



Research Activities



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Agency for Healthcare Research and Quality

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AHRQ awards over \$22 million in health information technology implementation grants

The Agency for Healthcare Research and Quality (AHRQ) has awarded more than \$22.3 million to 16 grantees to implement health information technology (health IT) systems to improve the safety and quality of health care. These projects will contribute to AHRQ's capacity to learn from health IT implementation in clinical settings and to use the results from these real-world laboratories that are crucial to moving forward with broader implementation of health IT in American health care.

The recipients were selected from a group of AHRQ grantees who received health IT planning funds in 2004. This additional funding will allow them to carry out the plans they developed in their earlier grants. Eleven of the 16 grants were awarded to small and rural communities — areas of special emphasis for AHRQ's health IT initiative.

The newly funded implementation projects will

focus on using health IT to share health information between providers, laboratories, pharmacies, and patients and help to ensure safer patient transitions between health care settings, as well as to reduce medication errors and duplicative and unnecessary testing. For example:

- At Franklin Foundation Hospital in coastal Louisiana, where health care providers are still recovering from the devastation of Hurricane Katrina, safety net health care providers will integrate health information and communications systems to support chronic disease management, improve patient safety, and eliminate duplication of effort.
- The University of Tennessee and its partners will develop an integrated electronic health record for children with special health care needs to improve the coordination of services, continuity of care, timeliness of follow-up services, and patient tracking.

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Health IT grants

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- The Holomua project in Hawaii will implement a health IT system to improve the flow of information among patients, community health centers, and hospitals serving ethnic minorities, immigrants, and other vulnerable populations during transitions of care

between primary and tertiary care facilities.

- Chadron Community Hospital in Nebraska will implement a regional health information exchange within an established collaborative of rural hospitals, clinics, and providers across a 14,000-square-mile remote area of Nebraska.

These awards join 40 implementation grant recipients announced in 2004. With these 16 awards, AHRQ's investment in health IT totals more than \$166 million.

A complete list of the 2005 Health IT implementation grant recipients can be found online at <http://healthit.ahrq.gov/>. ■

Health Information Technology

Study investigates PDA software applications that can optimize medication safety

Access to drug information at the point of care using personal digital assistants (PDAs) may have great potential to reduce medication errors associated with drug prescribing, depending on the ability of the software to provide specific, accurate, and complete drug information. A study supported by the

Agency for Healthcare Research and Quality (HS11808) and conducted by Kimberly A. Galt, Pharm.D., F.A.S.H.P., and colleagues at Creighton University, evaluated PDA software resources that have the potential to optimize medication safety.

Researchers evaluated three PDA-based drug information sources: Eprocrates Rx Pro, Lexi-Drug, and mobileMICROMEDEX. They then determined medication error types related to drug information at the point of care and developed 47 questions most commonly asked by primary care providers to test the potential of preventing these types of errors.

Three physicians evaluated and rated the drug information sources, using the rating system of "1" for no information available, "2" for some information available, and "3" for adequate information available. The average ratings for the drug information sources were 2.0 for Eprocrates Rx Pro, 2.5 for Lexi-Drug, and 2.03 for mobileMICROMEDEX. Researchers note, however, as with print libraries, using more than one resource is often necessary to provide the most accurate and complete information.

See "Personal digital assistant-based drug information sources: Potential to improve medication safety," by Dr. Galt, Ann M. Rule, Pharm.D., Bruce Houghton, M.D., and others, in the April 2005 *Journal of the Medical Library Association* 93(2), pp. 229-235. ■

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Using a computerized kiosk during emergency treatment for children's asthma improves medication information

When a child arrives in the emergency department (ED) needing treatment for asthma, obtaining the child's medication history can be difficult. Distractions from noise and crowding, multiple clinicians providing care to the same patient, the need for rapid decisions, and communication barriers all threaten to erode proper medication information. Parents can be helpful partners in obtaining their child's medication history in this situation, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS11660).

Stephen C. Porter, M.D., M.P.H., M.Sc., and colleagues at Children's Hospital Boston, asked a group of parents to use a kiosk (a multimedia, touch screen interface in the ED) to provide information about their children's asthma and related medications. Researchers compared the parents' kiosk entries regarding their children's

medications to the documentation of ED physicians and nurses.

They also conducted a telephone interview with the parents after discharge to compare the kiosk entries with all asthma-related medications present in the home prior to the ED visit.

Researchers then analyzed the validity of the parent, physician, and nurse reports. A report was considered valid if the medication details obtained from the kiosk matched the information obtained from the telephone interview. The validity of parental report was 81 percent for medication name, 79 percent for route of delivery, 66 percent for form of the medication, and 60 percent for dose. The parents' reports improved the validity of documentation by physicians across all medication details, except for the medication name, and was more valid than nursing documentation at triage.

More details are in "Parents as partners in obtaining the

medication history," by Dr. Porter, Isaac S. Kohane, M.D., Ph.D., and Donald A. Goldmann, M.D., in the May 2005 *Journal of the American Medical Informatics Association* 12(3), pp. 299-305. ■

Computerized guidelines for reactive airway disease do not affect care delivery or outcomes

According to a recently published study, care suggestions shown to doctors and pharmacists on computer workstations had no effect on the care delivery or outcomes of patients with asthma or chronic obstructive pulmonary disease (COPD). William M. Tierney, M.D., of Indiana University School of Medicine, and colleagues, suggest that one reason could be that providers may accept a computer's advice about preventive care and costs, but may be less open to a computer's

suggestions about managing chronic illnesses.

With support from the Agency for Healthcare Research and Quality (HS07763), researchers randomized 246 physicians (mostly residents), and 20 outpatient pharmacists to the computerized asthma and COPD care guidelines or control groups at 25 academic medical practices. When writing orders or filling prescriptions using computer workstations, half of the physicians and pharmacists received care suggestions

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Reactive airway disease

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concerning drugs and monitoring. Randomizations resulted in four study groups: physician intervention, pharmacist intervention, both interventions, and controls. Researchers assessed guideline adherence and clinical activity using patients' medical records during the 3-year study period.

The average number of computerized care suggestions per patient was just under three. There were no differences between the four study groups in adherence to the care suggestions. There was also no consistent effect on patients' quality of life, medication adherence, or satisfaction with their physicians or pharmacists. There were no group differences in emergency department visits or hospitalizations for any cause or for reactive airways disease in particular. Researchers indicate that

more work may be needed to improve the timing and content of computerized care suggestions.

See "Can computer-generated evidence-based care suggestions enhance evidence-based management of asthma and chronic obstructive pulmonary disease? A randomized, controlled trial," by Dr. Tierney, J. Marc Overhage, M.D., Ph.D., Michael D. Murray, Pharm.D., M.P.H., and others, in the April 2005 *HSR: Health Services Research* 40(2), pp. 477-497. ■

Chronic Diseases and Conditions

Studies examine diabetes hospitalizations and death, diabetes self-management outcomes, and undiagnosed diabetes

Nearly 9 percent of the U.S. population suffered from diabetes in 2002. This number continues to rise, placing more people at risk of developing diabetes complications, particularly cardiovascular disease. Three studies supported by the Agency for Healthcare Research and Quality recently examined diabetes issues. The first study (AHRQ grant HS11477) concluded that the risks of institutionalization and death attributable to diabetes are large. The second study (AHRQ grant HS10123) found that patients with diabetes who used a computer

program to select behavioral goals for managing their diabetes tended to make substantial behavioral changes over a 6-month period. According to the third study, (AHRQ grant HS11282) two-thirds of people with undiagnosed diabetes at the time of an acute coronary syndrome were not recognized during their hospital stay. The articles are summarized here.

Russell, L.B., Valiyeva, E., Roman, S.H., and others. (2005, July). "Hospitalizations, nursing home admissions, and deaths

attributable to diabetes." *Diabetes Care* 28, pp. 1611-1617.

Type 2 diabetes usually develops in adults and is more common among overweight adults. According to a simulation model developed by researchers, adults with diabetes are at increased risk for being admitted to a hospital or nursing home or dying. The model, based on data from the National Health and Nutrition Examination Survey (NHANES) I Epidemiologic Followup Study, represented the natural history of diabetes and controlled for a variety of baseline risk factors.

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Diabetics studies

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Researchers applied the model to 6,265 participants from the NHANES III, which was conducted from 1988 to 1994.

For all the adults studied, a diagnosis of diabetes accounted for nearly 9 percent of hospitalizations, 12 percent of nursing home admissions, and 10 percent of deaths from 1988 to 1994. For people with diabetes, diabetes alone was responsible for 43 percent of hospitalizations, 52 percent of nursing home admissions, and 47 percent of deaths. Adjustment for related cardiovascular conditions increased these estimates to 51, 57, and 57 percent, respectively. Continued efforts to prevent development of diabetes and its complications could have a substantial impact on hospitalizations, nursing home admissions, and deaths and their societal costs, conclude the researchers.

Estabrooks, P.A., Nelson, C.C., Xu, S., and others. (2005, May). "The frequency and behavioral outcomes of goal choices in the self-management of diabetes." *The Diabetes Educator* 31(3), pp. 391-400.

According to the results of this study, when patients with type 2

diabetes used an interactive CD-ROM on diabetes self-management to select behavioral goals to manage their diabetes, they tended to select personally appropriate goals that resulted in significant behavioral changes over a 6-month period. Researchers randomized 422 patients with type 2 diabetes to the Diabetes Priority Program (a goal-setting session using a CD-ROM program conducted during a diabetes-related primary care visit) or usual care.

Using a computer touchscreen, program participants completed a brief assessment of their dietary intake and physical activity. The participants received feedback on their behavior compared to the recommended guidelines. They then self-selected behavior change goals in the area of diet or exercise (or smoking for those who smoked), identified barriers and supportive activities related to the goals, and received a computer-printed personal action plan.

Six months later, those who selected a goal to reduce fat in their diet showed a significantly larger decrease in fat intake than did those who selected a goal to increase physical activity or fruit and vegetable intake. Those who selected a goal to increase fruit and vegetable intake showed significant changes in fruit and vegetable

consumption, and those who selected a physical activity goal showed substantial changes in days of moderate and vigorous physical activity.

Conaway, D.G., O'Keefe, J.H., Reid, K.J., and Spertus, J. (2005, August). "Frequency of undiagnosed diabetes mellitus in patients with acute coronary syndrome." *American Journal of Cardiology* 96, pp. 363-365.

In this study, use of a simple fasting plasma glucose (FPG) test revealed that about 57 percent of the 1,199 patients hospitalized for acute coronary syndrome (ACS), that is, heart attack or unstable angina, had abnormal glucose metabolism. Overall, 14 percent of the ACS patients met the American Diabetes Association criteria for a new diagnosis of diabetes (that is, they had not been diagnosed previously), yet 65 percent of these patients were not diagnosed or treated for the condition by the doctors who managed them. The study also found about 33 percent of the group had impaired FPG metabolism. The population studied consisted predominantly of white men from two U.S. Midwest hospitals, so the findings may not be representative of other groups, caution the researchers. ■

Telephone advice on how to manage eating behavior can improve adherence to a cholesterol-lowering diet

About one third of all U.S. adults are candidates for cholesterol-lowering diets. However, fewer than half follow the recommended dietary guidelines. A new study, supported in part by the Agency for Healthcare Research and Quality (HS08891), found that patients with high low-density lipoprotein-cholesterol (LDL-C) who received a telephone call every 2 weeks from a nurse with advice on how to manage their eating behavior improved their adherence to a low-cholesterol diet and lowered their LDL-C.

Researchers randomized 65 men and women diagnosed with high cholesterol to usual care (follow-up visits with the doctor and/or lipid measurements every 3-6 months) or to the intervention treatment, which consisted of six telephone sessions with a nurse every 2 weeks over the course of 3 months. In the sessions, the patient set a goal for the next 2 weeks and reviewed self-monitoring notes from the prior 2

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Cholesterol-lowering diets

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weeks. The nurse provided reinforcement and encouraged patients to achieve the next goal.

Over a 3-month period, the intervention group significantly reduced their intake of total fat, saturated fat, and cholesterol, while the usual care group increased their consumption of all three. Also, the intervention group reduced their serum LDL-C by 6 percent compared to a 1.3 percent increase in the usual

care group. The intervention group did not feel any more competent to manage their diet, but did so anyway.

