



# Research Activities



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Agency for Healthcare Research and Quality

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## AHRQ's quality indicators can be used as a screening tool to identify potential quality of care problems

The Agency for Healthcare Research and Quality has developed three sets of health care quality indicators (QIs), using State-wide data on hospital inpatient stays. The QIs comprise nearly 80 measures covering a range of medical conditions, procedures, and settings. They can be used as a screening tool to identify potential problems in quality of care both inside and outside the hospital.

The AHRQ QIs currently consist of three modules: the Prevention Quality Indicators (PQIs), Inpatient Quality Indicators (IQIs), and Patient Safety Indicators (PSIs). The PQIs use hospital discharge data to identify conditions (for example, asthma and diabetes) for which good outpatient care can potentially prevent the need for hospitalization or for which early and appropriate intervention can prevent complications or more severe disease. Typical PQI indicators of poor outpatient preventive care in a community include high hospital admission rates for asthma, uncontrolled diabetes, and perforated appendix.

The IQIs include volume indicators (the number of certain procedures performed by a hospital for which there is a link between volume and outcomes), mortality indicators for certain inpatient procedures and conditions, and utilization indicators for procedures whose use rates vary significantly. Examples of IQIs include coronary artery bypass graft volume, in-hospital mortality rate for stroke, and Cesarean section rate.

The PSIs include provider-level indicators of potentially preventable complications due to care at a particular hospital, such as a bed sore or foreign body left in after surgery, and area-level indicators that capture all cases of potentially preventable inpatient and outpatient complications that occur in a given area. The AHRQ QI programs as well as their documentation can be downloaded without charge from <http://www.qualityindicators.ahrq.gov>.

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## Quality indicators

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More details are in “Using the AHRQ quality indicators to improve health care quality,” by Anne Elixhauser, Ph.D., Mamatha Pancholi, M.S., and

Carolyn Clancy, M.D., in the September 2005 *Journal on Quality and Patient Safety* 31(9), pp. 533-538. Reprints (AHRQ Publication No. 06-R007) are available from AHRQ.\* ■

## Patient Safety and Quality

### Frequent potential medication dosing errors occur during outpatient pediatric visits

**S**afe pediatric prescribing requires accurate weight, proper conversion of pounds to kilograms, and the choice of an appropriate preparation and concentration. A new study, supported in part by the Agency for Healthcare Research and Quality (HS10391, HS11843, and Contract No. 290-00-0015), found that about one in seven (15 percent) new prescriptions written for children during outpatient visits were potentially for the wrong dose. Eight percent were potential overdoses and 7 percent were potential underdoses. Among children weighing

less than 35 kg, only 67 percent of medications were dispensed within recommended dosing ranges, which are based on weight for children. Pain-relievers (analgesics) were the class of medications most likely to be potentially overdosed (15 percent), whereas antiepileptics were the class of medications most likely to be potentially underdosed (20 percent).

One of every five children younger than 4 years of age receiving any medication, one in five children receiving a “prn” (as-needed) medication, and one in six children receiving an analgesic received a potentially improperly dosed medication. Young and medically complex children, who are most vulnerable to potentially serious adverse drug events, were most likely to be dispensed potential drug overdoses.

These findings were based on analysis of pharmacy data from three health maintenance organizations (HMOs) on 1,933 children with a newly dispensed prescription for drugs in six categories: analgesics, antibiotics, antiepileptics, asthma and allergy medications, and isotretinoin. Potential error rates were no lower at the HMO that used an electronic prescription writer than at the two HMOs that used paper prescriptions. However, many electronic prescribing systems do not contain weight-based dosage decision support or alert mechanisms for potential underdosing or overdosing of medication based on weight.

See “Potential medication dosing errors in outpatient pediatrics,” by Heather A. McPhillips, M.D., M.P.H., Christopher J. Stille, M.D., M.P.H., David Smith, R.Ph. M.H.A., Ph.D., and others, in the December 2005 *Journal of Pediatrics* 147, pp. 761-767. ■

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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

## Close-call reporting systems may be underutilized in identifying potential medical errors

Health care providers are less likely to identify close calls than medical errors, perhaps hampering the effectiveness of close-call and near-miss reporting systems, suggests a study supported by the Agency for Healthcare Research and Quality (HS11544). Close calls or near-misses are potential medical errors that do not result in patient harm, therefore, they are less noticeable and more difficult to identify. University of Texas researchers asked 68 health care providers (22 doctors, 23 nurses, 13 pharmacists, and 10 physician assistants) from a large, academic medical center to evaluate 5 hypothetical errors and 5 close-call scenarios based on actual errors and close calls from the institution. Half of the participants in each group received definitions of errors and close calls before reading each scenario and half did not.

The percentage of scenarios categorized correctly by health care professionals for close calls and

errors, respectively, was: 67.8 percent and 74.8 percent for nurses, 73.8 percent and 78.5 percent for pharmacists, 74 percent and 80 percent for physician assistants, and 67.6 percent and 78.2 percent for physicians. Health care providers accurately categorized errors 77.1 percent of the time without definitions, but accurately categorized close calls only 62.9 percent of the time without definitions.

The finding that nearly 40 percent of providers could not correctly identify close calls without a definition underscores the need for health care organizations to implement reporting systems to clearly define close-call events during training sessions. Close calls can occur as much as 300 times more often than errors. As such, providers may correct close calls while they accomplish their tasks, rather than stop and report these situations. Because providers do not correctly view these situations as potential

problems, close calls might be underreported.

See “Differentiating close calls from errors: A multidisciplinary perspective,” by Jason M. Etchegaray, Ph.D., Eric J. Thomas, M.D., Jane M. Geraci, M.D., and others, in the September 2005 *Journal of Patient Safety* 1(3), pp. 133-137. ■

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

Studies show that when things go wrong with their health care, patients need disclosure, an apology, and information about what happened and how it can be prevented from happening again. A new study shows further that how patients respond to adverse events depends on the timeliness and quality of the health care provider’s communication about the event. Researchers, supported by the Agency for Healthcare Research and Quality (HS11878), conducted

4 patient focus groups (5 to 6 individuals per group) with 16 adults who had been harmed by medical error to explore their perceptions of patient-provider communication after the adverse event.

Each adverse event, including perforations, suture infections, and surgical errors, required extensive medical follow-up. The group facilitator explored participants’ communication with their provider before, during, and after their

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## Medical errors

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medical injury. Effective communication was an important factor in whether professional relationships continued after an adverse event. Also, the nature and quality of provider communication influenced whether patients defined the event as an “honest mistake” or “error.”

Patients who experienced an adverse event said they suffered two types of trauma, physical and

emotional. However, focus group discussions also uncovered the financial trauma, such as the cost of repeated surgeries to correct the problem. In some cases, financial trauma was the dominant factor influencing patients’ subsequent actions. Adverse medical events were confusing and required resolution on several levels. Often patients worked through the process feeling very alone. Frustration from poor information about their situation led to feelings of anger and a perceived need for

battles or conflict, for example, via lawsuits. Caring, honest, quick, personal, and repeated provider responses were linked to less emotional trauma and greater patient satisfaction.

More details are in “Patient perspective of patient-provider communication after adverse events,” by Christine W. Duclos, Ph.D., Mary Eichler, R.N., Leslie Taylor, and others, in the December 2005 *International Journal for Quality in Health Care* 17(6), pp. 479-486. ■

## Some for-profit Medicare health plans provide lower quality of care than not-for-profit plans

**A** new study found that some for-profit Medicare health plans, which enroll the majority of Medicare beneficiaries, provide lower quality of care than not-for-profit plans. All Medicare health plans are required to report quality data using the Health Plan Employer Data and Information Set (HEDIS) each year to the National Committee for Quality Assurance. Researchers. Supported in part by the Agency for Healthcare Research and Quality (HS10803), researchers analyzed the 1998 HEDIS file for performance on four clinical quality indicators. This included data from 294 health plans serving 303,718 Medicare beneficiaries during 1997.

Nearly two-thirds (64 percent) of the study health plans were for-profit. The quality of care was lower in for-profit health plans than not-for-profit health plans on all four HEDIS quality indicators studied: 67.5 vs. 74.8 percent of eligible women screened for breast cancer; 43.7 vs. 57.7 percent of diabetics given an eye examination; 63.1 vs. 75.2 percent of heart attack

victims given beta-blocker medication following their heart attack; and 42.1 vs. 60.4 percent of patients given follow-up care after hospitalization for mental illness.

