



Research Activities



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Agency for Healthcare Research and Quality

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AHRQ study finds wrong-site surgery is rare and preventable

“Wrong-site surgery” includes surgery on the wrong organ or limb, at the wrong site on the spine, or on the wrong person. Wrong-site surgery is extremely rare, and major injury related to it is even more rare, according to a study supported by the Agency for Healthcare Research and Quality (HS11886).

Researchers estimate that a wrong-site surgery serious enough to result in a report to insurance risk managers or in a lawsuit would occur approximately once every 5 to 10 years at a single large hospital. The study assessed all wrong-site surgeries reported to a large medical malpractice insurer between 1985 and 2004 and found that the number of wrong-site surgeries conducted on limbs or organs other than the spine occurred once in every 112,994 operations. Forty cases of wrong-site surgery were identified among 1,153 malpractice claims and 259 instances of insurance loss related to surgical care. Twenty-five of the cases were non-spine wrong-site surgeries, with the remainder involving surgery of the spine.

The study examined site-verification protocols at 25 hospitals as a means to prevent wrong-site surgery from occurring. Site-

verification protocols, procedural safeguards that involve patient and surgeon communication, could include: (1) marking the part of the body where surgery is to occur; (2) a pre-operative verification process by the surgeon and one other health care staff member; (3) resolution of inconsistencies by the surgeon; and (4) informed consent from the patient with specification of the site of the surgery. The study found that simplicity and avoidance of excessive redundancy are the key features of successful site-verification protocols.

Available medical records for 13 of the 25 non-spine wrong-site surgery cases show that injury was temporary and minor in 10 of the cases. Researchers conclude that following the Joint Commission on Accreditation of Healthcare Organizations Universal Protocol for Preventing Wrong Site, Wrong Procedure, Wrong Person Surgery might have prevented eight of the cases.

See “Incidence, Patterns and Prevention of Wrong Site Surgery,” by Mary R. Kwan, M.D., M.P.H., David M. Studdert, L.L.B., Sc.D., Michael J. Zinner, M.D., and Atul A. Gawande, M.D., M.P.H., in the April 2006 *Archives of Surgery* 141, pp. 353-358. ■

Studies examine ways to improve the quality of diabetes care

For people with diabetes, lowering their blood sugar to normal or near-normal levels is the benchmark of diabetes care quality. The American Diabetes Association (ADA) recommends testing blood sugar or glycated hemoglobin (HbA1c) levels at least two times per year for patients who are meeting treatment goals and have stable glycemic control, and four times per year for patients whose medication has changed or when glycemic control goals have not been met. Yet, routine monitoring of glycemic status during regularly scheduled office visits is often not performed according to ADA recommended guidelines.

A new study supported by the Agency for Healthcare Research and Quality (HS10875 and HS11617) concludes that emphasizing the patient-primary care provider relationship and better coordination of care will improve adherence to diabetes care standards. A second AHRQ-supported study (HS10123) describes a new instrument to measure the quality of diabetes care that patients receive.

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AHRQ
Office of Communications and Knowledge
Transfer
540 Gaither Road
Rockville, MD 20850
(301) 427-1360

Barbara L. Kass, MPH, CHES,
Managing Editor
Gail Makulowich, Contributing Editor
Joel Boches, Design and Production
Karen Migdail, Media Inquiries

Mayberry, R., Davis, T., Alema-Mensah, E., and others. (2005, November). "Determinants of glycemic status monitoring in black and white Medicaid beneficiaries with diabetes mellitus." *Journal of Health Care for the Poor and Underserved* 16, pp. 31-49.

The burden of diabetes disproportionately affects low-income and black patients. This study found poor monitoring of glycemic status during follow-up physician office visits among adult low-income Medicaid beneficiaries with newly diagnosed type 2 diabetes (insufficient insulin to metabolize sugar). Only one in five (19.6 percent) of the patients with diabetes in the study had one or more HbA1c tests and less than one-tenth (7.5 percent) had the ADA-recommended two or more HbA1c tests in a 1-year period after the initial diagnosis.

However, the likelihood of receiving the recommended 2 or more HbA1c tests was nearly 2 times greater for patients who had 10 or more visits than for those with only 1 visit in the 1-year period since the initial diagnosis. This is probably an indication of some dimension of the patient-provider relationship, such as better rapport and communication, trust, and mutual respect, note the study authors. Researchers conclude that quality improvement efforts that emphasize the patient-primary provider relationship and better coordination of care will improve adherence to diabetes care standards.

The findings were based on examination of Georgia Medicaid claims data concerning patients newly diagnosed with type 2 diabetes in 1996 and 1997. Researchers evaluated the relationship between number of physician visits, race, other patient demographic factors, medication use, and coexisting medical conditions and the rate of blood glucose monitoring during primary care visits in the 1-year period of follow-up for diabetes care for 3,321 black and white patients. The Georgia Medicaid Program began to emphasize better coordination of care in 1993 by requiring patients to initially contact their primary care providers, who were supposed to coordinate their care.

Glasgow, R.E., Whitesides, H., Nelson, C.C., and King, D.K. (2005, November). "Use of the patient assessment of chronic illness care (PACIC) with

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Diabetes care

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diabetic patients.” *Diabetes Care* 28(11), pp. 2655-2661.

The authors expanded one measure of diabetes care quality, the Patient Assessment of Chronic Illness Care (PACIC), with six additional items based on the “5As” (ask, advise, agree, assist, and arrange) model of behavioral counseling. They conclude that the PACIC and the new 5As scoring method appear useful for evaluating the quality of care received by diabetic patients. In this study, a diverse sample of 363 patients with type 2 diabetes completed the original PACIC, a 20-item survey that measures the extent to which patients report having received services based on the Chronic Care Model.

The researchers also asked the patients to answer additional questions based on the 5As. For example, if the doctor asked about problems with medication or side

effects, and the extent to which they were included in creating their treatment plan. They were asked if the doctor advised them about specific things they could do to improve their health, checked to see if they could carry out their treatment plan in their daily life, helped them arrange visits to other doctors, or helped them obtain community or other support.

The researchers evaluated the relationships between survey scores and patient characteristics, quality of diabetes care, and self-management. Few demographic or medical characteristics were related to PACIC or 5As scores. However, both the PACIC and 5As survey scores were significantly related to the quality of diabetes care received. Areas of Chronic Care Model activities reported least often were goal setting/intervention tailoring and follow-up/coordination. The 5As scoring revealed that patients were least likely to receive assistance with problem solving and arrangement of follow-up support. ■

Patient responses to medical errors depend on the timeliness and quality of the physician’s communication about the event

In most countries, health care providers are not adequately held accountable for the quality of care they provide. One approach to improve provider accountability—which is being debated and implemented in some developed countries and a smaller group of developing countries—is provider-specific report cards that compare providers’ performance with similar providers.

Peggy McNamara, M.S.P.H., of the Center for Delivery, Organization and Markets, Agency for Healthcare Research and Quality reviewed the relevant literature and found evidence of provider-specific comparative reporting in several developing country contexts. A wide range of provider-specific indicators are already being used in several developing countries to track quality of care. For instance, pioneering communities in countries such as India and the

Philippines have successfully implemented provider-specific report cards using data from patient satisfaction surveys. Uganda provides a more comprehensive model of performance monitoring and public disclosure.

Provider reports cards are not a panacea for all quality problems. However, they are one of several approaches that, in some country and community contexts, might be pursued to complement and enhance regulatory, payment, and training activities as part of an overall strategy to improve quality, suggests the researcher.

More details are in “Provider-specific report cards: A tool for health sector accountability in developing countries,” by Ms. McNamara, in the March 2006 *Health Policy and Planning* 21(2), pp. 101-109. Reprints (AHRQ Publication No. 06-R023) are available from AHRQ.* ■

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Outpatient drug prescribing and laboratory monitoring, see page 4

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Immediate interpretation of lung tissue samples and use of transmucosal fine-needle aspiration reduces pathology errors

Pathology errors occur in 1 to 5 percent of all tissue specimens, with lung specimens having the highest organ-specific error rates. Sampling problems play a major role in misdiagnosis of lung tissues in 97 percent of cases studied, according to a new study. Immediate interpretation at the time of the sampling procedure may reduce lung pathology errors. Researchers suggest that this would allow the pathologist to ask for additional samples or change sampling techniques to obtain an adequate specimen.

With support from the Agency for Healthcare Research and Quality (HS13321), the researchers used root cause analysis to determine the cause of all 32 false-negative bronchial brushing and washing specimen errors, which

were obtained from a pathology database at one medical center in 2002. These 32 pathology errors identified abnormal tissue as normal (false-negative), whereas lung biopsy specimens from the same patients found the tissue to be abnormal. Based on a review of the medical records and sample slides for each case, independent reviewers determined that 10 errors were due to poor interpretation of the sample, 16 were due to an inadequate sample, and 6 were due to a combination of poor sampling and interpretation.