See “Improving adherence to a cholesterol-lowering diet: A behavioral intervention study,” by Lora E. Burke, M.N., Jacqueline Dunbar-Jacob, Ph.D., R.N., Trevor J. Orchard, M.B.B.Ch., M.Med.Sci., and Susan M. Sereika, Ph.D., in the April 2005 *Patient Education and Counseling* 57, pp. 134-142. ■

Keeping more medical appointments and taking medication as directed helps patients with diabetes control blood sugar levels

Diabetes was the sixth leading cause of death in the United States in 2000, and is now the leading cause of both end-stage renal disease and blindness in adults. Control of blood sugar levels can reduce the risk of developing these diabetes-related complications. By keeping more medical appointments and taking diabetes medications as directed, patients with diabetes can substantially improve their blood sugar (HbA1c) levels, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS09722).

Researchers retrospectively evaluated 1,560 patients with type 2 diabetes who visited a diabetes clinic which served a predominantly urban, indigent,

black population, between 1991 and 2001. The patients returned for a follow-up visit and HbA1c measurement after 1 year of care. The researchers assessed the number of scheduled visits that the patients kept, and the percentage of visits in which they reported taking their medication as recommended. On average, patients had been diagnosed with diabetes for nearly 5 years and had a baseline HbA1c of 9.1 percent (normal levels are below 7 percent).

After adjusting for other factors affecting HbA1c levels such as body mass index and diabetes therapy, patients who kept more intervening appointments had lower HbA1c levels after 12 months of care (7.6 percent with six to seven visits vs. 9.7 percent

with no intervening visits). Better medication adherence was also associated with lower HbA1c levels after 12 months of care (7.8 percent with 76-100 percent adherence). The authors conclude that keeping scheduled appointments and taking recommended medications are critical “diabetes survival skills” which need to be emphasized in education programs aimed at both patients and providers.

More details are in “Patient adherence improves glycemic control,” by Mary K. Rhee, M.D., Wrenn Slocum, R.N., M.P.H., David C. Ziemer, M.D., and others, in the March 2005 *Diabetes Educator* 31(2), pp. 240-248. ■

Primary care programs with certain characteristics are more likely to help patients improve diabetes control

Controlling blood sugar levels can reduce the development of serious long-term complications in patients with diabetes. A recent survey of 170 Veterans Health Administration (VHA) medical centers and 65 community-based outpatient clinics uncovered certain primary care organizational features associated with better blood sugar control

among their patients. These programs had teams that actively involved physicians in quality improvement, used electronic health information systems, had authority to respond to staffing and programmatic issues, and actively involved patients in their own care.

Supported in part by the Agency for Healthcare Research and Quality (T32 HS00079), George L.

Jackson, Ph.D., M.H.A., of the Durham Veterans Affairs Medical Center, and colleagues examined data from the 1999 VHA survey along with individual patient data from the VHA Diabetes Register and VHA corporate databases. They examined the relationship between organizational characteristics and blood sugar

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(HbA1c) levels in 177 clinics with 82,428 patients with diabetes. Programs whose patients had significantly lower HbA1c levels were those that had more authority to establish or implement clinical policies and greater staff authority, used computerized reminders for preventive diabetes care, notified

all patients of their assigned provider, hired new staff when needed, had nurses that reported only to the program, and were large academic practices. Together, these characteristics would be expected to reduce HbA1c by more than 1 percent, according to the researchers. Just a 1-percent reduction has been shown to lower the risk of diabetes-related

complications and deaths by 21 percent.

See “Veterans affairs primary care organizational characteristics associated with better diabetes control,” by Dr. Jackson, Elizabeth M. Yano, Ph.D., M.S.P.H., David Edelman, M.D., M.H.S., and others, in the April 2005 *American Journal of Managed Care* 11(4), pp. 225-237. ■

Arthritis accounts for a substantial number of hospital admissions each year

Arthritis strikes nearly 18 percent of adults and is the leading cause of disability in the United States. In addition, arthritis accounts for a substantial number of hospitalizations each year, according to a study supported by the Agency for Healthcare Research and Quality (HS07002 and HS11477). Rutgers University researchers, Dawne M. Harris, M.P.H., and Louise B. Russell, Ph.D., used a simulation model to estimate the impact of arthritis, smoking, and hypertension on the number of hospital admissions in all adults aged 45 to 74, and overweight adults aged 45 to 74. The simulation model was estimated from the first National Health and Nutrition Examination Survey (NHANES I) and its Epidemiologic Followup Study (NHEFS) and was then applied to data from NHANES III adults.

Arthritis accounted for 6.2 percent of annual hospital admissions (8.1 admissions per 1,000 NHANES III adults). Current smoking accounted for 7 percent (9.1 admissions per 1,000), and residual

hypertension (systolic blood pressure over 140 Hg/mm despite treatment) accounted for 2.3 percent (3 admissions per 1,000).

However, because arthritis is more prevalent in overweight adults, eliminating arthritis in overweight adults reduced hospital admission rates at baseline by 7.4 percent (11 fewer admissions per 1,000 overweight adults), while eliminating current smoking among overweight adults was associated with a 5.8 percent reduction in annual hospital admission rates (8.6 fewer admissions per 1,000 overweight adults). Elimination of residual hypertension in this group resulted in a reduction of only 2.7 percent in hospital admissions (4 fewer hospital admissions per 1,000 overweight adults).

More details are in “Hospitalizations attributable to arthritis, smoking, and hypertension: A comparison based on NHEFS and NHANES III,” by Ms. Harris and Dr. Russell, in the August 15, 2005 *Arthritis & Rheumatism* 53(4), pp. 543-548. ■

Osteoarthritis impairs recovery from stroke

Patients with osteoarthritis (OA) admitted to rehabilitation hospitals for stroke had longer stays and were slower to recover functioning after discharge than those without OA, according to a new study supported in part by the Agency for

Healthcare Research and Quality (HS11618). Researchers used data from a large national registry of U.S. rehabilitation inpatients to examine the functional recovery of 3,094 patients with OA and 44,943 without OA who had been admitted following a stroke. They measured

functional status with the Functional Independence Measure (FIM) instrument. After adjustment for several variables, such as patient age, coexisting conditions, and type of stroke, OA was

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Note: Only items marked with a single (*) asterisk are available from the AHRQ Clearinghouse. Items with a double asterisk (**) are available from the National Technical Information Service. 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.

Osteoarthritis

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associated with a 1.62-day increase in length of stay and a 1.37 smaller improvement in FIM scores between admission and followup.

The researchers explain that OA may impair stroke recovery due to OA-related pain that would interfere

with activities such as standing, walking, sitting, and sleeping. These are the same activities that are the focus of rehabilitation efforts during and after discharge from rehabilitation facilities. Also, pain is associated with depression, anxiety, and fatigue, all of which can interfere with stroke rehabilitation and recovery.

See “Impact of osteoarthritis on the rehabilitation of patients following a stroke,” by Tracy U. Nguyen-Oghalai, M.D., Kenneth J. Ottenbacher, Ph.D., Carl V. Granger, M.D., and James S. Goodwin, M.D., in the June 15, 2005 *Arthritis & Rheumatism* 53(3), pp. 383-387. ■

Screening and treatment for osteoporosis remains low among patients taking glucocorticoids

Long-term use of glucocorticoid treatment to control inflammation often leads to osteoporosis (loss of bone mass and density). Despite recommendations to screen for and treat osteoporosis in patients using these medications for 3 or more months, less than half (42 percent) underwent bone mass measurement and/or were prescribed bone-protective medication, according to a study supported in part by the Agency for Healthcare Research and Quality (HS10389).

Researchers at the University of Alabama Center for Education and Research on Therapeutics and colleagues examined bone mass measurement, prescription of bone-sparing medication, and use of over-the-counter (OTC) calcium and vitamin D among 6,281 patients who were prescribed glucocorticoids

during 2001-2003. Compared with patients taking glucocorticoids prescribed by internists, patients of family physicians had 44 percent lower odds of undergoing bone mass measurement whereas patients of rheumatologists had 48 percent higher odds. One-third of patients were not taking OTC calcium supplements, and one-fourth of those taking prescription bone-sparing medications were not taking calcium or vitamin D to prevent bone loss. Blacks were less likely than whites to be screened or treated.

See “Longitudinal patterns in the prevention of osteoporosis in glucocorticoid-treated patients,” by Jeffrey R. Curtis, M.D., M.P.H., Andrew O. Westfall, M.S., Jeroan J. Allison, M.D., M.S., and others, in the August 2005 *Arthritis & Rheumatism* 52(8), pp. 2485-2494. ■

Disparities/Minority Health

Knowledge and beliefs about lifestyle changes may contribute to ethnic differences in blood pressure control

Over half of U.S. adults over age 60 suffer from high blood pressure (hypertension), with more ethnic minorities, especially blacks, suffering from high blood pressure than whites. Only 34 percent of all people with hypertension have their blood pressure (BP) controlled to less than 140/90 mm Hg. A new study, supported in part by the Agency for Healthcare Research

and Quality (HS10871), links ethnic differences in knowledge and beliefs about lifestyle changes to difficulties in controlling BP among blacks. Blacks tended to see medication as the only way to control BP, whereas whites also saw the importance of diet and exercise changes.

Researchers conducted a telephone survey of 1,503 whites, Hispanics, and blacks 50 years and

older to assess ethnic differences in awareness, knowledge, and beliefs about hypertension and their relationship to self-reported BP control. More blacks said they had hypertension (64.2 percent) than Hispanics (44.3 percent) or whites (44.2 percent). Blacks were also significantly more likely to state they knew that blacks were at

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Blood pressure control

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greater risk for hypertension than whites or Hispanics and often had no symptoms. Blacks and Hispanics were more than twice as likely as whites to claim that medications were the only way to control BP (50.5 and 55.5 vs. 23.3 percent).

Whites were more likely than blacks to state that lifestyle changes (for instance, weight loss, decreased alcohol and tobacco use, less stress, and more exercise) were important to BP control. Those who believed that medications were not the only way to treat BP and who knew that reducing alcohol use can lower BP

were over twice as likely to have better BP control.

See “Ethnic difference in older Americans: Awareness, knowledge, and beliefs about hypertension,” by Eni C. Okonofua, M.D., Neal E. Cutler, Ph.D., Daniel T. Lackland, Dr.P.H., and Brent M. Egan, M.D., in the July 2005 *American Journal of Hypertension* 18, pp. 972-979. ■

Study identifies factors contributing to more surgical complications among black patients

The National Healthcare Disparities Report, released by the Agency for Healthcare Research and Quality last year, showed that blacks suffer from more postoperative complications and injuries than whites even after adjustment for age, sex, and other factors affecting complications. A new study of hospitalized patients in New York State confirmed that blacks had higher rates of surgical complications than whites. The study, supported by the Agency for Healthcare Research and Quality (HS10910), showed higher complication rates among blacks were primarily due to more coexisting illnesses and longer hospital stays as well as the type of hospital.

Kevin Fiscella, M.D., M.P.H., of the University of Rochester School of Medicine & Dentistry, and colleagues used data from the New York State Inpatient Data Set of hospitalized patients from 1998-2000 to examine the effect of black race on risk of any surgical complication. Following adjustment for patient age and

sex, black patients had 65 percent higher odds for a surgical complication than white patients.

However, further adjustment for coexisting illness and hospital length of stay reduced the higher odds of surgical complications among black patients to 18 percent. Additional adjustment for hospital characteristics (region of the state, percent of black and Medicaid annual discharges, and average income of admitted patients) essentially eliminated the increased risk of surgical complications for blacks. These results suggest that hospital factors may contribute to racial disparities in surgical complications in New York State. It is not clear the extent to which these findings apply to other states.