Adjustment for sociodemographic case mix and health plan characteristics reduced, but did not eliminate, the differences, which remained significant for all measures except beta-blocker medication after heart attack. The authors caution that for-profit plans should not be banned from enrolling Medicare patients, since some for-profit plans were high-performing, and the care they provide may be better than that provided by Medicare fee-for-service.

See “Quality of care in for-profit and not-for-profit health plans enrolling Medicare beneficiaries,” by Eric C. Schneider, M.D. M.Sc., Alan M. Zaslavsky, Ph.D., and Arnold M. Epstein, M.D., M.A., in the December 2005 *American Journal of Medicine* 118, pp. 1392-1400. ■

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### Interpreters are an effective communication option for patients with limited English proficiency

Nearly one in five U.S. residents speaks a language other than English at home. Individuals with limited English proficiency (LEP) have more difficulty communicating with health care providers and are less satisfied with their care than others. According to a study supported in part by the Agency for Healthcare Research and Quality (HS10316), patients with LEP who have an interpreter available during their visit rate communication and satisfaction with care similar to those patients with language concordant providers.

Researchers surveyed 2,715 LEP Chinese and Vietnamese immigrant adults, who received care at 11 community-based health centers across the U.S., to explore their perceptions of care. Nearly all of them (94 percent) spoke English

“not well” or “not at all”; 63 percent had 9 or fewer years of education; and 51 percent reported “fair” or “poor” health. Use of interpreters at the health centers ranged from 18 to 89 percent. Patients who used interpreters did not differ significantly in their responses on three communication measures from patients whose doctors spoke their language. Measures included how often clinicians provided explanations they could understand, whether they received as much information about their health and treatment as they wanted, and whether they had sufficient time to explain the reason for their visits.

Also, about half of both groups rated the health care they received as excellent or very good. However, more LEP Asian immigrants who used interpreters than those with language-concordant doctors

reported having questions about their care (30 vs. 21 percent) or about their mental health (25 vs. 18 percent) that they wanted to ask, but did not. Overall, 57 percent of those with interpreters rated them as excellent or very good, while 43 percent gave lower ratings (good, fair, or poor). Patients who rated their interpreters highly were nearly 5 times more likely to highly rate the health care they received at the visit.

See “Interpreter services, language concordance, and health care quality: Experiences of Asian Americans with limited English proficiency,” by Alexander R. Green, M.D., M.P.H., Quyen Ngo-Metzger, M.D., M.P.H., Anna T. Legedza, Sc.D., and others, in the November 2005 *Journal of General Internal Medicine* 20, pp. 1050-1056. ■

### Minority children living in public housing are more likely to suffer from chronic health problems

Nearly two million children live in U.S. public housing communities, and over two-thirds of them are black or Latino. A study supported in part by the Agency for Healthcare Research and Quality (HS14022) found that black and Latino children living in such communities are 2 to 4 times more likely than children in the general population to suffer from chronic physical and mental problems. Researchers found that Black and Latino children living in three Los Angeles public housing communities were more likely than U.S. children in general to suffer from asthma (32 percent compared with 8 percent) and attention deficit hyperactivity disorder (ADHD) (17 percent compared with 5 percent).

Nearly one-third of black and Latino households had children with one chronic medical condition, and another third had children with two or more chronic conditions. The top five chronic conditions reported by

parents for one or more children in their households were asthma (32 percent), eye/vision problems (24 percent), ADHD (17 percent), dental problems (16 percent), and depression (8 percent). Asthma was the only health condition for which the researchers found a significant difference between Latino (19 percent) and black (44 percent) children.

The researchers call for studies to determine whether children in public housing suffer from excessive health problems because of the criteria and eligibility for public housing, or whether the public housing environment is responsible for unhealthy children.

More details are in “A profile of chronic mental and physical conditions among African-American and Latino children in urban public housing,” by Mohsen Bazargan, Ph.D., Jose L. Calderon, M.D., Kevin C. Heslin, Ph.D., and others, in the Autumn 2005 *Ethnicity & Disease* 15 (Suppl. 5), pp. S5-3-S5-9. ■

## Recruitment of Hawaiians and Filipinos for clinical trials should address informed consent, research safeguards, and benefits

Ethnic/minority differences in disease rates, medication compliance and response, and morbidity and mortality underscore the need for increased minority participation in clinical trials. To successfully recruit Hawaiians and Filipinos for clinical trials, recruitment campaigns need to improve awareness in those communities of the process of informed consent and research safeguards, as well as the benefits of the research to family and community. That's the conclusion of a study supported in part by the Agency for Healthcare Research and Quality (HS14022).

Researchers conducted 9 focus groups—each with an ethnically matched moderator—of 50 people (27 Filipinos and 23 Hawaiian/Pacific Islanders) in 5 different Hawaiian communities to explore

people's feelings, problems, and recommendations regarding medical research. Only 12 percent of focus group participants said that they absolutely would not participate in a clinical study. Most agreed that research is vital. However, Filipinos were more optimistic than Hawaiians about the safety and value of joining a clinical study. Hawaiian groups were more hesitant and fearful.

The most critical recurrent negative theme to emerge from the study was the perception that research is "secretive," and that research participants are not provided with enough information to make an informed decision. Both Hawaiian and Filipino groups said that their participation was contingent on complete disclosure of risks and an explanation of benefits, including potential

benefits to the family and/or the larger community. Use of interpreters, reporting study findings back to the community, and provision of better medical facilities to the community were added incentives. Both groups generally agreed on the health problems needing research in their communities: gout, diabetes, obesity, high blood pressure, heart disease, sleep apnea, and asthma.

See "Improving Hawaiian and Filipino involvement in clinical research opportunities: Qualitative findings from Hawaii," by Lisa X. Gollin, Ph.D., Rosanne C. Harrigan, APRN-Rx, Ed.D., M.S., Jose L. Calderon, M.D., and others, in the Autumn 2005 *Ethnicity & Disease* 15 (Suppl. 5), pp. S5-111-S5-119. ■

## Fewer visits to the doctor contribute to the higher mortality rates among black Medicare patients in Tennessee

Elderly black Medicare patients in Tennessee make fewer physician visits than their white counterparts, which significantly contributes to their higher mortality rates, concludes a study supported by the Agency for Healthcare Research and Quality (HS11640). However, the study was not able to determine why black elders avoid primary care.

The researchers examined 5 years of health service use data from Medicare physician billing records and 6.3 years of mortality follow-up data from the Medicare enrollment database to assess physician-diagnosed health problems (morbidity), health care use, and mortality among 665,887 Tennessee Medicare beneficiaries. They developed models to examine the effects of race, socioeconomic status, morbidity, and physician service use on mortality.

Overall, between 1996 and 2002, 38 percent of blacks died compared to 32 percent of whites, a disparity that resulted in 4,164 excess deaths of black elderly people in Tennessee. These excess deaths were largely attributable to race difference in physician visits. Black elders made an average of 7.5 fewer trips to the doctor than white elders during the study period (31.8 vs. 39.3 visits). However, the Medicare cost for fewer black physician visits was the same as the more numerous white physician visits (\$902.2 vs. \$903.5). This suggests that black patient physician visits were more often in response to serious illnesses that required greater physician attention (and cost).

Decreased use of primary care may also have contributed to the greater number of trips that black

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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.

## Black Medicare patients

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elders made to emergency rooms as compared to white elders (average 2.55 vs. 2.06 trips). For example, blacks who suffered from both diabetes and stroke made nearly 14 fewer visits to the doctor over a 5-year period than whites with both conditions. Controlling for health service use eliminated the racial difference in mortality rates for a wide range of conditions.

More details are in “Explaining race differences in mortality among the Tennessee Medicare elderly: The role of physician services,” by Darren E. Sherkat, Ph.D., Barbara S. Kilbourne, Ph.D., Van A. Cain, M.A., and others, in the November 2005 *Journal of Health Care for the Poor and Underserved* 16, pp. 50-63. ■

## Stroke rehabilitation outcomes differ for blacks, whites, and Asian Americans

Stroke rehabilitation outcomes differ by race, according to a study supported in part by the Agency for Healthcare Research and Quality (HS11415). Researchers found that blacks who suffered a stroke did not improve their functioning by the end of inpatient rehabilitation as much as whites did, despite receiving similarly intense rehabilitation services. Despite their poorer functioning at discharge, blacks were nearly twice as likely as whites to be discharged home than to a rehabilitation facility. However, this did not appear to hinder their recovery, since their lower functioning at discharge compared to whites was no longer apparent 3 months later.