Root cause analysis specifically showed that a lesion was not accessible in eight cases and a tumor was readily identified on the slides in only one case. In 11 cases, the malignant cells were few and not recognized, and in 13 cases, obscuring artifacts (for example,

cellular crushing and air drying) limited interpretation. In most cases, interpretive error was linked closely to sampling error. An obvious misinterpretation occurred in only one case. In addition to recommending immediate interpretation of samples during the procedure, the researchers also recommend use of transbronchial fine-needle aspiration, use of procedures to remove excess blood or inflammation from samples, and other techniques.

More details are in “Improve the quality of cytology diagnosis,” by Laurentia Nodit, M.D., Ronald Balassanian, M.D., Daniel Sudilovsky, M.D., and Stephen S. Raab, M.D., in the December, 2005 *American Journal of Clinical Pathology* 124, pp. 883-892. ■

Over one-third of outpatients prescribed drugs for the first time do not receive recommended laboratory monitoring

Over one-third (39 percent) of outpatients who begin taking drugs that carry a risk of causing organ damage, electrolyte abnormalities, or other problems do not receive recommended laboratory tests before starting the medication, according to a new study. For example, 32 percent of patients dispensed drugs for which a serum creatinine test to determine kidney function is recommended did not have the levels evaluated (range of 12 to 61 percent

across drugs); 39 percent did not have liver function testing (range 10 to 75 percent); 32 percent did not have blood monitoring (range 9 to 51 percent); and 34 percent did not have electrolyte monitoring (range 20 to 62 percent).

In other cases, some recommended laboratory tests were done for a medication, while others were not. Thyroid function was evaluated less often than other

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Laboratory monitoring

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laboratory tests. For instance, 45 percent of those starting lithium did not have thyroid function evaluated.

Finally, lab testing rates varied widely for different medications. For example, 74 percent of patients started on methotrexate were tested for serum creatinine, a complete blood count, and ALT or AST liver enzymes. Yet, a complete blood count and ALT or AST were monitored in only 46 percent of patients starting carbamazepine.

These variations in testing may be due to several factors, suggest the researchers. Prescribers may be more likely to monitor when a drug is prescribed for prolonged treatment or when they have previously cared for patients who experienced drug toxicity. The

findings were based on retrospective analysis of patients in 10 geographically distributed health maintenance organizations, who were newly prescribed 1 of 35 drugs or drug classes with recommended laboratory testing monitoring. The study was supported by the Agency for Healthcare Research and Quality (HS14249).

See "Laboratory monitoring of drugs at initiation of therapy in ambulatory care," by Marsha A. Raebel, Pharm.D., Ella E. Lyons, M.S., Susan E. Andrade, Sc.D., and others, in the December 2005 *Journal of General Internal Medicine* 20, pp. 1120-1126.

Editor's note: A previous article by the researchers, published in the March 2006 *Research Activities* (Vol. 307, p. 12) found that computerized alerts and professional collaboration between pharmacists and doctors can improve laboratory monitoring of outpatient drug prescribing. ■

CAHPS® Hospital Survey

Researchers describe the development and testing of the CAHPS® Hospital Survey

The Consumer Assessment of Healthcare Providers and Systems (CAHPS®) program was first launched by the Agency for Healthcare Research and Quality in October 1995. The CAHPS program is funded and administered by AHRQ (HS00092), which works closely with the public and private organizations that comprise the CAHPS Consortium. The program develops and supports the use of a comprehensive and evolving family of standardized surveys that ask consumers and patients to report on and evaluate their experiences with health care.

The CAHPS Hospital survey (H-CAHPS) was designed to enable patients, physicians, and payers to compare quality among hospitals and to facilitate quality improvement in hospitals. A special December 2005 issue of *Health Services Research* 40(6, part 2)

includes several papers that detail the development and testing of H-CAHPS, as well as decisions that shaped the final product. Following are brief summaries of the editorial and articles that appear in the issue.

Darby, C., Hays, R.D., and Kletke, P. "Development and evaluation of the CAHPS hospital survey," pp. 1973-1976.

The authors of this editorial point out that the development of the CAHPS surveys must incorporate input from a wide range of stakeholders to ensure the final product will meet the needs of those decisionmakers. In addition, rigorous scientific methods need to be applied in the development and evaluation of CAHPS data to ensure that the products are credible and useful.

Goldstein, E., Farquhar, M., Crofton, C., and others.

"Measuring hospital care from the patients' perspective: An overview of the CAHPS hospital survey development process," pp. 1977-1995.

This article provides an overview of the solicitation of input on the content of the survey and the methods for sampling, data collection, and analysis. Input from stakeholders was obtained from cognitive interviews and focus groups with recently hospitalized patients, stakeholder meetings, and issuance of multiple *Federal Register* notices and a call for measures. After conducting a pilot test of the survey in three States, the researchers conclude that H-CAHPS can be administered as a standalone survey or integrated with the existing hospital surveys, and provide sufficient standardization to ensure valid comparisons among hospitals.

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CAHPS® hospital survey

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Castle, N.G., Brown, J., Hepner, K.A., and Hays, R.D. “Review of the literature on survey instruments used to collect data on hospital patients’ perceptions of care,” pp. 1996-2017.

This paper describes the review of scientific literature on hospital patient surveys, which began the survey development process. The researchers supplemented the review with a call for measures from survey vendors and others. The many diverse hospital survey instruments found underscore the benefit of using a standardized survey, along with standardization of the sampling, administration protocol, and mode of administration.

Levine, R.F., Fowler Jr., F.J., and Brown, J.A. “Role of cognitive testing in the development of the CAHPS hospital survey,” pp. 2037-2056.

Following development of an early draft of the survey, but prior to field testing, the team conducted a series of one-on-one interviews with recently hospitalized patients to direct revisions to the survey, after assessing how well draft items measured what the team had intended. Many survey items required modification because respondents lacked the information required to answer them, respondents were asked to make distinctions that were too fine for them to make, the items were not measuring the constructs they were intended to measure, and other reasons.

Sofaer, S., Crofton, C., Goldstein, E., and others. “What do consumers want to know about the quality of care in hospitals?,” pp. 2018-2036.

Researchers conducted 16 focus groups in 4 cities of people who had been recently hospitalized or had a close loved one recently hospitalized, and they found that consumers and patients have a high degree of interest in hospital quality. Participants were most interested in survey items relating to doctor communication with patients, nurse and hospital staff communication with patients, responsiveness to patient needs, and cleanliness of the hospital room and bathroom. These findings were consistent across focus groups and participant characteristics.

Keller, S., O’Malley, A.J., Hays, R.D., and others. “Methods used to streamline the CAHPS hospital survey,” pp. 2057-2077.

To streamline the survey, the researchers used standard psychometric methods to assess the reliability and construct validity of the survey’s 33 items, in conjunction with the importance assigned to each item by focus group participants. Sixteen questions (half the original survey) that measured seven aspects of hospital care (communication with nurses, communication with doctors, responsiveness to patient needs, physical environment, pain control, communication about medication, and discharge information) demonstrated excellent fit to the data.

O’Malley, A.J., Zaslavsky, A.M., Hays, R.D., and others. “Exploratory factor analyses of

the CAHPS hospital pilot survey responses across and within medical, surgical, and obstetric services,” pp. 2078-2095.

This paper details the results of factor analysis used to evaluate survey data from 132 hospitals in 3 States for hospital-level, hospital-service level and patient-level differences. Three factors best described hospital-level differences: physician factors, nurse factors, and environment. Three factors explained much of the inter-unit variability: pain control, medication, and discharge information. Six factors best described inter-item differences at the patient level, varying somewhat from those found at the hospital level.

Elliott, M.N., Edwards, C., Angeles, J., and others. “Patterns of unit and item nonresponse in the CAHPS hospital survey,” pp. 2096-2119.

In this study, the researchers used a common set of 11 administrative variables to predict unit (the person sampled) nonresponse and the rate of item nonresponse to the survey. Unit response was highest for younger patients and patients other than non-Hispanic whites; item nonresponse increased steadily with age. Nonresponse weights did not improve overall precision below sample sizes of 300-1,000, and are unlikely to improve the precision of hospital comparisons.

DeVries, H., Elliott, M.N., Hepner, K.A., and others. “Equivalence of mail and telephone responses to the

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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.

CAHPS® hospital survey

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CAHPS hospital survey,” pp. 2120-2139.

To estimate the effect of mail versus telephone survey methods on reports and ratings of hospital care, the researchers collected CAHPS data in 2003 by mail and telephone from 9,504 patients; 39 percent responded by telephone and 61 percent by mail. They found significant mode effects for 13 of the 21 survey questions examined in the study. Telephone respondents were more likely to rate care positively and health status negatively compared with mail respondents. This suggests that mode of survey administration should be standardized or carefully adjusted for.

Hurtado, M.P., Angeles, J., Blahut, S.A., and Hays, R.D. “Assessment of the equivalence of the Spanish and English versions of the CAHPS hospital survey on the quality of inpatient care,” pp. 2140-2161.

The H-CAHPS was developed and tested in both English and Spanish. A forward-backward translation procedure followed by committee review and cognitive testing was used to ensure a translation that was both culturally and linguistically appropriate. The researchers compared responses to the two language versions to evaluate equivalence and assess the reliability and validity of both versions. The results provide preliminary evidence of the equivalence between the Spanish and English versions of H-CAHPS.