See “Racial disparity in surgical complications in New York State,” by Dr. Fiscella, Peter Franks, M.D., Sean Meldrum, M.S., and Steven Barnett, M.D., in the August 2005 *Annals of Surgery* 242(2), pp. 151-155. ■

Both maternal and paternal ethnicity affect preeclampsia rates

Although fewer pregnant women today die from preeclampsia, the condition remains a leading cause of preterm delivery and neonatal problems and deaths. Preeclampsia tends to run in families, and is characterized by an abrupt rise in blood pressure, leaking of protein into urine, and swelling of the hands, feet, and face. A new study, supported in part by the Agency for Healthcare Research and Quality (HS10856), suggests that both maternal and paternal ethnicity, as well as

parental ethnic discordance, affect rates of preeclampsia.

Researchers retrospectively studied 127,544 women at low risk for preeclampsia who delivered babies from 1995 to 1999 within a managed care organization. They calculated rates of preeclampsia based on maternal, paternal, and combined ethnicity.

Overall, about 4 percent of the women studied were diagnosed with preeclampsia. The parent who exerted the larger effect on risk of preeclampsia appeared to vary by ethnicity. Baseline rates of

preeclampsia were 5.2 percent among black women, 4 percent among Hispanics, 3.9 percent among Native American women, 3.8 percent among white women, and 3.5 percent among Asian women. These differences persisted after controlling for maternal age, number of children, education, and gestational age.

However, when paternal ethnicity was controlled for separately, the effect of black maternal ethnicity increased

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slightly while the difference in the rate of preeclampsia among Asian women disappeared. Asian paternity was found to be associated with the lowest rate of preeclampsia (3.2 percent). Further, parental ethnic discordance (mother and father have different ethnicities) was associated

with a 13 percent increase in the rate of preeclampsia, with the exception of Native American mothers. When parental ethnicity among Native Americans was the same, it was associated with a higher rate of preeclampsia (9.7 percent) as compared with different ethnicity (3.3 percent).

See “Maternal ethnicity, paternal ethnicity, and parental ethnic discordance: Predictors of preeclampsia,” by Aaron B. Caughey, M.D., M.P.P., Naomi E. Stotland, M.D., A. Eugene Washington, M.D., M.Sc., and Gabriel J. Escobar, M.D., in the July 2005 *Obstetrics & Gynecology* 106(1), pp. 156-161. ■

Black women experience more asthma problems during pregnancy

Among women insured by Tennessee Medicaid (TennCare), pregnant black women with asthma were more likely than pregnant white women with the condition to visit the emergency department (ED), be hospitalized, or need rescue medications for asthma during their pregnancy. Although black women in the TennCare program had similar access to care, they were less likely than whites to receive adequate prenatal care, which may have included less adequate asthma care as well.

Researchers, supported in part by the Agency for Healthcare Research and Quality (HS10384), studied 4,315 pregnant women with asthma insured by TennCare. Overall, 61 percent of black women and 55 percent of white women were classified as having

high-risk asthma. Black women (35 percent) received less than adequate prenatal care during their pregnancy compared to white women (25 percent).

Nearly 20 percent of black women and 14 percent of white women filled a prescription for inhaled anti-inflammatory agents. Black women were more likely than white women to receive at least one course of rescue corticosteroids (15 percent vs. 12 percent), have an ED visit (17 percent vs. 9 percent), or be hospitalized (9 percent vs. 5 percent) for asthma.

See “Racial differences in asthma morbidity during pregnancy,” by Kecia N. Carroll, M.D., M.P.H., Marie R. Griffin, M.D., M.P.H., Tebeb Gebretsadik, M.P.H., and others, in the July 2005 *Obstetrics & Gynecology* 106(1), pp. 66-72. ■

White patients are more likely than black patients to receive opioids to relieve chronic nonmalignant pain

About one in five primary care patients report suffering from persistent pain. White patients suffering from chronic nonmalignant pain are nearly three times more likely to take opioid analgesics than black patients. However, both white and black patients are equally likely to receive nonopioid analgesics, according to a study supported in part by the Agency for Healthcare Research and Quality (HS10861).

Researchers surveyed 397 black and white patients who suffered from nonmalignant pain for more than 3 months and their treating physicians at 12 academic medical centers. Blacks reported higher pain scores than whites (6.7 vs. 5.6 on a scale of 0 to 10). However, white patients were more likely to be taking opioid analgesics than blacks (46 vs. 32 percent).

There were no differences by race in the use of other treatments such as physical therapy and nonsteroidal anti-inflammatories or in the use of specialty referrals. Similarly, insurance status, age, sex, educational level, and socioeconomic status had no bearing on the different types of treatment prescribed.

These findings suggest that patient race plays a significant role in the management of chronic nonmalignant pain in the primary care settings. Although disparities in opioid prescribing have been described in the acute and hospital setting, this is the first study to demonstrate this racial disparity in the primary care setting.

More details are in “Racial differences in opioid use for chronic nonmalignant pain,” by Ian Chen, M.D.,

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Chronic nonmalignant pain

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James Kurz, M.D., Mark Pasanen, M.D., and others, in the *Journal of General Internal Medicine* 20, pp. 593-598, 2005.

Editor's Note: A related article reveals disparities between black and white patients in the types of

screening tests, exams, and counseling conducted during primary care office visits. For details, see Franks, P. Fiscella, K., and Meldrum, S. (2005). "Racial disparities in the content of primary care office visits." (AHRQ grant HS10910). *Journal of General Internal Medicine* 20, pp. 599-603. ■

Child/Adolescent Health

Parents are more satisfied when doctors prescribe antibiotics for their child's cough or cold symptoms

Antibiotic-resistant infections are a growing public health problem. Children receive an average of two to three antibiotic prescriptions a year, many of which are unnecessary. Clinicians believe that parents will be more satisfied with a visit when antibiotics are prescribed, and a new study supported by the Agency for Healthcare Research and Quality (HS13195) suggests they are right. Researchers found that parents tended to be less satisfied when antibiotics were not prescribed after an initial visit for a child's cough and cold symptoms.

Researchers interviewed 378 parents of children 2 to 10 years of age who were seen at a pediatric clinic for cough and cold symptoms. The interviews were done by phone at least a week after the visit and parents were asked to rate their satisfaction with the initial visit on a 10-point scale, with 1 being completely dissatisfied and 10 being completely satisfied.

Nearly half of the children (47 percent) received antibiotics at the initial visit. Parents whose children received antibiotics at the initial visit gave higher satisfaction scores (9.25) compared to parents who did

not (8.95). When children received antibiotics at a subsequent visit, parents' average satisfaction score was 7.25 compared to an average score of 6.25 for parents whose children did not.

More details are in "Association between parental satisfaction and antibiotic prescription for children with cough and cold symptoms," by Dr. Christakis, Jeffrey A. Wright, M.D., James A. Taylor, M.D., and Frederick J. Zimmerman, Ph.D., in the September 2005 *Pediatric Infectious Disease Journal* 24(9), pp. 1-4. ■

Mental health problems among children with special health care needs and their caregivers are barriers to care

About 11 to 14 percent of children with special health care needs (CSHCN) have unmet care needs during a given year. The mental health problems of CSHCN and their caregivers appear to be barriers to obtaining care, according to a study supported in part by the Agency for Healthcare Research and Quality (HS10912). To adequately address the health care needs of these children, policy must address the child's and their caregivers' mental health problems, conclude Darrell J. Gaskin, Ph.D., of the Johns Hopkins Bloomberg School of Public Health, and Jean M. Mitchell, Ph.D., of Georgetown Public Policy Institute.

In a survey of a random sample of 1,088 caregivers of CSHCN who resided in the District of Columbia in 2002, the researchers asked about children's unmet needs, mental health status, and their caregivers' mental health status. They estimated the relationship between mental health status and unmet needs.

Caregivers with symptoms of depression were 26.3 percent more likely to report an unmet need for CSHCN, 67.6 percent more likely to report an unmet hospital and physician need, 66.1 percent more likely to report an unmet mental health care need, and 38.8 percent more likely to report an unmet need for other health care services. Also, caregivers of children with

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Mental health problems

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poor psychological adjustment were 26.3 percent more likely to report their child had an unmet need and 92.3 percent more likely to report an unmet mental health care need. Most of the children were black and urban,

so findings may differ for children of other races and those residing in rural areas.

See “Health status and access to care for children with special health care needs,” by Drs. Gaskin and Mitchell, in the March 2005 *Journal of Mental Health Policy and Economics* 8, pp. 29-35. ■

Two factors predict risk for suicide attempts in youths referred for emergency psychiatric hospitalization

Two factors predict which youths referred for emergency psychiatric hospitalization because of suicide attempts will try to commit suicide again: more severe clinical depression and caregivers who exert more parental control. In a study supported in part by the Agency for Healthcare Research and Quality (HS10871), researchers randomized 70 predominantly poor youth (ages 10 to 17 years) who had attempted suicide and their families to inpatient psychiatric hospitalization or multisystemic therapy. Multisystemic therapy is a family-centered, home-based intervention that targets the

multiple systems in which the youth interacts (home, school, and community).

The researchers evaluated youth prior to treatment and one year after treatment to gauge their treatment response. Of the 60 youth approved for emergency psychiatric hospitalization due to caregiver report of self-harm behavior, 50 were categorized as responders at the 1-year followup visit and 10 were considered nonresponders (had tried to commit suicide based on caregiver report). Youth with more depressive symptoms were 3 times more likely to attempt suicide during the followup period. In addition, youth who reported more

parental control were 7 times more likely. It is unknown, however, whether this latter finding is a consequence of youth initial suicidality or a product of high parental control—reflecting efforts by worried parents to reduce suicide risk for their troubled children.

More details are in “Predictors of treatment response for suicidal youth referred for emergency psychiatric hospitalization,” by Stanley J. Huey Jr., Ph.D., Scott W. Henggeler, Ph.D., Melisa D. Rowland, M.D., and others, in the September, 2005 *Journal of Clinical Child and Adolescent Psychology* 34(3), pp. 582-589. ■

Patient Safety and Quality

One percent of Americans visit doctors each year to manage health problems caused by medication

Adverse drug effects (ADEs), harm, or injury resulting from the use of medications remain a significant threat to patient safety in the United States, concludes a study by researchers at the Agency for Healthcare Research and Quality. Chunliu Zhan, M.D., Ph.D., other AHRQ researchers, and colleagues at the National Center for Health Statistics, calculated that about one ambulatory care visit is made per 100 people each year to treat ADEs serious enough to require care. This totals 3 to 4 million visits for ADEs (VADEs) made each year in the United States. In 2001, there were 4.3 million VADEs in the United States, averaging 15 visits per 1,000 people. VADE rates at physician offices, hospital outpatient

departments, and hospital emergency departments were 3.7, 3.4, and 7.3 per 1,000 visits, respectively.

From 1995 to 2001, there was an upward trend in the total number of VADEs, due to population growth. However, the increases in VADEs per 1,000 visits and per 1,000 people were not statistically significant. VADEs were lower in children younger than 15, higher in older adults (aged 65 to 74 years) than in adults aged 25 to 44, and were more frequent in females than in males. These findings were based on analysis of National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey data.

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Adverse drug effects

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The researchers calculated the number of visits to physician offices, hospital outpatient departments, and emergency departments in which ADEs were identified as the cause of injury in the E-codes (diagnostic codes of external causes and injury). This approach offers an alternative way to estimate national prevalence of ADEs and the burden of ADEs to the health care system. The researchers suggest these survey data and E-codes also

offer a potential ADE measure for the annual National Healthcare Quality Report, for which no ADE measure is currently available.

See “Ambulatory care visits for treating adverse drug effects in the United States, 1995-2001,” by Dr. Zhan, Irma Arispe, Ph.D., Edward Kelley, Ph.D., and others, in the July 2005 *Journal on Quality and Patient Safety* 31(7), pp. 372-378. Reprints (AHRQ Publication No. 05-R067) are available from AHRQ.* ■

Women's Health

Women who smoke have nearly twice the risk of developing Graves' hyperthyroidism than nonsmokers

Women who smoke increase their risk of developing Graves' hyperthyroidism, concludes a study supported in part by the Agency for Healthcare Research and Quality (T32 HS00063). Graves' disease is an autoimmune disorder in which the immune system overstimulates the thyroid gland, causing hyperthyroidism. Symptoms of Graves' hyperthyroidism range from insomnia, irritability, and weight loss to rapid heart beat and muscle weakness.