In contrast, Asian-Americans recovered about as much function as whites by the time they left the inpatient rehabilitation facility, and were just as likely to be discharged home. Yet, they showed less improvement 3 months later. This suggests that Asian Americans may be more dependent for recovery on the intensive services available in a rehabilitation facility and that use or quality of post-discharge services was suboptimal for them.

The findings were based on analysis of stroke rehabilitation and outcome among 1,002 stroke patients admitted to an inpatient rehabilitation facility between 1995 and 2001. Researchers used the Functional Improvement Instrument (FIM) to assess functional motor and cognitive status, a measure of the severity of disability and amount of assistance required to perform daily activities. The FIM includes 18 items, each scored on a 7-point scale, with 7 indicating complete independence and 1 indicating total dependence. After accounting for sociodemographic and other factors, black race was associated with 1.9 points (7 percent) less improvement than whites at discharge, a difference that was no longer apparent 3 months later. Yet Asian American patients showed 16 percent less functional improvement (6.3 fewer points) than whites at 3 months.

See “Racial disparities in outcomes of inpatient stroke rehabilitation,” by Vijay K. Bhandari, M.S., Margot Kushel, M.D., Leonard Price, Ph.D., and Dean Schillinger, M.D., in the November 2005 *Archives of Physical Medicine and Rehabilitation* 86, pp. 2081-2086. ■

## Colorectal cancer screening rates are low among Latinos and people with little education

Colorectal cancer screening is recommended for individuals over the age of 50. However, Latinos and individuals with little education are less likely to be screened for colorectal cancer, according to a study supported by the Agency for Healthcare Research and Quality (HS10299). Efforts to educate these two groups about the importance of

colorectal cancer screening are needed to reduce disparities in awareness and use of colorectal cancer screening tests, conclude the researchers.

Researchers assessed the demographics, acculturation, and health literacy regarding colorectal cancer screening among 136 Latino, white, or black patients. Most of the Latinos had low

acculturation. The researchers used the Short Test of Functional Health Literacy in Adults (STOFHLA) to assess whether patients had heard of colorectal cancer and screening via fecal occult blood testing (FOBT), sigmoidoscopy, or colonoscopy. The STOFHLA also asked at what age a person should

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## Colorectal cancer screening

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be tested and how often for various tests.

In the primary care clinics sampled in the study, 42 percent of the patients had STOFHLA scores in the inadequate or marginal range. Lower scoring patients were more likely to be Latino, have less than an eighth grade education, and be poor

and uninsured. Functional health literacy as assessed by the STOFHLA was not an independent predictor of colorectal cancer screening knowledge, beliefs, attitudes, or behavior. Latino ethnicity and low education emerged as stronger predictors of less knowledge and fewer screening tests. Another important finding was the 90 percent of patients who said that they would undergo screening if

their physician recommended it or had been screened because their doctor encouraged it.

More details are in "Literacy and knowledge, attitudes, and behavior about colorectal cancer screening," by Carmen E. Guerra, M.D., F.A.C.P., Francisco Dominguez, and Judy A. Shea, Ph.D., in the October/November 2005 *Journal of Health Communication* 10, pp. 651-663. ■

## Child/Adolescent Health

### Do-not-resuscitate orders for terminally ill children may not be honored by public schools

Some children attending public schools have terminal illnesses, but when they and their families determine that resuscitation in the event of cardiopulmonary arrest would not benefit them, there is no guarantee that do-not-attempt-resuscitation orders (DNARs) will be honored by public schools.

Researchers at The Children's Hospital of Philadelphia and the University of Pennsylvania, supported in part by the Agency for Healthcare Research and quality (HS00002), surveyed prominent school districts in 81 U.S. cities about written policies or procedures for student DNARs. They then compared school policies with relevant State laws from all 50 States and the District of Columbia on out-of-hospital DNARs, advance directives, living wills, and the provision of health care to minors in public schools. Most (80 percent) of the school districts surveyed did not have policies, regulations, or protocols for dealing with student DNARs. Also, 76 percent either would not honor student DNARs or were uncertain about whether they could.

Only 16 public school districts (20 percent) reported having a policy, rule, or procedure explicitly concerning the honoring of student DNARs. Among those, 10 prohibited school personnel from honoring student DNARs, while the remaining 6 allowed it. Frequent contradictions between school policies and State laws also exist. Seventeen States and the District of Columbia provide statutory authorization of advance health care decisions for minors. Yet only 5 of these 18 jurisdictions have laws providing legal protection against criminal or civil liability to school personnel who, in honoring a student's DNAR, do not attempt resuscitation. Also, 13 of the 19 school districts that honor student DNARs reside in States that have no laws to protect school personnel from criminal or civil liability for withholding CPR.

See "Pediatric do-not-attempt-resuscitation orders and public schools: A national assessment of policies and laws," by Michael B. Kimberly, Amanda L. Forte, Jean M. Carroll, B.S.N., and Chris Feudtner, M.D., Ph.D., M.P.H., in the Winter 2005 *American Journal of Bioethics* 5(1), pp. 59-65, 2005. ■

### Doctors still prescribe antibiotics for over half of children with sore throats

Children's sore throats are usually caused by viruses, which are not treatable with antibiotics, and doctors are prescribing fewer antibiotics for children's sore throats than previously (at 54 percent of visits

in 2003 compared to 66 percent in 1995). However, they are still prescribing antibiotics for half of children who have a sore throat, even though only one-third or fewer of these children actually have strep throat caused by group

A Beta-hemolytic streptococci (GABHS) bacteria. Doctors also underuse the preliminary testing for strep throat recommended before prescribing antibiotics,

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## Children's sore throats

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according to a study supported by the Agency for Healthcare Research and Quality (HS14563 and HS13908).

Researchers found that physicians prescribed antibiotics in 53 percent of an estimated 7.3 million annual pediatric visits for sore throat. Also, although the antibiotic of choice for strep throat is penicillin (an inexpensive narrow-spectrum antibiotic),

physicians prescribed broad-spectrum antibiotics to 27 percent of children who received an antibiotic, and performed a GABHS test in only 51 percent of visits at which an antibiotic was prescribed.

GABHS testing was not associated with a lower antibiotic prescribing rate overall (48 percent tested vs. 51 percent not tested). However, GABHS testing was associated with a 16 percent lower antibiotic prescribing rate for children with diagnosis codes for

pharyngitis, tonsillitis, and streptococcal sore throat (57 percent tested vs. 73 percent not tested).

See "Antibiotic treatment of children with sore throat," by Jeffrey A. Linder, M.D., M.P.H., David W. Bates, M.D., M.Sc., Grace M. Lee, M.D., M.P.H., and Jonathan A. Finkelstein, M.D., M.P.H., in the November 9, 2005 *Journal of the American Medical Association* 294(18), pp. 2315-2322. ■

## Adding cognitive behavioral therapy to treatment plans reduces depressive symptoms among adolescents

**M**any depressed adolescents are diagnosed and treated in primary care settings. About 35 to 65 percent fully recover from their depression at the end of acute treatment with a single antidepressant, usually a selective serotonin reuptake inhibitor (SSRI). According to a new study supported in part by the Agency for Healthcare Research and Quality (HS10535 and HS13854), adding cognitive behavior therapy (CBT) to use of a single SSRI only mildly improves symptoms over the antidepressant alone. However, the effect of CBT may have been weakened by reduced use of SSRIs by the adolescents treated with CBT and SSRIs, explains Gregory Clarke, Ph.D., of the Kaiser Permanente Center for Health Research.

Researchers randomized 152 adolescents 12 to 18 years old who had recently been prescribed an SSRI for major depressive disorder to 1 of 2 groups at an HMO primary care clinic: treatment with an SSRI alone (75 adolescents) and treatment with SSRI plus brief CBT (77 adolescents). The CBT program used cognitive restructuring and/or behavioral activation training, with adolescents attending an average of five sessions. An on-site mental health specialist and primary care provider (PCP) collaboratively treated the depressed adolescents.

Adolescents and their parents were interviewed by telephone at 6, 12, 26, and 52 weeks post-

randomization. There was significant improvement in moderate depression for those in the CBT plus SSRI group. However, the SSRI control itself proved to be a potent intervention, with nearly 75 percent depression recovery by 12 weeks' follow-up. Yet, of the 135 adolescents who recovered from their initial depressive episode, about 24 percent in both groups suffered a recurrence within the year. There was no significant difference in other behavioral or emotional symptoms between the two groups. The CBT group had fewer physician visits and an unexpected 20 percent fewer days of SSRI use through the 1-year follow-up, which may have weakened the impact of CBT. These results parallel other studies that suggest that adolescents with depression only reluctantly take antidepressants and look for opportunities to discontinue them. CBT may be needed longer to yield much improvement beyond use of a single SSRI, note the researchers.