O’Malley, A.J., Zaslavsky, A.M., Elliott, M.N., and others. “Case-mix adjustment of the CAHPS hospital survey,” pp. 2162-2181.

These authors developed a model to adjust for patient case mix on H-CAHPS responses, and to assess the impact of adjustment on comparisons of hospital quality. The most important case-mix variables were hospital service (surgery, obstetric, medical), age, race, education, general health status, speaking Spanish at home, having a circulatory disorder, and interactions of each of these variables with hospital service area. The authors conclude that case-mix adjustment has a small impact on hospital ratings, but can reduce bias in comparisons between hospitals. ■

Health Information Technology

New information will help health care providers adopt health information technologies

The Agency for Healthcare Research and Quality (AHRQ) released a report acknowledging that while health information technology (IT) has been shown to improve quality of care for patients, most health care providers need more information about how to implement these technologies successfully.

The report, *Costs and Benefits of Health Information Technology*, is a synthesis of studies that have examined the quality impact of health IT as well as the costs and organizational changes needed to implement health IT systems. This report reviews scientific data about the implementation of health IT to date, as documented in studies published through 2003. It does not project future health care benefits or savings, in contrast to other reports.

The authors conclude that scientific reviews have shown significant improvements in the quality of health care utilizing health IT systems. However, these successes have occurred primarily within large health

care systems that created their own health IT systems and devoted substantial commitment and resources to these efforts. AHRQ’s initiative is developing data on how to put health IT to work in more common health care settings such as physicians’ offices and hospitals.

Large health care organizations and health plans have been leaders in health IT. The report points out that, by contrast, the smaller medical practices and hospitals that constitute the majority of the nation’s health care providers have limited technological expertise and must depend on the purchase of commercial systems. Data about health IT implementation in these settings has been very limited, according to the report.

As a result, a predominant portion of health care providers in America have not had the information they need to calculate the impact of health IT implementation on their organizations. AHRQ’s health IT initiative will help deliver reliable information to health care providers that tells them what they can

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Technologies

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expect when they implement health IT systems. The \$166 million initiative includes more than 100 projects where health IT systems are being implemented, with an emphasis on systems in community-based health care settings, using commercially available systems. The AHRQ initiative was launched in September 2004, and most projects have 3-year duration.

The AHRQ-sponsored research will yield scientifically valid information that will share the experiences of typical providers in implementing health IT systems. This includes both the impact on quality and safety of care as well as the organizational impact of implementing health IT systems.

Findings from the AHRQ projects are being made available through the AHRQ National Resource Center for Health Information Technology, at <http://www.healthit.ahrq.gov>.

Costs and Benefits of Health Information Technology was prepared by the Southern California

Evidence-based Practice Center-RAND Corporation, one of 13 evidence-based practice centers supported by AHRQ. Another study released last year by a separate group of RAND researchers estimated that wide adoption of electronic medical records and use of other health IT could save more than \$81 billion annually and improve the quality of care.

The report was requested and funded by AHRQ and the Office of the Assistant Secretary for Planning and Evaluation. The Office of Disease Prevention and Health Promotion also provided financial support. Others requesting the report were the Centers for Medicare & Medicaid Services and the Leapfrog Group, an organization of health care purchasers.

The report *Costs and Benefits of Health Information Technology* Evidence Report No. 132 (Publication No. 06-E006) is available at <http://www.ahrq.gov/clinic/epcix.htm> or through the AHRQ Publications Clearinghouse.* In addition, an interactive database providing access to the studies reviewed as part of the report will be available at <http://www.healthit.ahrq.gov/tools/rand>. ■

Disparities/Minority Health

Black patients are more likely to die after major surgery than white patients

Blacks are 23 to 61 percent more likely to die following certain cardiovascular or cancer surgeries, yet the hospital at which they are treated, rather than their race, accounts for most of this difference in mortality rates. A study, supported in part by the Agency for Healthcare Research and Quality (HS10141), used national Medicare data to identify all patients undergoing one of eight cardiovascular or cancer procedures between 1994 and 1999.

Researchers analyzed the data to assess differences in operative mortality (death within 30 days or before hospital discharge) between black and white patients, controlling for patient characteristics such as severity of illness.

Blacks had higher mortality rates than whites for all operations

except for lung cancer. These included coronary artery bypass graft surgery (CABG), aortic valve replacement, abdominal aortic aneurysm repair, carotid endarterectomy, radical cystectomy, pancreatic resection, and esophagectomy. Higher mortality rates for blacks undergoing these seven procedures ranged from a 23 percent higher likelihood of death following CABG to a 61 percent higher likelihood after esophagectomy. Adjusting for patient characteristics had a modest or no effect on likelihood of mortality by race; however, there were few differences in mortality by race after accounting for hospital factors.

Hospitals that treated 10 percent or more black patients had higher mortality rates for all eight procedures, for both white and

black patients. Black patients were more likely to undergo surgery in very low volume hospitals, and low volume is a risk factor for increased operative mortality. However, some hospitals that treated a large proportion of black patients had higher mortality rates independent of their procedure volume. These findings suggest that racial disparities may be as much about the system in which black patients get their care as about patient- or physician-level factors. They also underscore the need to improve quality of care at poorly performing hospitals.

See "Race and surgical mortality in the United States," by F.L. Lucas, Ph.D., Therese A. Stukel, Ph.D., Arden M. Morris, M.D., M.P.H., and others, in the February 2006 *Annals of Surgery* 243(2), pp. 281-286. ■

Very low-birthweight babies treated at minority-serving hospitals have higher death rates

Despite tremendous gains in the survival of very low-birthweight (VLBW) babies (1.1 to 3.3 pounds) in the United States, racial and ethnic disparities in mortality among these infants persist. A new study supported in part by the Agency for Healthcare Research and Quality (HS13280 and HS10858) reveals that neonatal mortality rates among black VLBW infants are 2.5 times higher than those of white VLBW infants.

Researchers analyzed the medical records of 74,050 black and white VLBW infants treated at 332 hospitals participating in the Vermont Oxford Network of hospitals. They defined hospitals where more than 35 percent of VLBW infants were black as minority-serving. Far more black infants were treated by minority-serving hospitals than at hospitals where less than 15 percent of infants were black (57 vs. 8 percent). Both black and white VLBW babies were 28 percent more likely to die at minority-serving hospitals than at hospitals where less than 15 percent

of VLBW infants were black, even though the hospitals treated similarly ill infants.

The higher death rate at minority-serving hospitals was not explained by either hospital or treatment variables. The findings suggest that racial disparity in neonatal mortality could be reduced by improving mortality outcomes for VLBW infants treated at minority-serving hospitals. If neonatal mortality in minority-serving hospitals were reduced to the level observed in hospitals where less than 15 percent of VLBW infants were black, overall neonatal mortality would be reduced by about 10 percent for white VLBW infants and 22 percent for VLBW black infants.

More details are in “Mortality among very low-birthweight infants in hospitals serving minority populations,” by Leo S. Morales, M.D., Ph.D., Douglas Staiger, Ph.D., Jeffrey D. Horbar, M.D., and others, in the December 2005 *American Journal of Public Health* 95(12), pp. 2206-2212. ■

Dialysis patients who are black, smoke, or use illicit drugs are more likely to skip treatments

Hemodialysis patients who are black, smoke, or use illicit drugs are more likely than other patients to skip dialysis treatments and poor dietary adherence are strongly associated with greater risk of death among end-stage renal disease (ESRD) patients. Understanding why high-risk patients do not adhere to treatment and providing interventions could prevent their premature death, advise the researchers of a study supported in part by the Agency for Healthcare Research and Quality (HS08365). The researchers examined predictors of hemodialysis skipping and serum potassium and phosphate levels (indicative of

dietary adherence) with survival using data from the Choices for Healthy Outcomes in Caring for End-Stage Renal Disease (CHOICE) Study.

Among 739 dialysis patients with ESRD, a total of 67 patients were classified as skippers, because they missed more than 3 percent of scheduled dialysis treatments. Patients who were black were more than twice as likely to skip treatments, current smokers were nearly twice as likely to do so, and users of illicit drugs (marijuana, cocaine, and heroin) were nearly 4 times as likely to skip treatments. Skipping was associated with a 69 percent greater risk of death. Also, a phosphate level greater than 5.5 mg/dL and potassium level greater

than 5.0 mEq/L (markers of poor dietary adherence) were associated with a 59 percent and 50 percent greater risk of death, respectively.

The majority of study participants missed none of their treatments, whereas 9.1 percent missed more than 3 percent of them. During an average follow-up of 938 days, 316 of 739 hemodialysis patients died.