Ingrid A. Holm, M.D., M.P.H., of Harvard Medical School, and

colleagues studied the association between lifestyle factors, including smoking, alcohol consumption, physical activity, and body mass index, and Graves' hyperthyroidism among women aged 25 to 42, who participated in the Nurses' Health Study II. Over a 12-year period, the incidence of Graves' hyperthyroidism was 4.6 per 1,000 women.

Women who smoked had nearly twice the odds of developing Graves' hyperthyroidism and those who smoked 25 or more cigarettes daily had nearly three times the odds. Past smokers were 27-percent

more likely to develop the condition. The mechanism by which smoking increases risk of developing hyperthyroidism is not known. However, several chemicals in cigarette tobacco appear to affect thyroid hormone secretion and synthesis, and smoking also affects the immune system.

See “Smoking and other lifestyle factors and the risk of Graves' hyperthyroidism,” by Dr. Holm, JoAnn E. Manson, M.D., Dr.P.H., Karin B. Michels, Sc.D., M.P.H., and others, in the July 25, 2005 *Archives of Internal Medicine* 165, pp. 1606-1611. ■

Elective primary cesarean delivery rates show a rising trend

Rates for elective primary cesarean deliveries (first-time cesarean deliveries which occur before a woman goes into labor) rose nearly 44 percent from 1994 to 2001. This increase included a rise in the number of elective primary cesarean deliveries for which there was no clear medical or obstetric indication, according to a study by Susan F. Meikle, M.D., M.S.P.H., of the Agency for Healthcare Research and Quality, and colleagues.

Using data from the Healthcare Cost and Utilization Project Nationwide Inpatient Sample, the researchers found that elective primary cesarean deliveries rose

from 19.7 percent of all cesarean deliveries in 1994 to 28.3 percent in 2001. Some indications (based on diagnostic codes) for the procedure also shifted during this time. Use of the procedure increased for malpresentation of the fetus, antepartum bleeding, maternal hypertension and severe hypertension, macrosomia (excessive birth weight), unengaged fetal head, preterm gestation, and maternal soft tissue disorder. Use of the procedure for maternal herpes, multiple gestation, other uterine scar, and congenital central nervous system remained the same.

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Elective primary cesarean deliveries

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The main cause for the rise in overall total of elective cesarean procedures was the use of a new code for fetal heart rate abnormalities, which was rapidly adopted from 1998 to 2001. Fetal heart rate abnormalities accounted for 16.8 percent of elective primary cesarean deliveries in 2001. Researchers note, however, that the

reasons for the increase in the use of the fetal heart rate abnormality code are uncertain.

See “A national estimate of the elective primary cesarean delivery rate,” by Dr. Meikle, Claudia A. Steiner, M.D., M.P.H., Jun Zang, M.D., and William L. Lawrence, M.D., M.S., in the April 2005 *Obstetrics & Gynecology* 105(4), p. 751-756. Reprints (AHRQ Publication No. 05-R056) are available from AHRQ.* ■

Elderly/Long-Term Care

Older and minority elderly are less willing to travel to distant hospitals for care

With growing regionalization of specialized care at major hospitals and more local hospital closures, individuals often have to travel further to hospitals that will provide them with the care they need. Older, minority elderly patients appear less willing to travel the extra distance to these hospitals than other elderly patients, suggests a study by Jayasree Basu, Ph.D., of the Center for Primary Care, Prevention, and Clinical Partnerships at the Agency for Healthcare Research and Quality.

Dr. Basu analyzed data from AHRQ’s Healthcare Cost and Utilization Project State Inpatient Database on elderly New York residents who were hospitalized in New York or neighboring states.

The study examined the impact of demographics, severity of illness, and other factors on two types of hospital admissions: referral-sensitive admissions, which are fairly discretionary, often elective, high-technology procedures; and ambulatory care-sensitive (ACS) admissions, usually more urgent admissions that are typically preventable with appropriate primary care.

Even after controlling for severity of illness, other patient characteristics, and county factors, patients who were aged 75 and older were less likely to travel than patients 65 to 74 years old. This pattern persisted regardless of the types of medical condition studied. Compared with whites and others, blacks were 60 percent less likely and Hispanics were 55 percent less

likely to travel long distances for hospital admissions for ACS conditions. Blacks were also 65 percent less likely than whites to travel far for referral-sensitive admissions. Severity of illness tended to increase distant travel for ACS admissions by about 2 percent in each age group, but was a less significant predictor of travel among blacks and Hispanics than whites.

See “Severity of illness, race, and choice of local versus distance hospitals among the elderly,” by Dr. Basu, in the May 2005 *Journal of Health Care for the Poor and Underserved* 16, pp. 391-405. Reprints (AHRQ Publication No. 05-R054) are available from AHRQ.* ■

Psychotherapy is not commonly used to treat older adults with depression

Only a minority of elderly individuals with depression receive psychotherapy, despite its widely acknowledged efficacy, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS11825 and HS09566). Researchers analyzed claims and survey data from the 1992-1999 Medicare Current Beneficiary Survey

linked to the Area Resource File and found that psychotherapy was used to treat depression in the elderly in only 25 percent of 2,025 cases. Use of psychotherapy was correlated with younger patient age and higher educational attainment as well as availability of local psychotherapy providers. Only one-

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Psychotherapy

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third of episodes in which psychotherapy was used involved consistent treatment.

Patients treated by psychiatrists alone were significantly less likely to receive consistent therapy than those who received at least some psychotherapy from other health care professionals. Availability of

local providers (for example, living in a county with a mental health center) was positively correlated with consistent psychotherapy use.

See “Use of psychotherapy for depression in older adults,” by Wenhui Wei, Ph.D., Usha Sambamoorthi, Ph.D., Mark Olfson, M.D., and others in the April 2005 *American Journal of Psychiatry* 162(4), pp. 711-717. ■

Nursing home expenditures are sensitive to market competition and excess demand conditions

During the 1990s, nursing home sub-acute care (short stays for patients recuperating from an acute hospital episode) became an important line of business. Later in the decade, fewer nursing homes were in excess demand markets, and reporting requirements, more regulations, and fraud investigations increased their administrative burden. At the same time, nursing homes faced more competition for long-term care from home care and assisted living facilities for individuals who were less debilitated or less cognitively impaired. A study by William D. Spector, Ph.D., of the Agency for Healthcare Research and Quality, and colleagues at the University of California, Irvine, and the University of Rochester, shows that although fewer nursing homes faced excess demand conditions at the end of the decade, nursing home expenditures remained sensitive to competition from other nursing homes and excess demand conditions in the market.

The researchers retrospectively analyzed data for 1991, 1996, and 1999 for 500 free-standing nursing homes in New York State. They examined nursing home expenditures on clinical, hotel (for example, equipment, plant operation, security, housekeeping, and food service), and administrative activities during the 1990s to determine the association between nursing home competition and excess demand on expenditures.

They found that clinical and administrative costs grew during the 1990s, while hotel expenditures declined. In more competitive markets, clinical and administrative expenditures were higher. Clinical costs in excess demand markets were lower. This study shows the impact of market conditions on nursing home expenditures. The results also suggest that as nursing homes increase the number of short stay residents, they may invest less in hotel aspects of care.

See “Nursing home spending patterns in the 1990s: The role of

nursing home competition and excess demand,” by Dana B. Mukamel, Ph.D., Dr. Spector, and Alina Bajorska, M.S., in the August 2005 *HSR: Health Services Research* 40(4), pp. 1040-1055. Reprints (AHRQ Publication No. 05-R068) are available from AHRQ.*

Editor’s note: Another article on nursing homes suggests that nursing home staffing levels have an important impact on worker health. For more details, see Trinkoff, A.M., Johantgen, M., Muntaner, C., and Le, R. (2005, July). “Staffing and worker injury in nursing homes.” (AHRQ grant HS11990). *American Journal of Public Health* 95(7), pp. 1220-1225. ■

Greater access to primary care may reduce emergency department use

Emergency department (ED) visits in the United States have ballooned in the past decade, with many of these visits substituting for primary care. Greater primary care access and scope of services may reduce ED use, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS09261). Robert A. Lowe, M.D., M.P.H., of Oregon Health and Science University, and colleagues studied ED use among 57,850 patients assigned to 353 primary care practices affiliated with a Medicaid HMO to determine if practice characteristics were associated with ED use.

Patients from practices with more than 12 evening hours per week used the ED 20 percent less often than patients from practices without evening hours. Patients from practices that had weekend hours also used the ED less, but the trend was not significant. Patients also used the ED less often when their providers had a greater number of hours to address patients needs.

Medicaid patients used the ED more often when their primary care practice had a higher percentage of Medicaid patients and in practices with nurse practitioners or physician assistants.

Whether or not practices had equipment for asthma care also influenced ED use. For instance, practices lacking nebulizers for bronchodilators had 13 percent higher overall ED use by children and 24 percent higher ED use by children with respiratory conditions. Similarly, practices lacking peak flow meters had 15 percent higher overall ED use by adults and 20 percent higher ED use for adults with respiratory conditions.

More details are in “Association between primary care practice characteristics and emergency department use in a Medicaid managed care organization,” by Dr. Lowe, A. Russell Localio, J.D., M.S., Donald F. Schwarz, M.D., M.P.H., M.B.A., and others, in the August 2005 *Medical Care* 43(8), pp. 792-800. ■

Level of HMO penetration in a hospital's market affects the relationships between nurse staffing, length of stay, and mortality

Increased registered nurse (RN) staffing for hospitals in markets with higher health maintenance organization (HMO) penetration is associated with lower patient mortality and length of stay (LOS) ratios. However, this is not the case for hospitals in low HMO penetration markets, according to a study supported by the Agency for Healthcare Research and Quality (HS10153).

Barbara A. Mark, Ph.D., of the University of North Carolina School of Nursing, and colleagues used administrative data from 422 acute care hospitals and a theoretical model to examine whether managed care penetration affected the relationships between

changes in nurse staffing and changes in quality of care from 1990 to 1995. For hospitals in markets with over 28 percent of people enrolled in HMOs, increasing nurse staffing significantly reduced the mortality and LOS ratios at the 25th percentile of nurse staffing, and reduced LOS ratios at the 50th percentile, but had no effect on mortality and an insignificant effect on LOS at the 75th percentile.

None of the estimation methods showed a significant effect of nurse staffing on mortality ratio or length of stay for hospitals in low HMO penetration markets (less than 7.5 percent of people enrolled).

Hospitals in high HMO penetration markets may have adopted a range of cost control mechanisms and restructured nursing work to maximize nursing time and cost-efficiency. These changes may have reduced slack resources, making the effects of increased nurse staffing on reduced LOS and mortality ratios more readily discernible, note the researchers.

See “The impact of HMO penetration on the relationship between nurse staffing and quality,” by Dr. Mark, David W. Harless, M.D., and Michael McCue, D.B.A., in the July 2005 *Health Economics* 14, pp. 737-753. ■

The type of dialysis used by patients with end-stage renal disease may affect their survival

Most patients with end-stage renal disease (ESRD) must use dialysis for renal replacement therapy. The type of dialysis selected by patients with ESRD may affect their survival, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS08365). Researchers found that the risk for death during the first year of treatment did not differ between patients undergoing peritoneal dialysis (PD), which can be done by the patient at home, and those undergoing hemodialysis (HD), which must be done at a dialysis center. However, after the second year, the risk of death was significantly higher in PD than in HD patients.

The researchers compared the risk of death among 1,041 patients receiving dialysis and followed the patients for up to 7 years. Patients initiating treatment with PD appeared healthier and of higher socioeconomic status than did those receiving HD. After adjustment for several factors, the risk of death did not differ between patients undergoing PD or HD during the first year but the risk more than doubled among PD patients in the second year.

The researchers suggest several possible reasons for the increased risk of death in the second year. First, residual renal function in the kidneys facilitates the

regulation of fluid and electrolyte balance, and has been linked with improved nutritional status and survival. Loss of residual renal function and urine output over time in patients undergoing PD has been associated with an increased mortality rate, possibly due to inadequate dialysis or volume overload. Secondly, PD patients are usually seen less often by nephrologists, who can identify and manage problems as they arise.

