



RESEARCH ACTIVITIES

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AHRQ awards \$34 million to expand fight against healthcare-associated infections

The Agency for Healthcare Research and Quality (AHRQ) has awarded \$34 million for projects focused on preventing one of the top 10 leading causes of death in the United States—healthcare-associated infections (HAIs). This new funding will help improve the quality of care delivered to patients and expand the fight against HAIs in hospitals, ambulatory care settings, end-stage renal disease facilities, and long-term care facilities.

Based on estimates from the Centers for Disease Control and

Prevention (CDC), each year there are nearly 2 million HAIs in hospitals, which contribute to almost 100,000 deaths. While there is a growing body of knowledge regarding the number of infections and methods to reduce those infections within hospitals, there is not enough information currently available on infections originating in other health care settings.

“We know that infections can occur in any health care setting,” said Carolyn M. Clancy, M.D., AHRQ director. “With these new projects, we can apply what has worked in reducing infections in hospitals to other settings and ultimately help patients feel confident they are in safe hands, regardless of where they receive care.”

For example, with the dramatic growth in surgery being performed in ambulatory surgical centers and a rise in the number of these surgery centers in the United States over the last two decades—from 336 in 1985 to 5,047 in 2007—ensuring safe practices within these settings has become more critical. For example, Federal inspections have identified breaches in standard practices to prevent infections in over 60 percent of ambulatory care settings. AHRQ’s new projects also

focus on end-stage renal disease and long-term care facilities, because their more than 500,000 patients and more than 1.5 million residents, respectively, are particularly vulnerable to infections.

These awards are a part of a wide effort by the Department of Health and Human Services (HHS) to address HAIs. Funded projects will contribute to implementing the strategies outlined in the HHS Action Plan to Prevent Healthcare-Associated Infections (<http://www.hhs.gov/ash/initiatives/hai/index.html>). A broad array of partners across HHS, including AHRQ, CDC, the Centers for Medicare & Medicaid Services (CMS), and the National Institutes of Health (NIH), have been working together to achieve the prevention goals in the Action Plan.

To maximize the impact of the HAI investment, AHRQ has collaborated with CDC, CMS, and NIH to identify research gaps to improve HAI prevention. With this new funding, researchers will be able to address some of these gaps, learn why infections occur, find ways to prevent them from happening,

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Healthcare-associated infections

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improve antibiotic prescribing practices and delivery, and enhance communication and teamwork among health care providers.

Preventing these infections is a national priority, and over the last several years AHRQ has

demonstrated a sustained commitment to supporting this priority. From 2007-2009, AHRQ awarded over \$27 million for projects on the use of standardized procedures, including a checklist of proven safety practices based on CDC recommendations and staff training and tools for improving teamwork among health care

providers. With the additional \$34 million in funding announced in November, AHRQ is significantly expanding this important work.

A complete list of institutions and projects funded in fiscal year 2010 under the \$34 million is available at <http://www.ahrq.gov/qual/haify10.htm>. ■

Safety and Quality of Care

Surgical infection prevention measures reduce postoperative infections when used together, but not singly

A new study finds that compliance with several infection-prevention measures from the Surgical Care Improvement Project (SCIP) predicts a decreased likelihood of postoperative infections. The SCIP, a national effort to reduce the rate of surgical complications, has developed 20 quality measures, including 9 (6 of which focus on postoperative infection prevention) that are publically reported on the Hospital Compare Web site of the

Centers for Medicare & Medicaid Services (<http://www.hospitalcompare.hhs.gov>). Reporting to Hospital Compare is voluntary, but failure to do so results in a decrease in Medicare or Medicaid payments.

The researchers found that patients who received proper treatment that included at least two SCIP infection-prevention measures every time indicated (S-INF compliant) had a significant 15

percent reduced probability of postsurgical infection. Patients whose treatment complied with the original three SCIP infection-related measures (S-INF-Core) involving proper use and timing of antibiotics also had a 16 percent reduction in risk of postoperative infection, but this finding narrowly missed statistical significance.

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In contrast, no individual SCIP infection-related measure was individually associated with reduced risk of postoperative infection. The data were from a retrospective study of 405,720 patients discharged between the beginning of July 2006 and the end of March 2008 from 398 hospitals who filed Hospital Compare

reports. Among these patients, there were 3,996 documented postoperative infections. The researchers analyzed the rates of infection for discharged patients who did or did not adhere to the S-INF and S-INF-Core composite measures and the six individual SCIP measures. The study was funded in part by the Agency for Healthcare Research and Quality (T32 HS00059).

More details are in “Adherence to Surgical Care Improvement Project measures and the association with postoperative infections,” by Jonah J. Stulberg, M.D., Ph.D., M.P.H., Conor P. Delaney, M.D., Ph.D., Duncan V. Neuhauser, Ph.D., and others in the June 2010 *Journal of the American Medical Association* 303(24), p. 2479-2485. ■ *DIL*

Physicians can use 10 strategies to manage abnormal test result alerts in electronic health records

One of the biggest safety issues in physician offices and other outpatient settings is overlooking abnormal test results. Electronic health records (EHRs) can potentially reduce the risk of overlooking test results through use of notification systems that alert clinicians. Despite such interventions, about 7 to 8 percent of abnormal lab and imaging results are still not followed up within 30 days. What’s more, clinicians may not acknowledge all of the alerts they receive. In an attempt to help clinicians, researchers have come up with 10 strategies to improve management of test result alerts. The strategies are based on results from a project funded by the Department of Veterans Affairs’ National Center for Patient Safety.

Four of the strategies are clinician-centered and require additional training. First, clinicians should be encouraged to customize their nonmandatory notifications depending on their preferences. Second, they should be aware of the “renew alert” feature that lets them save alerts once acknowledged. Also helpful is for clinicians to use the “process all” or similar feature in EHRs. This enables them to process alerts one after another without having to go back constantly to the alert inbox/window. Finally, when short on time, clinicians should develop a strategy for prioritizing alerts based on an alert’s urgency level.

Three strategies involve the human-computer interface. These include taking full advantage of the sorting feature to view higher priority alerts first or to process similar types of alerts at the same time. Notification window size can also be enlarged in order to see more alerts at once. The same is true for resizing the width of data columns in order to see all of the text in a string.

The last three strategies deal with communication and workflow. When away from the office, clinicians should use the “surrogate clinician” feature and temporarily customize the volume of alerts transmitted to the covering partner. Another valuable feature is the “alert when results.” This allows an additional clinician to be notified when test results are available. The final strategy encourages clinicians to communicate verbally and clarify responsibility when multiple clinicians receive notification of the same test result. The study was supported in part by the Agency for Healthcare Research and Quality (HS17586).

See “Ten strategies to improve management of abnormal test result alerts in the electronic health record,” by Hardeep Singh, M.D., M.P.H., Lindsey Wilson, M.A., Brian Reis, B.E., and others in the June 2010 *Journal of Patient Safety* 6(2), pp. 121-123. ■ *KB*

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.

Rescuer experience with out-of-hospital emergency intubation is often associated with improved patient survival

Experienced surgeons routinely perform high volumes of a particular surgery all the time. But what about those who provide out-of-hospital emergency care, such as first responders, rescuers, and paramedics? How does their experience, particularly with airway insertion (endotracheal intubation), impact patient survival? A new study finds that the more experience a rescuer has with this complex medical procedure, the more survival improves for patients with cardiac arrest and for those with medical conditions who do not arrest. However, rescuer experience is not linked to trauma patients without cardiac arrest.

Henry E. Wang, M.D., M.S., of the University of Alabama at Birmingham, and colleagues

analyzed survival data for Pennsylvania hospital patients who received out-of-hospital airway insertion by rescuers during 2003 to 2005, and correlated it with the experience levels of the rescuers. Low experience was considered 1 to 10 intubations during 2000 to 2005. Medium experience was 11 to 25 intubations. High-level experience was 26 to 50 procedures, with a very high-level classification reserved for those rescuers performing more than 50 intubations during the time period.

A total of 4,846 rescuers performed tracheal intubations on 33,117 patients during 2003 and 2005 and on 62,586 patients during 2000 to 2005. Among 21,753 cardiac arrests, the adjusted odds of survival were highest when rescuers with very high

experience performed their intubations. The same was true for 8,162 medical nonarrest patients. The survival of the 3,202 patients who suffered trauma without cardiac arrest was not associated with the experience level of the rescuer. However, there were improved outcomes for this group when air medical emergency medical services provided treatment. The study was supported in part by the Agency for Healthcare Research and Quality (HS13628).

See “Out-of-hospital endotracheal intubation experience and patient outcomes,” by Dr. Wang, G.K. Balasubramani, Ph.D., Lawrence J. Cook, Ph.D., and others in the June 2010 *Annals of Emergency Medicine* 55(6), pp. 527-537.e6. ■
KB

Access to Care

Nationwide survey shows free clinics provide care to nearly 2 million patients

The first survey in 40 years of all known U.S. free clinics shows that free clinics contribute substantially to the ambulatory care safety-net system (community health centers, emergency departments, public clinics, and hospital outpatient departments), even though they operate outside of it. Every State (with the exception of Alaska) and the District of Columbia has one or more free clinics. Julie S. Darnell, Ph.D., M.H.S.A., currently of the University of Illinois at Chicago, surveyed all known free clinics in the United States, with 764 out of the total 1,007 clinics responding to the survey. In any given year, these clinics provide care to 1.8 million patients, most of whom are uninsured. This amounts to 3.1 million medical and 300,000 dental visits.

They provide these services on a very lean budget that averages \$287,810 annually. Although a few clinics own their own buildings, most rent their facilities. More than half (58.7 percent) reported not receiving any sort of government revenue. Most sources of funding were individual donations, civic group and church giving, and foundation support.

According to the survey findings, the majority of patients treated at free clinics are age 18 to 64. Half are white, 25.1 percent are Hispanic, and 21.2 percent are black. These clinics are also important sources of health care for the homeless. The main services include physical examinations, medication dispensing, chronic

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Free clinics

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disease management, and urgent/acute care. While more than half (54.1 percent) of all free clinics charge nothing for their services, 45.9 percent request an average fee or donation of \$9.30 from the patient. If patients require x-rays or lab tests, most of these are

free from other facilities when necessary. The study was supported in part by the Agency for Healthcare Research and Quality (HS15555).

