



# RESEARCH ACTIVITIES

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## Patients and families say “I do” to hospital engagement

For decades, the nurses at Advocate Trinity Hospital in Chicago met during shift changes to discuss their patient’s condition, medications, and concerns. They always tried to be as thorough as possible as they spoke outside of the patient’s room or at the nursing station.

But things changed in 2011—they started including the patient.

They wanted their patients not only to hear them but to be involved. Bedside shift reports became a way for nurses to communicate with each other and their patients—and anyone else the patient wanted to be involved.

Patient participation in bedside reports was just one of four evidence-based strategies that Trinity tried as they tested protocols



Members from the 3-South team at Advocate Trinity Hospital that helped implement the AHRQ guide.

that are now included in AHRQ’s *Guide to Patient and Family Engagement in Hospital Safety and Quality*, which was posted online in July. The other strategies involved patients and family members serving as advisors, better communication at the bedside, and different approaches to plan and track discharges.

“We know that patients and families are eager to participate in making health care safer,” said Jeff Brady, M.D., associate director of AHRQ’s Center for Quality Improvement and Safety. “This guide fills an important—and largely unmet—need and gives hospitals concrete ways to put this shared interest into action.”

Under an AHRQ contract led by the American Institutes for Research, contributors to this guide included

the Institute for Patient and Family Centered Care, Consumers Advancing Patient Safety, the Joint Commission, the Health Research and Educational Trust, and others with expertise in patient and family engagement.

For 2 years before completion of the guide, three hospitals tested and evaluated at least two of the strategies and tools, which included sample brochures, letters, and slide presentations for patients and staff. The hospitals—Advocate Trinity, Anne Arundel Medical Center in Annapolis, MD, and Patewood Memorial Hospital in Greenville, SC—prided themselves on patient-centered care, but they each discovered that these strategies helped improve patient satisfaction based on their scores from the

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## Patient and family engagement

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Hospital Consumer Assessment of Healthcare Providers and Systems survey.

# We know that patients and families are eager to participate in making health care safer.

## The patient is part of the process

“If everything we do is for the patients, then we need to include the patient in the process and design it with them as an active participant,” says Susan Bocian, R.N., M.S.N., of Advocate Trinity, a 200-bed hospital. At Advocate Trinity, making the process about the patients includes everything from working with patients and

their families as advisors who review brochures and recommend signage to involving patients in bedside shift reports. “Looking back, it’s ironic that we called it a bedside shift report when we didn’t include the person in the bed,” says Bocian, who coordinated the AHRQ project at Advocate Trinity.

After the nurses at Advocate Trinity started including patients in their bedside shift reports, they surveyed their patients. “Some of the comments were, ‘I always heard the nurses whispering at the bedside but I didn’t know what they were talking about,’” explains Bocian. “When we involved the patients, several of them stated that by hearing the shift report every day, it made sense when it was time to go home. It is great that patients really enjoy the process and feel it is meaningful for them.”

To involve patients’ families, visiting hours at Trinity expanded to 24/7. The new times involved changes for everyone from the hospital’s surgeons to the security team. “Surgeons round early in the morning, so family members who wanted to speak to them had to call

and track them down. It’s been more effective for them to talk in person,” says Bocian. “The surgeons get everyone’s questions answered at same time, which also helps with the discharge process.”

But it took time for the staff to get used to the new process, admits Bocian. “It was a big practice change. We heard, ‘I don’t know if I feel comfortable in front of the patient,’ but the patient knows, for example, that he or she is diabetic,” she says. “We don’t have any secrets from the patients.”

# If everything we do is for the patients, then we need to include the patient in the process.

Just as the guide gives recommendations for opening up communication with patients, it also

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## Editor’s Note:

The From the Director column will return in November with AHRQ’s new director, Richard Kronick.

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## Patient and family engagement

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provides advice for appealing to the staff and physicians. “When we rolled out this project, we let the physicians know what’s in it for them,” explains Bocian. “We found that the patients used us as a sounding board before they spoke with their physicians. We helped them identify questions. Oftentimes, we could clarify things for the patient.”

Building rapport with families benefits everyone, says Bocian. “We had a knee surgery patient who needed rehab but was resistant and never explained why. After talking with her significant other, we learned that she cared for a son with a disability. We were able to change her plan of care upon discharge and arrange for her to have therapy at home so she could care for her son. That’s a key example of why it’s important to have the trust of the patient and her family,” she says.

## By improving communication, patient safety is enhanced in the process.

For Bocian, better communication with patients and families is part of keeping patients safe. She says, “Patients understand that we’re doing a lot of things to keep them safe, like scanning their wristbands and their medications. Most errors occur because of errors in

communication. By improving communication, patient safety is enhanced in the process.”

“We’re having very good success. You can see it in our patient satisfaction scores,” says Bocian. “We have 14 hospitals in our system, and after learning our results, the others are considering the same strategies we implemented from the guide.”

## Daily goals for everyone

Nurses have had daily goals for their patients at Anne Arundel Medical Center for a long time, but now patients have them, too. “Some patients want to walk down the hall, shower, or have a good bowel movement, which is a huge deal for the patient,” says Jeanne Morris, R.N., at Anne Arundel Hospital, a 324-bed hospital with a mix of suburban and rural patients. Sometimes they just want to see their favorite team win. The most popular goal “is to get out of here,” Morris says with a laugh.