See “Comparing the risk for death with peritoneal dialysis and hemodialysis in a national cohort of patients with chronic kidney disease,” by Bernard G. Jaar, M.D., M.P.H., Joseph Coresh, M.D., Ph.D., Laura C. Plantinga, Sc.M., and others, in the August 2005 *Annals of Internal Medicine* 143, pp. 174-183.

Editor’s note: Another article on dialysis concludes that a genetic variation in the beta-fibrinogen gene likely does not play an important role in determining the variation in elevated plasma fibrinogen levels or excess cardiovascular disease risk in dialysis patients. More details are in: Liu, Y., Berthier-Schaad, Y., Fink, N.E., and others. (2005, July). “Fibrinogen haplotypes and the risk for cardiovascular disease in a dialysis cohort.” (AHRQ grant HS08365). *American Journal of Kidney Diseases* 46(1), pp. 78-85. ■

Complementary and Alternative Medicine

Study highlights the training and practices of licensed acupuncturists

Currently, 51 acupuncture schools are accredited or are candidates for accreditation, and 42 states allow the practice of acupuncture by nonphysicians. In addition, about 3,000 physicians in the United States practice acupuncture. Although musculoskeletal conditions (usually back, neck, and shoulder) are the most common reasons for visits,

acupuncturists treat a broad range of other, mostly chronic, conditions. A new study, supported in part by the Agency for Healthcare Research and Quality (HS09565 and HS08194), provides a picture of the training and practice of licensed acupuncturists today. University of Washington investigator, Daniel C. Cherkin, Ph.D., and colleagues

interviewed randomly selected licensed acupuncturists in Massachusetts and Washington State, and asked them to record information about 20 consecutive patient visits.

Most acupuncturists had 3 or 4 years of academic acupuncture training and had received additional postgraduate training as

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Acupuncturists

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well. About 75 percent of the visits in both states were for chronic problems. In Massachusetts, 33 percent of the visits were for musculoskeletal problems, 12 percent were for general body symptoms, 10 percent were for neurological problems, and 10 percent were for psychological complaints. In Washington, 47 percent of the visits were for musculoskeletal problems, 9 percent were for general body

symptoms, 12 percent were for neurological problems, and 8 percent were for psychological complaints.

Traditional Chinese medicine was the predominant style of acupuncture used in both states (79 percent in Massachusetts and 86 percent in Washington). Most visits included a traditional diagnostic assessment (more than 99 percent), regular body acupuncture (95 and 93 percent, respectively) and additional treatment modalities, such as heat and diet and exercise

recommendations, (79 and 77 percent, respectively). Chinese herbs were used in about one-third of visits. About half the patients received concomitant care from a physician, but acupuncturists rarely communicated with the physician.

More details are in “The practice of acupuncture: Who are the providers and what do they do?” by Karen J. Sherman, Ph.D., Dr. Cherkin, David M. Eisenberg, M.D., and others, in the March 2005 *Annals of Family Medicine* 3(2), pp. 151-158. ■

HIV/AIDS Research

Study explores women’s attitudes and barriers to acceptance of an HIV vaccine

The first generation of FDA-approved HIV vaccines may be available to the public within the next 10 years. Researchers, supported in part by the Agency for Healthcare Research and Quality (T32 HS00046), held focus groups with mostly poor and unemployed women at risk for HIV infection in Los Angeles to investigate barriers to acceptance of a future HIV vaccine.

Barriers included fear of vaccine-induced HIV infection and reproductive side effects (ranging from effects on the fetus to infection of breast milk). Another barrier involved gender roles and power dynamics. Women, especially black and Latina women, cited ethnic norms that interfered with their ability to discuss sex and getting an HIV vaccine with their male partners. For example, they cited fear of a husband’s mistrust and negative reactions that would make it difficult for women to communicate a desire to get vaccinated. Also, men were often in denial of their own HIV risk behaviors (some of which were culturally sanctioned) and, if a woman got the vaccine, it would reflect negatively on their “machismo.”

Other barriers to vaccination included HIV stigma (particularly among Latina and black women that they

were gay or sexually promiscuous), concerns about discrimination (who is considered “at-risk” and who “deserves” a vaccine), vaccine affordability, and mistrust of the government. Vaccine facilitators included empowerment to protect oneself against HIV infection and integration of HIV vaccines into routine health care.

See “HIV vaccine acceptability among women at risk: Perceived barriers and facilitators to future HIV vaccine uptake,” by Ellen T. Rudy Ph.D., Peter A. Newman, Ph.D., Naihua Duan, Ph.D., and others, in the June 2005 *AIDS Education and Prevention* 17(3), pp. 253-267.

Editor’s note: Another HIV study found that HIV-infected persons with mental health problems were far more likely to use general medical services than HIV-infected persons without such problems. For more details, see Joyce, G.F., Chan, K.S., Orlando, M., and Burnam, M.A. (2005, August). “Mental health status and use of general medical services for persons with human immunodeficiency virus.” (AHRQ grant HS08578). *Medical Care* 43(8), pp. 834-839. ■

Medicare expenditures among residents of assisted living facilities are similar to those of community-dwelling elderly

Medicare-insured elderly people residing in assisted living facilities (ALFs) incur Medicare expenditures similar to those incurred by their counterparts living in the community, concludes a preliminary study of national data. Charles D. Phillips, Ph.D., M.P.H., and colleagues, supported in part by the Agency for Healthcare Research and Quality (HS10606), analyzed data from the National Study of Assisted Living for the Frail Elderly, which was conducted in 1998-1999. The investigators collected baseline individual and facility data from interviews with residents and staff at ALFs that offered more than minimal levels of services and privacy. They used

Medicare claims data to determine health care use and expenditures.

ALF residents incurred annual Medicare costs of about \$4,800. Just less than 15 percent of ALF residents accounted for over 75 percent of total Medicare costs for the sample, a figure similar to that for the general Medicare population. The annual average was about \$5,800 for those beneficiaries using services. This was similar to the average Medicare program payment of \$5,635 for community-dwelling elders who used services in 1999.

Individual characteristics had much more of an impact on Medicare utilization than ALF characteristics, with one exception. Residents in smaller ALFs were not more or less likely to use Medicare

services, but, among those using services, care costs were lower. In smaller facilities, staff may know their residents better than staff in larger facilities. This familiarity may allow them to identify changes in resident status that reflect the onset of illness (for example, confusion, incontinence, or functional decline) more quickly than staff in larger ALFs, thus reducing the overall cost of treatment.

See "Medicare expenditures for residents in assisted living: Data from a national study," by Dr. Phillips, Scott Holan, Ph.D., Michael Sherman, Ph.D., and others, in the April 2005 *HSR: Health Services Research* 40(2), pp. 373-388. ■

Agency News and Notes

Mary L. Grady, managing editor of *Research Activities*, retires after 31 years of government service

In 1989, Mary Grady joined the Agency for Healthcare Research and Quality as a member of the publishing team. She became managing editor of *Research Activities* in 1995. Now, 10 years, 120 issues, and 20,000 subscribers later, we say "goodbye."

Mary's career in the government began in 1974 at the Naval Medical Research Institute. In 1979, she became an editor at the U.S. Government Printing Office, but then returned to the Naval Medical Research Institute to head its publishing efforts in 1983. From 1987 to 1989, she served as the Director's speech writer at the Office for Substance Abuse and Prevention. Mary came to interview as an editor at AHRQ in 1989. It was our great fortune that she accepted the position and played an integral part in helping the Agency accomplish its goals.

Over the years, Mary shepherded *Research Activities* through changes in the focus of health services research, remembering that her readers needed information that was clear, succinct, and relevant. She always met her deadlines and built a solid, loyal subscriber base, and she accomplished this even though *Research Activities* was not her only duty. She also had numerous other publications to write and edit such as fact sheets, program briefs, consumer materials, and the Agency's annual report. Each one, whether large or small, was written and edited concisely with the same professional care.

Instead of working late and running down the halls of AHRQ with papers in hand to meet yet another deadline, Mary will spend her days sleeping late and strolling on the beach. We are honored that you graced us with your presence, Mary, and will miss you. ■

AHRQ launches new Effective Health Care Program to compare medical treatments and help put proven treatments into practice

The Agency for Healthcare Research and Quality has launched a new Effective Health Care Program to help clinicians and patients determine which drugs and other medical treatments work best for certain health conditions. Authorized under Section 1013 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, the \$15 million program will support the development of new scientific information through research on the outcomes of health care services and therapies, including drugs. By reviewing and synthesizing published and unpublished scientific studies, as well as identifying important issues where existing evidence is insufficient, the program will help provide clinicians and patients with better information for making treatment decisions. A hallmark of the program will be the transparency of the data and processes used to arrive at findings. Initial reports from the new program will be issued this fall, with particular focus on effectiveness information relevant to Medicare beneficiaries.

The new program includes three components:

- (1) Comparative Effectiveness Reports - The program builds on an existing network of 13 Evidence-based Practice Centers (EPCs). In the new program, the EPCs will focus especially on comparing the relative effectiveness of different treatments, including drugs, as well as identifying gaps in knowledge where new research is needed.
- (2) Network of Research Centers - A new network of Developing Evidence to Inform Decisions about Effectiveness research centers (referred to as DEcIDE) will carry out accelerated studies, including research aimed at filling knowledge gaps about treatment effectiveness. Operating under strict procedures to guarantee privacy and security, the 13 DEcIDE centers will use de-identified data available through insurers, health plans, and other partner organizations to answer questions about the use, benefits, and risks of medications and other therapies.
- (3) Making Findings Clear for Different Audiences - A new Clinical Decisions and Communications Science Center (to be called the Eisenberg Center in honor of the late AHRQ director, John M. Eisenberg, M.D.) is aimed at improving communication of findings to a variety of audiences, including consumers, clinicians, payers, and health care policy makers. The center will translate findings in ways appropriate for the needs of the different stakeholders. It also will conduct its own program of research into effective communication of research findings, in order to improve usability and rapid incorporation of findings into medical practice.

More information on the Effective Health Care Program can be found on the Web site www.effectivehealthcare.ahrq.gov. ■

New AHRQ booklet explains breast cancer surgery options in Spanish

A new booklet to help Hispanic women recently diagnosed with early-stage breast cancer is now available in Spanish from the Agency for Healthcare Research and Quality. The booklet provides evidence-based information to help women choose between lumpectomy, a breast-sparing procedure that is followed by radiation therapy; mastectomy, or removal of the entire breast; and mastectomy with breast reconstruction surgery.

Las primeras etapas del cáncer de seno. ¿Cuáles son sus opciones si tiene que operarse? is the

Spanish-language version of *Surgery Choices for Women with Early-Stage Breast Cancer*, which was published by the National Cancer Institute in cooperation with AHRQ, the Health and Human Services' Office on Women's Health, and other public and private partners.

Breast cancer is the leading type of cancer among Hispanic women. An estimated 11,000 Hispanic women were diagnosed with breast cancer in 2003, according to the American Cancer Society. Early detection of breast cancer is critical to treating the disease in its initial

stages. The booklet helps Spanish-speaking women decide, along with their surgeons, the type of procedure that is best for them. Included in the booklet are side-by-side comparisons of questions and answers for each procedure, such as whether the type of surgery a woman chooses will affect how long she lives, what the chances are that her cancer will return after surgery, and what her breast will look like after surgery.

The booklet was developed as part of an AHRQ program to help

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patients facing a choice of therapies make informed decisions based on the latest scientific evidence. It is available online in Spanish at <http://www.ahrq.gov/>

[consumer/brcanchoicesp.htm](http://www.ahrq.gov/consumer/brcanchoicesp.htm) and in English at <http://www.ahrq.gov/consumer/brcanchoice.htm>. Free copies of the printed versions of *Las primeras etapas del cáncer de seno. ¿Cuáles son sus opciones si tiene que*

operarse? (AHRQ Publication No. 05-0031) and *Surgery Choices for Women with Early-Stage Breast Cancer* (AHRQ Publication No. 04-M053) are also available through AHRQ.* ■

New brochure helps people find information and support following a medical diagnosis

The Agency for Healthcare Research and Quality released a new publication, *Next Steps After Your Diagnosis: Finding Information and Support*, to help patients who have been diagnosed with an illness learn more about their condition and treatment options. Included in this brochure is a list of 10 important questions that patients can ask their doctors when they receive a diagnosis. The questions are designed to help individuals understand their disease or condition, how it might be treated, and what they need to know before making treatment decisions. Selected organizations and other resources, such as Web site addresses and phone numbers, are also included to help provide additional information on current medical research,

clinical trials, and outcomes research about certain conditions and treatment options.