See "A randomized effectiveness trial of brief cognitive-behavioral therapy for depressed adolescents receiving antidepressant medication," by Dr. Clarke, Lynn Debar, Ph.D., Frances Lynch, Ph.D., and others, in the September 2005 *Journal of the American Academy of Child and Adolescent Psychiatry* 44(9), pp. 888-898. ■

## Discontinuing growth hormone therapy is influenced by physiological factors, family preferences, and physician attitudes

The shortest 1.2 percent of U.S. children—for example, 10-year-old boys and girls less than 4'1" tall—are often eligible for growth hormone (GH) treatment. The height goal for therapy is usually average height for a 16-year-old male (68.3") or 14-year-old female (62.6"). A GH-deficient child who has received GH for several years typically shows gradual tapering of growth during mid to late adolescence, signaling decreased potential for growth with continued therapy. However, physician decisions to discontinue GH therapy are not only influenced by physiological factors, but also by family preferences and their own attitudes, according to a study supported in part by the Agency for

Healthcare Research and Quality (HS00059).

Researchers analyzed the responses of 188 U.S. pediatric endocrinologists to a survey that included case scenarios of GH-deficient adolescents. On a scale from 5 (high) to 1 (low), factors influencing physician decisions to discontinue GH treatment were: growth velocity 4.24; bone age 4.20; child's wishes 3.43; current height 3.39; parent wishes 2.99; and treatment cost (\$26,000 per year for a 48-kg child) 2.58.

Although 33 percent of physicians rarely recommended continuing GH after age 18 (when 99 percent of final height has been attained, leaving under 2 cm of growth remaining), 57 percent

disagreed with that. Physicians seemed to value even small gains as the final height goal approached, even though an additional 20 percent expenditure might be needed to gain the last 1 to 3 percent of adult height. Physicians who believed emotional well-being would be impaired by discontinuing GH after linear growth was complete were less likely to terminate GH.

More details are in "Physician decisions to discontinue long-term medications using a two-stage framework: The case of growth hormone therapy," by Leona Cuttler, M.D., J.B. Silvers, Ph.D., Jagdish Singh, Ph.D., and others in the December 2005 *Medical Care* 43(12), pp. 1185-1193. ■

### Women's Health

## Women need information about alternatives, risks, and benefits of hormone therapy for osteoporosis to make an informed decision

For many decades, menopausal hormone therapy (HT) has been the mainstay for preventing and treating osteoporosis (loss of bone mass and density) that can lead to fractures among older women. However, HT has been shown to increase the risk of breast cancer, venous thromboses, stroke, and coronary heart disease. In addition, several medications are now available that are comparably effective to HT in preventing osteoporotic fractures.

Careful examination of the benefits and risks of each treatment for an individual woman is critical to help patients make an informed choice, explains Brown University investigator, Nananda F. Col, M.D. For example, a woman with osteoporosis experiencing debilitating hot flashes who is at low risk for cardiovascular disease and breast cancer might be interested in a trial of HT, providing that she is aware of the concomitant risks and feels that the benefits of HT outweigh the risks.

On the other hand, a woman with osteoporosis who does not have hot flashes should be informed of the

benefits and risks of HT and encouraged to use non-hormonal alternatives. These include the bisphosphonates: alendronate, risendronate, and ibandronate, as well as raloxifene, a selective estrogen receptor modulator, which may also help prevent breast cancer. Another less efficacious alternative is calcitonin, which it is generally well-tolerated. Finally, teriparatide was recently approved to prevent fractures among postmenopausal women at very high fracture risk. These findings were based on a systematic review of clinical studies on the impact of menopausal hormone therapy on osteoporosis. The study was supported by the Agency for Healthcare Research and Quality (HS13329).

More details are in "The role of menopausal hormone therapy in preventing osteoporotic fractures: A critical review of the clinical evidence," by Dr. Col, Lynn A. Bowlby, M.D., and Kelly McGarry, M.D., in the October 2005 *Minerva Medica* 96(5), pp. 331-342. ■

## Ectopic pregnancy rates in California are declining, but the decline is slower among black women

Rates of ectopic pregnancy (EP), a major cause of infertility and the primary cause of maternal death during the first trimester, are declining in California for all women. Black women, however, have the highest EP rates in the State and the rate of decline is slower than that of other women, according to a study supported in part by the Agency for Healthcare Research and Quality (HS10858 and HS14022). The continued racial disparity in EP rates, despite improved diagnostic and treatment methods, suggests that disparities in incidence of sexually transmitted disease (STD) and previous EP, two major risk factors for EP, continue to exist for black women as well.

EP occurs when the fertilized egg is implanted and begins to grow in

the fallopian tube instead of the uterus. Nearly half of EPs are due to inflammation and scarring of the fallopian tubes due to STDs, especially *Chlamydia trachomatis*, note the researchers. They evaluated State-level multicultural trends in EP rates by analyzing California hospital discharge data for 62,829 EPs from 1991 to 2000. EP rates were highest among black women (25/1000) and lowest among Hispanic women (7.7/1000).

Black women had over twice the risk of EP relative to non-Hispanic whites. Women 35 to 44 years of age had the highest EP rates (17.6/1000) and more than twice the risk of EP compared to other age groups. The highest rate of EP was found among black women 35 to 44 years of age (43.1/1000), a rate comparable to that of women in

developing African nations. What's more, the EP rate among black women declined only 24 percent from 1991 to 2000 (29.5 to 21.6/1000) compared to a 47 percent decline among white women (18.9 to 10.3/1000). Hispanic women had the smallest decline in EP rates at 20 percent (9.4 to 7.2/1000), but had the lowest EP rate for each year studied. Studies of women in other U.S. geographic regions confirm the findings of greater EP risk among black women.

See "Multi-cultural surveillance for ectopic pregnancy: California 1991-2000," by Jose L. Calderon, M.D., Magda Shaheen, M.D., Deyu Pan, M.S., and others, in the Autumn 2005 *Ethnicity & Disease* 15 (Suppl. 5), pp. S5-20-S5-24. ■

### Health Information Technology

## Computerized medication alert systems may need to be more specific for home health care patients

Medicare requires that home health agencies (HHAs) conduct a complete medication assessment for every patient at the start of care. In recent years, many HHAs have invested in point-of-care computers that allow nurses to enter a patient's clinical and medication information and run an electronic drug utilization review (DUR) program. However, the DUR program generated a high number of potentially trivial or inappropriate drug alerts when it was used for patients with diabetes and/or hypertension, who were taking an average of seven medications each.

According to a study supported by the Agency for Healthcare Research and Quality (HS11523), the DUR program triggered severe, moderate, or duplicate drug alerts for more than two-thirds (68 percent) of patients with diabetes and half of patients with hypertension. Among patients with diabetes, 74 percent of duplicate alerts were trivial or inappropriate compared with 4 percent among patients with hypertension.

The researchers conclude that more specific alert systems should be developed and tested to focus clinicians' attention on clinically important alerts and enhance the usefulness of computerized DUR for reducing medication problems. Their findings were based on analysis of the drug alerts of 150 patients with diabetes and 150 patients with hypertension discharged from a large urban HHA in 2002. The HHA had been using a computerized DUR system for several years to identify all potential drug-drug interactions and duplicate medications. It also had an alert system that flagged three levels of interaction severity, as well as instances of duplicate therapy.

More details are in "Exploring the utility of automated drug alerts in home healthcare," by Penny Hollander Feldman, Ph.D., Margaret McDonald, M.S.W., C.S.W., Robert J. Rosati, Ph.D., and others, in the January 2006 *Journal for Healthcare Quality* 28(1), pp. 29-40. ■

## Computerized alerts and professional collaboration improve laboratory monitoring of outpatients starting new medications

Some medications carry a risk of organ toxicity or electrolyte imbalance or require dosage adjustment in the presence of organ dysfunction. Thus, laboratory tests are needed to establish organ baseline functioning before a doctor can prescribe certain new drugs for patients, and tests are needed to periodically monitor functioning. Doctors vary in how consistently they follow laboratory monitoring guidelines when beginning drug therapy for outpatients. A study supported in part by the Agency for Healthcare Research and Quality (HS14249) shows that computerized alerts plus collaboration between pharmacists and doctors increases the percentage of patients receiving necessary laboratory monitoring when they begin new medications.