Whatever the patient’s goal, the nurse writes it down on a white board in the patient’s room. Asking patients about their goals is just one change that Anne Arundel Hospital has made to improve communication at the bedside since using AHRQ’s *Guide to Patient and Family Engagement in Hospital Safety and Quality*.

When Morris was asked to coordinate the guide’s strategies at Anne Arundel Medical Center, she didn’t hesitate. “It really dovetailed with what the entire hospital was doing to move forward and be more patient- and family-centered,” says

Morris, a nurse navigator at Anne Arundel’s breast cancer center.

One story that stands out for Morris involves a mother whose child required two bone marrow transplants. “She told us how it felt to have the hospital team talking outside her room, not being able to hear, and not being included,” says Morris. “She wanted to say, ‘I know my daughter, I’m the one taking care of her, and I think I would be a great partner with you.’ It was really just so powerful.”

## Now more than ever it’s important for patients and families to be participants in their own health care.

Another story from a patient advisor changed the way Morris addresses her patients. “She told us women of a certain age have a preference in how they want to be addressed and that when someone says, ‘Do you mind if I call you Pat?’ it puts the onus on her. She suggested asking, ‘How would you like to be addressed?’ Sometimes, there’s something so simple we can do to help patients feel better. It’s amazing what you can learn by listening.”

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**Note:** Only items marked with a single (\*) asterisk are available from the AHRQ Clearinghouse. 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.



## Patient and family engagement

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“The guide was very easy to read and use,” says Susan Ballew, B.S.N., R.N., a nurse for 37 years with the Greenville Health System (GHS). Ballew worked on implementing the guide at Patewood Memorial Hospital, a 72-bed hospital serving a rural population, which is part of the GHS. “With the exception of patient advisors, the strategies are not going to cost you more money or FTEs or time. We just had to reeducate the staff and set expectations for the staff and

patients. Now more than ever it’s important for patients and families to be participants in their own health care.”

Bellew’s colleague, Kerrie Roberson, M.S.N., R.N., agrees. “As health care providers, we want to do what’s best for the patients and families,” says Roberson. “This is simple communication. We’ve learned a lot from the guide, we’re continuing to improve, and our patients are becoming active participants. We want them to know that they have a role, too.”

**Editor’s note:** The guide is available at [www.ahrq.gov/research/findings/final-reports/ptfamilyscan/index.html](http://www.ahrq.gov/research/findings/final-reports/ptfamilyscan/index.html). For a video clip of Dr. Brady discussing the new guide, visit: [www.youtube.com/watch?v=INzhyhY3e5E&feature=youtu.be&noredirect=1](http://www.youtube.com/watch?v=INzhyhY3e5E&feature=youtu.be&noredirect=1).

AHRQ is working with the HHS Partnership for Patients, which has made focusing on patient and family engagement a priority for its 26 hospital engagement networks and other stakeholders to share the guide with hospitals across the country. ■

## Patient Safety and Quality

### Pay-for-performance program does not improve diabetes care

Pay-for-performance (P4P) programs are designed to reward providers with payment incentives when they improve or deliver quality health care. One strategy is to pay out “piece-rate” bonuses for each patient when a particular care goal is achieved. A new study found this approach disappointing in improving diabetes care and outcomes in low-income patients, with quality measures not improving significantly during the study.

Researchers evaluated a P4P diabetes program launched at a not-for-profit Medicaid-focused managed care health plan in 2003. Out of 100,000 enrollees, 7 percent had diabetes. Providers were offered \$100 for each patient that completed all four required clinical tests for diabetes care: HbA1c (measure of blood-sugar level), LDL-cholesterol, dilated retinal exam (to detect diabetes-related complications), and microalbuminuria (test for urine protein to detect diabetes-related kidney damage). During subsequent years, bonuses increased significantly and quality measures were added, such as if HbA1c and LDL were at their targeted goal levels. Plan-level administrative data and patient-level claims data were analyzed. In addition, a brief survey was

conducted in 2009 to obtain information on diabetes-related quality improvement activities.

No significant changes in diabetes care process or outcomes were observed during the study period. The researchers, however, did find some differences in care patterns. Women were significantly less likely than men to be seen in the emergency department (ED) or hospitalized for diabetes. Younger patients with diabetes (between 18 and 30 years of age) were significantly less likely to have an office visit. This group also had more than three times the odds of visiting the ED or being admitted to a hospital. The researchers note that recent health legislation now requires using P4P incentives in government programs that care for minority and low-income patients. They call for more research to identify ways diabetes P4P programs can be tailored to these vulnerable populations. The study was supported in part by AHRQ (HS17146).