See “Free clinics in the United States,” by Dr. Darnell in the June 14, 2010 *Archives of Internal Medicine* 179(11), pp. 946-953. ■ KB

Access to care for patients with lupus affected by several local factors

Patients with systemic lupus erythematosus (lupus), an autoimmune disease, typically suffer from fatigue, skin rashes, and joint pain. If the disease is more serious, they have problems with their kidneys, heart, lungs, blood, or nervous system. Access to care for this complex condition, ideally managed by rheumatologists, may be affected by an individual's socioeconomic status, neighborhood poverty, and characteristics of the local health care system, concludes a new study. Chris Tonner, M.P.H., and colleagues at the University of California, San Francisco, examined the impact of individual, neighborhood, and local care system factors (e.g., number of specialists per capita) on the number of physician visits for lupus reported by 755 adults who participated in the Lupus Outcomes Study from 2004 to 2007.

The strongest factors influencing care access were type of health insurance, physician specialty, and area-specific poverty concentration. Persons receiving their care through a health maintenance organization (HMO) had 10 percent fewer physician visits than those seen in non-HMO settings. An even stronger effect occurred for the specialty of a patient's main physician. Persons with lupus seen by generalists

reported 7.9 mean visits for the condition in the year prior to interview, compared with 11.9 mean visits for those seen by rheumatologists. This represents a mean difference of 50 percent in relative terms, even after taking into account individual demographics and health status.

Where one lived also affected the amount of care received for lupus. Persons living in areas of concentrated poverty reported 16 percent fewer physician visits. This study confirms that the differences in the most basic measure of access, the number of physician visits for lupus over a year, are substantial, and in part due to the specific nature of the community in which a person resides. This study was supported by the Agency for Healthcare Research and Quality (HS13893).

See “Role of community and individual characteristics in physician visits for persons with systemic lupus erythematosus,” by Mr. Tonner, Laura Trupin, M.P.H., Jinoos Yazdany, M.D., M.P.H., and others in the June 2010 *Arthritis Care and Research* 62(6), pp. 888-895. ■ MWS

Child/Adolescent Health

Fever over 100°F following multiple infant vaccinations is rare

Between 1991 and 2000, the number of recommended vaccines for children increased from 7 or 8 to up to 15. As the number of vaccinations increased, parents and physicians expressed concerns about their safety. Researchers decided to investigate whether changes in vaccine policy that increased the number of recommended vaccinations a child could receive were associated with an increased risk of medically attended fever (100.4°F or higher). They discovered that for every 1,000 vaccination visits, only 6.4 medically attended fevers were reported in the week following immunization.

Some of the changes to vaccination policy between 1991 and 2000 were: addition of *Haemophilus influenzae* type B flu vaccine, adoption of a universal hepatitis B vaccination recommendation, addition and withdrawal of oral rotavirus vaccine, and addition of a pneumococcal conjugate vaccine.

The researchers evaluated rates of medically attended fever after vaccination in the population of two large provider groups. Included in the study were 37,504 infants and 158,518 vaccination visits. This study is unique in using temperatures routinely recorded in the electronic medical

record to collect information on fever. The findings provide reassurance that increases between 1991 and 2000 in the number of vaccines for routine use among children were not associated with increases in medically attended fever following vaccination in routine practice. This study was supported in part by the Agency for Healthcare Research and Quality (HS02819).

See “Multiple vaccinations and the risk of medically attended fever,” by Nancy D. Lin, M.S., Sc.D., Ken Kleinman, Sc.D., K. Arnold Chan, M.D., Sc.D., and others in *Vaccine* 28, pp. 4169-4174, 2010. ■ MWS

Women's Health

While treatments for miscarriage are safe, providers do not always offer them all to their patients

Treatments for miscarriage can include letting it progress naturally, treating it medically with the drug misoprostol, or surgical evacuation. All three options are safe and acceptable to women, studies show. However, health care providers vary in which services they offer, a new study finds.

Vanessa K. Dalton, M.D., M.P.H., of the University of Michigan Medical School, and colleagues surveyed 976 obstetrician/gynecologists (OB/GYNs), midwives, and family medicine practitioners (FPs) to determine their treatment patterns for miscarriage. Midwives (55.2 percent) and FPs (64.5 percent) most often preferred to let the miscarriage progress naturally compared with OB/GYNs (24.4 percent). OB/GYNs (45.7 percent) commonly preferred to have women undergo surgical evacuation in an operating room. The

three provider groups ranked treatment with misoprostol as the second preferred option. Surgical evacuation in an office setting was the least preferred option for OB/GYNs (37.2 percent) and midwives (43.9 percent), and surgical evacuation in an operating room was the least preferred option for FPs (41.8 percent).

Lower-than-expected rates for misoprostol use and office-based surgical evacuations may be the result of misinformation on the safety of these options, the authors suggest. Alternatively, because these two options are also associated with induced abortions, providers may shy away from receiving training on how to perform these procedures. In fact, just one-fifth of

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Miscarriages

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the OB/GYNs reported having formal training in induced abortions. Nonetheless, because miscarriage is one of the most common problems that women face, this type of training will broaden the treatment options for women experiencing miscarriages. This study was

funded in part by the Agency for Healthcare Research and Quality (HS15491).

See “Provider knowledge, attitudes, and treatment preferences for early pregnancy failure,” by Dr. Dalton, Lisa H. Harris, M.D., Ph.D., Katherine J. Gold, M.D., and others in the June 2010 *American Journal of Obstetrics & Gynecology* 202(6), pp. 531.e1-531.e8. ■ KFM

Chronic Disease

Brand-name drugs not better than generics for controlling epilepsy

The Drug Price Competition and Patent Term Restoration Act of 1984 lets companies bring generic drugs to market by demonstrating that their drug is “bioequivalent” to the brand-name—that is, performs similar to the brand-name drug in pharmacokinetic testing. Since that Act’s passage, however, questions have persisted on whether brand-name and generic drugs are indeed interchangeable. A new systematic review and meta-analysis of randomized controlled trials (RCTs) of anti-epileptic drugs finds that brand-name drugs are not superior to generic drugs in treating patients who have epilepsy.

Researchers examined a total of 16 studies, including 9 RCTs, which compared generic and brand-name drugs for treating epilepsy. RCTs involving three brand-name drugs—phenytoin (Dilantin®),

carbamazepine (Tegretol®), or valproic acid (Depakene®)—found that these drugs were not superior to generics in controlling seizures.

The six observational studies, however, suggested that patients who made the switch to generic drugs for controlling their epilepsy were more likely to change back to the brand-name drug than patients who switched nonepilepsy drugs. While “switchbacks” may indicate that the patient experienced decreased seizure control with the generic drug, the study authors noted that it is also plausible that neurologists may be more likely than other physicians to mistrust generic drugs or that patients requested the change because they were influenced by media or anecdotal reports about the inferiority of generics.

Some observational studies also found that patients who switched to generics tended to use health care services more frequently as a result of the change. The authors suggest that this bump in services might be due to physicians wanting to monitor their patients closely to ensure the generic was meeting the patient’s needs. This study was funded in part by the Agency for Healthcare Research and Quality (HS18465).

See “Seizure outcomes following the use of generic versus brand-name antiepileptic drugs: A systematic review and meta-analysis,” by Aaron S. Kesselheim, M.D., J.D., M.P.H., Margaret R. Stedman, M.P.H., Ellen J. Bubrick, M.D., and others in the March 26, 2010 *Drugs* 70(5), pp. 605-621. ■ KFM

Visit the AHRQ Patient Safety Network Web Site

AHRQ’s national Web site—the AHRQ Patient Safety Network, or AHRQ PSNet—continues to be a valuable gateway to resources for improving patient safety and preventing medical errors and is the first comprehensive effort to help health care providers, administrators, and consumers learn about all aspects of patient safety. The Web site includes summaries of tools and findings related to patient safety research, information on upcoming meetings and conferences, and annotated links to articles, books, and reports. Readers can customize the site around their unique interests and needs through the Web site’s unique “My PSNet” feature. To visit the AHRQ PSNet Web site, go to psnet.ahrq.gov.

Fragmentation of care for complex diabetes patients may be associated with greater use of the emergency department

Providing coordinated care is challenging in managing the myriad complications that accompany diabetes. The benefit of referrals to specialists for diabetes-related complications, such as kidney or eye problems, may be negated by the fragmentation of care that often ensues, concludes a new study. Using a fragmentation of care index (FCI) developed for their study, researchers examined the effects of fragmentation on emergency department (ED) use among 623 patients with diabetes and kidney impairment.

The FCI, derived from a previously existing Continuity-of-Care index, was based on the number of visits to unique specialty clinics, the proportion of visits to each of these clinics, and the total number of visits. The FCI can vary from 0 (all visits to the same clinic) to 1 (each visit takes place at a different clinic). On average, patients made 19 visits to outpatient clinics and had 1.2 ED visits over the 2-year period, with almost half making at least one visit. The mean FCI was 0.42, with 14.2 percent of patients having an FCI

of 0. After controlling for patient sociodemographic and clinical characteristics, a 0.1 increase in the FCI was associated with a 15 percent increase in the number of ED visits.

These findings raise concerns about the risks and effect of referrals to specialists for patients with diabetes, particularly considering that the diabetes care provided in primary care practices is often poorly integrated with specialist consultants. Because the study did not identify the timing or source of specialist referrals, they were unable to ascribe a causal relationship between fragmented care and ED use. Their study was supported by the Agency for Healthcare Research and Quality (HS15123).

See “Care fragmentation and emergency department use among complex patients with diabetes,” by Constance W. Liu, M.D., Ph.D., Doug Einstadter, M.D., and Randall D. Cebul, M.D., in the *American Journal of Managed Care* 16(6), pp. 413-420, 2010. ■ MWS

For hypertensive patients with diabetes, blood pressure drops quicker with more frequent interactions with clinicians

High blood pressure is one of the major risk factors for microvascular and macrovascular complications in patients with diabetes, which lead to kidney, eye, and other problems. It is recommended that patients with elevated blood pressure see the doctor every month to keep blood pressure under control. However, a new study found that patients with hypertension and diabetes who had provider encounters (face-to-face or otherwise) less than 2 weeks apart had the fastest decrease in blood pressure. Blood pressure of the patients with an average encounter interval of 2 weeks or less normalized after a median of 0.7 months, compared with 1.9 months for the average encounter interval between 2 weeks and 1

month. Possible explanations for the decreases in blood pressure include a greater number of opportunities for treatment intensification as well as improved treatment adherence, note the researchers.