In the study, physicians and pharmacists at a large HMO teamed up to develop organization-specific guidelines for monitoring health plan members who began therapy with any of 15 selected drugs. They linked laboratory and drug-dispensing information to identify gaps in lab monitoring. In collaboration with physicians, pharmacists were alerted to missing laboratory test results, ordered missing tests, reminded patients to obtain tests, assessed test completion, reviewed test results, and managed abnormal results.

Overall, nearly 80 percent of dispensed medications were monitored in the group that received computerized alerts and collaboration compared with 70 percent in the usual-care group. For

example, the collaborative group used laboratory tests to monitor for liver and thyroid function in 79 percent of dispensings of the antiarrhythmic drug amiodarone, which can impair liver and thyroid function, compared to 51 percent in the usual-care group. Thirteen percent of 86 patients started on a regimen of amiodarone had abnormal results for liver or thyroid tests.

More details are in “Improving laboratory monitoring at initiation of drug therapy in ambulatory care,” by Marsha A. Raebel, Pharm.D., Ella E. Lyons, M.S., Elizabeth A. Chester, Pharm.D., and others, in the November 14, 2005 *Archives of Internal Medicine* 165, pp. 2395-2401. ■

### Primary Care Research

## Better communication and coordination of care could reduce frustration experienced by patients with chronic diseases

In a recent report on chronic illness in America, 45 percent of patients with a chronic illness reported they received no help from their doctor or health plan in coordinating their medical services. A new study, supported in part by the Agency for Healthcare Research and Quality (HS13008), echoes these patients' frustration. It found that patients with multiple chronic illnesses suffered more hassles during interactions with the health care system than those with one chronic illness. However, improved primary care communication and coordination reduced these hassles.

Michael L. Parchman, M.D., M.P.H., of the University of Texas Health Science Center, and colleagues analyzed responses of

surveys mailed to 422 veterans with one or more chronic illnesses who were cared for in the South Texas Veteran's health care system. The patients were divided into three multiple chronic illness clusters: metabolic, obesity, and psychiatric.

They compared their scores on a 16-item scale of care hassles to those of three corresponding clusters of primary care patients with one chronic illness. Hassles ranged from lack of information about treatment options and problems getting medications refilled in time to long waits for appointments with specialty clinics/doctors and lack of information about why certain lab tests or x-rays were needed.

The researchers also asked patients about four measures of

primary care: accumulated knowledge of the patient by the clinician, coordination of care, communication, and preference for first contact with their primary care clinician. After controlling for patient characteristics, primary care communication and coordination of care were inversely associated with patient hassle scores. As communication and coordination improved, the reported level of hassles decreased.

More details are in “Primary care attributes, health care system hassles, and chronic illness,” by Dr. Parchman, Polly Hitchcock Noel, Ph.D., and Shuko Lee, M.S., in the November 2005 *Medical Care* 43(11), pp. 1123-1129. ■

## Obese patients are treated differently during primary care visits

Nearly one in five Americans is obese, and while obesity does not appear to affect how much time a primary care doctor spends with a patient, it does affect what transpires during the visit. According to a study supported by the Agency for Healthcare Research and Quality (HS06167), primary care doctors spend less time educating obese patients about their health and more time discussing exercise, and conducting technical tasks such as history taking, doing medical exams, and performing in-office procedures.

University of California, Davis researchers Klea D. Bertakis, M.D., M.P.H., and Rahman Azari, Ph.D., studied videotapes of medical visits and the medical records of 509 patients cared for by 105 primary care resident physicians. They also administered questionnaires to the patients before and after medical visits.

A total of 205 patients were obese (body mass index scores of 30 or more), but only 37 percent of them were diagnosed as obese during the visit. Patient obesity, as well as poorer physical health, lower education, and lower income were significantly related to the physician spending more time on technical tasks. Physicians spent relatively less time during the initial medical encounter giving obese patients information about health, but spent more time educating patients with better health and higher economic status about health issues. The researchers suggest that physicians may choose not to address obesity because of time constraints, lack of confidence in their ability to treat obesity, or pessimism about a patient's ability to make necessary lifestyle changes.

See "The impact of obesity on primary care visits," by Drs. Bertakis and Azari, in the September 2005 *Obesity Research* 13(9), pp. 1615-1623. ■

## Acute Care/Hospitalization

### Ventilator-associated pneumonia is a serious and costly side effect of mechanical ventilation

Critically ill patients, such as those suffering cardiac arrest, head trauma, shock, or spinal cord injury, sometimes cannot breathe on their own and require mechanical ventilation. Ventilator-associated pneumonia (VAP) is a potentially life-threatening and costly problem among patients undergoing mechanical ventilation, according to a study supported in part by the Agency for Healthcare Research and Quality (HS11540). Researchers found that between 10 percent and 20 percent of patients receiving more than 48 hours of mechanical ventilation developed

VAP. Also, critically ill patients in intensive care units (ICUs) who developed VAP were twice as likely to die compared with similar patients who did not develop VAP. Patients with VAP had significantly longer stays in the ICU (an average of 6.10 days) and incurred \$10,019 or more in additional hospital costs.

These findings were based on a systematic review of studies of the clinical and economic consequences of VAP. Researchers selected studies published after 1990, since the management and epidemiology of VAP has changed considerably over time. They

extracted data on patient population, diagnostic criteria for VAP, incidence, outcome, type of ICU, and study design, identifying a total of 89 studies that assessed the risk of VAP in patients receiving mechanical ventilation.

See "Clinical and economic consequences of ventilator-associated pneumonia: A systematic review," by Nasia Safdar, M.D., M.S., Cameron Dezfulian, M.D., Harold R. Collard, M.D., and Sanjay Saint, M.D., M.P.H., in the October 2005 *Critical Care Medicine* 33(1), pp. 2184-2193. ■

## Fear of malpractice prompts emergency physicians to practice defensive medicine with potential heart attack patients

Of the 7 million people who arrive at U.S. emergency departments (EDs) with chest pain or other symptoms of possible heart attack or unstable angina, about half are hospitalized or admitted for observation. The majority of these patients will end up not having either problem; however, since a missed heart attack is one of the most frequent reasons for medical malpractice in adult medicine, doctors are reluctant to send low-risk patients home. Emergency physicians' fear of malpractice is associated with increased hospitalization of low-risk heart attack patients and greater use of diagnostic tests, according to a new study supported in part by the Agency for Healthcare Research and Quality (HS10466).

Researchers surveyed 33 emergency physicians from 2 university hospitals. The six-item malpractice survey addressed physician concerns about lawsuits; a five-item survey assessed physicians' tendencies toward risk aversion.

Overall, emergency physicians in the upper tertile of malpractice fear were 66 percent less likely than those in the lower tertile to discharge low-risk ED

patients with heart attack symptoms, who can generally be treated as outpatients. They were also more likely to order a chest x-ray and blood tests for cardiac troponin, a protein released from dead or injured cells in the heart muscle due to even a mild heart attack.

Similarly, patients treated by emergency physicians in the upper tertile of malpractice fear were nearly twice as likely to be admitted to an intensive care unit or a cardiac monitoring (telemetry) bed than those of doctors in the lower tertile. The more cautious approach by the upper-tertile doctors did not change after controlling for individual doctors' degree of risk aversion. The findings were also adjusted for patient characteristics, patient risk group, study site, and clustering by emergency physician.

See "Emergency physicians' fear of malpractice in evaluating patients with possible acute cardiac ischemia," by David A. Katz, M.D., M.Sc., Geoffrey C. Williams, M.D., Ph.D., Roger L. Brown, Ph.D., and others, in the December 2005 *Annals of Emergency Medicine* 46(6), pp. 525-533. ■

## Access to Care

### Inmates who are released from prison often join the ranks of the homeless

Efforts to eradicate homelessness must include the unmet needs of inmates who are released from prison, many of whom join or return to the ranks of the homeless. That's the conclusion of a study supported in part by the Agency for Healthcare Research and Quality (HS11415). Homeless people are more likely to be imprisoned than others, while former prisoners are more likely to become homeless because of their difficulty finding housing and employment after release. Homeless people and prisoners also share the same risks of substance abuse, mental illness, and

infectious disease (such as HIV, tuberculosis, and hepatitis C), which make obtaining a job and housing difficult.

However, these risks are even higher for homeless former prisoners, explains Margot B. Kushel, M.D., of the University of California, San Francisco. Dr. Kushel and colleagues interviewed 1,426 community-based homeless and marginally housed adults in San Francisco during a 12-month period to analyze factors associated with a history of imprisonment. Nearly one-fourth of those interviewed (23 percent) had been imprisoned in a State or Federal

prison at some point during their lifetime.