See “Impact of a pay for performance program to improve diabetes care in the safety net,” by Alyn T. Chien, M.D., M.S., Diana Eastman, Zhonghe Li, M.S., and Meredith B. Rosenthal, Ph.D., in *Preventive Medicine* 55, pp. S80-S85, 2012. KB



## Pros and cons of patient consent for sleep-deprived surgeons to operate

Studies of the impact of sleep deprivation on the performance of physicians have had mixed results. Some show adverse effects on patient care while others do not. Recently, two noted physicians argued the pros and cons of whether sleep-deprived surgeons should be required to obtain informed consent from patients before elective surgery. On the pro side, a neurologist who specializes in sleep disorders believes the evidence is clear and that the surgeon should disclose the risks and obtain consent. On the con side, a surgeon who is a leader of the American College of Surgeons believes informed consent is not the answer. Instead, surgeons should receive enough information on sleep deprivation to plan their work life so they can avoid such situations.

One doctor cites several studies that demonstrate the impact sleep deprivation has on performance. It impairs cognitive and emotional brain functioning, as well as clinical task performance and the mood of physicians. Repeated sleep interruptions experienced by physicians can lead to sleep deficiency and excessive daytime sleepiness.

The key question is if an ordinary patient would consider sleep deficiency a risk that should be disclosed to them? Would they want to know if their surgeon had been working for 24 hours or more straight before operating on them? A poll found that 6 out of 7 Americans would consider the surgeon to be at risk to do harm; 70 percent would ask for another surgeon. That would suggest,



according to the neurologist, that patients have the right to know if their surgeon has been working 24 hours or more and to decide whether to receive care from them.

According to the surgeon, mandating that a surgeon disclose sleep deprivation to a patient without a measurable effect on the outcome is not indicated. He believes it is inhumane to do so at a time when the patient is most vulnerable. Instead, surgeons should excuse themselves from doing the operation based on concern for patient safety. If they must disclose sleep deprivation, should they also disclose if they slept well before an operation or the many other personal factors that could interfere with focus and function?

According to the surgeon the solution should start with the surgeons. In addition to individual

responsibility, surgeons should look out for one another and create rules on performing elective procedures after night calls. Finally, he notes that the bulk of the responsibility lies with the institution to make sure high-performing teams determine that everyone is “fit for duty.” For this doctor, informed consent is an easy way out. Instead, the surgeon and the system need to take responsibility for delivering high-quality surgical care. The study was supported in part by AHRQ (HS13333, HS15906, and HS14103).

See “Should sleep-deprived surgeons be prohibited from operating without patients’ consent?” by Charles A. Czeisler, Ph.D., M.D., Carlos A. Pellegrini, M.D., and Robert M. Sade, M.D., in the *Annals of Thoracic Surgery* 95, pp. 757-766, 2013. ■ KB

## Stroke patients are more likely to receive tissue plasminogen activator at Joint Commission-certified stroke centers

Primary stroke centers (PSCs) are designed to provide rapid diagnosis and treatment of patients who have suffered a stroke. These centers are certified by the Joint Commission and deliver stroke therapies, such as recombinant tissue plasminogen activator (rt-PA). A new study found that patients evaluated at PSCs were more likely than patients at non-certified hospitals to receive rt-PA therapy.

Data were obtained from a large, inpatient database on patients discharged with a diagnosis of ischemic stroke from 2004 to 2009. The admitting hospital was also identified as either a certified or

non-certified PSC. Whether or not a patient received intravenous rt-PA was determined. Of 323,228 patients studied, 63,145 patients (19.5 percent) were evaluated at PSCs. During the study period, the number of PSCs increased from 112 in 2004 to 673 at the end of 2009.

Overall, the rate of patients receiving rt-PA was 3.1 percent. More patients received rt-PA at PSCs (6.7 percent) compared to those at non-PSCs (2.2 percent). During the 5-year period, treatment with rt-PA increased from 1.4 percent to 3.3 percent at non-PSCs and from 6.0 percent to 7.6 percent at PSCs. PSC certification was

significantly associated with a patient receiving rt-PA treatment. Odds of rt-PA therapy were higher at PSCs for all patient age groups, hospital location and teaching status, and volume of stroke cases each year. The study was supported in part by AHRQ (HS18362 and T32 HS13852).

See “Joint Commission primary stroke centers utilize more rt-PA in the Nationwide Inpatient Sample,” by Michael T. Mullen, M.D., Scott E. Kasner, M.D., Michael J. Kallan, M.S., and others in the May 26, 2013 *Journal of the American Heart Association* 2(2) [Epub ahead of print]. ■ KB

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## Proactive middle managers improve health care innovation effectiveness

Implementing health care innovations continues to be challenging. Less than 50 percent of quality improvement initiatives are successfully implemented. Many barriers thwart the implementation of these innovations, such as competing priorities and inertia. Middle managers may play an important role in overcoming these challenges and promoting successful health care innovation implementation, suggests a new study.

The researchers used information from the Health Disparities Collaboratives (HDC) Survey of 149 community health centers in 21 States. HDCs are designed to improve the management of chronic diseases using the Chronic Care Model. Among those surveyed were 120 HDC team leaders who were considered middle managers; 103 CEOs of the community health centers also responded.

The researchers found that middle managers' commitment influenced the effectiveness of implementing the HDC. High-commitment middle managers engaged in behaviors outside of their normal roles with a positive attitude that promoted effective

implementation. Their proactive “can-do” attitudes made them particularly efficient at developing linkages with community resources. By being able to span organizational boundaries, these middle managers were able to serve as liaisons and to ensure the quality of patient data and reports.