This publication is part of a series of health care resources that will help patients make informed decisions about how to receive quality health care. This brochure aims to assist patients, not only with finding information and resources, but also with the various physical and emotional aspects of dealing with a diagnosis.

The brochure can be found online at <http://www.ahrq.gov/consumer/diaginfo.htm>. Free single copies of *Next Steps After Your Diagnosis: Finding Information and Support* (AHRQ Publication No. 05-0049) are also available from AHRQ.* ■

Announcements

New grants process at AHRQ

As part of the President's Management Agenda, the Agency for Healthcare Research and Quality will join the National Institutes of Health (NIH) in the transition to electronic submission of grant applications and use of a new research grant application form. The SF 424 Research and Related (R&R) form will replace the PHS 398 form. Grants.gov (<http://www.grants.gov/>) has been designated as the main Web portal by the Office of Management and Budget and will serve as the single access point for all grant programs offered by 26 Federal grant-making agencies. Grants.gov provides the interface

for agencies to announce their grant opportunities and for all grant applicants to find and apply for those funding opportunities.

AHRQ will transition to Grants.gov in phases by type of grant mechanism as follows:

- **December 20, 2005**—Small Conference Grant Program (R13)
- **February 17, 2006**—Research Dissertation Grant Program (R36)
- **July 24, 2006**—Small Research Grant Programs (R03)
- **October 1, 2006**—Research Project Grant Program (R01)

The transition for health services research training and career development grant mechanisms (K02, K08, F31, and F32) will occur after the R01 transition. Both announcements of the transition for specific funding mechanisms and Funding Opportunity Announcements (Requests for Applications and Program Announcements) will be issued in the *NIH Guide for Grants and Contracts* and will be posted in Grants.gov.

As the funding mechanisms are transitioned to electronic submissions, all active Funding

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Opportunity Announcements for that mechanism will be transitioned at the same time. Applications in response to these announcements will require electronic submission through Grants.gov. Electronic submission of grant applications via Grants.gov for all funding mechanisms will take place by the end of 2007.

Applicant organizations must register with both Grants.gov and the NIH Electronic Research Administration System (also known as the eRA Commons).

Grants.gov Registration

Grants.gov requires a one-time registration on their Web site. Registration takes only about 30 minutes; however, it may take about 2 weeks for the process to be completed. Data entered in Grants.gov will enable applicant organizations to submit their applications electronically.

NIH eRA Commons Registraton

NIH eRA Commons registration allows AHRQ to receive applications submitted through the Grants.gov portal. It also provides a way for AHRQ and registered users

to communicate electronically after submission.

Applicant organizations that plan to submit applications to AHRQ must complete a one-time, two-step eRA Commons registration.

1. eRA Commons Registration for the Organization:

Organizations may verify their current registration status by running the "List of Commons Registered Organizations" query found at <http://era.nih.gov/commons/>. Organizations not yet registered can register through the eRA Commons homepage at <https://commons.era.nih.gov/commons/>. This registration is independent of Grants.gov, may be done at any time, and generally takes several days to complete.

2. eRA Commons Registration for the Principal Investigator (PI): The individual designated as the PI on the application must also be registered in the Commons. The PI must hold a PI account and be affiliated with the applicant organization. This registration must be done by an organizational official or their delegate who is already registered in the Commons and should be completed at least 2

weeks prior to the date of any Grants.gov submission. To register PIs in the Commons, refer to the eRA Commons User Guide found at <http://era.nih.gov/commons/index.cfm>.

Additional information on the preparation of electronic submission, receipt processes, and eRA Commons registration can be found at: <http://era.nih.gov/ElectronicReceipt/>. In addition, AHRQ welcomes the opportunity to answer questions about the transition process. Questions regarding the process should be directed as follows:

General E-Grants Transition:

George 'Skip' Moyer
301-427-1542
smoyer@ahrq.gov

Application Receipt and Referral:

Gerald Calderone, Ph.D.
301-427-1548
gcaldero@ahrq.gov

Peer Review:

Francis Chesley, M.D.
301-427-1524
fchesley@ahrq.gov

Grants Management:

Michelle Burr
301-427-1451
mburr@ahrq.gov ■

New HCUP tool for classifying mental health and substance abuse diagnoses is now available

A new tool for researchers working in the fields of mental health and substance abuse is now available from the Healthcare Cost and Utilization Project (HCUP). The Clinical Classification Software for Mental Health and Substance Abuse (CCS-MHSA) assigns variables that identify mental health and substance abuse-related diagnoses in hospital discharge records using the diagnosis coding of ICD-9-CM (International Classification of Diseases, Ninth Edition, Clinical Modification). CCS-MHSA can be used with any data that include ICD-9-CM diagnosis information and can be adapted to work with the particular software a researcher is using. CCS-MHSA can be utilized

independently for studies focusing solely on mental health and/or substance abuse conditions, or used in conjunction with the original Clinical Classification Software (CCS). This original software provides a method for classifying diagnoses or procedures into clinically meaningful categories that help to facilitate aggregate statistical reporting.

Like all HCUP tools and software, the CCS-MHSA is free and can be downloaded from the HCUP-US Web site. To access HCUP and its tools, go to <http://www.ahrq.gov>; click on HCUP under "Data and Surveys." ■

Al-Khatib, S.M., LaPointe, N.M., Kramer, J.M., and others. (2005, May). “A survey of health care practitioners’ knowledge of the QT interval.” (AHRQ grant HS10548). *Journal of General Internal Medicine* 20, pp. 392-396.

A survey of 517 health care practitioners found that the majority of health care practitioners could not correctly measure the QT interval on an electrocardiogram or correctly identify factors and medications that can prolong the QT interval, which can result in cardiac arrhythmia. Out of 20 questions about the QT interval, the entire group answered a median of 10 questions correctly, and 43 percent measured the QT interval correctly. Physicians in training and academicians were more likely to measure the QT interval correctly.

Asada, Y. (2005, August). “A framework for measuring health inequity.” (AHRQ grant HS13116). *Journal of Epidemiology and Community Health* 59, pp. 700-705.

This paper proposes a framework for measuring the moral or ethical dimension of health inequality. Health inequality is considered avoidable and is defined as health distributions that are not spread equally to every part of a population that is being analyzed. According to the author, measuring health inequity entails three steps. First, one must define when a health distribution becomes inequitable. Second, one must decide on measurement strategies to operationalize a chosen concept of equity. The choice of health measurement, unit of time, and unit of analysis should reflect moral considerations. Third, one

must quantify health inequity information following principles rather than convenience.

Chaudry, S., Jin, L., and Meltzer, D. (2005, June). “Use of a self-report-generated Charlson comorbidity index for predicting mortality.” (AHRQ grant HS10597). *Medical Care* 43(6), pp. 607-615.

Although several measures of coexisting illness (comorbidity) have been developed, the Charlson Comorbidity Index (CCI) remains a particularly popular risk adjustment tool and is often constructed from medical record abstracts or administrative data. This study surveyed 7,761 patients over 4 years and extracted their administrative data. The authors constructed six different Charlson indices by using two weighting schemes and three different data sources (ICD-9-CM data for index hospitalization, ICD-9-CM data with a 1-year look-back period, and patient self-report of comorbidities). Overall, self-reported Charlson indices predicted 1-year mortality comparably with indices based on administrative data.

Cook, R.L., Hutchison, S.L., Ostergaard, L., and others. (2005, June). “Systematic review: Noninvasive testing for *Chlamydia trachomatis* and *Neisseria gonorrhoeae*.” (AHRQ grant HS10592). *Annals of Internal Medicine* 142, pp. 914-925.

This study concludes that results of nucleic acid amplification tests for *C. trachomatis* on urine samples are nearly identical to those obtained on samples collected directly from the cervix or urethra. Similar tests can also be

used to detect *N. gonorrhoeae*. Study results were based on a systematic review of studies from 1991 through 2004, which assessed the sensitivity and specificity of one commercially available nucleic acid amplification test for *C. trachomatis* and *N. gonorrhoeae*.

Cox, E.D., Smith, M.A., and Bartell, J.M. (2005, September). “Managing febrile infants.” (AHRQ grant HS13183). *Evaluation & The Health Professions* 28(3), pp. 328-348.

Using clinical vignettes, researchers found that pediatricians recommended sepsis workups 82 percent of the time and family physicians recommend them 68 percent of the time for infants less than 3 months of age. Sepsis recommendations were more common among pediatricians who completed residency from 1975-1980 and among family physicians who completed residency from 1981-1987, when specialty-specific journals published recommendations for sepsis workups for febrile infants. These findings demonstrate that recommendations published during physicians’ residencies may impact their future clinical practices.

Dismuke, C.E. (2005, July). “Underreporting of computed tomography and magnetic resonance imaging procedures in inpatient claims data.” (AHRQ grant 14075). *Medical Care* 43(7), pp. 713-717.

Studies using inpatient data often measure care use by the ICD-9-CM code for the procedure in the patient’s insurance claim.

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This common practice can lead to biased research results on care use and outcomes, if investigators rely on certain ICD-9-CM codes for procedures that are not required for reimbursement via Diagnosis-Related Group assignment, such as computerized tomography (CT) and magnetic resonance imaging (MRI). Washington State inpatient data for 1997 was used to compare ICD-9-CM procedure and universal billing revenue codes for CTs and MRIs. When compared with revenue codes, ICD-9-CM procedure coding was considerably underreported and variable, with only 33 percent of CT and 43 percent of MRI procedures recorded.

Domino, M.E., and Huskamp, H. (2005, July). “Does provider variation matter to health plans?” (AHRQ grant HS10803). *Journal of Health Economics* 24, pp. 795-813.

Variation in the treatment prescribed by an individual provider may indicate higher quality of care through better matching of patients to treatments. However, it may also indicate that physicians and patients do not have all the information they need. It is not known how managed care insurance systems respond to provider-level treatment variation.

The authors of this paper developed a theoretical model of insurer behavior when their physicians have variation in prescribed treatments. They tested the model on data from a behavioral health care vendor that had some control over which physicians to select for any given patient. The vendor did not seem to respond to provider-level variance,

that is, it did not reward low- or high-variance providers with greater referrals.

Epstein, R.M., Franks, P., Fiscella, K., and others. (2005, October). “Measuring patient-centered communication in patient-physician consultations: Theoretical and practical issues.” (AHRQ grant HS10610). *Social Science & Medicine* 61, pp. 1516-1528.

Patient-centered communication (PCC) is widely endorsed as a central component of high quality health care, but it is unclear what it is and how to measure it. PCC includes four communication domains: the patients' perspective, the psychosocial context, shared understanding, and sharing power and responsibility. In this article, the authors outline problems in operationalizing PCC, choosing tools for assessing PCC, choosing data sources, identifying mediators of PCC, and clarifying outcomes of PCC. They also propose nine areas for improvement.

Gordon, H.S., Street Jr., R.L., Kelly, P.A., and others. (2005, September). “Physician-patient communication following invasive procedures: An analysis of post-angiogram consultations.” (AHRQ grant HS10876). *Social Science & Medicine* 61, pp. 1015-1025.

Researchers in this study analyzed patterns of physician-patient communication following coronary angiography, particularly as it affects decisionmaking. The pattern suggested a potential cycle of passivity, where certain patients received less information and did less to prompt the doctor for more information. The researchers based their analysis on audiotaped

recordings of 93 physician-patient interactions after angiography in a large Veterans Affairs medical center. The interactions were very brief and were dominated by physicians, who gave more information when the patient actively participated. Physicians gave less information to black than white patients, and black patients tended to actively participate less often than white patients.

Gorelick, M.H., Alpern, E.R., and Alessandrini, E.A. (2005, August). “A system for grouping presenting complaints: The pediatric emergency reason for visit clusters.” (AHRQ grant HS11359). *Academic Emergency Medicine* 12(8), pp. 723-731.