Those who had been imprisoned were 41 to 69 percent more likely than those who had not been in prison to have a history of drug use, mental illness, or HIV infection. They were also more likely to have a history of psychiatric hospitalizations and more than 100 sexual partners. The researchers suggest that high rates of imprisonment among homeless populations may be the end result of a system that does not provide access to timely services for

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## Homelessness

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homeless people, such as access to housing, health care, mental health care, and substance abuse

treatment, and which prevents receipt of these services by people exiting prison.

See “Revolving doors: Imprisonment among the homeless and marginally housed population,”

by Dr. Kushel, Judith A. Hahn, Ph.D., M.P.H., Jennifer L. Evans, M.S., and others in the October 2005 *American Journal of Public Health* 95(10), pp. 1747-1752. ■

## Health Care Costs and Financing

### The cost-effectiveness threshold for medical interventions may depend on the context of the circumstances

For many years, a medical intervention such as knee replacement surgery has been considered cost-effective at a cost of \$50,000 or less per gain of a quality-adjusted life year (QALY). However, different contexts—for example, whether a condition is life-threatening or not—may require different cost-effectiveness thresholds, suggests a study supported in part by the Agency for Healthcare Research and Quality (HS10876). Texas and Florida researchers found that a person’s willingness to pay (WTP) for a QALY often depends on the context of the medical circumstances.

In this study, individuals were not willing to pay as much per QALY for improvements in knee osteoarthritis, a debilitating but non-life-threatening condition, as they were in previous studies for interventions that reduced the risk of death. The researchers explain that many people are not able to comprehend statistical risks, particularly of death, in an unbiased way. They unconsciously overstate or exaggerate a small risk of death, which may lead them to be willing to pay more for interventions to reduce the risk of death than those that reduce pain or improve function.

The team interviewed 193 ethnically diverse, randomly selected people to collect demographic information and health preferences. They used four methods, or utilities for evaluating various health states, which have been substantially tested in people with osteoarthritis: the visual analog scale, time tradeoff, standard gamble, and WTP. Study participants were asked, for example, what they were willing to pay or how many years they were willing to give up (time tradeoff) to improve mild to moderate osteoarthritis, severe osteoarthritis, or their own health to perfect health. The mean WTP/QALY for all methods was lower (range \$1,221 to \$5,690/QALY) than many estimates from revealed preference studies (that usually address risk of death) and lower than the oft-cited arbitrary cutoff of \$50,000.

See “Willingness to pay per quality-adjusted life year in a study of knee osteoarthritis,” by Margaret M. Byrne, Ph.D., Kimberly O’Malley, Ph.D., and Maria E. Suarez-Almazor, M.D., Ph.D., in the December 2005 *Medical Decision Making* 25, pp. 655-666. ■

### SCHIP significantly decreases uninsurance and increases public insurance for children in low-income families

The State Children’s Health Insurance Program (SCHIP) significantly decreased uninsurance and increased public insurance for both children targeted by SCHIP and those eligible for Medicaid during the 1996-2002 period, concludes a study by researchers at the Agency for Healthcare Research and Quality

(AHRQ). The study was conducted by Julie L. Hudson, Ph.D., Thomas M. Selden, Ph.D., and Jessica S. Banthin, Ph.D., of AHRQ’s Center for Financing, Access, and Cost Trends. They analyzed data between 1996 and 2002 from the Medical Expenditure Panel Survey, a nationally representative survey of U.S. household health care

expenditures, using a range of estimation strategies to calculate changes in public coverage, private coverage, uninsurance, and crowd-out of private insurance.

Earlier studies found that the percentage of children with public coverage rose from 21.5 percent in 1996 to 26.3 percent in 2002.

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## SCHIP

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Uninsurance declined by more than 3 percentage points from 16.4 percent to 13.1 percent. The prevalence of private coverage initially increased, rising by 3 percent between 1996 and 1998. It fell thereafter, ending up 1 percentage point lower in 2002 than in 1996.

Across a wide range of estimations in the current study, the researchers found that the 1996-

2002 SCHIP expansions were associated with increases in public coverage and decreases in uninsurance. They also found evidence of declines in private coverage (from families who shifted from private to public coverage) that in some cases generated high crowd-out estimates, but these lacked robustness and precision. The researchers caution that crowd-out is only one imperfectly measured aspect of designing public policies for enhancing child and family

welfare. A more complete analysis should consider the potential benefits to these children and their families from lower premium and out-of-pocket expenditure burdens and perhaps improved access.

More details are in “The impact of SCHIP on insurance coverage of children,” by Drs. Hudson, Selden, and Banthin, in the Fall 2005 *Inquiry* 42, pp. 232-254. Reprints (AHRQ Publication No. 06-R018) are available from AHRQ.\* ■

## Medi-Cal changes in the 1990s shifted newborn deliveries from large public hospitals to smaller community hospitals

When California Medicaid (Medi-Cal) preferentially enrolled beneficiaries in managed care programs in the 1990s, clinics and public hospitals voiced concerns about the effects of managed care on safety net providers. During the 1990s, for example, newborn delivery market share in two large California counties shifted from large county hospitals (or county-contracted university hospitals) to smaller, nonprofit community hospitals. However, the majority of decentralization took place in the period from 1990 to 1994, before Medicaid managed care (MMC) was widely implemented in Los Angeles and Orange Counties. Thus, the decentralization of newborn services appears to be related more to Medi-Cal expansion in eligibility and provider reimbursement—two other changes in Medi-Cal financing mechanisms during the 1990s—than to MMC, explains Ruey-Kang Chang, M.D., M.P.H., of the University of California, Los Angeles.

The shift in newborn deliveries to smaller community hospitals was not associated with significantly more in-hospital neonatal deaths or morbidities or with interhospital transfer rates. However, the shift was associated with a significant

increase in cesarean section rates for the Medi-Cal population (perhaps related to reimbursement mechanisms), while rates among non-Medi-Cal patients were stable.

The fall in obstetrical market share for public hospitals continued beyond 1994, suggesting that MMC may have played a role in the continued movement of low-income pregnant women away from the public hospitals, note the researchers. They conclude that health care policy changes may affect practice patterns for care delivery in an unexpected fashion. Their findings were based on analysis of 2,351,209 newborn deliveries at 124 hospitals in Los Angeles and Orange Counties during a period of extensive Medi-Cal financing changes. The study was supported in part by the Agency for Healthcare Research and Quality (HS13217).

See “Changes in newborn delivery practice and neonatal outcomes as financing changed in Los Angeles County and Orange County, California,” by Dr. Chang, Alex Y. Chen, M.D., M.S.H.S., Sandra Rodriguez, M.S., and others, in the October 2005 *Managed Care Interface*, pp. 53-57, 62. ■



## AHRQ receives the American College of Cardiology Presidential Citation

AHRQ, along with the Centers for Medicare and Medicaid Services, the Joint Commission on Accreditation of Healthcare Organizations, and the American College of Cardiology/American Heart Association Task Force on Performance Measures, received the American College of Cardiology's Presidential Citation at the group's 55th Annual Scientific Session in Atlanta, GA, on March 13. The group, which represents approximately 16,000 cardiovascular physicians, honored the groups for their work in quality of cardiology care and for achieving a single national measurement standard for heart failure and ST-segment elevation myocardial infarction (STEMI) and non-ST-segment elevation MI (NSTEMI) care. For more information on the measures, please visit <http://www.ahrq.gov/clinic/commitfact.htm> ■

## AHRQ Director Carolyn M. Clancy, M.D., receives the AMA's Nathan Davis Award

AHRQ Director Carolyn M. Clancy, M.D., received the American Medical Association's Dr. Nathan Davis Award for Outstanding Government Service on March 14 in Washington, DC. This award,

established by the AMA in 1989, is recognized nationally as one of the most prestigious honors extended to elected officials and career government employees for outstanding endeavors that advance public health. Named for the

founder of the AMA, this award strives to encourage and stimulate public recognition for the significant accomplishments attained by men and women who give of themselves to advance the well-being of all. ■

## AHRQ releases update of a report on telemedicine

AHRQ has released an update of its 2001 report on *Telemedicine for the Medicare Population* (AHRQ Publication No. 06-E007). This update finds increased evidence in favor of telemedicine, though significant gaps still remain in the research. Larger and more comprehensive clinical trials are needed to further determine the benefits of telemedicine in the Medicare population, especially in the promising areas of dermatology, psychiatry, neurology, and home health care.

