focused not so much on partnerships as on the substance of managed care research and the challenges faced by researchers as they attempt to look inside the “black box.” Indeed, the research community has shifted its focus away from questions about the overall impact of managed care to an examination of particular managed care arrangements, such as carve outs for mental health care and their impact on certain populations under certain circumstances. Of particular interest is the impact of certain managed care arrangements on vulnerable and chronically ill populations, including children.

Conference participants questioned established theories of how markets do and will work, with particular emphasis on the role of consumers and purchasers. In addition, MCOs were characterized as extremely powerful laboratories for learning how health care is delivered now and how it can be improved in the

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Managed care research

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future. Conference participants called for building new bridges and partnerships—for instance, between academic health centers and MCOs—for this research to reach its potential. The following conference papers were published in the special supplement:

- Baum, H.B., Logemann, J.A., and Stenzel, B.A., “Initiating a clinical trials cooperative group in an increasingly managed care environment: Successes and problems in establishing collaboration,” pp. 139-152.
- Fraser, I., Wong, H.S., Arent, J., and Bocchino, C. “Building bridges IV: Managed care research comes of age,” pp. 5-12. Reprints (AHCPR Publication No. 99-R063) are available from AHCPR.**
- Grazier, K.L., and Eselius, L.L., “Mental health carve-outs: Effects and implications,” pp. 37-59.
- Parkerton, P.H., “Motives for health plan-academic health center relationships: Journal review of the first quarter century,” pp. 111-138.
- Scanlon, D.P., and Chernew, M., “HEDIS measures and managed care enrollment,” pp. 60-84.
- Simpson, L., and Fraser, I., “Children and managed care: What research can, can’t, and should tell us about impact,” pp. 13-36. Reprints (AHCPR Publication No. 99-R062) are available from AHCPR.*
- Wong, H.S., and Smithen, L., “A case study of point-of-service medical use in a managed care plan,” pp. 85-110. Reprints (AHCPR Publication No. 99-R061) are available from AHCPR.*

For more information, see “Building Bridges IV: Improving the Public’s Health Through Research Partnerships,” special supplement to *Medical Care Research and Review* 56(Suppl. 2), 1999. Copies of the supplement (AHCPR Publication No. OM99-0007)* and reprints of selected articles by AHCPR researchers (indicated above by one or two asterisks) are available from AHCPR. ■

Long-Term Care

Traditional community-based nursing homes are offering more rehabilitation services to residents

If Ohio is any indication, growing numbers of traditional nursing homes are providing rehabilitation services to their residents. Half of newly admitted nursing home patients in Ohio received substantial amounts of physical, occupational, and/or speech rehabilitation therapy during 1994 and 1995, according to a study supported in part by the Agency for Health Care Policy and Research (National Research Service Award training grant T32 HS00059). In fact, 50.5 percent of residents received at least 90 minutes of therapy per week. Of the total average amount of therapy per week, 53 percent was physical therapy, 37 percent was occupational therapy, and 10 percent was speech therapy.

The proportion of newly admitted patients receiving therapy increased

by 2.2 percent each quarter. The amount of therapy provided to each patient increased by 6.4 minutes each quarter. The largest increase in type of therapy was occupational therapy (4.3 minutes per quarter) followed by physical therapy (1.6 minutes) and speech therapy (.65 minutes).

Larger, urban, and for-profit nursing homes provided more therapy to their patients than did the smaller, rural, and public or not-for-profit nursing homes. Overall, occupational therapy services were responsible for 17 of the 27 minutes of increase in rehabilitation services per year. This probably indicates an increased awareness of the functional deficits beyond mobility that affect the frail, elderly population.

Rehabilitation care at the traditional skilled nursing facility can be accomplished at a fraction of the

cost of care in an acute-level-hospital rehabilitation unit and at substantially less cost than in subacute hospital units. Insurers, including Medicare, may focus only on the issue of cost and increasingly use nursing homes as a major site for rehabilitation care, note the Ohio researchers. They retrospectively examined rehabilitation services received by 52,705 newly admitted residents of Medicaid-certified nursing homes in Ohio in 1994 and 1995.

More details are in “Rapid growth of rehabilitation services in traditional community-based nursing homes,” by Patrick K. Murray, M.D., Mendel E. Singer, Ph.D., Richard Fortinsky, Ph.D., and others, in the April 1999 *Archives of Physical Medicine and Rehabilitation* 80, pp. 372-378. ■

Rural Health

Unique challenges face those trying to improve health care quality in rural areas

The United States is renowned for its high quality health care. However, the Nation's smaller towns and rural communities often face problems assuring adequate health care services. Unless rural providers can document that the quality of local care meets objective external standards, third-party payers may refuse to contract with them, and increasingly sophisticated consumers may leave their rural communities to seek basic medical care services elsewhere, notes a recent monograph authored by Ira Moscovice, Ph.D., of the University of Minnesota Rural Health Research Center (RHRC) and Roger Rosenblatt, M.D., M.P.H., of the University of Washington RHRC.

To improve the health care quality in a rural setting, several issues must be addressed, say the authors, whose work was supported by a cooperative agreement with the Health Resources and Services

Administration (Agreement No. 97-239F-97) funded in part by the Agency for Health Care Policy and Research. They emphasize that it is unrealistic to have one national standard for health care quality. The spectrum and content of rural health care is different from that provided in large cities. To have one standard apply to both urban and rural areas might mean closing rural hospitals and practices and forcing rural citizens to travel to distant sites, which in itself might lead to poorer outcomes.