The presenting complaint of children visiting the emergency department (ED) drives much of triage decisionmaking, the direction and extent of history taking, physical examination, and diagnostic testing. This paper describes the development of the Pediatric Emergency Reason for Visit Cluster system, a system for grouping complaints presented in the ED.

Using data on pediatric visits from the National Hospital Ambulatory Medical Care survey for 1998 and 2000, the researchers generated 52 clusters; only 2.4 percent of complaints were classified as other. Eight of the most common clusters encompassed 52 percent of visits. The top five were fever, extremity pain/injury, vomiting, cough, and trauma. In addition, the complaint clusters were associated with actual resource use. Researchers found that both resource use and triage classification increased when the complaint was ranked as more severe.

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Hannan, E.L., Wu, C., DeLong, E.R., and Raudenbush, S.W. (2005, July). “Predicting risk-adjusted mortality for CABG surgery.” (AHRQ grants HS08805, HS09940, HS10548, and HS10403). *Medical Care* 43(7), pp. 726-735.

Many researchers advocate use of hierarchical statistical models for health services research. These multilevel models or random-effects models analyze data that are nested, for example, patients nested within hospitals. However, the models are computer-intensive and complicated to perform. This study compared the ability of standard logistic regression relative to hierarchical modeling in predicting risk-adjusted hospital mortality rates for coronary artery bypass graft (CABG) surgery in New York State. Based on that State’s CABG registry data from 1994 to 1999, standard logistic regression performed similarly to hierarchical models.

Hartley, H., Secombe, K., and Hoffman, K. (2005, August). “Planning for and securing health insurance in the context of welfare reform.” (AHRQ grant HS11322). *Journal of Health Care for the Poor and Underserved* 16, pp. 536-554.

Welfare reform in 1996 replaced the Aid to Families with Dependent Children program with the Temporary Assistance to Needy Families (TANF) program, which emphasizes leaving welfare for paid employment. However, 25 to 50 percent of former TANF recipients and 15 to 30 percent of their children become uninsured after the expiration of the transitional Medicaid coverage they receive for one year when leaving welfare. Using data from 90 face-

to-face interviews, this paper explores the expectations, plans, and coping strategies of TANF recipients in Oregon, who are in the middle of the transitional coverage year. It shows that TANF recipients often incorrectly assume their Medicaid coverage will continue after the transitional year, and many have no plans for securing health insurance.

Hemingway, H., Shipley, M., Brunner, E., and others. (2005, June). “Does autonomic function link social position to coronary risk: The Whitehall II study.” (AHRQ grant HS06516). *Circulation* 111, pp. 3071-3077.

This study found that, among British civil servants, lower position in the social hierarchy and low job control are associated with a higher incidence of coronary disease. Researchers examined heart rate variability (HRV) among 2,197 male civil servants aged 45 to 68 years in various employment grades (social position) and the psychosocial, behavioral, and metabolic risk factors for coronary disease previously found to be associated with low social position. Low employment grade was associated with higher heart rate and lower HRV. Lower HRV was also associated with smoking, little or no exercise, poor diet, and high alcohol consumption.

Hyle, E.P., Lipworth, A.D., Zaoutis, T.E., and others. (2005, June). “Impact of inadequate initial antimicrobial therapy on mortality in infections due to extended-spectrum B-lactamase-producing enterobacteriaceae.” (AHRQ grant HS10399). *Archives of Internal Medicine* 165, pp. 1375-1380.

Inadequate initial antibiotic therapy is an independent risk factor for death from infections

due to extended-spectrum beta-lactamase-producing *Escherichia coli* and *Klebsiella* species (ESBL-EK), concludes this study. The researchers retrospectively determined whether inadequate initial antimicrobial therapy (IAT, more than 48 hours between the time a culture was obtained and initiation of an agent to which the infecting organism was susceptible) was associated with mortality among hospitalized patients with an ESBL-EK infection between June 1, 1997 and December 31, 2002. Patients with IAT who had nonurinary ESBL-EK infections were ten times more likely to die than those with urinary infections.

Jha, A.K., Perlin, J.B., Steinman, M.A., and others. (2005, August). “Quality of ambulatory care for women and men in the Veterans Affairs health care system.” (AHRQ grant HS00020). *Journal of General Internal Medicine* 20, pp. 762-765.

Although men make up a large majority of veterans who receive care in the Veterans Affairs (VA) health care system, women now comprise nearly 10 percent of the 4 million users and this number is rapidly rising. Researchers found that outpatient VA care for women is equal to that of men for general preventive services and specific services for diabetes and hypertension, as well as the use of beta-blockers or aspirin for a prior heart attack.

Neumann, P.J. (2005, July). “The arrival of economic evidence in managed care formulary decisions: The unsolicited request process.” (AHRQ grant HS13658). *Medical Care* 43(7S), pp. II-27-II-32.

This article describes the process of unsolicited requests—

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communications from managed care plans to drug companies for information—and its potential impact on the use of economic evidence in formulary decisions. In the past, managed care plans have resisted using economic evidence to make drug formulary decisions. However, this has changed in recent years as health plans have begun to adopt evidence-based and value-based formulary submission guidelines. The author believes that the guidelines have the potential to serve as a national unifying template for pharmacy and therapeutics committees to consider clinical and economic information in a systematic rigorous fashion. However, many questions remain about their use and about the nature of unsolicited requests.

Kersun, L.S., Propert, K.J., Lautenbach, E., and others. (2005, August). “Early bacteremia in pediatric hematopoietic stem cell transplant patients on oral antibiotic prophylaxis.” (AHRQ grant HS10399). *Pediatric Blood and Cancer* 45, pp. 162-169.

The findings in this study indicate that children commonly suffer from bacterial infections after hematopoietic stem cell transplant (HSCT), despite the use of gut decontamination (GD) with antibiotics. Researchers retrospectively studied 182 pediatric patients undergoing their first HSCT for cancer, who received GD at one children’s hospital from 1999 to 2002. They examined the impact of several factors on infection, including stem cell source, donor, recent bacteremia, and graft versus host disease prophylaxis agents. Overall, 41 percent of patients

developed bacterial infections. The majority were Gram-positive cocci, consistent with recent trends in immunocompromised patients.

Lasser, K.E., Mintzer, I.L., Lambert, A., and others. (2005, August). “Missed appointment rates in primary care: The importance of site of care.” (AHRQ grant HS13559). *Journal of Health Care for the Poor and Underserved* 16, pp. 475-486.

This study examined whether race, language, or sex concordance between primary care providers (PCPs) and patients was associated with lower missed appointment rates in neighborhood health centers. Researchers also determined whether site of care was a determinant of missed appointment rates. Patients whose race and language were similar to their PCPs and patients whose PCPs had greater availability of appointments were less likely to miss appointments.

Litaker, D., Koroukian, S.M., and Love, T.E. (2005, June). (AHRQ grant HS00059). “Context and healthcare access: Looking beyond the individual. *Medical Care* 43(6), pp. 531-540; and Litaker, D., and Love, T.E. (2005, August). “Health care resource allocation and individuals’ health care needs: Examining the degree of fit.” *Health Policy* 73, pp. 183-193.

The first paper examines associations between social, economic, and health system characteristics and individual reporting of having a usual source of health care. Although individuals’ current health, insurance status, income, demographics, educational attainment, and social support were closely associated with having a usual source of care, so were

characteristics at the county level, such as poverty and degree of urbanization. The second paper examined the relationship between health care system characteristics, other social and economic characteristics of counties in a midwestern U.S. State, and an individual’s ability to meet health care needs over a 12-month period.

Napoles-Springer, A.M., Santoyo, J., and Stewart, A.L., (2005, May). “Recruiting ethnically diverse general internal medicine patients for a telephone survey on physician-patient communication.” (AHRQ grant HS10599). *Journal of General Internal Medicine* 20, pp. 438-443.

Inclusion of ethnic minorities in clinical research is vital to addressing ethnic disparities in health. This study found that household contact and individual response rates to trial recruitment efforts differed by ethnicity and language. Researchers conducted a telephone survey on physician-patient communication and randomized the responses to examine the effects of ethnically tailored initial contact letters on response rates among adult general medicine patients. Response rates were highest among Spanish-speaking Latinos (75 percent), lowest for whites (66 percent), and intermediate for blacks (70 percent) and English-speaking Latinos (68 percent).

Neumann, P.J., Rosen, A.B., Greenberg, D., and others. (2005, July). “Can we better prioritize resources for cost-utility research?” (AHRQ grant HS10919). *Medical Decision Making* 25, pp. 429-436.

These authors examined 512 cost-utility analyses published in the United States and other

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developed countries from 1976 through 2001 for analyses on disease rankings and the extent to which these analyses covered key Healthy People 2010 priorities. Researchers found that the analyses focused mostly on pharmaceuticals (40 percent) and surgical procedures (16 percent). The data showed overrepresentation of analyses for cerebrovascular disease, diabetes, breast cancer, and HIV/AIDS, and underrepresentation for depression and bipolar disorder, injuries, and substance abuse disorder.

Newgard, C.D., Hui, S-H., Griffin, A., and others. (2005, August). (AHRQ grant HS00148). "Prospective validation of an out-of-hospital decision rule to identify seriously injured children involved in motor vehicle crashes." *Academic and Emergency Medicine* 12(8), pp. 679-687; and Newgard, C.D., Hui, S-H., Stamps-White, P., and Lewis, R.J. (2005, August). "Institutional variability in a minimal risk, population-based study: Recognizing policy barriers to health services research." *HSR: Health Service Research* 40(4), pp. 1247-1258.

The first study validated a previously published out-of-hospital clinical decision rule to identify seriously injured children involved in motor vehicle crashes (MVCs). The rule included 15 variables, including Glasgow Coma Scale score, vital signs, and vehicular and crash characteristics to identify children as seriously injured or needing specialized trauma care. The decision rule identified all seriously injured children involved in MVCs and had moderate specificity. It was less

sensitive for identifying children requiring specialized trauma care. The second study described the institutional variability in obtaining Federal assurance documents or agreements to comply with Federal research regulations among the hospitals participating in the out-of-hospital clinical decision rule for children involved in MVCs.

Newgard, C.D., Lewis, R.J., Kraus, J.F., and McConnell, K.J. (2005, July). "Seat position and the risk of serious thoracoabdominal injury in lateral motor vehicle crashes." (AHRQ grant HS00148). *Accident Analysis & Prevention* 37, pp. 668-674.

The probability of serious thoracoabdominal (chest and abdomen) injury increases with increasing proximity of seat position to the side of a motor vehicle crash (MVC). Also, the risk of thoracic injury is higher than abdominal injury for all seat positions. Researchers analyzed data from the National Automotive Sampling System Crashworthiness Data System from 1995 to 2003 on occupants aged 16 years and older involved in MVCs. They examined the relationship between seat position, side of lateral MVC, and serious thoracoabdominal injury. Overall, 2 percent of people had serious thoracic injuries and 0.5 percent had serious abdominal injuries.

Park, S., Ross-Degnan, D., Adams, A.S., and others. (2005, August). "Effect of switching antipsychotics on antiparkinsonian medication use in schizophrenia." (AHRQ grant HS10391). *British Journal of Psychiatry* 187, pp. 137-142.

Antiparkinsonian medication is often prescribed for people with schizophrenia to control

involuntary movements caused by typical antipsychotic medications. Researchers examined the effects that switching from typical to atypical antipsychotic medications and from one typical antipsychotic medication to another had on prescribing antiparkinsonian medication among people with schizophrenia. Antiparkinsonian medication prescribing dropped by 9 percent after switching from typical to atypical antipsychotics. However, the reduction varied according to type of medication. For example, switching to olanzapine decreased the rate by 19 percent, but switching to risperidone had no impact. After switching from one typical antipsychotic to another, antiparkinsonian medication prescribing increased by 13 percent.

Phillips, K.A., Liang, S-Y., Haas, J.S., and others. (2005, July). "Prescription drug dispensing limits and patterns." (AHRQ grant HS10771 and HS10856). *Managed Care Interface* pp. 41-46.