The update was requested and funded by the Center for Medicare & Medicaid Services and prepared by AHRQ's Evidence-based Practice Center at the Oregon Health & Science University. The report can also be accessed online at <http://www.ahrq.gov/clinic/epcix.htm>. Single copies may also be obtained free of charge from the AHRQ Publications Clearinghouse.\* ■

### Save the date

The 2006 AHRQ-sponsored National Research Services Award (NRSA) Trainees Research Conference, will be held on June 24, 2006 from 8:00 a.m. to 4:00 p.m. in Seattle, Washington at the Washington State Convention & Trade Center. This meeting is being convened as an affiliate of the AcademyHealth Annual Meeting. This conference is an invitational conference open to students who are appointed to an AHRQ institutional training program. ■

### AHRQ announces new program: Accelerating Change and Transformation in Organizations and Networks

AHRQ has awarded contracts to 15 new partnerships for the Agency's new Accelerating Change and Transformation in Organizations and Networks (ACTION) program, the successor to AHRQ's Integrated Delivery System Research Network (IDSRN). ACTION is a model of field-based research that fosters public-private collaboration in rapid-cycle, applied research. It links many of the Nation's largest healthcare systems with its top health services researchers. AHRQ actively seeks input on research topics for consideration in developing future ACTION projects, and is interested in hearing from organizations that may wish to sponsor, or suggest sponsors, for one or more projects. Please contact the ACTION Program Officer, Cynthia Palmer at [CPalmer2@ahrq.gov](mailto:CPalmer2@ahrq.gov). ■

### AHRQ launches new Web-based tool for States to measure performance on the quality of health care

The Agency for Healthcare Research and Quality has released a new interactive Web-based tool for States to use in measuring health care quality. The new State Snapshot Web tool is based on the *2005 National Healthcare Quality Report* (NHQR) and the *2005 National Healthcare Disparities Report* (NHDR), and provides quick and easy access to the many measures and tables of the NHQR from each State's perspective. The State Snapshot tool provides valuable information including:

- State ranking tables that rank the 50 States and the District of Columbia on 15 representative measures of health care quality

culled from 179 measures contained in the 2005 NHQR.

- Summary measures of the quality of types of care (prevention, acute, chronic) and settings of care (hospital, ambulatory, nursing home, and home health) for each State.
- Comparisons of each State's summary measures to regional and national performance relative to the region or nation.
- Performance meters that show at a glance a State's performance relative to the region or nation.
- Data tables for each State's summary measures that show the NHQR detailed measures

and numbers behind the performance meters.

Also, the State Snapshot tool features a special focus on each State's performance in the treatment of diabetes across three areas:

- Quality of diabetes care.
- Disparities in diabetes treatment.
- Cost savings that States might accrue by implementing disease management for diabetes for State government employees.

The State Snapshot tool is available at <http://www.qualitytools.ahrq.gov/qualityreport/2005/state>. ■

### New evidence report on the management of adnexal mass is available

AHRQ has released an evidence report on the management of adnexal masses—enlargements in the area of the ovaries and fallopian tubes that are sometimes a sign of ovarian cancer. The report concludes that it is not possible to estimate how well different diagnostic strategies will work. In particular, the common bimanual pelvic exam does not succeed very well in detecting adnexal masses or

distinguishing benign from malignant masses. These results raise doubts about how valuable the bimanual pelvic exam is in routine screening.

The report, *Management of Adnexal Mass* (AHRQ Publication No. 06-E004), was requested and funded

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## New evidence report

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by the Centers for Disease Control and Prevention, Center for Chronic Disease Prevention and Health Promotion, Division of Cancer Prevention and Control.

AHRQ's Duke University Evidence-based Practice Center conducted the systematic literature review and prepared the report. Visit <http://www.ahrq.gov/clinic/epcix.htm> to read or download a copy of the report. A printed copy can be also be obtained through the AHRQ Publications Clearinghouse.\* ■

## AHRQ Pediatric Quality Indicators Software and Documentation Is Available

**A**HRQ's Pediatric Quality Indicators (PedQIs) module, Version 3.0, the software and documentation, are now available for download or viewing on the AHRQ Quality Indicators site at <http://www.qualityindicators.ahrq.gov/>. The PedQIs are indicators of children's health care utilizing inpatient administrative data and are designed to help hospitals examine both the quality of inpatient care and the quality of outpatient care that can be inferred from

inpatient data, such as potentially preventable hospitalizations. The module consists of 13 provider-level indicators, such as iatrogenic pneumothorax in at-risk neonates and non-neonates and postoperative respiratory failure, plus 5 area-level indicators, including admission rates for children with asthma, diabetes, short-term complications, and gastroenteritis. ■

## Research Briefs

**Alagoz, O., Bryce, C.L., Shechter, S., and others. (2005, December). "Incorporating biological natural history in simulation models: Empirical estimates of the progression of end-stage liver disease." (AHRQ grant HS09694). *Medical Decision Making* 25, pp. 620-632.**

The use of standard Markov methods to model disease in groups of patients has often been replaced with the use of Monte Carlo microsimulation, which models disease in individual patients. The authors have developed a natural-history model that uses cubic splines to calibrate an individual microsimulation model. Cubic splines can predict quantitative changes in the laboratory values and clinical

characteristics of patients with end-stage liver disease (ESLD) awaiting liver transplantation.

The model was able to simulate the types of erratic disease trajectories that occur in individual ESLD patients and preserve the statistical properties of the natural history of ESLD in groups of real patients. Moreover, the model was able to predict pretransplant survival rate (87 percent at 1 year).

**Carey, T.S., Howard, D.L., Goldman, M., and others. (2005, November). "Developing effective interuniversity partnerships and community-based research to address health disparities." (AHRQ grant HS10861). *Academic Medicine* 80(11), pp. 1039-1045.**

The authors describe a four-year collaboration between Shaw University and the University of North Carolina at Chapel Hill to address community-based research on health disparities. The universities strategically developed several research initiatives, building on modest early successes and personal relationships. These activities included participation by Shaw faculty in faculty development activities, multiple collaborative pilot studies, and joint participation in securing medical research grants from U.S. Federal agencies. Open discussion of problems as they arose, realistic expectations, and mutual recognition of the strengths of each institution and its faculty have been

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## Research briefs

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critical in achieving successful collaboration.

**Chapman, W.W., Dowling, J.N., and Wagner, M.M. (2005, November).** “Generating a reliable reference standard set for syndromic case classification.” (AHRQ Contract No. 290-00-0009). *Journal of the American Medical Informatics Association* 12, pp. 618-629.

The authors generated and measured the reliability of a reference standard set with representative cases from seven broad syndromic case definitions and several narrower syndrome definitions used for biosurveillance. From 527,228 patients eligible between 1990 and 2003, they generated a set of patients potentially positive for 7 syndromes by classifying all eligible patients according to their ICD-9 primary discharge diagnoses. They selected a representative subset of the cases for chart review by physicians, who read emergency department reports and assigned values to 14 variables related to the 7 syndromes. Of the 27 syndromes generated by the 14 variables, 21 showed high enough prevalence, agreement, and reliability to be used as reference standard definitions against which an automated syndromic classifier could be compared.

**Garbutt, J.M., Highstein, G., Jeffe, D.B., and others. (2005, June).** “Safe medication prescribing: Training and experience of medical students and housestaff at a large teaching hospital.” (AHRQ grant HS11898). *Academic Medicine* 80(6), pp. 594-599.

Dosing errors, drug-drug-interactions, and allergic reactions

are the prescribing errors most commonly associated with adverse drug events (harm due to drug errors). A study on the routine use of safe medication prescribing practices among interns, residents, and medical students at one hospital found that only 50 percent of interns always double-checked their dosage calculations, and only 55 percent always checked for impaired renal functioning and adjusted the medication accordingly. Only one in three prescribers routinely checked for potential drug-drug interactions when writing a new order, and one in four failed to check for allergies before prescribing an antibiotic. Overall, 89 percent of those surveyed reported always checking prescribing information before prescribing new drugs, 75 percent always checked for drug allergies, 59 percent double-checked dosage calculation, 56 percent checked for renal impairment, and 30 percent checked for potential drug-drug interactions. Respondents to the anonymous survey also indicated that being in a hurry (84 percent) and being interrupted (66 percent) were likely to contribute to prescribing errors.

**Hepner, K.A., Brown, J.A., and Hays, R.D. (2005, December).** “Comparison of mail and telephone in assessing patient experiences in receiving care from medical group practices.” (AHRQ grant HS00924). *Evaluation & The Health Professions* 28(4), pp. 377-389.