More details are in “Skipped treatments, markers of nutritional nonadherence, and survival among incident hemodialysis patients,” by Mark L. Unruh, M.D., Idris V. Evans, M.S., Nancy E. Fink, M.P.H., and others, in the December 2005 *American Journal of Kidney Diseases* 46(6), pp. 1107-1116. ■

Wisconsin study finds hundreds of hospitalizations for self-poisonings among 12- to 17-year-olds

In 2000, suicide replaced homicide as the second leading cause of death in 12- to 17-year-olds in the United States. Nonfatal suicide attempt is the strongest predictor of eventual suicide. Researchers, supported in part by the Agency for Healthcare Research and Quality (HS11893), found hundreds of self-poisoning hospitalizations per year in a study of Wisconsin 12- to 17-year-olds and recommend that both the medical community and public health community implement educational programs to address this issue.

Researchers evaluated Wisconsin hospital discharge files for 2000 through 2002. They analyzed medication-related injuries for intention to commit suicide, medications used, discharge status, and risk factors for self-poisoning (intentional medication injury) such as mental illness, eating disorders, and alcohol abuse or dependence. During the 3-year study period, there were nearly 3,000 hospitalizations for medication-related injuries (of which 1,150 were self-poisoning hospitalizations) among Wisconsin 12- to 17-year-olds.

Sixty percent of medication-related injuries occurred in patients diagnosed with a mental disorder. Forty-six percent of female and 26 percent of male medication-related injuries were classified as self-poisonings.

Boys with medication-related injuries were twice as likely and girls 1.4 times as likely to have intentional/suicidal injuries if they also abused or depended on alcohol. Antidepressants and other psychotropics (mind-altering drugs) were responsible for half the number of medical-related injuries as non-narcotic analgesics. Sixty-five percent of adolescents who misused non-narcotic analgesics and 62 percent who misused antidepressants or other psychotropics intended to commit suicide.

More details are in "Adolescent hospital discharges associated with self-poisonings in Wisconsin, 2000-2002," by Anne M. Marbella, M.S., Hongyan Yang, M.S., Clare E. Guse, M.S., and others in the *Wisconsin Medical Journal* 104(7), pp. 59-64, 2005. ■

Study hints at link between breastfeeding and intelligence

One-third of American mothers do not breastfeed their newborns, and three-quarters of those who do breastfeed introduce formula before their babies reach 6 months. Most studies of infant feeding conclude that breast milk is superior to infant formula in nearly all situations. Yet, many of these studies suffer from the weakness of selection bias, that is, they do not account for differences between mothers who choose to breastfeed and those who don't—differences that might affect qualities attributed to breastfeeding, such as intelligence. A new study of siblings, which reduces this selection bias, provides persuasive evidence of a causal connection between breastfeeding and intelligence.

University of California, Berkeley researchers Eirik Evenhouse, Ph.D., and Siobhan Reilly, Ph.D., supported in part by the Agency for Healthcare Research and Quality (HS00086), analyzed data from the first wave (1994) of the National Longitudinal Study of Adolescent Health. They examined the relationship between breastfeeding history and 15 indicators of physical health, emotional health, and cognitive ability among 16,903 adolescents, including 2,734 sibling pairs. Nearly all of the correlations found in the between-family model became insignificant in the within-family model. The exception was a persistent positive correlation between breastfeeding and cognitive ability, that is, siblings who were breastfed had higher cognitive

ability than those who were not. The findings were similar whether breastfeeding was measured as a yes/no or in terms of duration.

The effect was large enough to matter, and it was lasting, persisting into adolescence. This significant correlation provides the strongest nonexperimental evidence to date that breastfeeding improves cognitive ability. The results also suggest, however, that many of the other long-term effects of breastfeeding have been overstated. The researchers call for sibling studies with larger sample sizes.

See "Improved estimates of the benefits of breastfeeding using sibling comparisons to reduce selection bias," by Drs. Evenhouse and Reilly in the December 2005 HSR: *Health Services Research* 40(6), pp. 1781-1802. ■

A school-based weight loss/exercise program can reduce weight among low-income black children

One-third of blacks living in Louisiana are obese, a condition that often begins in childhood. A Louisiana school-based program, a free alternative physical education (PE) class, shows that it is possible to conduct a weight loss/exercise program in a public school setting for low-income black children. Beth Edwards, R.N., M.S.N., of Louisiana State University Health Sciences Center conducted a pilot program, supported in part by the Agency for Healthcare Research and Quality (HS11834), at a middle school with a school-based health center (SBHC).

One-fourth of the 279 children (most of them black) enrolled in the SBHC were overweight or obese, that is, at or above the 95th percentile of the sex- and age-based growth chart. Of these children, 28 eighth-graders attended a Food and Fitness 101 class, which met for 1.5 hours every other day for the school year as an alternative to the mandatory PE class. Each class period consisted of a warm-up and stretching period, 25 minutes of aerobic activities, and a cool-down

period. These were followed by interactive classroom activities designed to increase nutritional education (for example, they used teaspoons of butter-flavored shortening to calculate the amount of fat in typical fast food meals).

To encourage exercise, children were given the use of pedometers and earned incentives for “mileage” walked outside of class time, such as water park and movie passes. Parents were invited to participate in class, and dietary information was sent home on a regular basis. Of the 13 students who finished the class, 5 ended with lower body mass indexes (BMIs), with a total weight loss of 33.25 pounds. Among the 14 children in the control group (regular PE class), 3 ended with lower BMIs, with a total weight loss of 6.5 pounds.

See “Childhood obesity: A school-based approach to increase nutritional knowledge and activity levels,” by Ms. Edwards, in the December 2005 *Nursing Clinics of North America* 40(4), pp. 661-669. ■

Most teenagers with chlamydial infections receive appropriate antibiotics, but fewer receive other recommended care

The rate of *Chlamydia trachomatis* (CT) infection, a sexually transmitted infection (STI), among adolescents aged 15 to 19 years is 5 times the overall national rate. This usually asymptomatic infection can progress to pelvic inflammatory disease, which can lead to tubal pregnancy, chronic pelvic pain, and infertility in females. Most teenagers receive appropriate antibiotics for the infection; however, other recommended care, such as counseling about high-risk sexual behaviors than can lead to CT infection, management of sexual partners, testing for other STIs, and retesting for reinfection with CT, is sometimes not provided.

Researchers, supported in part by the Agency for Healthcare

Research and Quality (HS10537), reviewed the medical charts of 122 sexually active 14- to 19-year-old adolescents, who tested positive for CT infection in 2001 at 5 pediatric clinics of a large California health maintenance organization. They examined documentation of treatment and follow-up treatment for CT. The adolescents were followed for 20 months at 4 sites and for 4 months at 1 one site. All but four teenagers (97 percent) were treated with appropriate antibiotics in a timely fashion.

During follow-up, safer-sex counseling was documented for 79 percent of the patients. Partner management was addressed for 52 percent. However, only 36 percent of the patients were tested for other STIs (which are significant common among CT-infected

adolescents), and only 10 percent received recommended CT retesting during the recommended 3 to 12 months after CT treatment. Significantly fewer boys than girls received safer-sex counseling and partner management, leaving their female partners potentially at risk for continuing to be infected and untreated.

See “Examination of the treatment and follow-up care for adolescents who test positive for *Chlamydia trachomatis* infection,” by Loris Y. Hwang, M.D., Kathleen P. Tebb, Ph.D., Mary-Ann B. Shafer, M.D., and Robert H. Pantell, M.D., in the December 2005 *Archives of Pediatric and Adolescent Medicine* 159, pp. 1162-1166. ■

Postoperative infection of a child's chest cavity by *Staphylococcus aureus* is a risk factor for bloodstream infection

Up to 4 percent of children who undergo surgery that includes cutting the breastbone (sternotomy) develop mediastinitis (infection of the chest cavity). Bloodstream infection (BSI) complicates postoperative mediastinitis in over half of cases. Children who develop postoperative chest cavity infections due to *Staphylococcus aureus* (*S. aureus*) have over 6 times higher risk of developing BSI than they do with mediastinitis caused by other pathogens, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS10399).

The researchers retrospectively studied children who developed mediastinitis after median sternotomy between 1995 and 2003 at one urban children's hospital. They examined the following postoperative factors: time to onset of mediastinitis after surgery; tissue and blood culture results; need for extracorporeal membranous oxygenation; duration of hospitalization; duration of intensive care unit stay, requirement of delayed sternal closure or postoperative sternal reexploration; and presence of thoracostomy

tubes, endotracheal tubes, intracardiac intravascular catheters, and central venous catheters.

A total of 43 children met the criteria for mediastinitis. Infection occurred a median of 11 days after surgery. Positive blood cultures occurred before diagnosis of mediastinitis in 43 percent of children, on the same day as mediastinitis diagnosis in 48 percent, and after the diagnosis in 9 percent. Mediastinitis caused by *S. aureus* increased the risk for BSI six-fold, after adjusting for other factors. After adjusting for *S. aureus*, there was no significant association of BSI with other variables, including delayed sternal closure and intracardiac intravascular catheter duration.