Alexander Turchin, M.D., M.S., and a team of Boston researchers conducted a study of 5,042 hypertensive patients with diabetes who were treated at 2 academic hospitals between 2000 and 2005. The median age of study patients was 65 years; the majority were women. On average, patients were followed for 4 years during the study. Their blood pressure was above the recommended target (129/84 mm Hg) for more than 60 percent of the time.

The researchers point out that shorter encounter intervals may be difficult to implement in practice. Most hypertensive patients are treated by their primary care physicians, and the nationwide shortage of these providers is likely to only grow in the future. They suggest that if shorter encounter intervals are to be achieved, more creative approaches to patient care may be needed. This study was supported by the Agency for Healthcare Research and Quality (HS17030).

See “Encounter frequency and blood pressure in hypertensive patients with diabetes mellitus,” by Dr. Turchin, Saveli I. Goldberg, Ph.D., Maria Shubina, Sc.D., and others in *Hypertension* 56, pp. 68-74, 2010. ■ MWS

Despite their helpfulness to guiding care, home blood pressure readings are rarely documented in routine clinical care

Anything that can be done to help patients manage their high blood pressure is a welcome part of treatment planning. Just like people with diabetes monitor their glucose levels, patients with hypertension can use home blood pressure measurements to give a more accurate, ongoing picture of their situation. While patients may embrace such monitoring, providers do not always document such data in their clinical notes, according to findings from a recent study.

Researchers went back and looked at 142,973 encounters of 9,840 patients with high blood pressure and diabetes. All providers of these patients used electronic medical records (EMRs) to document blood pressure readings. The researchers first determined the source of the reading (provider or patient) and then where it was located in the medical record (flowsheets or narrative notes).

Home blood pressure readings were found to be rarely documented in routine clinical care. There was documentation for home blood pressure in the narrative notes for only 2.08 percent of encounters where any blood pressure was recorded. The values of home

blood pressure readings found in the narrative notes tended to be lower when compared with office-based readings (-9.6 mm Hg for systolic and -2.5 mm Hg for diastolic). For each 10 mm Hg increase in office systolic blood pressure, the probability of home blood pressure monitoring being recorded increased by 23 percent. Home blood pressure documentation was 53.9 percent lower, however, for Hispanic patients compared with whites. The researchers also point out that the rate of home blood pressure documentation increases 6.2 percent for every \$10,000 increase in the median income for the patient's Zip code. Such findings may be related to the fact that home blood pressure monitoring is currently not reimbursed by insurance carriers. The study was supported in part by the Agency for Healthcare Research and Quality (HS17030).

See "Prevalence and factors affecting home blood pressure documentation in routine clinical care: A retrospective study," by Michael H. Kramer, A.B., Eugene Breydo, Ph.D., Maria Shubina, Sc.D., and others in the *BMC Health Services Research* 10(139), pp. 1-10, 2010. ■ KB

Uncontrolled asthma events among Massachusetts patients declined between 2002 and 2007

Chronic asthma in the United States is estimated to affect upwards of 20 million individuals. Uncontrolled asthma can lead to breathing crises that may result in emergency department (ED) visits or hospitalizations. The good news is that the percentage of Massachusetts patients experiencing such events declined from 39 percent to 27 percent over a 5-year period, according to a new study. The researchers based their finding on their analysis of administrative data from 2002 to 2007 for patient members of a large health plan in that State.

Uncontrolled asthma events were considered to have occurred if the

patient used one of the following four types of care: (1) asthma-related hospitalizations, (2) asthma-related ED visits, (3) two or more systemic oral corticosteroid prescription fills within a 12-month period, and (4) five or more short-acting beta-agonist (SABA) prescription fills within a 12-month period. Inhaled (as opposed to oral) corticosteroids, so-called "controller" medications, prevent and reduce lung inflammation that can lead to asthma flares.

In this study, the largest decline in uncontrolled asthma events occurred in the group receiving five or more SABA prescription fills, which dropped from 32 percent in

2002-2003 to 19 percent in 2006-2007. The next largest decrease occurred in the group of patients receiving oral steroid fills (from 16 percent in 2003-2003 to 12 percent in 2006-2007). The authors suggest that one possible reason for the decline in use of SABAs may be the increased use of controller medications that would reduce the need for them.

Individuals at highest risk of more intensive SABA use were adult males in neighborhoods with lower educational attainment. Children were more likely than adults to have several oral steroid prescriptions. This study was

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Chronic asthma

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supported by the Agency for Healthcare Research and Quality (HS10391).

See “Uncontrolled asthma in a commercially insured population from 2002 to 2007: Trends, predictors, and costs,” by Gregory S. Sawicki, M.D., M.P.H., Yury

Vilk, Ph.D., Michael Schatz, M.D., M.S., and others in the *Journal of Asthma* 47, pp. 574-580, 2010. ■ MWS

Patients with inherited cancer syndrome need help with decisions and long-term support from their surgeons

As an inherited cancer syndrome, familial adenomatous polyposis (FAP) produces hundreds and sometimes thousands of polyps in the colon and rectum. If not treated early with radical intestinal surgery, patients usually develop cancer by the time they reach the age of 40. The most radical surgery is removal of the large intestine and rectum, with an incision made in the abdomen to connect the small intestine with an external colostomy bag. The cancer risk approaches zero for this surgery, but it may cause male impotence, female infertility, and severely altered quality of life. Other less radical surgeries have more risk of cancer and less, but nevertheless substantial, impact on quality of life.

Surgeons can do more for these patients than just perform the procedure, concludes a new study. The researchers note that patients need their surgeon's help in making the surgery decisions as well as long-term support in coping with the body-altering changes, future complications, and quality of life.

A total of 14 patients with FAP and 11 health care providers were interviewed in depth about their experiences. The median patient age at surgery was 23, and 41 at the time of the interviews. The health care providers who were interviewed included colorectal surgeons, nurses, gastroenterologists, nurses, and geneticists. Throughout the interviews, three themes emerged. The first was information. Most patients received information about FAP from other family members who were affected and then

from their doctors. Patients underscored the need for upfront information, including the risks and benefits of various surgical options. However, providers felt that providing this information was challenging, as patients were often overwhelmed at the time of their diagnosis. A second theme emerged over decisionmaking. This was influenced by the patient's family experience with FAP, the age of the patient, their emotional state, and the support being received. While patients actively sought out the opinions of family and others, the majority wanted to have an active role in the decisionmaking.

The final theme was life after surgery. During the interviews, it was emphasized that the care of these patients does not end after surgery. Patients felt that living with the aftermath of surgery was the most difficult part, particularly worrying about complications and changes in quality of life. The providers who were interviewed agreed with these patient feelings and tried to prepare them for the long-term relationship they would have with medical providers. The study was supported in part by the Agency for Healthcare Research and Quality (T32 HS00066).

See “Risk-reducing surgery in FAP: Role for surgeons beyond the incision,” by H.B. Neuman, M.D., M.S., L. Robbins, D.S.W., J. Duarte, M.D., and others in the *Journal of Surgical Oncology* 101, pp. 570-576, 2010. ■ KB

Antiretroviral switching strategies to treat HIV improve survival and are cost-effective in resource-limited countries

Treatment for HIV/AIDS consists of multiple regimens containing antiretroviral drugs. As a result of increased international funding efforts and marked decreases in the cost of antiretroviral therapy, initial treatment with first-line antiretroviral regimens is now more widely available in resource-limited countries. When these regimens fail, second-line regimens are then selected. However, the availability of laboratory monitoring to guide the selection of these second-line regimens is often limited in these countries. A new study finds that the use of these tests improves survival and can be cost-effective.

Researchers assessed the outcomes and cost-effectiveness of two types of laboratory tests to guide switching to second-line treatment in Côte d'Ivoire. One test monitors CD4 immune system cells, which decrease after treatment failure. Another test measures how much HIV RNA is in the blood, another indication of HIV disease progression after treatment failure.

The researchers also looked at the effectiveness of simple clinical monitoring. A computer model was used to project life expectancy and the costs of each of the three approaches to guiding antiretroviral regimen switching strategies.

Several advantages were found for using CD4 cell counts and HIV RNA levels to guide switching to second-line regimens. First, they identified failing first-line regimens earlier. This resulted in shorter times on failing regimens, earlier switching to second-line regimens, and higher CD4 counts at switching. Compared with first-line therapy, second-line therapy increased life expectancy by 24.3 percent with clinical monitoring only. CD4 cell count monitoring increased survival by 46 percent, and HIV RNA monitoring increased survival by 61.3 percent compared with first-line therapy alone.

The incremental cost-effectiveness ratio of switching to second-line

therapy compared with first-line therapy based on clinical monitoring alone was \$1,670 per year-of-life gained. This figure was \$2,120 for twice-a-year CD4 monitoring and from \$1,990 to \$2,920 for twice-a-year HIV RNA testing, depending on the cost of individual tests (ranging from \$25 to \$87). The researchers call for more efforts to provide low-cost HIV RNA tests, while at the same time reducing the cost of second-line antiretroviral regimens. The study was supported in part by the Agency for Healthcare Research and Quality (T32 HS00055).

See "Laboratory monitoring to guide switching antiretroviral therapy in resource-limited settings: Clinical benefits and cost-effectiveness," by April D. Kimmel, Ph.D., M.Sc., Milton C. Weinstein, Ph.D., Xavier Anglaret, M.D., Ph.D., and others in the July 1, 2010 *Journal of Acquired Immune Deficiency Syndrome* 54(3), pp. 258-268. ■ KB

Dependent elderly people are adversely affected by HIV/AIDS in Africa

HIV/AIDS has dramatically changed the social landscape of sub-Saharan Africa. Many children have died from the infection and more than 12 million have been orphaned after their parents died from the disease. Elderly family members are often the sole caregivers of these children. In turn, the elderly people have lost their own family support with the deaths of their adult children, leaving

many to weather the problems of old age alone. These are the findings of a new study by researchers at the University of Chicago and Stanford University.

The researchers examined how 3 different measures of living arrangements for older people over the age of 60 were affected by HIV/AIDS by analyzing demographic and health surveys in

22 sub-Saharan African countries from 1991 to 2006. They studied the relationship between the epidemic and how many older individuals were living alone; how many were living with only dependent children under the age of 10 ("missing generation" households); and the number of adults aged 18-59 (prime-age

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HIV/AIDS in Africa

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adults) who were in households where older people lived.