The authors suggest addressing the following issues in developing rural health care quality standards that are practical, useful, and affordable. Guarantee core services in rural areas with an adequate cadre of well-trained, stable providers, working in well-equipped and well-managed ambulatory and inpatient settings. Such programs as Medicare should be involved in the training,

deployment, and ongoing support of health care professionals. Rural residents must have some ability to shape the system that provides their care, or remote health care organizations may design systems that are unresponsive to the rural people they serve. Finally, accrediting bodies should create rural standards that reflect the realities of health care in these sparsely populated and remote areas.

More details may be found in the monograph, *Quality of Care Challenges for Rural Health*, by Drs. Moscovice and Rosenblatt, which was published by the Rural Health Research Centers at the University of Minnesota and the University of Washington. Single copies are available from Jane Raasch at 612-624-6151, or it may be downloaded from <http://www.hsr.umn.edu/centers/rhrc/rhrc.html>. ■

Smoking Cessation

Sociocultural factors may influence smoking behavior among deaf adults

Adults who lost their hearing before the age of 3 years, before they acquired facility with language (prelingually deafened), are half as likely to smoke as hearing adults, even though they have less education and lower income, factors usually associated with smoking. However, adults who became deaf later in life (postlingually deafened) smoke at

about the same rate as hearing adults, according to a study supported by the Agency for Health Care Policy and Research (HS09539). Sociocultural factors may play a role in these differences, suggest Steven Barnett, M.D., and Peter Franks, M.D., of the University of Rochester.

Prelingually deafened adults usually prefer sign language and

socialize with other deaf adults. And, they may have had less exposure to tobacco advertising both aurally—because of their deafness—and visually, because of their lower literacy levels relative to the general population. Also, prelingually deafened adults are more apt to be members of the deaf

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Smoking behavior

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community, which has different sociocultural norms than the general U.S. population. In contrast, postlingually deafened adults typically prefer English, are probably more integrated into the general population, and are more apt to reflect general population trends.

Clearly, the deaf community is not one community. Previous studies that correlate various health behaviors with deafness may be misleading. Understanding why prelingually deafened adults are less likely to be smokers may enhance efforts to decrease smoking in the general population, conclude the researchers. They used data from the National Health Interview Survey Hearing

Supplement in 1990 and 1991 to identify deaf adults who lost their hearing before their third birthday and those who lost it afterwards. They correlated age of onset of deafness with smoking behavior.

See "Smoking and deaf adults: Associations with age at onset of deafness," by Drs. Barnett and Franks, in the *American Annals of the Deaf* 144(1), pp. 44-50, 1999. ■

Announcements

AHCPR awards 10 large grants in areas of emphasis

The Agency for Health Care Policy and Research has awarded a total of \$8.98 million over a 3-year period to fund 10 new research projects that reflect the key goals in the Agency's strategic plan: improving health outcomes, strengthening quality measurement and improvement, and identifying strategies to improve access, foster appropriate use, and reduce unnecessary health care expenditures. AHCPR expects to fund additional grants by the end of fiscal year 1999. For more information about AHCPR's strategic plan, visit the Agency's Web site and click on "About AHCPR." The newly funded projects are:

Optimal Antithrombotic Therapy in Atrial Fibrillation. Principal investigator: Brian F. Gage, M.D., Barnes-Jewish Hospital, St. Louis, MO. AHCPR grant HS10133; funding \$377,261; project period 7/1/99 – 6/30/02.

This study will address the shortcomings of previous data on the use of antithrombotic therapy in patients with atrial fibrillation. The underuse of warfarin in elderly patients with nonvalvular atrial fibrillation has been documented repeatedly and appears to result in part from uncertainty about the conflicting benefits and risks of anticoagulation in the very old.

Effects of a Nursing-Based Intervention in Two Emergency Departments. Principal investigator: Lorraine C. Mion, M.S.N., Ph.D., the Cleveland Clinic Foundation, Cleveland, OH. AHCPR grant HS09725; funding \$894,143; project period 6/1/99 – 5/31/01.

The researchers will evaluate a recently awarded Robert Wood Johnson Foundation demonstration grant

based in the emergency department (ED) and aimed at maintaining frail elderly in the community setting. They will compare usual ED care and comprehensive case management with a community linkage ED intervention in terms of subsequent ED use, unplanned hospitalizations and/or nursing home use, perceived health status, satisfaction, and cost-effectiveness.

Online Commentary Use and Antimicrobial Prescribing. Principal investigator: Rita M. Mangione-Smith, M.D., University of California, Los Angeles. AHCPR grant HS10187; funding \$90,030; project period 7/1/99 – 9/30/00.

The objective of this study is to gain a better understanding of how physicians use online commentary (the physician's description of physical findings and observations that are related to a patient as a child is being examined/observed) in response to both explicit and perceived parental expectations for antibiotics in the pediatric outpatient setting.

Preferences for Short-Term Health States in Radiology. Principal investigator: Francois Sainfort, Ph.D., University of Wisconsin, Madison. AHCPR grant HS10277; funding \$519,062; project period 7/1/99 – 6/30/01.

The researchers will attempt to estimate the short-term preference-based, quality-of-life effects of imaging tests, including conventional angiograms and magnetic resonance angiograms, in patients being evaluated for suspected carotid atherosclerotic vascular disease.

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New grants

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Guideline to Improve Quality of Initial Pneumonia Care. Principal investigator: Michael J. Fine, M.D., M.Sc., University of Pittsburgh School of Medicine. AHCPR grant HS10049; funding \$4,944,640; project period 7/1/99 – 12/31/02.

The objectives of this randomized clinical trial are to reduce appropriately the number of low-risk patients who are hospitalized for the treatment of community-acquired pneumonia (CAP) and to improve the quality of initial medical management for patients with CAP treated in hospital emergency departments.

Managed Care and Quality: Children with Chronic Conditions. Principal investigator: Frederick Connell, M.D., M.P.H., University of Washington, Seattle. AHCPR grant HS09948; funding \$1,071,185; project period 7/1/99 – 6/30/02.