See "*Staphylococcus aureus* as a risk factor for bloodstream infection in children with postoperative mediastinitis," by Samir S. Shah, M.D., Ebbing Lautenbach, M.D., M.P.H., M.S.C.E., Caroline B. Long, M.D., and others, in the September 2005 *Pediatric Infectious Disease Journal* 24(9), pp. 834-837. ■

End-of-Life Care

Doctor-patient communication is critical to how parents view the quality of end-of-life care for children with cancer

Many dying children suffer from pain and other troubling symptoms at the end of life. Also, parents' recognition of their dying child's poor prognosis often lags far behind that of the doctor, a delay that has been linked to aggressive instead of comfort care at the end of the child's life. Parents of children who die of cancer consider doctor-patient communication a key determinant of high-quality physician care, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS00063).

Researchers surveyed 144 parents of children who received

treatment at 2 cancer clinics and by 52 pediatric oncologists between 1990 and 2001. Parents were nearly 20 times more likely to highly rate physician care when physicians gave clear information about what to expect in the end-of-life period. Parents were nearly 8 times more likely to highly rate their care if doctors communicated information with care and sensitivity, and 11 times more likely to do so if the doctors communicated directly with the child when appropriate. Finally, parents were nearly 5 times more likely to highly rate care if the doctor prepared the parent for circumstances surrounding the child's death.

Parent reports of the child's pain and suffering were not significantly correlated with their ratings of care; that is, they did not seem to blame the doctors for this or perhaps felt it was part of the dying process. In contrast, oncologists rated care lower when the parents reported that the child experienced pain or spent more than 10 days in the hospital in the last month of life.

See "Parent and physician perspectives on quality of care at the end of life in children with cancer," by Jennifer W. Mack, Joanne M. Hilden, Jan Watterson, and others, in the December 20, 2005 *Journal of Clinical Oncology* 23(36), pp. 9155-9161. ■

Certain clinical features are associated with seizure frequency after epilepsy surgery

Epilepsy surgery is used to treat people whose seizures do not respond to medication. About 60 to 80 percent of patients become seizure-free after surgery. Some patients suffer rare seizures after surgery. Others continue to suffer from monthly or more frequent seizures, which are associated with increased risk of injury, lower quality of life, higher medical costs, and increased mortality. A new study, supported in part by the Agency for Healthcare Research and Quality (HS09986), identifies clinical factors that can predict seizure frequency after surgery, which may help set realistic goals for surgery and affect treatment decisions and postoperative management.

Researchers placed patients who underwent surgery for epileptic seizures in 2 categories in the second postoperative year: rare postoperative seizures (2 or fewer per year) and frequent postoperative seizures (12 or more a year). They examined the relationship between numerous characteristics and postoperative seizure frequency. Characteristics ranged from preoperative seizure frequency, age of first risk (for example, due to head trauma or convulsions due to

high fever), and age at first seizure due to certain defects seen on magnetic resonance imaging (MRI) or computerized tomography (CT), and family history of epilepsy.

Nearly one-fourth of 475 patients who had epilepsy surgery had rare or frequent seizures in the second postoperative year, despite increased dosage of existing medication or prescribing of new medication in an effort to stop all seizures. After anterior temporal lobectomy (ATL), age of first risk at 5 years or younger and presence of mesial temporal sclerosis on MRI were associated with rare seizures (66 percent of patients), whereas lack of these risk factors was associated with frequent seizures (75 percent of patients). For non-ATL operations, preoperative seizure frequency of 20 or more seizures per month was associated with frequent postoperative seizures. No other factors affected postoperative seizure frequency.

See “Predicting seizure frequency after epilepsy surgery,” by John S. Khoury, Ronald S. Winokur, Joseph I. Tracy, and Michael R. Sperling, in *Epilepsy Research* 67, pp. 89-99, 2005. ■

Clinical factors can identify blunt head injury patients at low risk for intracranial injuries

Unrecognized intracranial injury can produce permanent brain damage, severe disability, and even death. As such, many doctors require blunt head injury patients to undergo computerized tomography (CT) imaging of the head. However, of the nearly one million blunt trauma patients who undergo head CT imaging each year in the United States, only 6 percent prove to have significant intracranial injuries. A new study identifies clinical characteristics that can reliably identify blunt head injury patients at low risk for intracranial

injury, who do not require CT imaging.

William R. Mower, M.D., Ph.D., and colleagues, supported by the Agency for Healthcare Research and Quality (HS09699), analyzed data on all blunt trauma patients who had head CT scans ordered by the managing physician at 21 study centers. Clinicians collected limited demographic information, documented the presence or absence of certain clinical variables, assessed each patient’s Glasgow Coma Scale (GCS) score, and the presence of “neurologic deficit” (combined elements of

GCS with abnormal gait, cranial nerve abnormality, or motor deficit).

A total of 13,738 patients (median age of 40) were enrolled, and 917 were diagnosed with clinically important intracranial injuries (including 330 with minor head injuries). The researchers identified eight characteristics that were independently and highly associated with intracranial injuries: evidence of significant skull fracture, scalp hematoma (swelling), neurologic deficit, altered level of alertness, abnormal behavior, coagulopathy (blood

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Intracranial injuries

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clotting disorder), persistent vomiting, and age 65 years or older. These 8 factors correctly identified 901 of the 917 patients with clinically important

intracranial injuries. The researchers conclude that patients without these characteristics are at low risk for intracranial injury.

More details are in “Developing a decision instrument to guide computed tomographic imaging of

blunt head injury patients,” by Dr. Mower, Jerome R. Hoffman, M.A., M.D., Mel Herbert, M.B.B.S., and others, in the October 2005 *Journal of Trauma, Injury, Infection, and Critical Care* 59, pp. 954-959. ■

More intense guideline implementation results in more patients treated appropriately for pneumonia

More intense strategies to encourage implementation of pneumonia treatment guidelines result in more appropriately treated patients with community-acquired pneumonia (CAP) seen in hospital emergency departments (EDs), concludes a new study. These strategies include ED physician receipt of the guidelines, on-site educational sessions, plus real-time reminders on how to identify patient level of risk and recommended processes of care. Researchers, supported in part by the Agency for Healthcare Research and Quality (HS10049), randomized 32 hospital EDs to low-, moderate-, and high-intensity strategies for implementing CAP guidelines.

Low-intensity EDs were advised about how to achieve CAP quality improvement (QI) and received the CAP practice guidelines and supporting literature. Moderate-intensity EDs received all of the above as well as an on-site educational session on how to use the Pneumonia Severity Index (PSI) to gauge patient risk and guide the initial site of treatment. The high-intensity EDs received all of the above plus real-time reminders and audit with feedback.

More of the 1,901 low-risk patients in the moderate-intensity (61 percent) and high-intensity (62 percent) groups were appropriately treated as outpatients than those in the low-intensity (38 percent) group. More of the 1,125 outpatients in the high-intensity group (61 percent) received all 4 recommended processes of care than those in the moderate-intensity (28.3 percent) or low-intensity (25.3 percent) group. These processes included assessment of arterial oxygenation at ED arrival, administration of the first antibiotic dose in the ED, use of appropriate antibiotic therapy, and prescribing of appropriate antibiotic therapy on ED discharge. Also, more of the 2,076 inpatients in the high-intensity group (44.3 percent) received all 4 recommended process of care than those in the moderate-intensity (30.1 percent) and low-intensity (23 percent) group.

See “Effect of increasing the intensity of implementing pneumonia guidelines,” by Donald M. Yealy, M.D., Thomas E. Auble, Ph.D., Roslyn A. Stone, Ph.D., and others, in the December 20, 2005 *Annals of Internal Medicine* 143(12), pp. 881-894. ■

Clinician recommendations for pneumonia vaccination play a key role in vaccination rates

Despite the availability of antibiotics, the case-fatality rate for pneumonia caused by pneumococcal bacteria is 5 to 36 percent in adults and 18 to 60 percent in the elderly. Pneumococcal polysaccharide vaccine (PPV) is recommended for elderly people and those aged 2 through 64 years with high-risk

conditions such as chronic cardiac disease and diabetes. Despite these recommendations, PPV vaccination rates remain low, especially among ethnic minorities. For instance, in 2004, 34 percent of Hispanics and 39 percent of blacks received PPV compared with 61 percent of whites. Clinicians can increase pneumonia vaccination rates and

reduce racial disparities in PPV vaccination by recommending the vaccine to eligible patients, concludes a study supported in part by the Agency for Healthcare Research and Quality (HS10864).

Attitudes about vaccination and a clinician’s recommendation for vaccination are the most powerful

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Pneumonia vaccination

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predictors of PPV status, note the researchers who conducted the study. They surveyed a random sample of diverse patients from three inner-city health centers in 2003 about their vaccination status and their attitudes and beliefs about the pneumonia vaccine. Of a predominantly elderly, low-income group of 300 patients, 59 percent said they had been vaccinated, 9 percent intended to be vaccinated within 6 months, and 32 percent

had no intention of being vaccinated.

Individuals who had a complete physical exam 1 to 2 years ago or more than 2 years ago were 84 percent and 90 percent, respectively, less likely to be vaccinated than those who had an exam less than a year ago. Also, those who agreed that getting a PPV was wise and whose physician or loved one recommended PPV were over 8 times more likely to be vaccinated. Finally, those who agreed that pneumonia was risky and the vaccine was effective in

preventing it were nearly 3 times more likely to be vaccinated.