According to the researchers, an increase of 1 death from HIV/AIDS per 1,000 people resulted in a 1.5 percent increase in the proportion of older individuals living by themselves and a 0.4 increase in the proportion of older individuals living with only dependent children.

In 2006, AIDS-related deaths accounted for 582,200 to 917,000 elderly people living alone and another 141,000 to 323,100 living with only dependent children. Elderly persons living without the support of prime-age adults were typically female, had not completed primary school, and had a low socioeconomic status. The study was supported in part by the Agency for Healthcare Research and Quality (T32 HS00028).

See “AIDS and declining support for dependent elderly people in Africa: Retrospective analysis using demographic and health surveys,” by Tim Kautz, Ph.D. (cand.), Eran Bendavid, M.D., M.S., Jay Bhattacharya, M.D., Ph.D., and Grant Miller, Ph.D., M.P.P., in the *British Journal of Medicine* 340, c2841. ■ KB

Elderly/Long-Term Care

Risk factors for cognitive decline still murky

As researchers continue to investigate cognitive decline in humans, a number of possible risk factors and potential protective factors have been identified. However, a new systematic review has found that there is little evidence to support the associations between certain factors and cognitive decline. The researchers concentrated on two questions originally developed for a conference organized by the Office of Medical Applications of Research at the National Institutes of Health (NIH). First, they wanted to know what factors were associated with reducing the risk of cognitive decline in older adults. Second, they also wanted to investigate if any interventions could either improve or maintain cognitive ability. The researchers selected 127 observational studies, 22 randomized controlled trials, and 16 systematic reviews for the analysis.

Many of the studies defined cognitive decline in different ways, with no one agreed-upon definition. The studies reviewed covered a

range of factors, including nutrition; medical considerations and medication; social, economic, and behavioral factors; toxic environmental exposures; and genetics. There was insufficient evidence to support an association between cognitive decline and most of the factors. However, individuals who smoked or had diabetes were more likely to demonstrate cognitive decline in observational studies. Similarly, an increased risk of cognitive decline was also seen with depression and having metabolic syndrome (high blood pressure, high blood sugar, unhealthy cholesterol levels, and excess abdominal fat).

There was also little evidence to support a variety of interventions to improve cognitive ability, including nutritional factors. However, observational studies showed a decreased risk with eating a Mediterranean diet and vegetables. Physical activity was associated with a decreased risk for cognitive decline when both observational and randomized clinical trial data were combined. Cognitive training

was associated with decreased risk of cognitive decline in one intervention study.

All of the above findings, except for cognitive training, were classified as having low quality evidence supporting the association between cognitive decline and the specific factor. This means that future research may show that there is no association with the factor and cognitive decline. There was inadequate evidence to assess any associations between cognitive decline and such things as trace metals, fat/high-calorie intake, toxic/environmental exposures, and occupational level. The study was supported in part by the Agency for Healthcare Research and Quality (HS10066).

See “Systematic review: Factors associated with risk for and possible prevention of cognitive decline in later life,” by Brenda L. Plassman, Ph.D., John W. Williams, Jr., M.D., M.H.Sc., James R. Burke, M.D., Ph.D., and others in the August 3, 2010 *Annals of Internal Medicine* 153(3), pp. 182-193 and W66-W69. ■ KB

Disparities/Minority Health

Race/ethnic origin of mother and father influence whether the mother develops gestational diabetes

Researchers do not know why 7 in 100 pregnant women develop gestational diabetes, a complication in which a woman's body is not able to produce and use all the insulin it needs for pregnancy. A new study reveals that women who are Asian, Native American, or Hispanic, or whose partners are of these racial/ethnic groups are at greater risk for developing the condition. It found that Asian women had the highest rate of gestational diabetes and that the father's race/ethnic origin contributed equally to the risk for Asian, Hispanic, and Native American groups.

Using a managed care network's database, researchers in California identified 139,848 women who developed gestational diabetes. Asian women had the highest rate (6.8 percent) compared with Native American (5.6 percent), Hispanic (4.9 percent), white (3.4 percent), and black (3.2 percent) women. Further, the rate of gestational diabetes was higher when the father was Asian (6.5 percent) compared with Hispanic (4.6 percent), Native American (4.5 percent), white (3.9 percent), or black (3.3 percent) fathers. The authors suggest that because these racial/ethnic

groups originated in Asia, they may share a common genetic risk for developing gestational diabetes.

While it has been known that maternal race/ethnicity is associated with gestational diabetes, the researchers found that the father's race seemed to be equally predictive of whether the mother will contend with the condition. This information could potentially be useful for clinicians considering whether or not to screen women for gestational diabetes with a glucose loading test, the authors suggest. It can also be informative for future research into the etiology of gestational diabetes. The study was funded in part by the Agency for Healthcare Research and Quality (HS10856).

See "Maternal and paternal race/ethnicity are both associated with gestational diabetes," by Aaron B. Caughey, M.D., M.P.P., M.P.H., Ph.D., Yvonne W. Cheng, M.D., M.P.H., Naomi E. Stotland, M.D., and others in the June 2010 *American Journal of Obstetrics and Gynecology* 202(6), 616.e1-616.e5. ■ KFM

Men and blacks less likely to be aware of cancer screening benefits

Screening for cancer (i.e., Pap smear, colonoscopy, mammogram) is an important aspect of primary care. Whenever possible, patients should actively engage in the decisionmaking process so that the risks and benefits of these screenings are understood. However, a new study has found differences in patients' perceptions of this informed decisionmaking. Specifically, characteristics such as gender, race, and education level are associated with how well patients understand the benefits of cancer screening.

Researchers surveyed a diverse group of 467 women and 257 men (aged 50 and over) from 7 primary care practices in North Carolina. The 33-item survey asked about their feelings about various cancer screening tests. Nearly 40 percent of patients felt unsure about what to do about cancer screening, although the majority (76.4 percent) knew about the benefits. More than half also were aware of the risks. Nearly 70 percent had made informed decisions about cancer screening. Over 80 percent said that their doctors regularly asked for their

input regarding cancer screening tests.

Men had 46 percent greater odds than women of not knowing the benefits of cancer screening. Compared with whites, blacks had 70 percent increased odds of not knowing the benefits of cancer screening and 50 percent increased odds of reporting they had not made informed choices about cancer screening tests. They were also more likely to say their doctor did not give them some control of

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Cancer screening

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their tests. Patients with educational levels above an associate degree felt better about their screening decisions and more certain of the benefits than less-educated patients. The researchers recommend that physicians consider racial

differences when tailoring cancer screenings and that they make a special effort to involve men, blacks, and less-educated patients in these discussions. The study was supported in part by the Agency for Healthcare Research and Quality (HS13521).

See “Perceptions of informed decision making about cancer screening in a diverse primary care population,” by Margaret L. Gourlay, M.D., M.P.H., Carmen L. Lewis, M.D., M.P.H., John S. Preisser, Ph.D., and others in the June 2010 *Family Medicine* 42(6), pp. 421-427. ■ KB

Blacks have longer PSA screening intervals than whites

A larger proportion of black men suffer from prostate cancer and die of the disease than white men. An important way to diagnose prostate cancer is to monitor a man's prostate-specific antigen (PSA) levels. Researchers have now found that blacks diagnosed with prostate cancer are more likely than whites to have a longer interval between PSA screenings.

For this study, the researchers analyzed Medicare data on 18,067 black (15.8 percent) and white men (84.2 percent) aged 65 or older. All had been diagnosed with prostate cancer between 1994 and 2002. Tumor stage at diagnosis was considered the primary study outcome. The researchers also determined the time since last PSA test.

More white men (46.1 percent) than black men (40.4 percent) had undergone PSA testing within the year before their diagnosis of prostate cancer. Compared with whites, blacks were more likely to have had no PSA testing prior to their diagnosis (32.8 percent vs. 22.1 percent). Men with advanced-stage tumors were

more likely not to have had a PSA test prior to diagnosis. They were also less likely to have had the test within a year of being diagnosed.

The researchers found an association between longer intervals between PSA tests and the likelihood of advanced disease. In this study, blacks were less likely to be married, had lower educational levels, and lower household incomes than whites. They were also more likely than whites to have one or more medical conditions and less likely to report urinary symptoms at the time of their last PSA test. According to the researchers, some of the racial disparity observed with prostate cancer may be reduced by more frequent and systematic PSA screening. The study was supported in part by the Agency for Healthcare Research and Quality (HS13353).

See “Racial differences in PSA screening interval and stage of diagnosis,” by William R. Carpenter, Ph.D., Daniel L. Howard, Ph.D., Yhenneko J. Taylor, M.S., and others in *Cancer Causes Control* 21, pp. 1071-1080, 2010. ■ KB

Telephone counseling helps Korean Americans who speak little English improve hypertension management

Telephone counseling has been successful in promoting medication adherence, healthy diet, and other lifestyle modifications among patients with high blood pressure (HBP). Korean Americans (KAs) and other immigrants tend to have increased blood pressure when they migrate to a more developed country due to the stress of acculturation and changes in diet and lifestyle. A new study found

that a special program using telephone counseling for KAs with HBP and who spoke little English was successful in improving medication-taking, reducing alcohol consumption, and boosting exercise. The program used biweekly (more intensive) or monthly (less intensive) telephone contacts by bilingual nurses, in addition to structured psychobehavioral education and

home BP monitoring with a teletransmission system.

The Self-Help Intervention Program for HBP Care (SHIP-HBP) was developed and evaluated as a means of addressing the lack of adequate HBP care and control among KAs. The community-based trial targeted middle-aged KAs with HBP who were randomly assigned

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Hypertension management

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to either more intensive (MI) or less intensive (LI) telephone counseling. At each session, the nurse and the patient discussed BP reports generated from the transmitted home monitoring data as well as their BP control status.

Overall, 360 patients completed the intervention and 11,315 telephone calls were placed over the 12-month counseling period. The success rate of telephone outreach was 80 percent. The level of success was

influenced by the frequency of counseling, patient's employment status, and patient's years of U.S. residence. Over the 12-month counseling period, both groups showed improved medication-taking, reduced alcohol consumption, and more exercise, but not less smoking, with no significant group differences. The researchers concluded that bilingual nurse telephone counseling may be widely applicable to disseminate chronic disease management guidelines to linguistically isolated

communities with limited health resources and information. This study was supported by the Agency for Healthcare Research and Quality (HS13160).