This observational study will examine how the structural characteristics, incentives, and quality assurance efforts of managed care organizations in Washington State affect the quality of care for children with chronic conditions such as asthma, diabetes, and cerebral palsy.

Nurse Staffing and Quality of Care. Principal investigator: Peter I. Buerhaus, Ph.D., R.N., Harvard University, Boston, MA. AHCPR grant HS09958; funding \$691,401; project period 7/1/99 – 6/30/01.

The purposes of this study are to (1) test and improve the methods available for measuring hospital-level patient acuity, nurse staffing levels, and adverse nurse-sensitive events (ANSE); (2) analyze the relationship between hospital nurse staffing levels and the quality of patient care, specifically the rate of ANSE over time; and (3) assess the impact of market forces on hospital nurse staffing levels and the rates of ANSE over time.

Adult Medicaid Patients' Dental Visits in Emergency Departments. Principal investigator: Leonard A. Cohen, D.D.S., M.P.H., University of Maryland, Baltimore. AHCPR grant HS10129; funding \$139,853; project period 7/1/99 – 9/30/00.

This project will evaluate adult Maryland Medicaid patients' patterns of use of hospital emergency departments for the treatment of mouth pain and infections. It also will examine the impact of the elimination of adult Medicaid reimbursement to dentists for the treatment of dental emergencies on these patterns.

Fundamental Measurement for Health Services Research. Principal investigator: William P. Fisher, Ph.D., Louisiana State University School of Nursing, New Orleans. AHCPR grant HS10186; funding \$37,883; project period 7/1/99 – 12/31/99.

This study uses data from AHCPR's Medical Expenditure Panel Survey (MEPS) to evaluate the potential of using trade-off models for measuring health-related variables.

Timing and Predictors of Nursing Home Transfers. Principal investigator: Richard A. Hirth, M.A., Ph.D., University of Michigan, Ann Arbor. AHCPR grant HS10118; funding \$216,598; project period 7/1/99 – 12/31/00.

This longitudinal study will focus on measuring patient transfers from one nursing home to another and the identification of resident and facility characteristics associated with different types of transfers.

In addition to these "special emphases" projects, AHCPR has recently funded the following additional projects.

Research Project Grant

Rural response to Medicare plus choice: Change and its impact

Project director:	Keith J. Mueller, Ph.D.
Organization:	University of Nebraska Omaha, NE
Project number:	AHCPR grant HS10183
Project period:	8/1/99 to 4/30/02
First year funding:	\$207,431

Small Project Grants

Analyses of public policies: Coverage of HIV drugs

Project director:	Robert J. Buchanan, M.D.
Organization:	Texas A&M University College Station, TX
Project number:	AHCPR grant HS09819
Project period:	9/1/99 to 8/31/00
Funding:	\$31,055

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New grants

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Children's health insurance coverage in Massachusetts

Project director: Emily Feinberg, M.S.C.
Organization: Harvard School of Public Health
Boston, MA
Project number: AHCPR grant HS10207
Project period: 7/1/99 to 6/30/00
Funding: \$31,296

Disseminating information on the quality of HMOs

Project director: Zhe Jin, B.A.
Organization: University of California
Los Angeles, CA
Project number: AHCPR grant HS10168
Project period: 7/1/99 to 6/30/00
Funding: \$31,840

Effectiveness of influenza vaccination

Project director: Paul Hebert, B.A.
Organization: University of Minnesota
Minneapolis, MN
Project number: AHCPR grant HS10154
Project period: 7/1/99 to 6/30/00
Funding: \$32,282

Infant feeding method and Medicaid service utilization

Project director: Aylin A. Riedel, B.A.
Organization: University of Minnesota
Minneapolis, MN
Project number: AHCPR grant HS10163
Project period: 7/1/99 to 6/30/00
Funding: \$32,282

Item response theory and the MOS SF-36

Project director: Kitty S. Chan, B.A.
Organization: Johns Hopkins School of Public Health
Baltimore, MD
Project number: AHCPR grant HS10166
Project period: 7/1/99 to 6/30/00
Funding: \$31,813

Managed care contracting: Safety net provider effects

Project director: Glen P. Mays, M.P.H.
Organization: University of North Carolina
Chapel Hill, NC
Project number: AHCPR grant HS10201
Project period: 7/1/99 to 6/30/00
Funding: \$32,227

Multisited ethnography of the emergence of hospitalist medicine

Project director: Philippa Strelitz, M.P.
Organization: University of California
San Francisco, CA
Project number: AHCPR grant HS10169
Project period: 8/1/99 to 7/31/00
Funding: \$31,651

Predictors of health insurance coverage after welfare

Project director: Julie A. Hudman, M.P.P.
Organization: Johns Hopkins University
Baltimore, MD
Project number: AHCPR grant HS10162
Project period: 7/1/99 to 6/30/00
Funding: \$30,660

Conference Grants

Developing model interventions to increase consent for organ donation

Project director: Laura A. Siminoff, Ph.D.
Organization: Case Western Reserve University
Cleveland, OH
Project number: AHCPR grant HS10074
Project period: 8/1/99 to 7/31/00
Funding: \$25,000

Followup workshop on community-based quality improvement

Project director: Virginia M. Paganelli, M.S.N.
Organization: Center for Clinical Quality Evaluation
Washington, DC
Project number: AHCPR grant HS10076
Project period: 8/1/99 to 7/31/00
Funding: \$49,682

Small grant program for conference support

Project director: Benjamin Djulbegovic, M.D., Ph.D.
Organization: University of South Florida
Tampa, FL
Project number: AHCPR grant HS10075
Project period: 8/1/99 to 7/31/00
Funding: \$22,699 ■

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 description of the project. See the back cover of *Research Activities* for ordering information.