To control prescription drug costs, most health plans limit prescriptions, including those for chronic conditions, to a 30-day supply when they are filled at community pharmacies. This study examined dispensing patterns for five drug classes commonly prescribed for chronic conditions. Dispensing patterns differed by drug class, insurance type, and socioeconomic status. For example, disadvantaged and Medicaid-insured individuals were more likely to get 30-day supplies rather than larger quantities. Among privately insured individuals, those with drug coverage were more likely to obtain 30-day supplies than those without drug coverage.

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Rein, D.B. (2005, August). “A matter of classes: Stratifying health care populations to produce better estimates of inpatient costs.” (AHRQ grant HS13286). *Health Research and Educational Trust* 40(4), pp. 1217-1233.

According to this study, stratifying health care populations based on measures of health severity is a powerful method to achieve more accurate cost predictions. A model was developed using 1999 Georgia Medicaid claims data that assigned Medicaid-insured pediatric patients to health severity classes. These classes were used to stratify a traditional two-part risk-adjustment model to predict inpatient Medicaid expenditures. The model identified four classes of children: a majority healthy class and three illness classes with increasing levels of severity. Stratifying the traditional model by health severity classes improved its predictive power from 0.17 to 0.25.

Rosen, A.B., Greenberg, D., Stone, P.W., and others. (2005, July). “Quality of abstracts of papers reporting original cost-effectiveness analyses.” (AHRQ grant HS00020). *Medical Decision Making* 25, pp. 424-428.

Abstracts of published journal articles on cost-effectiveness analyses (CEAs) often omit data elements critical to proper study interpretation, conclude the authors of this study. Researchers reviewed the medical literature from 1998 through 2001 for original CEAs to examine the extent to which the article abstracts included key data elements and to assess the effect of journal characteristics on reporting

quality. Among the 303 abstracts reviewed, a clear description of the intervention was present in 94 percent, comparator (the alternative to the intervention) in 71 percent, target population in 85 percent, and study perspective in 28 percent. All four data elements were reported in only 20 percent of abstracts and three elements in 49 percent.

Snyder, C., and Anderson, G. (2005, June). “Do quality improvement organizations improve the quality of hospital care for Medicare beneficiaries?” (AHRQ grant HS14509 and HS00029). *Journal of the American Medical Association* 293, pp. 2900-2907.

Hospitals that participate in a quality improvement organization (QIO) program are no more likely to show improvement on quality indicators than hospitals that do not participate, concludes this study. Researchers examined data from four QIOs charged with improving the quality of care in five States. They examined medical records of about 750 Medicare beneficiaries per State in five clinical areas in 1998 (baseline) and again in 2000-2001 (followup). They compared improvements in quality of care for patients in hospitals that actively participated with the QIOs versus hospitals that did not. There was no significant difference in change from baseline to followup between both groups of hospitals on 14 of 15 quality indicators.

Tait, R.C., and Chibnall, J.T. (2005, June). “Factor structure of the pain disability index in workers’ compensation claimants with low back injuries.” *Archives of Physical Medicine and Rehabilitation* 86, pp. 1141-1146.

Researchers found that the Pain Disability Index (PDI) is a reliable measure of pain-related disability that can also be administered by telephone. Using computer-assisted telephone interviews with 1,329 Missouri workers’ compensation claimants who had occupational low back injuries, researchers examined the factor structure of the PDI and the effects that race and sex had on the PDI. Results for the total sample and by race/sex group indicated support for a two-factor model of the PDI corresponding to voluntary activities (for example, social, occupational, and recreational) and obligatory activities (for example, activities of daily living, eating, and sleeping). There was adequate reliability and construct validity overall and in each of the race/sex groups.

Tchernis, R., Horvitz-Lennon, M., and Normand, S-L. (2005, July). “On the use of discrete choice models for causal inference.” (AHRQ grant HS10803). *Statistics in Medicine* 24, pp. 2197-2212.

Methodology for causal inference based on propensity scores usually concentrates on binary treatments. Only recently have these methods been extended to settings with multi-valued treatments. The authors of this paper propose a number of discrete choice models for estimating the propensity scores. The models differ in terms of flexibility with respect to potential correlation between treatments and, in turn, the accuracy of the estimated propensity score. The authors present the effects of discrete choice models used on performance of the causal estimators through a Monte Carlo study. They also illustrate the use of

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these models to estimate the effect of antipsychotic drug use on the risk of diabetes in adults with schizophrenia.

Vrbin, C.M., Grzybicki, D.M., Zaleski, S., and Raab, S.S. (2005, July). “Variability in cytologic-histologic correlation practices and implications for patient safety.” (AHRQ grant HS13321). *Archives of Pathology and Laboratory Medicine* 129, pp. 893-898.

The Clinical Laboratory Improvement Amendments of 1988 require that laboratories perform cytologic-histologic correlation. Researchers found that laboratories have different ways of recording data from the cytologic-histologic correlation process, indicating a lack of standardization. Out of 15 key variables that could be used in performing cytologic-histologic correlation, only cytology case number, sign-out cytology diagnosis, surgical pathology case number, and sign-out surgical pathology diagnosis were recorded by more than 50 percent of laboratories. Nine (17 percent) labs did not record data on forms, logs, or tally sheets.

Waitzkin, H., Jasso-Aguilar, R., Landwehr, A., and Mountain, C. (2005, September). “Global trade, public health, and health services: Stakeholders’ constructions of the key issues.” (AHRQ grant HS13251). *Social Science & Medicine* 61, pp. 893-906.

The authors of this article developed characteristics of social reality constructs that are held by the major stakeholders participating in policy debates about global trade, public health, and health

services, through reviews of the published literature, interviews with key informants of major organizations, and organization reports. Social constructs concerning trade and health reflect broad ideologies when considering the impact of market processes. For example, the U.S. Government assumes that by expanding the private sector, improved economic conditions will improve overall health with a minimum government provision of health care. International financial institutions emphasize reforms that include reduction and privatization of public sector services. Advocacy groups emphasize the deleterious effect of international trade agreements on public health and health services.

Wells, K., Sherbourne, C., Duan, N., and others. (2005, June). “Quality improvement for depression in primary care.” (HS08349). *American Journal of Psychiatry* 162, pp. 1149-1157.

Researchers found that quality improvement (QI) interventions with either medication management or psychotherapy improved outcomes for primary care patients with depressive disorder and subthreshold depression (depression that does not meet full diagnostic criteria) when compared to usual care. QI interventions also decreased the number of mental health visits for those with subthreshold depression. These results highlight the feasibility of including patients with subthreshold depression in such programs.

Schwartz, M.D., Basco, Jr., W.T., Grey, M.R., and others. (2005, April). “Rekindling student interest in generalist careers.” (AHRQ grant HS11955). *Annals*

of Internal Medicine 142, pp. 715-724.

Despite changes in the structure of the U.S. health care system, patients continue to need and seek out generalist physicians. Yet, fewer U.S. medical school graduates are entering generalist residency training—less than 40 percent in 2004. This article reviews the history of and trends in physician career choice and proposes four evidence-based recommendations to rekindle student interest in generalist careers. The authors suggest improving satisfaction and enthusiasm among generalist physician role models and that schools of medicine redouble their efforts to produce primary care physicians. They also recommend facilitating the pathway from medical school to generalist residency and increased U.S. Government funding for primary care research and research training.

Veazie, P.J., Johnson, P.E., O’Connor, P.J., and others. (2005). “Making improvements in the management of patients with type 2 diabetes: A possible role for the control of variation in glycated hemoglobin.” (AHRQ grants HS11919 and HS10639). *Medical Hypotheses* 64, pp. 792-801.

The authors of this paper hypothesize that physician treatment strategies influence variation in glucose levels, and that this variation provides an independent contribution to the risk of diabetes complications. The authors suggest that development of treatment strategies to control variation may be a beneficial goal in the management of type 2 diabetes. Using observational data from a large multispecialty medical group, they characterize patient trends and variation of glycated

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hemoglobin in adults with type 2 diabetes, describe patterns of variation, and identify factors associated with variation.

Whitehall II Study: Marmot, M., and Eric Brunner. (2005, April). Cohort profile: The Whitehall II study.” (AHRQ grant HS06516). *International Journal of Epidemiology* 34, pp. 251-256;
Ferrie, J.E., Shipley, M.J., Newman, K., and others. (2005, April). “Self-reported job insecurity and health in the Whitehall II study: Potential explanations of the relationship.” *Social Science & Medicine* 60, pp. 1593-1602; Kumari, M., Marmot, M., Rumley, A., and Lowe, G. (2005, May). “Social, behavioral, and metabolic determinants of plasma viscosity in the Whitehall II study.” *Annals of Epidemiology* 15, pp. 398-404; and Singh-Manoux, A., Ferrie, J.E., Lynch, J.W., and Marmot, M. (2005, May). “The role of cognitive ability (intelligence) in explaining the association between socioeconomic position and health: Evidence from the Whitehall II prospective cohort study.” *American Journal of Epidemiology* 161(9), pp. 831-839.

The Whitehall II studies of British civil servants (aged 35-55 years in 1985-1988) were originally designed to investigate social and occupational influences on health and illness. Recent analyses of over 15 years of data confirm the inverse relationship between socioeconomic position (indicated by employment grade) and coronary heart disease (CHD), diabetes, and metabolic syndrome.

The first study provides an overview of the Whitehall II study. The second study reveals strong associations between self-reported job insecurity and both poor self-rated health and minor psychiatric problems. According to the third study, there is an employment grade gradient in plasma viscosity, which was not fully explained by health-related behaviors or measured risk factors for CHD. The fourth study suggests that cognitive ability explains only part of the relationship between socioeconomic position and health.

Wyrich, K.W., Bullinger, M., Aaronson, N., and others. (2005, March). “Estimating clinically significant differences in quality of life outcomes.” (AHRQ grant HS11635). *Quality of Life Research* 14, pp. 285-295.

These authors examine issues involved in estimating clinically significant differences in quality of life (QOL) outcomes, based on a review of six articles written by 30 international experts in the field of QOL assessment and evaluation. They conclude that no single method for determining clinical significance is unilaterally endorsed. The authors discuss prerequisites for clinical significance associated with instrument selection, responsiveness, and the reporting of QOL trial results. They also discuss estimating the number needed to treat relative to clinically significant thresholds. Finally, they provide a rationale for applying group-derived standards to individual assessments.

Wyrich, K.W., Tierney, W.M., Babu, A.N., and others. (2005, April). “A comparison of clinically important differences in health-related quality of life

for patients with chronic lung disease, asthma, or heart disease.” (AHRQ grant HS11635). *Health Services Research* 40(2), pp. 577-591.

This study compared the clinically important difference (CID) thresholds for change over time on the eight scales of the Medical Outcomes Study Short-Form 36-Item Health Survey (SF-36), Version 2. These thresholds were developed by three separate expert panels of physicians with experience in health-related quality of life assessment among patients with chronic obstructive pulmonary disease, asthma, and heart disease. All three panels agreed on the scale changes that constituted small, moderate, and large clinically important SF-36 change scores for these diseases. If confirmed among patients with the relevant diseases and their physicians, these disease-specific CIDs could aid researchers and practicing clinicians in the use and interpretation of health-related quality of life changes over time.

Yost, K., and Eton, D.T. (2005, June). “Combining distribution- and anchor-based approaches to determine minimally important differences: The FACIT experience.” (AHRQ grant HS09869). *Evaluation & the Health Professions* 28(2), pp. 172-191.

This article describes and provides examples of approaches the authors have used to identify minimally important differences (MIDs) for instruments in the Functional Assessment of Chronic Illness Therapy (FACIT) measurement system. Health-related quality of life (HRQOL) is an important endpoint in cancer clinical trials and for cancer

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treatment in general. However, the meaningfulness of HRQOL scores may not be apparent to clinicians or researchers. MIDs can enhance the interpretability of HRQOL scores by identifying differences likely to be meaningful to patients and clinicians.

Zhou, Z.H., and Dinh, P. (2005, April). “Nonparametric confidence intervals for the one- and two-sample problems.”

(AHRQ grant HS13105). *Biostatistics* 6(2), pp. 187-200.

Researchers often compare the differences for some measures between two groups, such as the drug effect between a treatment group and control group or the health outcome between intervention A and intervention B. The authors of this article evaluate several existing statistical techniques and propose new methods to improve coverage accuracy. ■

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