They also reported viewing themselves as information brokers. As such, they drew upon a host of information resources to make HDC implementation details relevant to employees. High-commitment middle managers were more positive in talking about their creative, effective approaches to addressing barriers. Low-commitment managers, on the other hand, complained about their frustration with barriers to implementing the HDC. The study was supported in part by AHRQ (HS19107).

See “Improving the effectiveness of health care innovation implementation: Middle managers as change agents,” by Sarah A. Birken, Ph.D., Shouu-Yih Daniel Lee, Ph.D., Bryan J. Weiner, Ph.D., and others in the February 2013 *Medical Care Research and Review* 70(1), pp. 29-45. ■ KB



## Mobile phones can help patients with their diabetes self-care

Need help with diabetes self-care? Eventually you may get this help by checking your mobile phone for reminders, educational or encouraging text messages, and even feedback on your texted self-reports, according to a new study. Self-management is the key to good outcomes for the more than 9 percent of U.S. adults affected by type 2 diabetes. Adapting a commercial automated text-messaging program allowed researchers to develop a 4-week program that delivers support in the form of cell phone text messages, as a substitute for human-moderated support groups that require substantial staff resources. However, the system was designed such that certain responses to messages would trigger an alert to the care manager, who would follow up by calling the patient, according to a pair of papers on the intervention from the same research group. The studies, supported by AHRQ (T32 HS00084), are briefly summarized here.

**Nundy, S., Dick, J.J., Solomon M.C., and others. (2013, January). “Developing a behavioral model for mobile phone-based diabetes interventions.” *Patient Education***

**and Counseling 90(1), pp. 125-132.**

In this paper, the researchers pilot-tested the mobile phone-based intervention on 18 black adults with type 2 diabetes for 4 weeks, followed by in-depth, individual interviews with each participant. The interviews were audiotaped, transcribed verbatim, coded, and analyzed to identify emerging themes. The patients (mean age of 55 years) had been diagnosed with diabetes for an average of 8 years.

Two-thirds of the patients had at least 6 years of experience with cell phone calling and text messaging. Based on the interviews, the constant, daily communications reduced denial of diabetes and reinforced the importance of self-management. Also, responding positively to questions about self-management increased confidence in self-care. Most surprisingly, participants viewed the automated program as a “friend” and “support group,” the researchers found.

**Nundy, S., Dick, J.J., Goddu, A.P., and others. (2012). “Using mobile health to support the Chronic Care Model: Developing an institutional initiative.”**

***International Journal of Telemedicine and Applications*, 8 pp.**

In this paper, the researchers focused on the processes involved in developing the mobile phone system, pilot-testing the

intervention, modifying the system based on the pilot study’s findings, and putting it into wider, long-term use at six

clinics associated with the large, urban medical center where the diabetes intervention was developed. The researchers note that patients receive 2-week educational modules in each topic area (medications—if appropriate, glucose monitoring, nutrition, foot care, exercise, and living with a chronic disease), which are dynamically tailored based on the patient’s expressed interests and self-reported adherence information.

The care model is estimated to require one full-time-equivalent (FTE) care manager per 300 enrolled patients, and software licensing and other technology-related expenses cost \$25/enrollee/month. This is a substantially lower cost than other care management programs described in the scientific literature, which typically serve 30–100 patients per FTE care manager. *DIL*



## Older diabetic patients have a greater risk than nondiabetic patients for long-term adverse events after coronary stenting

One-third of older patients who receive percutaneous coronary intervention (PCI) have diabetes, and these patients are at increased risk for long-term adverse events, including heart attack and death, according to a new study. During PCI, a catheter is threaded up through an artery into the heart where the blockage is removed in the coronary artery. Then a stent is placed to keep the artery open. Researchers analyzed data on 405,679 patients 65 years of age and older who underwent a PCI. A third of these patients had diabetes, with 9.8 percent receiving insulin. These data were then linked with Medicare inpatient claims data on four major clinical endpoints: death, heart attack, the need for additional revascularization procedures, and bleeding requiring hospitalization.

The average followup was 20 months. Compared to nondiabetic patients, those with diabetes had more coexisting conditions at baseline. The majority of patients received a PCI using a drug-eluting stent, which slowly releases a blood thinner to prevent future clots in the coronary artery. Others received a bare-

metal stent. At 3 years, mortality was more than double for older patients with insulin-treated diabetes compared to older nondiabetic patients (23.7 vs. 11.1 percent). The mortality rate was 14.2 percent for diabetic patients not taking insulin.

Both types of diabetic patients had a significantly increased risk of having a heart attack compared to nondiabetics. In addition, diabetic patients had a greater risk for needing additional revascularization procedures or being hospitalized for bleeding. However, receiving a drug-eluting stent was associated with a reduction in death for both types of diabetic patients and decreased risk of heart attack for diabetic patients taking insulin. The study was supported in part by AHRQ (Contract No. 290-05-0032).