Assessing the Implementation and Impact of Clinical Quality Improvement Efforts. Stephen M. Shortell, Ph.D., Northwestern University, Evanston, IL. AHCPR grant no. HS08523, project period 9/30/95 to 9/29/98.

The objective of this study was to assess the impact of continuous quality improvement/total quality management (CQI/TQM) and organizational culture on a comprehensive set of outcomes of care for coronary artery bypass graft (CABG) surgery and total hip replacement (THR) surgery patients. Clinical, patient satisfaction, functional health status, and cost data were collected for 3,045 CABG patients and 1,369 THR patients enrolled from 16 hospitals. Measures of CQI/TQM maturity and culture for each hospital were also obtained. Detailed risk-adjusting generalized estimating equations were used to estimate the impact of a hospital's CQI/TQM maturity and culture on patient-level outcomes of care for CABG and THR. Except for a positive association with patient satisfaction, the analyses did not demonstrate any consistent support for CQI/TQM having a significant impact on the quality and cost of these two clinical procedures. (Abstract, executive summary, and final report, NTIS accession no. PB99-139198; 188 pp, \$44.00 paper, \$17.00 microfiche)***

Can Hospital Policies Be Developed to Serve as Standards of Practice when Conflicts Occur over Life-Sustaining Treatment? Lawrence Schneiderman, M.D., University of California, San Diego, CA. AHCPR grant HS09534, project period 7/1/97 to 12/31/98.

This State-wide conference took place on February 20, 1998 in San Diego, CA, and brought together California health care professionals, lay people, medical ethicists, lawyers, and members of the judiciary. They gathered to explore the possibility of developing institutional end-of-life medical treatment policies that would serve as a basis for standards of practice when conflicts occur. Based on the results of this conference, it appears likely that at this time a consensus standard of practice regarding futile end-of-life treatments in the presence of disputes will be drawn very narrowly at best.

However, it is not necessary that there be unanimous agreement on a single standard, since there is room in the law for what is called a "respectable minority." For example, most hospital personnel agreed that life-sustaining treatment of a permanently unconscious patient is unwarranted. The successful resolution of disputes over end-of life treatments may depend not on hospitals going to court to defend their futility policy but on the willingness of the "respectable minority" hospitals to accept the transfer of such patients.

Communication Skills Training for Primary Care Patients. Donald J. Cegala, Ph.D., Ohio State University, Columbus, OH. AHCPR grant HS09520, project period 6/1/97 to 8/31/98.

The purpose of this study was to assess the effectiveness of a training

booklet designed to instruct patients in communication skills for enhancing information exchange during the primary care medical consultation. Twenty-five family medicine doctors and 150 patients participated in the study. Patient participants in three intervention conditions were compared: trained, informed, and untrained. Each of the 25 doctors saw two patients in each intervention condition. Major results indicate that trained patients engaged in significantly more information seeking and provision, had greater delayed recall, and were more compliant with treatment recommendations. (Abstract and executive summary, NTIS accession no. PB99-139511; 12 pp, \$23.00 paper, \$12.00 microfiche)***

Critical Pathways and Feedback to Improve Quality. Steven D. Pearson, M.D., Brigham and Women's Hospital, Boston, MA. AHCPR grant HS08311, project period 6/1/95 to 11/30/98.

Despite their use by the majority of American hospitals, few controlled research studies have assessed the effectiveness of "critical pathways." This study evaluated the critical pathways developed at a large teaching hospital for five common surgical procedures: coronary artery bypass graft (CABG) surgery, total knee replacement, colectomy, thoracic surgery and hysterectomy. A total of 6,796 patients underwent one of the procedures during the study. For most procedures, postoperative length of stay was already falling significantly during the period before pathway implementation. Following implementation, lengths of stay fell significantly for all of the study procedures: 21 percent for total knee replacement; 9 percent for CABG surgery; 7 percent for

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thoracic surgery; 5 percent for hysterectomy; and 3 percent for colectomy. These reductions in length of stay were matched, however, by the neighboring hospitals that did not have critical pathways or specific efficiency initiatives. The researchers concluded that critical pathways were associated with a period of rapid reduction in postoperative length of stay for the five study procedures. Secular trends at nearby hospitals, however, produced comparable reductions, raising questions about the marginal effectiveness of critical pathways as a method to increase efficiency in a competitive environment. (Abstract, executive summary, and final report, NTIS accession no. PB99-154494; 16 pp, \$23.00 paper, \$12.00 microfiche)***

Continuous Detection and Treatment of Depression in a Large HMO. Gregory A. Nichols, M.B.A., Kaiser Foundation Research Institute, Oakland, CA. AHCPR grant HS07991, project period 8/1/93 to 7/31/95

This study compared the skill of family practice, primary care, and internal medicine physicians in communicating the detection of depression to their patients, the subsequent treatment of depressive disorders, and the patients' use of health care resources. Depressed patients were identified from Kaiser Permanente Northwest (KPNW) members through a two-stage questionnaire process. Those with an identifiable primary care physician (n=1,161) were linked to their resource utilization via databases maintained by KPNW as part of its usual course of business. There were significant differences between family practice and internal medicine physicians in their rates of

communicating depression detection. Also, family practice patients had more visits and were more likely to use antidepressant medications. (Abstract and dissertation, NTIS accession no. PB99-148819; 188 pp, \$44.00 paper, \$17.00 microfiche)***

Effect of Sleep Promotion in the Critical Care Unit. Carrie J. Wallace, R.N., Ph.D., LDS Hospital, Salt Lake City, UT. AHCPR grant HS09335, project period 9/1/96 to 8/31/98.