See “Predictors of pneumococcal polysaccharide vaccination among patients at three inner-city neighborhood health centers,” by Richard K. Zimmerman, M.D., M.P.H., Melissa Tabbarah, Ph.D., M.P.H., Mary Patricia Nowalk, Ph.D., R.D., and others, in the September 2005 *American Journal of Geriatric Pharmacotherapy* 3(3), pp. 149-159. ■

Pharmaceutical Research

Although inappropriate for use in older adults, propoxyphene was widely prescribed to elderly patients in the 1990s

The narcotic pain reliever propoxyphene is considered inappropriate for use in older adults; however, it was prescribed to nearly 7 percent of elderly community-dwelling Medicare patients in the 1990s. In fact, over 2 million Medicare beneficiaries received this drug in 1999, according to a new study. While propoxyphene has been shown to be not much more effective than aspirin, it can cause sedation and dizziness, increasing the risk of elderly falls and fractures.

Researchers, supported by the Agency for Healthcare Research and Quality (HS13551), used data from the Medicare Current Beneficiary Survey (MCBS) to examine the prevalence of propoxyphene use from 1993 through 1999 on a nationally representative sample of community-dwelling elderly Medicare beneficiaries. They linked the 1999 MCBS with the 1999 Area Resource File to examine patient and physician factors associated with its use at the county level.

The rate of propoxyphene use was stable during the study period, ranging from an annual prevalence of 6.8 percent in 1993 to a slight decrease to 6.6 percent in 1999. Propoxyphene use may have begun to decline after 1997, when the first set of pain management guidelines was published that advised against its use in the elderly. During the study period, male physicians were 34 percent more likely than female physicians and medical specialists were 19 percent less likely than generalist physicians to prescribe propoxyphene to elderly Medicare patients. Also, Medicaid beneficiaries were 40 percent more likely to receive propoxyphene than those without drug coverage.

See “National trends in and predictors of propoxyphene use in community-dwelling older adults,” by Sachin Kamal-Bahl, Ph.D., Bruce C. Stuart, Ph.D., and Mark H. Beers, M.D., in the September 2005 *American Journal of Geriatric Pharmacotherapy* 3(3), pp. 186-194. ■

Geographic access to most types of doctors has improved, but some smaller specialties have not spread to the most rural areas

Geographic access to most types of physicians has continued to improve over the past 20 years. However, some smaller specialties have not spread to the most rural areas, according to a study supported by the Agency for Healthcare Research and Quality (HS10803). Current measures of geographic access to physicians are misleading, overstating the extent of maldistribution and yielding an incorrect ranking of areas according to geographic accessibility of physicians. The researchers suggest that more accurate measures of physician access will improve resource allocation.

Researchers used multiple measures of geographic access, including physician-to-population ratios, average distance traveled to the nearest physician, and projected

average caseload per physician, to measure physician access in 23 States with low physician-population ratios. Between 1979 and 1999, the number of physicians doubled in the sample States. The multiple access measures used confirmed that residents of metropolitan areas continued to have better geographic access to physicians, followed by residents in rural counties adjacent to metropolitan areas, and lastly by isolated rural areas. Although most specialties experienced greater diffusion everywhere, smaller specialties had not yet diffused to the smallest towns.

In 1999, with the exception of general practitioners/family physicians, metropolitan counties had the highest physician-to-population ratios for all specialties. Fringe counties of metropolitan areas of 1 million or more,

however, had markedly fewer physicians of each specialty than the smaller metropolitan areas. Differences were significant for 11 of 17 specialties examined. Distance-traveled and caseload models that allow patients to cross county lines showed less geographic disparity in physician access. Even in the most remote counties, the average distance to the nearest doctor of any type was less than 5 miles. Also, very few patients, even in the most rural counties, were assigned to physicians with a caseload that exceeded Federal guidelines for defining physician shortage areas.

See “The geographic distribution of physicians revisited,” by Meredith B. Rosenthal, Ph.D., Alan Zaslavsky, Ph.D., and Joseph P. Newhouse, Ph.D., in the December 2005 *HSR: Health Services Research* 40(6), pp. 1931-1952. ■

Increasing specialization of generalist surgeons confounds workforce projections

A growing number of generalist surgeons are narrowing their scope of practice to specialize in certain areas. According to a study supported in part by the Agency for Healthcare Research and Quality (T32 HS00032), this progressive specialization of generalist surgeons, usually through fellowship training after general surgery residency, confounds workforce projections. To more accurately estimate surgical workforce, estimates of the total number of surgeons providing general surgery should exclude subspecialist surgeons whose practices do not encompass the primary components of general surgery. Also, if the trend continues, a larger workforce of surgeons will be needed to provide the multitude of services encompassed by general surgery, suggest the researchers.

Researchers used multiple data sources to examine progressive specialization within general surgery by evaluating trends in fellowship training among general surgeons. Results showed that the proportion of general

surgeons pursuing fellowship training has increased from more than 55 percent to more than 70 percent since 1992. The introduction of fellowship opportunities in new content areas, such as breast surgery and minimally invasive surgery, accounted for some of the increase.

Also, over 10 percent of the annual group of general surgeons pursued advanced training in plastic surgery, a very popular and increasingly competitive subspecialty. Meanwhile, interest in more traditional subspecialties such as thoracic and vascular surgery declined. Other evolving popular subspecialties include transplant surgery, trauma or burn surgery, endocrine surgery, hepatobiliary surgery, and bariatric surgery.

More details are in “Progressive specialization within general surgery: Adding to the complexity of workforce planning,” by Karyn B. Stitzenberg, M.D., M.P.H., and George F. Sheldon, M.D., F.A.C.S., in the December 2005 *Journal of the American College of Surgeons* 201, pp. 925-932. ■

Higher insurance premiums and expanded Medicaid eligibility have reduced family coverage in employer-related health plans

Between 1987 and 1996, the proportion of non-elderly Americans with employer-sponsored health insurance (ESI) declined. Roughly 80 percent of this decline was due to loss of coverage of dependent family members. According to a new study, the increase in out-of-pocket premium costs for family coverage (much more costly than single-person coverage) accounted for about half the decline in the rate of family coverage. Expanded eligibility for State Medicaid health insurance accounted for 14 percent of the decline.

Enhanced access to public insurance, together with the rise in out-of-pocket premium costs for ESI, may have induced some households to substitute public for private coverage, especially for

dependent children, explain Alan C. Monheit, Ph.D., of the University of Medicine and Dentistry of New Jersey, and Jessica Primoff Vistnes, Ph.D., of the Center for Financing, Access, and Cost Trends, Agency for Healthcare Research and Quality. They analyzed data from a nationally representative sample of U.S. households in the 1987 National Medical Expenditure Survey and the 1996 Medical Expenditure Panel Survey.

Between 1987 and 1996, the employee cost of family coverage increased from \$595 to \$1,331 (1996 dollars) and the likelihood that a household member would be eligible for Medicaid increased from 5.9 to 13.6 percent. The researchers found a 5.57 percentage point decline in the rate

at which households with dependent family members enrolled in ESI. They also found a 3.88 percentage point decline in the family coverage take-up rate among households enrolling in ESI. Together, the negative effect of increased family contributions and positive effect of rising single contributions accounted for roughly half the decline in family coverage, while expanded Medicaid eligibility accounted for 14 percent of the decline.

More details are in “The demand for dependent health insurance: How important is the cost of family coverage?” by Drs. Monheit and Vistnes, in the November 2005 *Journal of Health Economics* 24, pp. 1108-1131. Reprints (AHRQ Publication No. 06-R024) are available from AHRQ.* ■

One-fourth of America's non-elderly poor go years without the protection of health insurance

According to a new report by the Agency for Healthcare Research and Quality, 24.2 percent of poor Americans under age 65 (3.8 million people) reported being continuously uninsured for at least 4 years when surveyed in 2003. Not being insured refers to private health insurance as well as government programs such as Medicaid.

Poor Americans, those whose income is equal to or less than the poverty level, represented 12.6 percent of the U.S. population under age 65. Alternately, high-income Americans, who made up 37.6 percent of the under 65 population, accounted for only 10 percent of those continuously uninsured from 2000 to 2003, according to AHRQ's Medical Expenditure Panel Survey (MEPS).

Nearly 4 in 10 (37.8 percent) of Americans under age 65 who were chronically uninsured were Hispanic even though they represented just 15 percent of the

nation's non-elderly population. In contrast, non-Hispanic whites comprised 66 percent of the under 65 population but only 43.8 percent of the long-term uninsured for the entire 2000 to 2003 period.

For more information, see *The Long-Term Uninsured in America, 2000-2003: Estimates for the U.S. Population under Age 65* on AHRQ's Web site at <http://www.meps.ahrq.gov/papers/st123/stat123.pdf>.