See “Long-term outcomes of older diabetic patients after percutaneous coronary stenting in the United States,” by William B. Hillegass, M.D., M.P.H., Manesh R. Patel, M.D., Lloyd W. Klein, M.D., and others in the December 4, 2012 *Journal of the American College of Cardiology* 60(22), pp. 2280-2290. ■ KB

## Stress imaging may be overused in Medicare patients with stable coronary artery disease

Stress testing within 5 years of coronary artery bypass graft (CABG) surgery or percutaneous coronary artery intervention (PCI) is not appropriate for asymptomatic patients, according to current appropriateness criteria. Current guidelines also indicate that coronary revascularization should not be undertaken in asymptomatic patients unless evidence by non-invasive imaging shows high-risk ischemia.

The use of stress imaging studies is largely dependent on provider-level practice patterns, and greater rates

of testing do not appear to strongly predict greater rates of repeat revascularization, according to a new study. Therefore, many of these tests may not be necessary, conclude the researchers.

They studied 54,124 Medicare patients who received either CABG or PCI in 2003-2004. They found that over an average follow-up period of more than 4 years, only 10.3 percent of the 13,292 repeat revascularizations were preceded by a heart attack. However, geographic variation by hospital referral regions in the use of stress testing was only modestly associated with greater rates of repeat revascularization.

The mode of initial revascularization may also affect the repeat revascularization rate. At

a 6-year followup, PCI patients were more likely than CABG patients to have received revascularization. This suggests that CABG provides a greater likelihood of avoiding a repeat revascularization. The variation in provider-level stress testing rates was not explored in this study, which was funded by AHRQ (T32 HS00032).

See “Stress imaging use and repeat revascularization among Medicare patients with high-risk coronary artery disease,” by Joseph S. Rossi, M.D., Jerome J. Federspiel, A.B., Daniel J. Crespin, M.S.P.H., and others in the *American Journal of Cardiology* 110, pp. 1270-1274, 2012. MWS





## Deciding which analgesic to use for older adults with osteoarthritis is a matter of comparing risks

Research on treatment of older adults for osteoarthritis (OA) pain finds that each of the main types of painkillers (acetaminophen, nonsteroidal anti-inflammatory drugs [NSAIDs], and opioids) has its use—but also has drug-specific concerns, according to a new systematic review. OA is the most common joint disorder in the United States, and the leading cause of disability in patients 65 years or older. From the published findings of more than a decade of research studies, the researchers point out the pros and cons in older adults for each category of painkiller.

Acetaminophen is recommended by practice guidelines as the first-line drug to treat mild to moderate pain associated with osteoarthritis of the knee or hip in older adults. However, concern has been raised by clinicians about the potential danger of acetaminophen-related liver toxicity. In response, the U.S. Food and Drug Administration commissioned a working group and has required expanded warnings on nonprescription acetaminophen product boxes. However, the systematic review finds that data to support increased risk of liver toxicity in healthy older adults is sparse, but may be higher in the frail elderly. Based on the studies reviewed, the authors recommend limiting acetaminophen treatment to less than 4 g/day.

When acetaminophen is not enough to control OA pain, NSAIDs are commonly used in older adults. Patients given certain oral NSAIDs are much more likely to require hospitalization for gastrointestinal problems than those given low-dose (no more than 3 g/day) acetaminophen.

However, the risk was not increased—and may even have been reduced—for patients given a selective



NSAID (celecoxib). NSAIDs also can increase the risk of cardiovascular problems and stroke, as well as kidney disease (acute renal failure).

Finally, opioid drugs are effective for patients who can't tolerate acetaminophen or NSAIDs. However, the choice of opioids depends on pain intensity, age-related changes in drug metabolism, coexisting medical conditions, and adverse drug events. Treatment with opioids can be associated with higher rates of delirium and falls (often leading to fractures). These findings were based on a systematic review of the English language literature from January 2001 through June 2012. The study was funded in part by AHRQ (HS17695, HS19461, and HS18721).

More details are in “Adverse effects of analgesics commonly used by older adults with osteoarthritis: Focus on non-opioid and opioid analgesics,” by Christine K. O’Neil, Pharm.D., Joseph T. Hanlon, Pharm.D., M.S., and Zachary A. Marcum, Pharm.D., M.S., in the December 2012 *The American Journal of Geriatric Pharmacology* 10(6), pp. 331-342. DIL



## No significant declines in hospital stay rates for younger and black heart failure patients

Heart failure has different causes in younger and older adults. For younger adults, it is hypertension, while in older adults, it is coronary artery disease. The heart failure hospital stay rate has declined nearly 30 percent over the past decade for Medicare beneficiaries. However, younger patients have not experienced the same comparable decline in hospital stay, according to a new study. Also, black men did not experience a significant decline in hospital stay, but black women, white men, and white women did.

Researchers analyzed data from the Healthcare Cost and Utilization Project's Nationwide Inpatient Sample. This is a large database containing information on acute hospital stays for all age groups and insurance coverage. The researchers

looked at heart failure hospital stay rates, length of stay (LOS), and in-hospital mortality between 2001 and 2009.

A total of 1,686,089 hospital stays for heart failure were identified from 29 States. More than half of the patients were age 75 and older. During the study period, the national heart failure stay rate decreased 26.9 percent. Stay rate declines were most significant for patients age 55 to 64 (-36.5 percent), age 65 to 74 (-37.4 percent), and age 75 and up (-28.3 percent). However, no statistically significant changes in stay rates were found for patients age 18 to 44 (-12.8 percent) and for patients age 45 to 54 (-16.2 percent).