The primary objective of this research was to measure the impact of soft foam earplugs to reduce noise during the night time hours on the sleep of critically ill subjects. Patients older than 18 years of age who met the enrollment criteria were studied using a randomized, unblinded, crossover study design. Sleep was measured on two nights with one "washout" night in between; the order of earplugs was randomly assigned. Other potentially important sleep disrupters were also measured. Five males and eight females—12 of whom were on mechanical ventilation—were studied. Significantly more REM sleep occurred when earplugs were worn. All subjects' sleep architecture was severely disturbed, with or without earplugs. An increased opportunity for sleep on the night earplugs were worn was evident. Further research is needed to determine the clinical importance of increased REM sleep in critically ill patients and the use of earplugs to enhance sleep. (Abstract, executive summary, and dissertation, NTIS accession no. PB99-129991; 13 pp, \$23.00 paper, \$12.00 microfiche)***

Evaluating a Multi-Hospital Quality Improvement Strategy to Implement Clinical Guidelines for Radiographic Contrast Agents. John B. Hernandez, Ph.D., RAND

Corp., Santa Monica, CA. AHCPR grant HS09686, project period 9/30/97 to 5/31/98.

This study involved a randomized, controlled trial and qualitative evaluation of a quality improvement strategy to implement clinical guidelines for radiographic contrast agents. Hospital representatives were trained in quality improvement methods to implement the guidelines in their own hospitals using a step-by-step guideline implementation protocol and other tailored resources. Overall, the strategy was unsuccessful in improving adherence to the guidelines in the intervention group. A comparative case study was conducted to examine the impact of key organizational factors on adherence and to identify successful strategies for overcoming barriers to adherence. Intraorganizational financial incentives were found to be particularly important in predicting the extent of guideline adherence. (Dissertation, NTIS accession no. PB99-117277; 182 pp, \$44.00 paper, \$17.00 microfiche)***

Experiences of Low-Income Women with Breast Cancer. Anne S. Kasper, Ph.D., University of Illinois, Chicago. AHCPR grant HS09558, project period 9/30/97 to 3/30/99.

Available research demonstrates that low-income women are more likely to be diagnosed with breast cancer at a later stage and to have higher mortality. Many economically disadvantaged women are uninsured, often deterring access to treatment services. However, this exploratory study demonstrates that for 24 urban poor and low-income women, the lack of insurance is only one of several factors that impede access to and create difficulties with receiving appropriate breast cancer care. For these women, the multiple disadvantages of poverty that preceded and followed a diagnosis of

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breast cancer created significant delays and compromised the diagnosis, treatment, recovery, and perhaps survival of the women. However, where there were programs specifically designed for poor and low-income women with breast cancer, a number of the women received generally appropriate and timely care. (Abstract, executive summary, and final report, NTIS accession no. PB99-154437; 92 pp, \$29.50 paper, \$12.00 microfiche)***

Factors Affecting the Bargaining Power of Pharmacies and Insurers. John M. Brooks, Ph.D., University of Iowa, Iowa City. AHCPR grant HS09541, project period 9/01/97 to 8/31/98.

In the face of escalating health care costs, insurers have taken a more active role in bargaining with providers over the prices of medical care services. Unfortunately, there has been little research to help policymakers understand the effects of these changes on provider reimbursements. The goal of this study was to fill this information gap by modeling the bargaining power of pharmacies in their price negotiations with insurers and investigating the extent that bargaining power varies with characteristics of the pharmacy insurer and pharmacy market. Empirical estimates were obtained using pharmacy/insurer transactions from Medstat's 1994 Marketscan Database. The researchers found statistically significant variation in pharmacy bargaining power across markets, insurers, and pharmacy types. With respect to market structure, pharmacy bargaining power was negatively related to pharmacies per capita and positively related to pharmacy concentration at higher

concentration levels. In addition, pharmacy bargaining power declined as the percentage of independent pharmacies in an area increased. With respect to socioeconomic conditions, pharmacy bargaining power was higher in areas with lower per capita income and higher rates of public assistance. (Abstract, executive summary, and final report, NTIS accession no. PB99-134892; 22 pp, \$23.00 paper, \$12.00 microfiche)***

Flexible Spending Accounts and Health Insurance Decisionmaking. Matthew L. Maciejewski, Ph.D., University of Minnesota, Minneapolis. AHCPR grant HS09341, project period 9/30/96 to 6/30/98.

Flexible spending accounts (FSAs) are an important, yet unexplored, health benefit that allows employees to shelter out-of-pocket medical expenses from taxation. Employee out-of-pocket premiums also may be exempt from taxation via pre-tax premium contributions. The purpose of this study was to measure the effect of these tax exemptions on the characteristics of health plans offered by a national sample of large city and county governments. A model of employer provision of the tax exclusion for employee-paid premiums and FSAs is estimated to explain their respective influences on cost-sharing, premiums and enrollment. The study addressed four research questions: (1) What factors influence employer provision of flexible spending accounts? (2) Does offering an FSA have an impact on health plan cost-sharing? (3) What is the overall effect of an FSA on health plan premiums? (4) How does offering an FSA affect health plan choice? Health plan cost sharing and total premiums were estimated as a two-part model with sample selection and a least squares model with sample selection, respectively. This study provides the first

empirical evidence of the effect of FSAs on health plan cost-sharing, total premiums, and health plan market share. (Abstract, executive summary, and dissertation, NTIS accession no. PB99-129868; 308 pp, \$58.00 paper, \$23.00 microfiche)***

Healthy People 2000: Taking Action with Children and Families. Mary A. Baroni, Ph.D., R.N., Marquette University, Milwaukee, WI. AHCPR grant HS09362, project period 2/1/97 to 1/31/99.