Editor's note: MEPS collects information each year from a nationally representative sample of U.S. households about health care use, expenses, access, health status, and quality. MEPS is a unique government survey because of the degree of detail in its data, as well as its ability to link data on health services spending and health insurance to demographic, employment, economic, health status, and other characteristics of individuals and families. ■

AHRQ releases new evidence report on cesarean delivery on maternal request

The Agency for Healthcare Research and Quality released an evidence report examining the use of cesarean delivery in situations where there are no factors, either for mother or child, which would make such a procedure medically advisable. The report finds no major differences in the results of a first-time cesarean delivery at the mother's request and a planned vaginal delivery, but cautions that the evidence is too weak to warrant a firm conclusion that there are, in fact, no differences. The authors note that if a woman chooses to have a cesarean for her first delivery, she is more likely to have her subsequent deliveries by cesarean, and that repeat cesareans entail increasing risks.

The report, *Cesarean Delivery on Maternal Request*, was requested and funded by the National Institutes of Health's Office of the Medical Applications of Research, for a State-of-the-Science Conference on the topic, held on March 27-29, 2006, in Bethesda, Maryland. AHRQ's Evidence-based Practice Center, RTI International–University of North Carolina at Chapel Hill, conducted the systematic literature review and prepared the report.

The report is available on the AHRQ Web site at <http://www.ahrq.gov/clinic/epcix.htm>. Copies of the Evidence Report/Technology Assessment Number 133, *Cesarean Delivery on Maternal Request* (Publication No. 06-E009) are also available through the AHRQ Publications Clearinghouse.* ■

New chartbook profiles racial/ethnic differences

A new chartbook from the Medical Expenditure Panel Survey (MEPS) presents detailed charts and other information on health insurance coverage and usual source of care during 2002 for Hispanic, non-Hispanic white, non-Hispanic black, and other single/multiple race non-Hispanic Americans. Differences are broken down by income, sex, age group, and other factors. The chartbook also compares Hispanic subgroups—Puerto Rican, Cuban, Mexican, or “Other

Hispanic” (a term that includes South Americans, Central Americans, and Dominicans).

For more information, see *Racial and Ethnic Differences in Health Insurance Coverage and Usual Source of Health Care, 2002*, MEPS Chartbook No. 14 (Publication No. 06-0004) at <http://www.meps.ahrq.gov/>. The chartbook is also available through the AHRQ Publications Clearinghouse.* ■

AHRQ releases a new report on therapies for anorexia nervosa

No medications are available that effectively treat patients suffering from anorexia nervosa, but a few behavioral therapies may help prevent a relapse and offer other limited benefits, according to a new review of current available research on eating disorders released by the Agency for Healthcare Research and Quality (AHRQ). The review also found evidence that several

medications and behavioral therapies can help patients suffering from bulimia nervosa and binge eating disorder.

Eating disorders are psychiatric illnesses with serious, potentially life-threatening medical consequences. Anorexia nervosa is characterized by an obsession with weight, severely restrained eating, sometimes exercising excessively, and an inability to maintain a

healthy body weight. In bulimia nervosa, excessive eating is followed by efforts to compensate by vomiting, misusing laxatives or diuretics, fasting, or exercising excessively. Those who suffer from binge eating disorder eat excessively but do not purge.

This review of the scientific literature published since 1980 was conducted by AHRQ's Evidence-

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Anorexia nervosa

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based Practice Center at RTI International—University of North Carolina at Chapel Hill. It did not find any medications effective in treating anorexia nervosa but did find several behavioral therapies that appear to offer limited help. Cognitive behavioral therapy (CBT), a form of psychotherapy that encourages patients to develop thinking patterns that will counteract their unhealthy eating behavior, helped prevent relapse in adult anorexic patients once their weight had been restored to a normal level. There was not enough evidence to determine whether CBT works during the acute phase of the illness, before a patient with anorexia nervosa has been restored to a normal weight.

The researchers concluded that family therapy does not appear to work with adults with longstanding anorexia nervosa. One study found that family therapy worked better for younger patients than for older patients who had anorexia nervosa chronically. One particular kind of family therapy, which starts by encouraging parents to oversee a young person's nutrition, appeared to help patients gain weight and make psychological improvements.

Both medications and behavioral therapies were found helpful in treating bulimia nervosa; however, there was no clear information about how to combine medications with behavioral treatments.

The selective serotonin reuptake inhibitor (SSRI) fluoxetine, commonly known as Prozac, was found helpful in treating bulimia in a short-term clinical trial. Patients given a dose of 60 mg/day for 16 to 18 weeks had reduced symptoms and were less likely to experience a relapse by the end of 1 year. CBT, offered either individually or in a group, and interpersonal psychotherapy were also helpful in reducing the core symptoms of bulimia nervosa, binge eating and purging, and in alleviating the psychological symptoms of this disorder. However, the optimum length of treatment and the best strategy for maintaining these health benefits remain unknown.

Several types of medications helped patients suffering from binge eating disorder make at least short-term improvements to their health; these medications included SSRIs, tricyclic antidepressants, an anticonvulsant, and an appetite suppressant. CBT was also helpful in treating binge eating disorder, reducing the number of binge days or binge episodes patients

experienced. It did not help patients with binge eating disorder control their weight.

The review concludes that more research is needed to determine the best strategies for combining medication and behavioral therapy, possible harms of treatment, and whether treatments should be tailored to a patient's age, sex, gender, or other personal characteristics. A major gap in knowledge exists about how to treat patients with bulimia nervosa who do not respond either to fluoxetine or to CBT.

Funded by the Office of Research on Women's Health at the National Institutes of Health and the Health Resources and Services Administration's Office of Women's Health, the report was requested by the American Psychiatric Association and the Laureate Psychiatric Clinic and Hospital on behalf of an expert working group on eating disorders.

The report *Management of Eating Disorders Evidence Report* No. 135 (Publication No. 06-E010) is available online at <http://www.ahrq.gov/clinic/epcix.htm> or through the AHRQ Publications Clearinghouse.* ■

Announcements

New online health care information resource is available from AHRQ

The Agency for Healthcare Research and Quality (AHRQ) has launched a new series of Web-based publications, the HCUP Statistical Briefs containing information from its Healthcare Cost and Utilization Project (HCUP). These publications will provide concise, easy-to-read information on hospital care, costs, quality, utilization, and access for all payers (including Medicare, Medicaid, private

insurance, and the uninsured). Each Statistical Brief covers an important health care issue.

The first two HCUP Statistical Briefs focus on the important topic of emergency department use in the United States. There is continued concern about both the cost and health implications of overuse and inappropriate use of emergency departments (ED), particularly for people with limited access to other

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Online health care information

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means of care. The third Statistical Brief describes the rising trend in pressure sores among hospitalized patients. Future Statistical Briefs from HCUP are scheduled for monthly release.

According to *Hospital Admissions That Began in the Emergency Department, 2003, HCUP Statistical Brief #1*, more than half (55 percent) of the 29.3 million admissions to U.S. community hospitals for conditions other than pregnancy, childbirth, and neonatal care begin in the hospital ED. Data from the Nationwide Inpatient Sample, an AHRQ database that is part of HCUP, show that in 2003 more than 16 million Americans, including children, were admitted for further treatment or observation. People in the Northeast were the most likely to enter hospitals through EDs relative to the population in their region and those in the West were the least likely. The average hospital stay for a patient admitted through the ED cost \$7,400. Government payers – Medicare and State Medicaid programs – bore the greatest burden of hospital admissions through the ED, covering 66 percent of all such admissions.

The second brief, *Reasons for Being Admitted to the Hospital through the Emergency Department, 2003, HCUP Statistical Brief #2*, indicates that more than one-fourth (26 percent) of all patients admitted through the ED had heart or blood vessel diseases, 15 percent had respiratory diseases, 14 percent had digestive disorders, and 11 percent had injuries. Pneumonia led the top 20 specific conditions

warranting hospitalization through the ED with 935,000 admissions in 2003. Other leading conditions included congestive heart failure, chest pain, hardening of the arteries, and heart attack.

Findings from the third statistical brief, *Hospitalizations Related to Pressure Sores, 2003, HCUP Statistical Brief #3*, show that pressure sores, or decubitus ulcers, are increasingly common in U.S. hospitalizations. In 2003, there were 455,000 hospital stays during which pressure sores were noted—a 63 percent increase from 1993 when there were about 280,000 hospital stays during which pressure sores were noted. During this same time period, the total number of hospitalizations increased by only 11 percent and the number of stays for patients 65 and older increased by only 14 percent.

For more information about HCUP and to view the Statistical Briefs, please visit <http://www.ahrq.gov/data/hcup/>.

Editor's note: HCUP is a family of powerful health care databases, software tools, and products for advancing research. Sponsored by AHRQ, HCUP includes the largest all-payer, encounter-level collection of longitudinal health care data (inpatient, ambulatory surgery, and emergency department) in the United States, beginning in 1988. HCUP is a Federal-State-Industry Partnership that brings together the data collection efforts of many organizations—such as State data organizations, hospital associations, private data organizations, and the Federal Government—to create a national information resource. HCUP would not be possible without the contributions of data collection Partners from across the Nation. ■

Research Briefs

Bar-Lev, S., and Harrison, M.I. (2006, January). “Negotiating time scripts during implementation of an electronic medical record.” *Health Care Management Review* 31(1), pp. 1-7.