Significant declines were observed for white women (-33.5 percent)

and black women (-30.9 percent), but not for black men (-9.5 percent). White men had a decline of 24.7 percent. Overall, the average length of stay dropped from 5.6 days to 5.3 days, a 6.4 percent decline. Mortality also fell from 4.5 percent to 3.3 percent. Reductions in mortality were more significant for patients age 45 and older, but not for patients age 18 to 44. The study was supported in part by AHRQ (HS18781).

See "National trends in heart failure hospital stay rates, 2001 to 2009," by Jersey Chen, M.D., M.P.H., Kumar Dharmarajan, M.D., M.B.A., Yongfei Wang, M.S., and Harlan M. Krumholz, M.D., S.M., in the March 12, 2013 *Journal of the American College of Cardiology* 61(10), pp. 1078-88. ■ KB

### Health Information Technology

## E-health blood pressure control program shows positive preliminary results

Only 35 percent of hypertensive patients have their condition adequately controlled. Health information technology (IT) can improve the quality of care for such patients by integrating home blood pressure monitor (HBPM) data through a Web portal with the electronic medical record and personal health record (PHR) that connects the patient virtually to the medical team. Models of care that integrate health IT may also cost less than standard models of care. When researchers performed a preliminary feasibility test of an e-health blood pressure control system with a small group of patients, they found that, with patient navigator support, it was well received by patients, providers, and the health care team.

Ninety percent of the enrolled patients were able to upload BP readings to the Web portal. Approximately half of the patients required technological support in

order to use the e-health blood pressure control program. Some of the patients had their hypertension controlled with little interventional support, but some required significant assistance.

The study focused on 28 patients with uncontrolled hypertension who were given home blood pressure monitors. After a 90-day break-in period, they were divided into two groups. The first group used a "high-tech" solution consisting of access to only the HBPM-integrated PHR and the tailored Web portal in order to monitor BP progress, and the second group used a high-tech/high-touch solution that included support from a patient navigator (health coach) in addition to the high-tech



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## Blood pressure control

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component. The patient navigator is a community health worker or lay person who coaches patients to assume a more active role in their care. During the final 3 months of the study, all participants received patient navigator support. Overall, 65 percent of participants had their blood pressure controlled with the high-tech/high-touch approach compared to 45 percent with HBPM alone. The researchers concluded that their

study showed promising results of a high-tech/high-touch approach in advancing the meaningful use of technology in primary care. This study was supported by AHRQ (HS18238).

See “E-Health blood pressure control program,” by David K. Ahern, Ph.D., Lynda J. Stinson, B.S., Lisa A Uebelacker, Ph.D., and Charles B. Eaton M.D., M.S., in the September/October 2012 *Medical Practice Management*, pp. 91-100. ■ MWS

## Women's Health

### A mammogram every 2 years may be as good as a mammogram every year for older women, according to a new registry-based study

The proper age for women to begin routine mammography screening and how often they should be screened has been a topic of vigorous debate in the United States medical community for a number of years. Similarly, the benefits of frequent screening for breast cancer among older women in the United States have been uncertain. However, a new prospective study reported earlier this year found that older women (aged 66 to 89 years) who were screened with mammography every 2 years had a similar risk of advanced-stage disease as those

screened annually and had a lower cumulative risk of false-positive mammograms (48 vs. 29 percent).

The researchers defined a false-positive as recall for additional mammography or for a biopsy recommendation with no diagnosis of invasive carcinoma or of ductal carcinoma in situ within a year or before the next screening examination. They noted that their findings were not affected by women's coexisting conditions. The researchers used data for 1999 through 2006 on women whose providers were part of the Breast Cancer Surveillance Consortium, which they then linked to Medicare claims. The study was funded in part by AHRQ (HS19482).

More details are in “Screening outcomes in older U.S. women undergoing multiple mammograms in community practice: Does interval, age, or comorbidity score affect tumor characteristics or false



positive rates?” by Dejana Braithwaite, Ph.D., M.S., Weiwei Zhu, M.S., Rebecca Hubbard, Ph.D., and others in the March 6, 2013 *Journal of the National Cancer Institute* 105(5), pp. 334-341. *DIL*





## Male fetuses that survived the tragedy of 9/11 tended to be hardier at 2 years of age

After the terrorist attacks on September 11, 2001, there were reports of excess male fetal deaths in the following months. Natural selection theory supports that males in utero are more sensitive to outside stressors than females. However, a new study of births after 9/11 suggests that male fetuses that did survive the stress of 9/11 were hardier at 2 years. The researchers collected data on cognitive scores and height for age on males born after 9/11 in California from the Early Child Longitudinal Study Birth Cohort. Excess male fetal loss took place in October and November 2001. By December 2001, there were 2 percent fewer live male births than expected. There were a total of 1,100 children at the 9-month assessment and 900 children at the 24-month assessment. The California group was then compared to children born in all other states.

Males born in December 2001 were found to have greater than expected cognitive function at 2 years of

age. However, there was no consistent change in expected values in height-for-age. These California males with higher cognitive ability also had a lower incidence of very low birth weight, but this factor alone did not account for males' higher cognitive ability. The researchers also found that low socioeconomic status, a low score on the child's home environment, and birth weight were independent predictors of lower cognitive scores at 2 years of age.