This grant supported an interdisciplinary research conference convened by Marquette University College of Nursing. Specific objectives were to (1) define issues relevant to the delivery of health care services for children, (2) disseminate research information to policymakers, agency administrators, and practitioners, and (3) apply research findings and lessons learned from model programs to the development of collaborative ventures that can bridge research, practice, and policy in the evolving context of managed care and welfare reform. (Conference report, NTIS accession no. PB99-154460; 30 pp, \$23.00 paper, \$12.00 microfiche)***

In Whose Care and Custody? Orphans of the HIV Epidemic in Historical and Global Perspective. Carol Levine, the Orphan Project of New York City. AHCPR grant HS07872, project period 9/1/93 to 8/31/95.

This project supported a symposium that yielded a more complete understanding of the history of the world's response to crises involving children without parents or care. Specifically, participants concluded that American society's response to such

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children consisted of a series of radically different care models, with each model recognizing the previous model's weaknesses. The current model, foster care, has demonstrated some weaknesses. Participants believed that in trying to determine what will work best for today's problem of caring for orphans of the HIV epidemic, several prior models must be considered, and the successful aspects of each should be used in developing solutions.

(Abstract, executive summary, and final report, NTIS accession no. PB99-133621; 14 pp, \$23.00 paper, \$12.00 microfiche)***

Managed Care Strategies and the Performance of Rural Hospitals. Astrid Knott, Ph.D., University of Iowa, Iowa City. AHCPR grant HS09899, project period 8/1/98 to 9/30/98.

This study analyzed the relationship between the adoption of a managed care contracting strategy and physician-hospital integration activities and the performance of rural hospitals in Iowa and Nebraska. The effect of contracts with a variety of health maintenance organizations (HMOs) on two performance measures were studied. Data were provided by the AHA Annual Survey and a survey of rural hospital CEOs. Analysis of the cross-sectional data included factor analysis for variable reduction and OLS regression. The results did not support the hypothesized positive relationship between having managed care contracts and rural hospital performance. However, the number of HMO contracts was positively related to expenses. The hypothesis of a positive relationship between participation in physician-hospital organizations (PHOs) and occupancy rates also was not supported. Participation in closed

PHOs was negatively related to occupancy. (Abstract and executive summary of dissertation, NTIS accession no. PB99-154452; 18 pp, \$23.00 paper, \$12.00 microfiche)***

Measuring Primary Care Quality in Managed Care Systems. Donald A. Barr, M.D., Stanford University, Stanford, CA. AHCPR grant HS09350, project period 9/30/96 to 9/29/98.

The purpose of this study was to test a new methodology to assess patient satisfaction with a primary care office visit. Researchers greeted patients at the entrance to a primary care facility and accompanied them throughout their visit (except during actual examination and treatment), simultaneously gathering observational and patient survey data. The methodology was well accepted by patients, with 79 percent of eligible patients agreeing to participate. This method presents a feasible alternative to telephone or written satisfaction surveys and has the advantage of gathering both patient data and data pertaining to structural characteristics of the visit. It was possible to demonstrate that structural characteristics significantly affect a patient's satisfaction with care, as measured by a standard nine-item satisfaction score. In addition to the well known beneficial effect of continuity of care, the study demonstrated that one of the most powerful determinants of patients' satisfaction is the courtesy, sensitivity, and respect with which they are treated by the nonphysician staff they encounter. In addition, the study identified a possible effect of ethnicity on patients' perception of primary care visit quality, with minority patients reporting lower satisfaction with this aspect of care than white patients. (Abstract, executive summary, and final report, NTIS accession no. PB99-119653;

72 pp, \$27.00 paper, \$12.00 microfiche)***

Outcomes and Costs of Inpatient Antidepressant Drugs. Deborah L. Ackerman, Ph.D., University of California, Los Angeles. AHCPR grant HS09551, project period 9/30/97 to 7/31/98.

Cost-benefit studies in outpatient settings have indicated that the higher initial cost of the selective serotonin-reuptake inhibitors (SSRIs) for treating depression may be offset by higher expenses of tricyclic antidepressants (TCADs) associated with monitoring and managing side effects. This inpatient study was conducted to evaluate the relative costs and benefits of different treatment regimens and to provide descriptive information about antidepressant drug use. A retrospective review was conducted of computerized administrative data covering all admissions between July 1, 1994 and July 1, 1997 to the UCLA Neuropsychiatric Hospital. The SSRIs were the most commonly prescribed antidepressants. The atypicals (trazodone, bupropion, and nefazodone) and SSRIs were also associated with highest charges: \$2,000 to \$3,000 higher than the TCADs. The atypicals were also associated with \$3,000 higher charges than venlafaxine. After controlling for diagnosis, severity, age, length of stay, and comorbidity, the atypicals were associated with \$500 to \$1,000 higher charges for services and procedures. The source of the higher charges for atypicals was electroconvulsive therapy (ECT), billed more often and for more procedures per patient. Readmission rates were similar across drug classes. (Abstract, executive summary, and final report, NTIS accession no. PB99-114134; 130 pp, \$36.00 paper, \$17.00 microfiche)***

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A Perspective Study of an Out-of-Hospital Birth Center. William Swartz, M.D., Primary Care Perinatal Services, San Diego, CA. AHCPR grant HS07161, project period 9/30/93 to 9/29/98.