See "Implementation and success of nurse telephone counseling in linguistically isolated Korean American patients with high blood pressure," by Hae-Ra Han, Ph.D., R.N., Jiyun Kim, Ph.D., R.N., Kim B. Kim, Ph.D., and others in *Patient Education and Counseling* 80, pp. 130-134, 2010. ■ MWS

Agency News and Notes

Four million hospital admissions potentially unnecessary

About one in 10 of the nearly 40 million hospitalizations in 2008 were potentially avoidable, according to the latest News and Numbers from the Agency for Healthcare Research and Quality (AHRQ). The admissions were for conditions such as diabetes, dehydration, and certain heart conditions and infections for which hospitalization can be avoided if treated with appropriate outpatient care.

AHRQ data also found that:

- Rural hospitals had nearly twice as many potentially preventable admissions as urban hospitals (16 percent vs. 9 percent).
- People from lower-income communities accounted for nearly one-third more potentially preventable hospital admissions than patients from higher-income communities (12 percent vs. 8 percent).

- Hospitals in the West had the fewest potentially preventable admissions (8 percent) while those in the South had the most (11 percent).
- Patients aged 65 and older accounted for 60 percent of the potentially preventable hospitalizations.

This AHRQ News and Numbers is based on data in *Potentially Preventable Hospitalizations for Acute and Chronic Conditions, 2008* (<http://www.hcup-us.ahrq.gov/reports/statbriefs/sb99.pdf>). The report uses data from the 2008 Nationwide Inpatient Sample, a database of hospital inpatient stays in all short-term, non-Federal hospitals. The data are drawn from hospitals that comprise 90 percent of all discharges in the United States and include both insured and uninsured patients. For other information, or to speak with an AHRQ data expert, please contact Bob Isquith at Bob.Isquith@ahrq.hhs.gov or call (301) 427-1539. ■

Hospitalizations for medication and illicit drug-related conditions on the rise among Americans aged 45 and older

The number of hospital admissions among Americans aged 45 and older for medication and drug-related conditions doubled between 1997 and 2008, according to a recent report from the Agency for Healthcare Research and Quality (AHRQ). Medication and drug-related conditions include effects of both prescription and over-the-counter medications as well as illicit drugs.

Hospital admissions among those 45 years and older were driven by growth in discharges for three types of medication and drug-related conditions—drug-induced delirium; “poisoning” or overdose by codeine, meperidine, and other opiate-based pain medicines; and withdrawal from narcotic or nonnarcotic drugs.

Admissions for all medication and drug-related conditions grew by 117 percent—from 30,100 to 65,400—for 45- to 64-year-olds between 1997 and 2008. The rate of admissions for people aged 65 to 84 closely followed, growing by 96 percent, and for people aged 85

and older, the rate grew by 87 percent. By comparison, the number of hospital admissions for these conditions among adults aged 18 to 44 declined slightly by 11 percent.

“This report reveals a disturbing trend, and we need to find out more about why these admissions are increasing,” said AHRQ Director Carolyn M. Clancy, M.D. “As the average age of hospital patients continues to increase, so does the need for close monitoring of the types and dosages of drugs given to them.”

Drug-induced delirium or dementia can be caused by sleeping pills as well as drugs for urinary incontinence, nausea, and other problems common in the elderly, but doctors sometimes cannot identify the cause. Poisoning by pain medicines or other drugs containing codeine, meperidine, or other opiates can be caused by accidental overdosing or the failure to recognize the drug’s active ingredient. Drug withdrawal occurs when there is an abrupt

withdrawal or significant reduction in the dosage of pain or other prescription medicines to which a person can become addicted, as well as of illicit drugs.

The new AHRQ report also shows that Medicare and Medicaid were responsible for 57 percent of the \$1.1 billion cost to hospitals in 2008 for treating patients with medication and drug-related conditions; private insurance covered 24 percent, and the uninsured accounted for 14 percent. The remaining 5 percent of hospital costs for treating these conditions were borne by other sources such as TRICARE.

AHRQ’s report also includes data on other types of medical conditions treated in U.S. community hospitals, surgical and other procedures, and costs in 2008. For more information, see *HCUP Facts and Figures: Statistics on Hospital-Based Care in the United States, 2008* at www.hcup-us.ahrq.gov/reports/factsandfigures/2008/TOC_2008.jsp. ■

Hospital charges for 1 in 20 hospital stays average \$18,000 a day

Hospital charges for the most expensive patient stays at U.S. hospitals in 2008 averaged about \$18,000 per day, according to the Agency for Healthcare Research and Quality (AHRQ). These patients were most likely to be in the hospital for treatment of septicemia (blood infection), hardening of the arteries, and heart attacks.

According to AHRQ’s analysis, the average was based on the top 5 percent most expensive hospitalizations, or about 2 million patient stays. These stays lasted an average of 19 days. In contrast, daily hospital bills for the remaining 95 percent of patient stays in 2008 averaged just under \$7,000 and 4 days, and were most likely for childbirth, pneumonia, and heart failure.

Compared with the less expensive stays, patients with more expensive hospital stays also were:

- More severely ill—about 10 times more likely to experience extreme loss of function (39 percent vs. 4 percent).
- At greater risk of dying in the hospital—nine times more likely to be in the highest category for risk of death in the hospital (28 percent vs. 3 percent).
- Older—average age of 59 vs. 48 years.

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Hospital charges

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This AHRQ News and Numbers is based on data in *Most Expensive Hospitalizations, 2008* (www.hcup-us.ahrq.gov/reports/statbriefs/sb97.pdf). The report uses data from the 2008 Nationwide Inpatient Sample, a database of hospital inpatient stays in all short-term,

non-Federal hospitals. The data are drawn from hospitals that comprise 90 percent of all discharges in the United States and include patients, regardless of insurance type, as well as the uninsured. For more information, contact Bob Isquith at bob.isquith@ahrq.hhs.gov (301-427-1539). ■

Older Americans getting pneumonia shots, but not enough

Between 2000 and 2007, the proportion of Americans aged 65 and older who were vaccinated against pneumonia increased from 53 percent to 58 percent. However, the rate fell far short of the Healthy People 2010 goal of 90 percent for pneumonia vaccinations in that age group, according to the latest News and Numbers from the Agency for Healthcare Research and Quality (AHRQ). Healthy People 2010 is a Federal initiative that provides a framework for prevention for the nation.

AHRQ found that by 2007:

- About 60 percent of elderly white seniors, 44 percent of elderly blacks, and 32 percent of Hispanic elders reported being vaccinated against pneumonia.
- In contrast, the rate for Asians and Pacific Islanders decreased from 42 percent to 34.5 percent.
- The rates for lower- and higher-income elderly Americans were 49 percent and 61 percent, respectively

This AHRQ News and Numbers is based on information on pages 70-71 in the 2009 *National Healthcare Disparities Report* <http://www.ahrq.gov/qual/qdr09.htm>. The Report examines the disparities in Americans' access to and quality of health care, with breakdowns by race, ethnicity, income, and education.

For more information, or to speak with an AHRQ data expert, please contact Bob Isquith at bob.isquith@ahrq.hhs.gov or call (301) 427-1539. ■

Evidence report finds modest and short-term benefit of complementary and alternative therapy for back and neck pain

A new evidence report by the Agency for Healthcare Research and Quality concludes that the benefits of complementary and alternative medicine (CAM therapies)—which include acupuncture and spinal manipulation for low back pain, neck pain, and disability—were modest in size and were mostly evident immediately or shortly after treatment. The observed benefit appeared to fade over time. The reviewers, who were co-led by Andrea Furlan, M.D., Ph.D., Alexander Tsertsivadze, M.D.

M.Sc., and Fatemeh Yazdi, M.Sc., with the AHRQ-supported University of Ottawa Evidence-based Practice Center, were not able to draw more definitive conclusions. That's because the evidence was of low to moderate quality, heterogeneous, often inconsistent, and sometimes lacking. Some general findings of the report include the following:

- CAM therapies tended to reduce pain and/or disability more than usual medical care (generally anti-inflammatory drugs and

exercise), physical therapy, or no treatment;

- Acupuncture was better than placebo (e.g., sham-TENS, sham-laser, or sham-medication), but only for reducing pain intensity immediately after treatment;
- For people with chronic neck pain, acupuncture was no different from sham-acupuncture, pain medication, mobilization or traction, or laser therapy for reducing pain or disability after treatment.

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Back and neck pain

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- Spinal manipulation was better than placebo, and equivalent to pain medication for reducing pain intensity.
- Mobilization was better than placebo for reducing acute and

subacute neck pain, but not chronic neck pain.

- Massage was better than placebo for reducing intensity of acute or subacute pain, but not chronic pain.

This review was requested and supported by the National Institutes

of Health's National Center for Complementary and Alternative Medicine. For more information, the full report, *Complementary and Alternative Therapies for Back Pain II*, can be viewed at www.ahrq.gov/clinic/tp/backcam2tp.htm. ■

Announcements

HCUP Releases 2008 Nationwide Emergency Department Sample

The Agency for Healthcare Research and Quality (AHRQ) recently released its newest Healthcare Cost and Utilization Project (HCUP) database, the 2008 Nationwide Emergency Department Sample (NEDS). The NEDS is the largest all-payer emergency department (ED) database in the United States. The NEDS was created to enable analyses of ED use patterns and to support public health professionals, administrators, policymakers, and clinicians in their understanding and decisionmaking regarding this critical source of health care.

The NEDS has many research applications as it contains information on hospital characteristics, patient characteristics, geographic region, and the nature of the ED visits (e.g., common reasons for ED visits, including injuries). The database includes information on all visits to the ED, regardless of payer—including persons covered by Medicare, Medicaid, private insurance, and the uninsured.

The 2008 NEDS contains data from 28 million ED visits, and encompasses all encounter data from nearly 1,000 hospital-based EDs in 28 States. The NEDS approximates a 20-percent stratified sample of EDs from community hospitals. Weights are provided to calculate national estimates pertaining to the 125 million ED visits that took place in 2008. The database was constructed using records from both the HCUP State Emergency Department Databases and the State Inpatient Databases. The NEDS provides information on “treat-and-release” ED visits, as well as ED visits in which the patient was admitted to the same hospital for further care.