Mail and telephone modes of data collection produce similar results for the medical group survey from the Consumer Assessment of Health Plans Study (G-CAHPS), concludes this study. The survey focuses on patient experiences in receiving care from their medical group practices. The

researchers compared mail and telephone responses to the G-CAHPS survey in a sample of 880 patients from 4 physician groups. They randomly assigned patients to either telephone or mail survey, then compared response rates, missing data, internal consistency, reliability of six multi-item scales, and mean scores. A total of 537 phone surveys were completed and 343 mail surveys were completed. There were no significant differences in internal consistency by survey mode and only one significant mode difference in item and composite means by mode of administration.

**Heslin, K.C., Andersen, R.M., Ettner, S.L., and others. (2005, October).** “Do specialist self-referral insurance policies improve access to HIV-experienced physicians as a regular source of care?” (AHRQ grant HS08578). *Medical Care Research and Review* 62(5), pp. 583-600.

Some States have authored bills that give managed care enrollees with a serious chronic illness such as HIV disease the right to self-refer to specialists rather than getting referrals from their primary care doctor. Researchers analyzed survey data from the HIV Costs and Services Utilization Study (HCSUS) and found that at baseline (December 1996 to April 1997), 67 percent of patients had insurance that permitted self-referral to specialists. After accounting for other factors affecting the likelihood of having an HIV expert physician, patients who were able to refer themselves to a specialist were 8 to 12 percent more likely than those who weren't to have a regular doctor who mainly treated patients with HIV.

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Seventy-four percent of HIV patients with self-referral insurance policies had HIV-experienced physicians compared with 66 percent of patients needing prior authorization. Blacks were less likely than whites to have an expert physician at baseline, and those with incomes between \$10,000 to \$24,999 were less likely to have expert physicians at follow-up than those in the highest income category.

**Huang, S.S., Platt, R., Rifas-Shiman, S.L., and others. (2005, September). "Post-PCV7 changes in colonizing pneumococcal serotypes in 16 Massachusetts communities, 2001 and 2004." (AHRQ grant HS10247). *Pediatrics* 116(3), pp. e408-e413.**

In February 2000, heptavalent pneumococcal conjugate vaccine (PCV7) was released to provide immunity to the 7 serotypes responsible for 85 percent of pediatric invasive pneumococcal disease and 78 percent of penicillin-nonsusceptible *Streptococcus pneumoniae* isolates in children. This study found that pneumococcal colonization changed after the introduction of PCV7, both in serotype distribution and in patterns of antibiotic resistance. The frequency of nonvaccine strains increased, and the proportion of nonvaccine isolates that are not susceptible to penicillin tripled. This shift toward increased carriage of nonvaccine serotypes warrants vigilance, caution the researchers. Their findings were based on examination of nasopharyngeal specimens from young children during well-child or sick visits to 16 Massachusetts primary care practices during 2001 and 2004.

**Levine, R.S., Briggs, N.C., Husaini, B.A., and others. (2005, November). "HEDIS prevention performance indicators, prevention quality assessment and Healthy People 2010." (AHRQ grant HS18113). *Journal of Health Care for the Poor and Underserved* 16, pp. 64-82.**

The Health Employer Data and Information Set (HEDIS) has been used to evaluate the quality of outpatient care and has profoundly influenced the way preventive care is delivered. However, critics suggest that because HEDIS focuses on a small set of indicators, it may also cause neglect of non-measured services. This study of Medicaid-insured patients at one clinic found that a focus on HEDIS-Medicaid 3.0 quality indicators in these patients would have been inconsistent with the goals and objectives of Healthy People 2010 and would have promoted patient mistrust by failing to meet patient expectations. According to recommended preventive services rated A or B by the U.S. Preventive Services Task Force, these patients had 11,504 service needs. Performance indicators from HEDIS-Medicaid 3.0 would have covered 22 percent (2,571), while the goals and objectives of Healthy People 2010 would have covered 99 percent (11,437).

**Reynolds, P.P., Kamei, R.K., Sundquist, J., and others. (2005, December). "Using the PRACTICE mnemonic to apply cultural competency to genetics in medical education and patient care." (AHRQ Contract No. 240-98-0020). *Academic Medicine* 80(12), pp. 1107-1113.**

A growing number of medical school courses are focusing on physician cultural competency and skills development with ethnically diverse patient

populations, as well as on genetics and genomics. The authors of this paper describe the work of the Genetics in Primary Care Faculty Development Working Group on Cultural Competency. The working group wrote a module on cultural competency and nine new clinical cases, and developed the PRACTICE mnemonic (prevalence, risk, attitude, communication, testing, investigation, consent, and empowerment) to help health care professionals integrate cultural competency skills in genetics into primary care. The PRACTICE mnemonic integrates information emerging from experts in health disparities and doctor-patient communication to build a comprehensive model for addressing the relevance of culture and ethnicity in the delivery of genetic services.

**Schuster, M.A., Collins, R., Cunningham, W.E., and others. (2005, September). "Perceived discrimination in clinical care in a nationally representative sample of HIV-infected adults receiving health care." (AHRQ Grant HS08578). *Journal of General Internal Medicine* 20, pp. 807-813.**

One-fourth of U.S. adults receiving care for HIV believe that their clinicians discriminated against them after they became infected with HIV, according to a study based on survey data from the HIV Cost and Services Utilization Study (HCSUS). Respondents to the survey indicated that from 1996 to 1997, they felt that a health care provider had been uncomfortable with them (20 percent), treated them as inferior (17 percent), preferred to avoid them (18 percent), or refused them service (8 percent). Whites (32 percent) were more likely than Latinos (21 percent) and blacks (17

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percent) to report discrimination. Reported discrimination also varied significantly by type of health insurance. Patients with HIV who felt discriminated against also reported lower access to care, lower quality of medical care and hospital care, and less trust in doctors or clinics than those who didn't report discrimination.

**Singh-Manoux, A., Hillsdon, M., Brunner, E., and others. (2005, December). "Effects of physical activity on cognitive functioning in middle age: Evidence from the Whitehall II prospective cohort study." (AHRQ grant HS06516). *Research and Practice* 95(12), pp. 2252-2258.**

This new Whitehall II study of British civil servants (aged 35-55 years) examined the association between physical activity and cognitive functioning in middle age. The researchers categorized physical activity level as low, medium, or high at phase 1 (1985-1988), phase 3 (1991-1994), and phase 5 (1997-1999). They tested cognitive functioning at phase 5, when respondents were 46-68 years old. Low levels of physical activity increased by 65 to 79 percent the risk for poor performance on a measure of fluid intelligence, with persistently low levels of physical activity being particularly harmful.

**Yost, K.J., Cella, D., Chawla, A., and others. (2005, December). "Minimally important differences were estimated for the functional assessment of cancer therapy-colorectal (FACT-C) instrument using a combination of distribution- and anchor-based approaches." (AHRQ grant HS09869). *Journal of Clinical Epidemiology* 58, pp. 1241-1251.**

Several disease-specific instruments have been developed to measure health-related quality of life (HRQL) in colorectal cancer patients, including the Functional Assessment of Cancer Therapy-Colorectal (FACT-C). This study generated minimally important differences (MIDs) for FACT-C scores based on published results for two samples from the FACT-C validation study. The researchers confirmed preliminary MIDs using data from a Phase II randomized controlled clinical trial and a population-based observational study. MIDs were stable across the different patient samples. The recommended MIDs ranged from 2 to 3 points for the colorectal cancer subscale, 4 to 6 points for the FACT-C Trial Outcome Index, and 5 to 8 points for the FACT-C total score. The authors conclude that MIDs can enhance the interpretability of FACT-C scores.

**Zhou, K.H., Resnic, F.S., Talos, I-F., and others. (2005, October). "A global goodness-of-fit test for receiver operating characteristic**

**curve analysis via the bootstrap method." (AHRQ grant HS13234). *Journal of Biomedical Informatics* 38, pp. 395-403.**

A popular method for evaluating the performance of diagnostic tests is the receiver operating characteristic (ROC) curve analysis. These researchers developed a global statistical hypothesis test for assessing the goodness-of-fit for parametric ROC curves via the bootstrap. A simple log and more flexible Box-Cox normality transformations were applied to untransformed or transformed data from two clinical studies to predict complications following percutaneous coronary interventions (PCIs) and for image-guided neurosurgical resection results predicted by tumor volume, respectively. In both studies, the p-values suggested that transformations were important to consider before applying any binormal model to estimate the areas under the curve. The analysis also demonstrated and confirmed the predictive values of different classifiers for determining the interventional complications following PCIs and resection outcomes in image-guided neurosurgery. ■

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