This study evaluated the safety (maternal and neonatal health outcomes), costs, and patient satisfaction of a collaborative model of nurse-midwives and obstetricians with freestanding birth center option for delivery of low-risk women, as compared with a traditional U.S. model of perinatal services (obstetrician and hospital delivery). A prospective cohort study was conducted (1,815 birth center and 1,150 traditional care subjects) from 1994 to 1997. Baseline comparability was established using a validated methodology to determine perinatal risk and birth center eligibility. Data were collected via medical record abstraction and patient questionnaires. Patient satisfaction was measured at 6 weeks postpartum using a validated questionnaire. Costs per birth were compared using a resource utilization/activity-based cost methodology. Results suggest similar maternal and neonatal morbidity in the two groups, with lower rates of cesarean section (11 vs. 19 percent) and assisted delivery (8 vs. 18 percent) in the birth center group. Patient satisfaction scores were similar. The costs per birth in the collaborative management model were 16 percent less for the payor perspective (\$4,541 vs. \$5,427); 15 percent more for the provider/medical group perspective (\$894 vs. \$778); and 22 percent less for the facility perspective (\$1,451 vs. \$1,858). Study results support the safety, cost-effectiveness, and patient acceptability of a collaborative management/ freestanding birth center model. (Abstract, executive summary, and final report; NTIS

accession no. PB99-148827; 86 pp, \$29.50 paper, \$12.00 microfiche)***

Promoting Health in the African-American Community: The Role of the Church. Lorna Harris, University of North Carolina School of Nursing, Chapel Hill. AHCPR grant HS08619, project period 3/1/95 to 2/28/97.

The project's purpose was to plan and coordinate a State-wide conference to educate leaders of North Carolina's black churches about the role churches can play in helping to meet the objectives of Healthy People 2000. Using a Braithwaite and Taylor (1992) coalition partnership approach, a community-based health education project was developed with members of the North Carolina Interdenominational Ushers' Association (NCIUA). The conference results were establishment of 10 health advocacy committees in local churches, compilation of proceedings and a resource directory, and creation of a health steering committee of NCIUA members to plan and develop future health promotion projects. (Abstract and executive summary, NTIS accession no. PB99-137564; 24 pp, \$23.00 paper, \$12.00 microfiche)***

Randomized Trial of a Systematic Implementation of an Advance Directive Program in Six Nursing Homes. David Molloy, M.D., McMaster University, Hamilton, Ontario, Canada. AHCPR grant HS07878, project period 6/1/94 to 8/31/98.

The researchers examined the effects of systematic implementation of the Let Me Decide (LMD) advance directive on patient and family satisfaction with involvement in decisionmaking and on health care resource expenditures in six Ontario nursing homes. One home in each pair was randomized to receive the LMD program where competent

residents or families of incompetent residents completed LMD. Patients and families completed satisfaction questionnaires, and data on health care costs were collected. Forty-nine percent of competent residents and 78 percent of families of incompetent residents in the intervention homes completed directives. Satisfaction with health care did not differ between intervention and control homes. Residents of intervention homes experienced fewer hospitalizations than those in control homes and consumed fewer resources than control home residents. There was no difference in mortality between the two groups. Administration of the LMD advance directive in nursing homes reduced hospitalizations and costs without affecting mortality or residents' and relatives' satisfaction. (Abstract, executive summary, and final report, NTIS accession no. PB99-148835; 67 pp, \$29.50 paper, \$12.00 fiche).

Resource Use in Seriously Ill Medicare Beneficiaries. Joan J. Teno, M.D., Brown University, Providence, RI. AHCPR grant HS09129, project period 7/1/97 to 6/30/98.

This study successfully merged the clinically rich data base from the Study to Understand Prognosis and Preferences for Outcomes and Risks of Treatments (SUPPORT) with Medicare claims data. The impact of the SUPPORT intervention and the Patient Self-Determination Act on long-term resource use was examined. Each of these largely educational interventions did not impact on long-term resource use. Descriptive analyses highlighted important opportunities to improve end-of-life resource use. For high-cost patients, the majority of physicians had not communicated with the patient or their family

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members by the 14th day of an ICU stay. Objective estimates of prognoses from a multivariate model would not have resolved the medical decisions, given that the majority of patient prognoses were not at a futility threshold. A second important finding is that only 41 percent of patients who preferred a palliative approach reported that care was consistent with that preference. Resource use was higher in the cases where patient preferences were not being followed. (Abstract, executive summary, and final report, NTIS accession no. PB99-139206; 40 pp, \$25.50 paper, \$12.00 microfiche)***

Risk Sharing in Managed Care. Meredith B. Rosenthal, Ph.D., Harvard Medical School, Boston, MA. AHCPR grant HS09660, project period 9/30/97 to 9/29/98.

Managed care continues to evolve. In its early form, the industry relied on "command and control" mechanisms to influence physician practice style and reduce the cost of care. In response to the backlash from physicians and patients against the encroachment of managed care into the doctor-patient relationship, health plans are seeking alternative ways of containing costs. This research explored one of these alternatives that is increasingly prevalent and controversial: risk sharing with providers. There is concern that putting physicians at risk for the cost of treating patients compromises ethical principles and may lead to reductions in the quality of care. The research involved issues related to the design of risk-sharing contracts as well as their impact in an outpatient mental health setting. The findings indicate that behavioral health providers do reduce the

duration of mental health therapy, given financial incentives to do so. As compared with managed fee-for-service, a fixed per case payment system resulted in 15 to 17 percent fewer visits. It also appears that providers substitute "free" services, such as referrals to self-help groups and community care, when additional therapy becomes costly. No impact on mental health status was found. (Dissertation, NTIS accession no. PB99-114118; 186 pp, \$44.00 paper, \$17.00 microfiche)***

Rural Low Birthweight Children and Their Families: Visions for the Future. Barbara Sachs, Ph.D., University of Kentucky Research Foundation, Lexington, KY. AHCPR grant HS07950, project period 9/30/94 to 9/29/96.