The 2008 NEDS can be purchased through the HCUP Central Distributor at <http://hcup-us.ahrq.gov>. Statistics from the NEDS are available on HCUPnet at <http://hcupnet.ahrq.gov>, the free online query system. More information about the NEDS can be found on the HCUP-US Web site at <http://hcup-us.ahrq.gov/nedsoverview.jsp>. ■

New guide helps patients take care of themselves after hospital discharge

AHRQ has a new guide to help prepare patients to take care of themselves at home after they leave the hospital. The guide, *Taking Care of Myself: A Guide for When I Leave the Hospital*, helps patients by suggesting important questions to be asked before leaving such as:

- Whom do I contact if I have a problem?
- What is my diagnosis?
- What medicines have I been prescribed and when should I take them?

- Which foods should I eat and what exercises should I do? Which should I avoid?
- When are my next medical appointments, and what should I know about them?
- What medicines can I safely take for headaches or other health problems?

You can download a copy of the guide at www.ahrq.gov/qual/goinghomeguide.htm. Print copies of the bilingual guide (English/Spanish) are available by sending an email to ahrqpubs@ahrq.hhs.gov. ■

Effective Health Care Program develops new papers, continuing medical education courses, and faculty slides

The Effective Health Care (EHC) Program of the Agency for Healthcare Research and Quality conducts Comparative Effectiveness Reviews (CERs) that compare the effectiveness of medications, devices, and other health care services. Reviews on a particular topic are often accompanied by clinician guides and consumer guides. New types of summary guides are developed as the need is identified.

In an effort to obtain more detail and specific information to inform and guide future research into the many topics covered in the CERs and other published reviews, the EHC Program has published eight Future Research Needs Papers as Web-only

products. The topics range from treatments of common hip fractures and prioritizing research needs in gestational diabetes to the integration of mental health/substance abuse and primary care.

The EHC Program has also developed continuing medical education lessons and examinations, slide sets for use by medical faculty, and electronic decision aids for clinicians and patients/consumers. All completed reports, summary guides, and papers, as well as many reports in progress, are available on the EHC Web site at www.effectivehealthcare.ahrq.gov. ■

New report proposes research agenda to transform health care based on principles of industrial system engineering

A new report funded by the Agency for Healthcare Research and Quality and the National Science Foundation found multiple opportunities to use industrial and systems engineering (ISyE) to help realize the goals of a new, patient-centered health care system.

Industrial and Systems Engineering and Health Care: Critical Areas of Research explores the critical areas of research at the intersection of ISyE and health care, with a special

emphasis on the supportive role of health information technology (IT). Investing in ISyE research may help in creating a fundamentally better health care delivery system. Achieving such breakthrough change requires new ISyE methods specific to health care, and integrating knowledge production across countless demonstration projects and small research efforts. Innovation in health IT has the potential to support ISyE

approaches to health systems design and evaluation. The full report provides a vision of the new health care system and a detailed research and action agenda. You can view the report at http://healthit.ahrq.gov/portal/server.pt/gateway/PTARGS_0_3882_948220_0_0_18/IndustrialAndSystemsEngineeringAndHealthCare.

Three new Medicaid-CHIP case studies now available

The Agency for Healthcare Research and Quality has released three new case studies focused on the beneficial outcomes for Medicaid and Children's Health Insurance Program (CHIP) agencies who implement health information technology (IT) and/or health information exchange (HIE) to improve the quality of care for their beneficiaries. The new case studies are:

- Leveraging Existing Leadership to Support Health IT and HIE: Lessons Learned from Minnesota's Medical Assistance Program

- Developing an Electronic Prescribing Incentive Program: Lessons Learned from New York Medicaid
- Developing a Universal Consent Form: Lessons Learned from Florida Medicaid

To access these case studies and for more resources on health IT and HIE activities for Medicaid and CHIP, go to <http://healthit.ahrq.gov/portal/server.pt?open=514&objID=16286&mode=2id>. ■

New Health IT Common Format for adverse event reporting

The Agency for Healthcare Research and Quality (AHRQ) has released a new Common Format designed to help health care providers collect information about adverse events related to health information technology and devices. This Common Format,

titled *Device or Medical/Surgical Supply including HIT Device*, is currently available as a beta version for public review and comment. The format will be revised based on feedback and released with AHRQ's Common Formats, Version 1.2 in August

2011. To view AHRQ's full set of Common Formats (Version 1.1) along with technical specifications, and accompanying user information, visit the AHRQ's Patient Safety Organization Web site at www.pso.ahrq.gov. ■

New ACTION II partnerships awards

AHRQ announced 17 new Accelerating Change and Transformation in Organizations and Networks II (ACTION II) Partnerships awards. ACTION II is a 5-year task order contract model of practice-based implementation research. Its 17 awardees and their partnerships include a total of over 350 collaborating organizations. Collectively, the partnerships, which span all States, provide access and care to an estimated 50 percent of the U.S. population, representing a broad geographic, demographic, and payer mix for care recipients. The 17 partnerships are

composed of diverse organizations involved in health care delivery, including inpatient, ambulatory, and long-term care providers (such as integrated delivery systems and Federally Qualified Health Centers/safety nets); health plans; health services research organizations/networks; consumer and patient safety groups; professional or trade associations/organizations; and quality improvement organizations. For more information see www.ahrq.gov/research/actionII.htm. ■



Healthcare 411

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- Comparative effectiveness
- Patient safety
- Preventive health Care

One-minute consumer podcasts are available in both English and Spanish. Listen online or subscribe to have podcasts sent directly to you.

For more information, visit healthcare411.ahrq.gov.

Research Briefs

Acri, T.L., Grossberg, R.M., and Gross, R. (2010). "How long is the right interval for assessing antiretroviral pharmacy refill adherence?" (AHRQ grant HS16946). *Journal of Acquired Immune Deficiency Syndrome* 54(5), pp. e16-e18.

Near-perfect adherence to highly active antiretroviral therapy (HAART) results in the highest likelihood of successful HIV outcomes. The pharmacy refill measure of adherence has been validated against change in viral load over the time interval in which individuals have a 90-day supply of HAART. The researchers aimed to determine if short (i.e., 30-day and 60-day supply) intervals of medication adherence measured by refills were as well correlated with virologic response as the previously validated 90-day measure. The test subjects were 110 patients on a stable HAART regimen for at least 3 months prior to the study. The study found that the three 30-day estimates were equally likely to correlate with adherence over the 90-day interval, but differed in their ability to predict change in viral load. The same was true for the two 60-day estimates. One drawback to this approach is that clinicians might detect nonadherence that would never lead to significant virologic failure and thus might intervene unnecessarily.

Bardach, N.S., Chien, A.T., and Dudley, A. (2010, July/August). "Small numbers limit the use of the inpatient pediatric quality indicators for hospital

comparison." (AHRQ grant HS17146). *Academic Pediatrics* 10(4), pp. 266-273.

Low event rates and inadequate numbers of relevant pediatric inpatients at many hospitals limit the usefulness of AHRQ's inpatient pediatric quality indicators (PDIs), according to a new study. The researchers used 2005-2007 data on California hospital discharges for pediatric patients. They calculated statewide rates for nine hospital-level PDIs, excluding events present on admission. Event rates varied greatly among the PDIs, the researchers report. They calculated that none of 401 hospitals had sufficient patient volume to detect a doubling of the statewide average event rate (0.2 per 1,000 discharges) for iatrogenic pneumothorax in nonnewborns, while only 11 of 44 hospitals (25 percent) doing pediatric heart surgery had sufficient patient volume to detect doubling of the statewide average (38 per 1,000 discharges) for heart surgery-related mortality.

Berdahl, T., Owens, P.L., Dougherty, D., and others. (2010, March/April). "Annual report on health care for children and youth in the United States: Racial/ethnic and socioeconomic disparities in children's health care quality." *Academic Pediatrics* 10(2), pp. 95-118. Reprints (AHRQ Publication No. 10-R057) are available from AHRQ.*

This report explores the joint effect of race/ethnicity and insurance status/expected payer or income on

children's health care quality. Across a set of 23 quality indicators, chosen broadly, the researchers found that racial and ethnic disparities varied by income levels and type of insurance. A key finding is that for the same income level or type of insurance/payer, some racial/ethnic groups had more pronounced differences in quality of care than others. The report uses data from both the Medical Expenditure Panel Survey (MEPS) covering 2004 and 2005, and from the State Inpatient Databases of the Healthcare Cost and Utilization Project (HCUP).

Brookhart, M.A., Rassen, J.A., and Schneeweiss, S. (2010, June). "Instrumental variable methods in comparative safety and effectiveness research." (AHRQ Contract No. 290-2005-0016). *Pharmacoepidemiology and Drug Safety* 19(6), pp. 537-554.

This paper discusses the use of instrumental variable (IV) methods in studies that compare the safety or effectiveness of medical interventions, to avoid the problem of systematic differences between a group of patients exposed to the intervention and the group chosen for comparison (uncontrolled confounding). Because data on the confounding factors (such as clinical indications and prognostic variables that can guide treatment choice) is often missing or unavailable, researchers cannot use statistical modeling to equalize the two groups. Use of an IV factor that is related to the treatment, but

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not to the outcome, allows analysis of a study's findings without confounding. For example, assignment to the treatment or placebo arm of a randomized, controlled trial can serve as an IV. Because such assignment is random, it will be unrelated to patient characteristics. The authors discuss other IV examples, how to report analyses that use IVs, and work through some numeric examples in an online appendix.

Carr, B.G., Conway, P.H., Meisel, Z.F., and others. (2010, July). "Defining the emergency care sensitive condition: A health policy research agenda in emergency medicine." (AHRQ grant HS17960). *Annals of Emergency Medicine* 56(10), pp. 49-51.

Using a conceptual model derived from the development and widespread use of ambulatory care-sensitive conditions, the authors present a new concept, the emergency care-sensitive condition, as a framework on which to build emergency quality measures and through which to improve evolving emergency care delivery systems. Emergency care-sensitive conditions are those conditions for which rapid diagnosis and early intervention in acute illness or acutely decompensated chronic illness improve patient outcomes. An incomplete list of such conditions might include major trauma, ST-elevation myocardial infarction, acute ischemic stroke, sepsis, cardiac arrest, and congestive heart failure. These emergency care-sensitive conditions require a care delivery system to respond in a timely and appropriate manner.