Given the findings, the researchers conclude that after 9/11, more frail male fetuses may have been lost in utero compared to female fetuses. As a result, those males that did survive the stressors of the tragedy were hardier and had higher cognitive ability after 24 months. The study was supported in part by AHRQ (T32-HS00086).

See "Intrauterine stress and male cohort quality: The case of September 11, 2001," by Tim A. Bruckner, Ph.D., and Jenna Nobles, Ph.D., in *Social Science & Medicine* 76, pp. 107-114, 2013. KB



## Few interventions effective for children exposed to nonrelational trauma

Approximately two-thirds of children and adolescents will have exposure to at least one traumatic event before they reach the age of 18. Some of these children later develop traumatic stress symptoms and syndromes, including post-traumatic stress disorder. An AHRQ comparative effectiveness review found only a few psychotherapy interventions that appear promising.

The review included 25 articles representing 23 studies and testing 20 interventions focused on the evidence for interventions to help children who have experienced traumas due to nonrelational

(non-interpersonal) trauma, such as accidents, natural disasters, or war. The more promising interventions were school-based treatments with elements of cognitive behavioral therapy (CBT). There was also some evidence for promising interventions targeting already existing symptoms, each of which had elements of CBT.

No pharmacological intervention demonstrated efficacy. Additionally, no evidence was found that provided insight into how interventions targeting children exposed to traumatic events, with or without symptoms, might influence

long-term development. The researchers conclude that psychotherapeutic interventions may provide benefit relative to no treatment in children exposed to nonrelational trauma and appear not to have associated harms. This study was funded by AHRQ (Contract No. 290-07-10056).

See "Comparative effectiveness of interventions for children exposed to nonrelational traumatic events," by Valerie L. Forman-Hoffman, Ph.D., Adam J. Zolotor, M.D., Joni L. McKeeman, Ph.D., and others in *Pediatrics* 131, pp. 526-539, 2013.

■ MWS

## No direct link between fatigue and disease activity in juvenile idiopathic arthritis

Fatigue is commonly reported by children with juvenile idiopathic arthritis (JIA). Some data suggest associations between fatigue and disease activity, while other data report associations with functional ability and aspects of mood, including anxiety and depression. A new study found no significant relationship, after adjusting for pain, between fatigue and summary measures of disease activity in JIA, including the Juvenile Arthritis Disease Activity Score. In both the child- and parent/proxy-reported multivariable models of fatigue, functional ability (measured by the Childhood Health Assessment Questionnaire) was the only variable that remained significantly associated with fatigue, after adjustment for reported pain.

The researchers believe that routinely incorporating pain and fatigue into interventional and observational trials of JIA will enable better delineation of the relationships between these variables. Their findings were based on study of 309 children, who were treated at the rheumatology clinic of Children's Hospital in Seattle, WA. The study was funded by AHRQ (HS19482).

See "Disease activity and fatigue in juvenile idiopathic arthritis," by Sarah Ringold, M.D., Teresa M. Ward, Ph.D., and Carol A. Wallace, M.D., in the March 2013 issue of *Arthritis Care & Research* 65(3), pp. 391-397. ■ MWS

### Disparities/Minority Health

## Black children with acute respiratory infections receive fewer antibiotic prescriptions than non-black children

When treated by the same clinician, black children receive fewer antibiotic prescriptions for acute respiratory tract infections (ARTIs) than non-black children (23.5 vs. 29 percent), according to a new study. Also, when an antibiotic was prescribed, black children were less likely to receive broad-spectrum antibiotics at any visit, including visits for acute ear infections. The researchers examined antibiotic prescribing patterns across a diverse network of 25 pediatric practices in 2009.

Although this study did not investigate the reasons for these disparities, differences in prescribing rates might have been driven by differences in parental expectations, physician perception of parental expectations, and/or

differential use of shared decisionmaking. The contribution of practitioner bias to racial differences in diagnosing and treating ARTIs was unclear.

Since ARTIs are common, have little variation in disease severity, and are generally managed within a single encounter by a clinician who manages hundreds of ARTIs per year, the researchers believe that these infections offer a clear opportunity to examine whether race affects the diagnosis and treatment decisions of individual providers. The study included over 200,000 children seen by 222 clinicians in 25 practices during 2009. This study was funded by AHRQ (Contract No 290-07-10013).



See "Racial differences in antibiotic prescribing by primary care pediatricians," by Jeffrey S. Gerber, M.D., Priya A. Prasad, M.P.H., A. Russell Localio, Ph.D., and others in *Pediatrics* 131, pp. 677-684, 2013. ■ MWS

# AHRQ Stats



## The top 1 percent of the U.S. population ranked by health care expenses accounted for 21.4 percent of expenditures in 2010

The top 1 percent of the U.S. population ranked by their health care expenses accounted for 21.4 percent of total health care expenditures in 2010, with an annual mean expenditure of \$87,570. Overall, the top 50 percent of the population ranked by their expenditures accounted for 97.2 percent of overall health care expenditures, while the lower 50 percent accounted for only 2.8 percent of the total. (Source: AHRQ Medical Expenditure Panel Survey Statistical Brief #421, *Differentials in the Concentration in the Level of Health Expenditures Across Population Subgroups in the U.S., 2010* available at <http://go.usa.gov/DXwd>).