This project supported a conference that aimed to (1) improve communication, networking, and collaboration between tertiary care and community-based providers of health care to rural low birthweight (LBW) children and their families; (2) develop recommendations for changes in health care practice and health care policy and programs, as well as suggest new research directions for LBW children and their families in rural settings; and (3) disseminate recommendations based on conference proceedings to health care providers, policymakers, and researchers. Program content was based on responses to two preconference Delphi surveys about barriers to care for these families. Barriers to care involved family, provider, and systems issues. Conference participants included parents, health care professionals, and policymakers who participated in both large and small group sessions. Strategies suggested to overcome barriers were related to transportation, finances, improved

provider-family communication, and better care coordination. (Abstract, executive summary, final report, and appendixes, NTIS accession no. PB99-133738; 82 pp, \$29.50 paper, \$12.00 microfiche)***

Toward a Women's Health Outcomes Research Agenda. Margaret A. Anderson, M.A., Society for the Advancement of Women's Health Research, Washington, DC. AHCPR grant HS09548, project period 9/30/97 to 9/29/98.

This project supported a conference focused on the role of outcomes research in women's health. The meeting provided an opportunity to assess current knowledge of women's health based on data derived from outcomes studies, evaluate the inclusion of women and the use of analysis by sex in outcomes research focused on women's health, and begin to identify a research agenda for the future. In addition, participants discussed private and public responsibilities for producing outcomes measures related to women's health and identified areas for collaboration. Medical and health specialty groups provided written statements about advances and challenges related to outcomes research in their arena. Finally, the meeting provided an opportunity for participants to consider how to translate research results into action or policy, for example, defining and shaping disease management, promoting evidence-based medicine, and developing practice guidelines that affect women. (Abstract and conference report, NTIS accession no. PB99-143448; 48 pp, \$25.50 paper, \$12.00 microfiche)*** ■

Celebrating the Launch of Healthy People 2010

Washington, DC, will be the site of *Partnerships for Health in the New Millennium*, a conference celebrating the launch of new national health objectives, Healthy People 2010, on January 24-28, 2000. This will be the first national health promotion conference of the new century. It will focus on four themes:

- Partnering for health improvements.
- Eliminating health disparities.
- Increasing quality and years of healthy life.
- Harnessing technology for health.

You are invited to submit an abstract for possible presentation at one of the breakout, caucus, or poster sessions, which will provide an invaluable opportunity for information sharing and networking. The call for abstracts is available on the conference Web site www.health.gov/partnerships. Proposal abstracts are due September 6, 1999.

For registration information or to learn more about participating as an exhibitor or in the technology games, visit the Web site, call 1-800-367-4725, or send an e-mail to partnerships@health.org. ■

Research Briefs

Azen, S.P., Palmer, J.M., Carlson, M., and others. (1999, May). "Psychometric properties of a Chinese translation of the SF-36 health survey questionnaire in the well elderly study." (Interagency agreement AG11810). *Journal of Aging and Health* 11(2), pp. 240-251.

More than 80 percent of Chinese elders in the United States were born abroad, and the majority are not fluent in English. This has led to their isolation and reduced access to health care and other services. This study shows that the 36-item Short Form Health Survey (SF-36), a health status questionnaire, can be used to assess multiple dimensions of health in older Chinese adults. The researchers used translation and back-translation procedures to obtain appropriate meanings for the SF-36 survey questions and to ensure face,

functional, and conceptual equivalence. Moreover, because there is only one written Chinese language, this translation of the SF-36 can be administered to both Mandarin and Cantonese speakers.

Bradley, E.H., and Rizzo, J.A. (1999, April). "Public information and private search: Evaluating the Patient Self-Determination Act." (National Research Service Award training grant T32 HS00052). *Journal of Health Politics, Policy and Law* 24(2), pp. 239-273.

Substantial regulatory efforts have been made by government agencies and within the health care sector to improve consumer information regarding health and health care. Yet little is known about the impact of such efforts on consumer behavior. This paper examines the effect of Federal legislation—the Patient Self-

Determination Act—to enhance consumer information regarding the use of life-sustaining technology in end-of-life medical treatment decisionmaking. The researchers used a unique set of data abstracted from the medical records of 600 elderly patients in nursing homes. They found that the law substantially improved documentation of patient wishes for end-of-life medical care. Further, the data revealed that the effect of the law varied among identifiable subgroups. The authors note that individuals who benefitted most from these regulatory efforts were those who most needed the information but would have found it costly to search for and obtain the information on their own.

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Research briefs

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Coyle, Y.M., and Battles, J.B. (1999). "Using antecedents of medical care to develop valid quality of care measures." (AHCPR grant HS09461). *International Journal on Quality of Health Care* 11(1), pp. 5-12.

Past studies assessing patient outcomes have not consistently demonstrated a correlation between the processes and the outcomes of care. This was probably because these studies lacked the inclusion of medical care antecedents (primarily patient and environmental risk factors) that had a significant influence on the outcomes measured, according to the authors of this study. They present a new model for using the antecedents of medical care in outcomes assessment to

develop valid quality of care measures. They believe the model advances quality of care measure development by using qualitative research to characterize as many of the pertinent antecedents of medical care as possible. These in turn can then be used to develop risk-adjustment models for measuring outcomes, which are more apt to identify the true linkages between the processes and outcomes of care.

Manski, R.J., Moeller, J.F., and Maas, W.R. (1999, April). "Dental services: Use, expenditures, and sources of payment, 1987." *Journal of the American Dental Association* 130, pp. 500- 508.

Dental expenditures have increased by almost \$45 billion during the past 35 years. Despite advances in preventive dentistry, dental disease continues to be a

substantial health problem. Although the dental care market is substantial, many Americans did not visit a dentist in 1987, according to this study. The researchers analyzed household data from the 1987 National Medical Expenditure Survey to examine use of dental services. They found that less than 50 percent of Americans visited a dental office during 1987. Americans made about 292 million dental visits and received about \$30 billion worth of dental care, of which \$10 billion was paid by insurers, \$17 billion was paid out of pocket, and \$1.6 billion was not reimbursed. The type of care received varied among people in distinct socioeconomic and demographic groups. Reprints (AHCPR Publication No. 99-R070) are available from AHCPR.**■

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