Castle, N.G., and Ferguson, J.C. (2010). "What is nursing home quality and how is it measured?" (AHRQ grant HS16808). *The Gerontologist* 50(4), pp. 426-442. The purpose of this commentary is to examine nursing home quality and indicators that have been used to measure nursing home quality. The authors first provide a brief review of the history of nursing home quality. Donabedian's structure, process, and outcome model is used to frame the discussion. The advantages and disadvantages of current quality indicators are noted. Although improvements in nursing home quality have likely occurred, empirical research studies still identify poor quality and government reports continue to find fault with care in nursing homes. The authors speculate on steps that need to be taken to address and potentially improve the quality of care provided by nursing homes, including report cards, pay for performance, market-based incentives, and policy developments in the certification process.

Cherepanov, D., Palta, M., and Fryback, D.G. (2010, August). "Underlying dimensions of the five health-related quality-of-life measures used in utility assessment." (AHRQ grant T32 HS00046). *Medical Care* 48(8), pp. 718-725).

Health-related quality-of-life (HRQoL), a broad and multi-dimensional construct, is measured as a single score by several generic indexes constructed to reflect community preferences for the health state reported by a person. The National Health Measurement study is unique in having simultaneously administered five

HRQoL indexes commonly used in the U.S. to a population-based sample. The purpose of this study was to examine the latent health dimensions reflected in the HRQoL attribute scores of the five indexes. Three related underlying dimensions of HRQoL emerged - physical, psychosocial, and pain. The results were based on a U.S. nationally representative sample of adults aged 35 years and older.

Coeytaux, R.R., Williams, J.W., Gray, R.N., and Wang, A. (2010). "Percutaneous heart valve replacement for aortic stenosis: State of the evidence." (AHRQ Contract No. 290-02-0025). *Annals of Internal Medicine* 153, pp. 314-324.

Surgical aortic valve replacement (SAVR) is the only proven effective treatment of aortic stenosis. Percutaneous heart valve replacement (PHVR) is an emerging technology that allows implantation of a prosthetic heart valve without open heart surgery. The authors' review of the available literature on PHVR for aortic stenosis found 84 published reports representing 76 distinct studies and 2,375 patients. Successful implantation and 30-day survival rates for PHVR were found to be approximately 97 percent and 92 percent, respectively. However, differences between patients undergoing PHVR and those undergoing SAVR make comparisons difficult. The available evidence is inadequate to assess the most appropriate clinical role for percutaneous heart valves or the specific patient populations for whom these valves might be indicated.

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Engelberg, R.A., Downey, L., Wenrich, M.D., and others. (2010, June). “Measuring the quality of end-of-life care.” (AHRQ grant HS11425). *Journal of Pain and Symptom Management* 39(6), pp. 951-971.

The researchers evaluated the usefulness of a questionnaire evaluating physician skill at end-of-life care. The questionnaire is to be used by patients with life-limiting illnesses (such as cancer, cardiovascular disease, congestive obstructive pulmonary disease, diabetes, and dementia), their families, and nurses. The study allowed the researchers to reduce the Quality of End-of-Life Care tool from an original 54-item questionnaire to a set of 29 items for patients, 30 items for families, and 31 items for nurses. This was further reduced to a common single-factor solution based on 10 items. Although the researchers concluded that their study showed the questionnaire’s validity, they suggest that continued testing in heterogeneous samples may be necessary.

Fieldston, E.S., Hall, M., Sills, M.R., and others. (2010, May). “Children’s hospitals do not acutely respond to high occupancy.” (AHRQ grant HS16418). *Pediatrics* 125(5), pp. 974-981.

The researchers sought to determine how children’s hospitals respond to high occupancy. Using midnight census data during 2006 from 39 children’s hospitals participating in a national pediatric database, they constructed occupancy levels and measured responses to overcrowding. Overall, the participating hospitals reported 70 percent of midnights with at

least 85 percent occupancy (including 42 percent of midnights with at least 95 percent occupancy). At this highest occupancy level, only a handful of the children’s hospitals took active steps to reduce crowding through admissions cutoffs or transfers out. The researchers note that crowding has been associated with increases in patient safety events, including medical errors.

Gandhi, T.K., Seger, A.C., Overhage, J.M., and others. (2010, June). “Outpatient adverse drug events identified by screening electronic health records.” (AHRQ grant HS11169). *Journal of Patient Safety* 6(2), pp. 91-96.

Unlike adverse drug events (ADEs) for hospital inpatients, little is known about such events in patients in the community. The researchers used a rule-based screening program to identify ADEs among outpatients at clinics associated with two large health care systems. The scanning program looked at both structured patient data and unstructured physicians’ free-text notes. The software used a set of rules that identified potential ADEs, including preventable ADEs (medical errors). In a 4-month study, the researchers found that preventable ADEs accounted for 10–12 percent of all ADEs identified. They found that the rules most likely to identify preventable ADEs were related to angiotensin-converting enzyme events or beta-blocker events.

Go, J.T., Vaughn-Sarrazin, M., Auerbach, A., and others. (2010, March). “Do hospitalists affect clinical outcomes and efficiency for patients with acute upper gastrointestinal hemorrhage

(UGIH)?” (AHRQ grant HS10597). *Journal of Hospital Management* 5(3), pp. 133-139.

Acute upper gastrointestinal hemorrhage (UGIH) is one of the most common hospital admissions. To explore the effects of hospitalists on care of patients with acute UGIH, the researchers examined data from the Multicenter Hospital Trial. They compared clinical outcomes (in-hospital mortality and complications) and efficiency (length of stay and costs) in hospitalized UGIH patients cared for by academic hospitalists and nonhospitalists in 6 academic centers in the United States during a 2-year period. Differences in adverse outcomes between providers were not seen after multivariable adjustments. Median length of stay was similar for hospitalists and nonhospitalists, but patients cared for by hospitalists had higher median costs (\$7,359 vs. \$6,181).

Gurses, A.P., Marsteller, J.A., Ozok, A., and others. (2010). “Using an interdisciplinary approach to identify factors that affect clinician compliance with evidence-based guidelines.” (AHRQ grant HS07908). *Critical Care Medicine* 38(Suppl. 8), pp. S282-S291.

Inadequate guideline compliance is a complex and difficult problem to tackle. To expand understanding of guideline compliance, what is needed is an interdisciplinary approach that uses multiple lenses to identify factors affecting compliance, suggest the authors. They identified 13 different models originating from disciplines that included medicine, rural sociology, psychology, human factors, and systems engineering.

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Clinician, guideline, system, and implementation characteristics were all identified as factors affecting compliance. The authors also developed the Barrier Identification and Mitigation (BIM) tool to provide a systematic, research-based approach to identifying barriers and reducing their effects. The authors believe that the combination of the interdisciplinary conceptual framework proposed in this paper along with the practical BIM tool provides a comprehensive systematic approach to improving guideline compliance.

Harrington, C.J., and Zaydfudim, V. (2010, April). “Buprenorphine maintenance therapy hinders acute pain management in trauma.” (AHRQ grant HS13833). *The American Surgeon* 76(4), pp. 397-399.

The authors use a case study of a motorcycle trauma patient, who was being treated to wean him off of opioid addiction, to illustrate the problems in providing adequate pain relief to such patients. Because the opioid antagonist used, buprenorphine (Suboxone®), prevents opioids from acting through their receptors, pain management was compromised as long as the trauma patient remained on buprenorphine. Discontinuing the antagonist allowed appropriate pain management in this patient. The authors suggest that acute care clinicians need further training about buprenorphine pharmacology, and that each patient be evaluated individually, taking into account the patient’s injury and pain level.

Hutt, E., Radcliff, T.A., Oman, K.S., and others. (2010, June). “Impact of NHAP guideline

implementation intervention on staff and resident vaccination rates.” (AHRQ grant HS13608). *Journal of the American Medical Directors Association* 11(5), pp. 365-370.

Increasing the proportion of nursing home staff and residents who received influenza and pneumococcal vaccines has been judged to be important in reducing nursing home-acquired pneumonia, according to national consensus guidelines. In this study, the researchers attempted a multifaceted intervention trial at 16 nursing homes under common ownership to increase these vaccination rates. None of the interventions significantly improved vaccination rates among the nursing home residents. The researchers attributed the changes that were observed to external factors—some facility-specific and others related to national policy changes.

Knudsen, A.B., Lansdorp-Vogelaar, Rutter, C.M., and others. (2010). “Cost-effectiveness of computed tomographic colonography screening for colorectal cancer in the Medicare population.” (Interagency Agreement between AHRQ and the National Cancer Institute). *Journal of the National Cancer Institute* 102(16), pp. 1238-1262.

Computed tomographic colonography (CTC) is a promising technique for colorectal cancer screening. To determine its cost-effectiveness, the researchers used three independently developed microsimulation models to assess the health outcomes and costs associated with CTC screening and with currently reimbursed colorectal cancer screening tests among the average-risk Medicare

population. Assuming perfect adherence to all tests (annual fecal occult blood test [FOBT], flexible sigmoidoscopy every 5 years, flexible sigmoidoscopy every 5 years with annual FOBT, and colonoscopy every 10 years), the number of life-years gained from CTC every 5 years was similar to the number gained from colonoscopy every 10 years. If CTC were reimbursed at the same rate as colonoscopy, it would be the most costly of all the strategies. However, if the test cost was substantially lower than colonoscopy or if a large proportion of otherwise unscreened persons were to undergo CTC screening, it would be cost-effective.

Laiteerapong, N., and Huang, E.S. (2010, August). “Health care reform and chronic diseases: Anticipating the health consequences.” (AHRQ grant T32 HS00084). *Journal of the American Medical Association* 304(8), pp. 899-900.

Because of its numerous provisions, the Patient Protection and Affordable Care Act (PPACA) has the potential to reshape the treatment and course of chronic diseases in America. Its effects will differ for individuals based on their insurance status before reform. Specific primary prevention provisions with the greatest potential influence include improved access to preventive services in Medicaid, private insurance without cost sharing, and improved access to evidence-based preventive services in Medicare without cost sharing. The PPACA also provides funding for community health teams to support the patient-centered medical home, the Medicare coverage gap discount

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program, medication management services, and other initiatives. The PPACA provides the opportunity to take advantage of recent discoveries that show the long-lasting health benefits of chronic disease prevention and treatment.

Lee, S. D., Stucky, B.D., Lee, J.Y., and others. (2010, August).

“Short assessment of health literacy: Spanish and English: A comparable test of health literacy for Spanish and English speakers.” (AHRQ grant HS13233). *HSR: Health Services Research* 45(4), pp. 1105-1120.