This article examined tensions at one hospital between clinical work processes and norms and the time use that management and electronic medical record (EMR) designers embedded in the EMR. The negotiations that flowed from these

tensions ultimately led to closer alignment between EMR requirements and traditional clinical work patterns. Clinical practice is non-linear and situational and not easily modeled by the predictable, linear sequences favored by software designers. To benefit from health information technology (HIT) projects, managers need to make their expectations for process redesign explicit and compare these to the process scripts embedded in the

HIT software. They also need to collaborate with nurse and physician leaders in planning process redesign. Reprints (AHRQ Publication No. 06-R021) are available from AHRQ.*

Bogart, L.M., Collins, R.L., Cunningham, W., and others. (2005, September). “The association of partner abuse with risky sexual behaviors among women and men with

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HIV/AIDS.” (AHRQ grant HS08578). *AIDS and Behavior* 9(3), pp. 325-333.

About 13 percent of people living with HIV/AIDS have experienced relationship violence since their diagnosis. This study found that, among men and women with HIV/AIDS, both perpetrating abuse and being a victim of partner abuse were significantly associated with having unprotected intercourse. Also, any effects of abuse on unprotected sexual behavior may be worsened by substance use. These findings underscore the need for multi-pronged general prevention interventions focusing on reducing sexual risk as well as substance use and violence for all men and women with HIV, conclude the authors. Their findings were based on analysis of data for the Risk and Prevention Survey from the HIV Cost and Services Utilization Study sample of 726 sexually active individuals in 3 gender/orientation groups (286 women, 148 heterosexual men, and 292 gay/bisexual men).

Gallagher, T.H. and Levinson, W. (2005, September). “Disclosing harmful medical errors to patients: A time for professional action.” (AHRQ grants HS11898 and HS14012). *Archives of Internal Medicine* 165, pp. 1819-1824.

The authors of this commentary point out that patients want full disclosure of harmful medical errors, and they recommend steps that the medical profession can take to achieve this goal. First, physicians can reconsider the relationship between malpractice and disclosure, and physicians can seek opportunities to practice

disclosure skills. Second, hospitals and other health care organizations can enhance disclosure policies, address disclosure content and timing, and train clinicians in disclosure. Local medical societies and voluntary specialty organizations can educate physicians about malpractice, develop evidence-based guidelines for disclosure, and create and disseminate disclosure training materials. Certifying boards can include patient safety and disclosure in continuing professional development and should test disclosure skills on certification exams. Medical educators can include disclosure education and skills training in required curriculum.

Lyons, K.D., Tickle-Degnen, L., and DeGroat, E.J. (2005, October). “Inferring personality traits of clients with Parkinson’s disease from their descriptions of favorite activities.” (AHRQ grant HS13292). *Clinical Rehabilitation* 19, pp. 799-809.

Clients with Parkinson’s disease appear to express their personality in their descriptions of favorite activities. Health care practitioners make use of expressive verbal cues to form accurate impressions of the personality of these patients, concludes this study. Six men and six women with Parkinson’s disease completed a self-report measure of personality and were individually interviewed regarding their favorite activities. Ninety-nine nurses; doctors; and occupational, physical, or speech therapists viewed 2-minute segments of the videotaped interviews and provided judgments of each individual’s personality. Practitioners appropriately used the personality cues found in the clients’ favorite activity descriptions to

assess the traits of openness to experience and agreeableness and conscientiousness. They used less effective cue strategies for the traits of neuroticism and extraversion.

Roberto, P.N., Mitchell, J.M., and Gaskin, D.J. (2005, Summer). “Plan choice and changes in access to care over time for SSI-eligible children with disabilities.” (AHRQ grant HS10912). *Inquiry* 42, pp. 145-159.

Researchers in this study analyzed data obtained from interviews with about 1,000 caregivers of children with disabilities who were eligible for Supplemental Security Income. The children were enrolled in either a fee-for-service (FFS) or partially capitated District of Columbia Medicaid plan, Health Services for Children with Special Needs, Inc. (HSCSN). Researchers asked the caregivers about problems their children had accessing specialists’ care, hospital care, emergency room care, and a regular doctor during the previous 6 months.

More than 70 percent of children in both plans encountered no access problems in all four areas. However, more children in the HSCSN than children in the FFS plan easily obtained specialty care (79 vs. 71 percent) and children in the HSCSN had more consistent access to a regular doctor (84.4 vs. 75.6 percent). More children in the FFS plan experienced persistent problems in obtaining specialty care (more than 9 percent vs. less than 6 percent), care from a regular doctor (6.7 vs. 2.3 percent), and emergency care (5 vs. 2.6 percent).

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Slutsky, J.R. and Clancy, C.M. (2005, November). “The Agency for Healthcare Research and Quality’s effective health care program: Creating a dynamic system for discovering and reporting what works in health care.” *American Journal of Medical Quality* 20(6), pp. 358-360.

This paper describes the Effective Health Care Program of the Agency for Healthcare Research and Quality, which was launched in 2005. The new program will provide clear and unbiased information about what is known and not known about the effectiveness of existing treatments, including pharmaceutical products. This information will allow consumers, clinicians, payers, and other health care decisionmakers to make informed decisions about treatments. Priority conditions include arthritis and nontraumatic joint disorders, cancer, chronic

obstructive pulmonary disease/asthma, dementia (including Alzheimer’s disease), depression and other mood disorders, diabetes, ischemic heart disease, peptic ulcer/dyspepsia, pneumonia, and stroke (including control of hypertension). A new Clinical Decisions and Communications Science Center was created to ensure that the program’s findings are usable by all those who need them. The program will issue 10 reports on review topics ranging from new diagnostic technologies for evaluation of abnormal breast cancer screening to off-label use of atypical antipsychotic medications. Reprints (AHRQ Publication No. 06-R0212 are available from AHRQ.*

Stone, P., Pastor, D.K., and Harrison, M.I. (2006, January). “Organizational climate: Implications for the home healthcare workforce.” *Journal for Healthcare Quality* 28(1), pp. 4-11.

Organizational climate generally refers to staff members’ perceptions of organizational features like decisionmaking, leadership, and norms about work. This article provides a brief review of evidence on organizational factors and employees’ perceived organizational climate as they relate to employee and patient outcomes. These relationships are discussed first in broad terms and then in more detail for home health care. The authors highlight similarities and differences in home health care and other health care settings. They also discuss a model of organizational climate that was developed and tested across health care settings, including home health care, along with potential applications for the home health care industry. Reprints (AHRQ Publication No. 06-R020) are available from AHRQ.* ■

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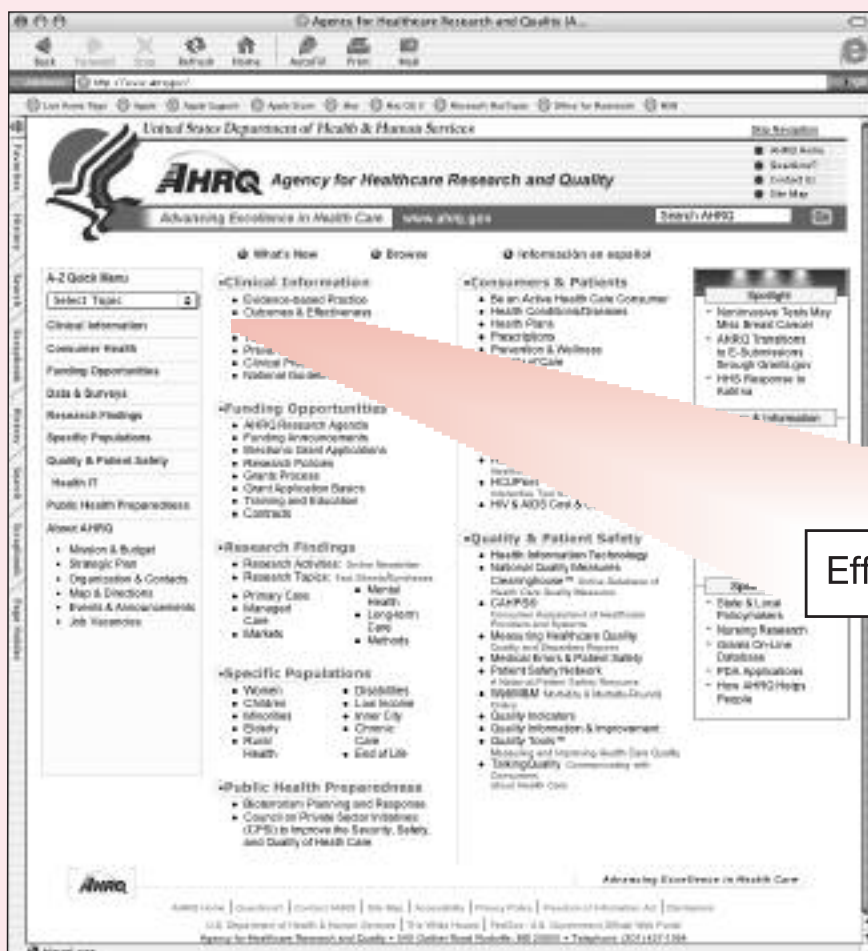
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