The researchers sought to develop and validate a health literacy test that was comparable for both Spanish-speaking and English-speaking populations. The test, called the Short Assessment of Health Literacy—Spanish and English (SAHL-S&E), combines a word recognition test and a comprehension test using multiple-choice questions designed by an expert panel. They tested and compared it with other health literacy tests in a sample of 201 Spanish-speaking and 202 English-speaking persons recruited from an ambulatory care center. The researchers found that the SAHL-S&E displayed satisfactory reliability of 0.80 and 0.89 in the Spanish- and English-speaking samples. They concluded that the SAHL-S&E has good reliability and validity.

Lin, K.W., and Humphrey, M.E. (2010). “Screening of infants for hyperbilirubinemia to prevent chronic bilirubin encephalopathy.” *American*

***Family Physician* 82(4), pp. 411-412.**

This article is a case study together with questions and answers published in conjunction with the U.S. Preventive Services Task Force (USPSTF) Recommendation Statement on this subject. The case study focuses on K.J., a full-term newborn Asian American male, born 24 hours ago with jaundice on his chest. The infant is exclusively breast feeding, has normal urine output, and the same blood type as his mother. The three questions focused on conditions which may or may not be complications of severe neonatal hyperbilirubinemia, identifying correct statements about hyperbilirubinemia, and whether or not to screen K.J. for the condition. The authors concluded that, given the USPSTF statement on this subject, which includes the risk factors for the condition, that K.J. should not be screened since the evidence in the case study is insufficient to recommend screening infants for hyperbilirubinemia to prevent chronic bilirubin encephalopathy.

Luo, Z., Gardiner, J.C., and Bradley, C.J. (2010, October). “Applying propensity score methods in medical research: Pitfalls and prospects.” (AHRQ grant HS14206). *Medical Care Research and Review* 67(5), pp. 528-554.

The authors set out to review the use of propensity score (PS) methods in nonrandomized studies or nonexperimental (observational) data. The original aim of PS methods was to use observed preintervention characteristics to balance the treatment (or exposure) and comparison groups in such studies. An individual’s PS is the

probability of being treated (or exposed), conditional on the observed characteristics. The paper provides guidance to researchers in the analysis and reporting of PS methods, particularly for the estimation of treatment effects and for sensitivity analysis. They draw on examples published in the medical literature between 2000 and 2005 to discuss criteria for properly using PS methods.

Morgan, D.J., Lomotan, L.L., Agnes, K., and others. (2010). “Characteristics of healthcare-associated infections contributing to unexpected in-hospital deaths.” (AHRQ grant HS18111). *Infection Control and Hospital Epidemiology* 31(8), pp. 864-866.

Researchers at the Baltimore Veterans Affairs Medical Center, a 119-bed acute care hospital, conducted mortality reviews of all inpatient deaths from 2004 to 2008 to determine the contribution of healthcare-associated infections (HAIs) to mortality. They found that HAIs contributed to approximately one-third of the 179 unexpected in-hospital deaths. The most common HAIs were central line-associated bloodstream infection, surgical site infection, pneumonia, and gastrointestinal infections. The most common pathogens recovered were *Enterobacteriaceae*, *S. Aureus*, *P. Aeruginosa*, and *C. difficile*. Overall, 45 percent of bacterial isolates were multidrug-resistant. To reduce mortality due to HAIs, infection prevention efforts need to focus on measures that impact multiple types of infections and multidrug-resistant organisms.

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O’Leary, T.J., Slutsky, J.R., and Bernard, M.A. (2010, June). “Comparative effectiveness research priorities at Federal agencies: The view from the Department of Veterans Affairs, National Institute on Aging, and Agency for Healthcare Research and Quality.” *Journal of the American Geriatrics Society* 58(6), pp. 1187-1192. Reprints (AHRQ Publication No. 10-R078) are available from AHRQ.*

Representatives from three Federal Agencies involved in comparative effectiveness research (CER) discuss the nature and goals of such research, which has grown greatly with funding from the American Recovery and Reinvestment Act. The article pays special attention to efforts concerning older adults. The focus is on what each of the Agencies involved (the Department of Veterans Affairs [VA], the Agency for Healthcare Research and Quality [AHRQ], and the National Institute on Aging [NIA]) see as priorities related to CER. The authors note the role of ARRA funding in increasing CER funding at AHRQ and NIA. The VA, in contrast, supports CER research as part of an overall intramural research program.

Pahel, B.T., Rozier, R.G., and Stearns, S.C. (2010, June). “Agreement between structured checklists and Medicaid claims for preventive dental visits in primary care medical offices.” (AHRQ grant T32 HS00032). *Health Informatics Journal* 16(2), pp. 115-128.

Since 2000, North Carolina Medicaid has reimbursed pediatricians and family physicians for providing pediatric preventive

oral health services. The researchers compared administrative records (Medicaid claims) for pediatric patients with structured checklists (physician encounter forms, or EFs) that become part of the child’s medical record. Of the 41,252 EFs and 40,909 claims compared, the information on preventive oral health care services matched in slightly more than 80 percent (34,171 matches). Based on the researchers’ findings, they concluded that structured checklists can be combined with claims to better assess provision of preventive dental services. Improving the completion rate of the EFs could allow their use with data beyond claims, the researchers suggest.

Palsbo, S.E., and Diao, G. (2010). “The Business case for adult disability care coordination.” (AHRQ grant 16537). *Archives of Physical Medicine Rehabilitation* 91(2), pp. 178-183.

The researchers studied a capitated Medicaid care-coordination program to investigate the financial performance of physical-disability care coordination over a 3-year period. The study population of 245 beneficiaries included patients with stroke or other brain injuries, multiple sclerosis, cerebral palsy, and spinal cord or other paralytic injury. During this period, care coordination led to higher program expenditures, primarily in the first year, for enrollees with moderate physical impairments who encounter access problems. However, the program improved care access and reduced the cost per hospitalization (although not the hospitalization rate). Care coordination allows coverage of more disability-related services and can help people move from

institutional care to less-expensive community settings, the researchers conclude.

Scanlon, M.C., and Karsh, B.-T. (2010, June). “Value of human factors to medication and patient safety in the intensive care unit.” (AHRQ grant HS13610). *Critical Care Medicine* 38(6-Suppl.), pp. S90-S96.

The authors give an overview of how human factors engineering (HFE) is used to improve medication and patient safety. They note that the nontechnical use of the phrase “the human factor” tends to place blame for problems on clinicians. In contrast, HFE looks at how to take human cognitive and physical abilities—and limitations—into account when designing productive and safe tools, tasks, and environments for human use. The paper looks at five myths about the role of the human element in medication errors and other patient safety problems, focusing on the critical care environment.

Seifer, S.D., Michaels, M., and Collins, S. (2010, Spring). “Applying community-based participatory research principles and approaches in clinical trials forging a new model for cancer clinical research.” (AHRQ grant HS16471). *Progress in Community Health Partnerships: Research, Education, and Action* 4(1), pp. 37-46.

Although an estimated 20 percent of United States adult cancer patients are eligible to participate in cancer treatment clinical trials, such participation remains under 3 percent. The authors address the use of community-based participatory

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research (CBPR) methods to increase the involvement of adult cancer patients in clinical trials. Their paper describes an initiative, partially funded by the Agency for Healthcare Research and Quality and the National Cancer Institute, to develop recommendations for employing CBPR approaches in multisite, phase III cancer clinical trials. The authors describe the background and rationale for the initiative, how the resulting report was developed and disseminated, and the challenges and opportunities in implementing the report's recommendations.

Simmons, D., and Sherwood, G. (2010, June). "Neonatal intensive care unit and emergency nurses' descriptions of working together: Building team relationships to improve safety." (AHRQ grant HS11544). *Critical Care Nursing Clinics of North America* 22(2), pp. 253-260.

The researchers report on a qualitative study of nurses' perceptions concerning working together in critical-care unit teams. The study was conducted at a large teaching hospital in an academic health center. They ran four focus groups, two with 11 volunteer participants from the neonatal intensive care unit (NICU) and two with 8 participants from the emergency department (ED) trauma resuscitation team. The researchers found three themes running through the nurses' descriptions of working together - one concerning their individual and collective personal

and professional attributes, a second focusing on developing and maintaining relationships in the workplace, and a third emphasizing concurrence among team members.

Tsai, C.-L., Sullivan, A.F., Ginde, A.A., and others. (2010, May). "Quality of emergency care provided by physician assistants and nurse practitioners in acute asthma." (AHRQ grant HS13099). *American Journal of Emergency Medicine* 28(4), pp. 485-491.

Unsupervised physician assistants and nurse practitioners (midlevel providers, or MLPs) provide poorer quality of emergency department (ED) care to patients with acute asthma than do physicians, a new study finds. The researchers also found that MLPs working under physician supervision provided quality of care similar to that of physicians. The study used data on ED visits for acute asthma selected from 63 EDs in 23 States. The level of asthma care quality was evaluated using 12 process-of-care measures based on asthma care guidelines, plus the number of hospital admissions, and how long asthma patients stayed in the ED.

Wakefield, D.S., Mehr, D., Keplinger, K., and others. (2010, July). "Issues and questions to consider in implementing secure electronic patient-provider Web portal communication systems." (AHRQ grants HS17035 and HS17948). *International Journal of Medical Informatics* 79(7), pp. 469-477.

Providers of health care are finding increased patient interest in and expectations of electronic communications. The authors survey the literature and their collective experience to develop a framework that identifies key issues in development of a secure portal for electronic communication between patients and clinicians. This framework categorizes the specific issues involved in developing such a portal into seven areas: strategic fit and priority; selection process and implementation team; integration into communications and workflow; Health Insurance Portability and Accountability Act issues and clinic policies; systems implementation and training; marketing and enrollment; and ongoing performance monitoring.

Zayfudim, V., Rosen, M.J., Gillis, L.A., and others. (2010, July). "Ciliated hepatic foregut cysts in children." (AHRQ grant T32 HS13833). *Pediatric Surgery International* 26(7), pp. 753-757.

This article is a case report of a teenage girl with a rare type of liver cyst (ciliated hepatic foregut cyst, or CHFC) that has been found to transform to squamous cell carcinoma, a malignant cancer, in about 3 percent of all cases. Although CHFC has been found in patients without symptoms in the course of certain imaging tests, the most common symptom is pain in the right upper quadrant of the abdomen or epigastric abdominal pain. When a hepatic cyst is identified, the researchers recommend its prompt excision. ■

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