## AHRQ stats reveal five most expensive conditions treated in U.S. hospitals in 2010

The five most expensive conditions treated in U.S. hospitals in 2010 in terms of average cost per stay were

respiratory failure (\$22,300); septicemia or bloodstream infections (\$18,400); heart attack (\$18,200); intracranial injury (\$18,000); and complication from a device, implant, or graft (\$17,600). (Source: AHRQ

Healthcare Cost and Utilization Project Statistical Brief #146, *Costs for Hospital Stays in the United States, 2010* available at <http://go.usa.gov/DXf3>).

## Most common reasons for children's emergency department visits

Injury, poisoning, and respiratory disorders were the most common reasons for the 25.5 million emergency department visits among children younger than 18 years old in 2010. (Source: AHRQ Healthcare Cost and Utilization Project Statistical Brief #157: *Overview of Children in the Emergency Department, 2010* available at <http://go.usa.gov/DXfm>).

## Injury-related emergency room visits among persons age 65 and older

In 2010, more than 70 percent of injury-related emergency department visits among persons age 65 and older were related to falls. In that same year, injury accounted for 17 percent of all emergency department visits. (Source: AHRQ Healthcare Cost and Utilization Project Statistical Brief #156: *Causes of Injuries Treated in the Emergency Department, 2010* available at <http://go.usa.gov/DXfJ>).

## Individuals 50 and older with heart disease more likely to have a hospital stay or emergency room visit in 2010

Individuals age 50 and older with heart disease were more than twice as likely as those without heart disease to have either a hospital stay or an emergency room visit in 2010. They also had average annual health expenditures that were a little more than double the average for individuals without a diagnosis of heart disease. (Source: AHRQ Medical Expenditure Panel Survey Statistical Brief #408, *Heart Disease among Near Elderly Americans: Estimates for the U.S. Civilian Noninstitutionalized Population, 2010* available at <http://go.usa.gov/DXGY> and Statistical Brief #409, *Heart Disease among Elderly Americans: Estimates for the U.S. Civilian Noninstitutionalized Population, 2010*, available at <http://go.usa.gov/DX7x>).





## Beta blocker propranolol may help prevent migraines in children

Research on preventing migraines in children indicates that there is limited evidence on the benefits and harms of migraine preventive drugs in children, according to a new research review by AHRQ's Effective Health Care Program. The quality of migraine studies involving children is generally poor, with few trials providing detailed information. However, limited, low-strength evidence suggests that the beta blocker propranolol is more effective than a placebo for preventing migraine in children, with no bothersome negative effects that could lead to treatment discontinuation.

While the evidence confirms previously published conclusions about the efficacy of propranolol, non-drug treatments, such as stress management, also demonstrated better benefit-to-harm ratios than drug treatments in head-to-head randomly controlled trials. Other strategies, such as antiepileptics and internet-based therapies, were also examined for effectiveness in preventing migraines in children.

Migraine frequency is classified as either episodic or chronic according to the number of monthly migraine days, with episodic migraine being less than 15 days, and chronic migraine lasting 15 or more days. Both migraine types significantly affect children's physical, psychological, and social well-being, and can impose serious lifestyle restrictions. Childhood migraine has also been shown to impair learning and school productivity by 50 percent or more.



More research is needed on the comparative effectiveness of multimodal drug and disease management approaches; the long-term benefits, safety, and adherence with preventive treatments; the effects and risks of off-label drug use for migraine prevention; and the role of children's characteristics that could modify benefits and harms with preventive drugs. These findings and others can be found in the research review, *Migraine in Children: Preventive Pharmacologic Treatments*, which can be accessed at <http://go.usa.gov/DX75>. ■

## QRS duration good indicator of who will benefit from a pacemaker

Research from AHRQ's Effective Health Care Program suggests that QRS duration (measurement of electrical conducting time measured with electrocardiogram) is a good indicator of which patients with heart failure will benefit from a pacemaker. The research found that, among fee-for-service Medicare beneficiaries undergoing cardiac resynchronization therapy defibrillator (CRT-D) implantation in routine clinical practice, patients with left bundle-branch block

(LBBB, a condition that causes disorganized electrical activity in the heart) and a QRS duration of 150 millisecond (ms) or greater, compared with LBBB and QRS duration less than 150 ms or no LBBB regardless of QRS duration, had lower risks of mortality and heart failure readmission. These findings support the use of QRS morphology and duration to help identify patients who will have the greatest benefit from CRT-D implantation.

The findings on patients receiving CRT-D in clinical practice are consistent with the recently updated American College of Cardiology/American Heart Association/Heart Rhythm Society Guidelines for Device-



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## Pacemakers

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Based Therapy of Cardiac Rhythm Abnormalities, which emphasize the importance of QRS duration and morphology on patient selection for CRT therapy. The guidelines

provide stronger recommendations for patients with LBBB compared to those without, and for patients with more prolonged QRS duration.

See “QRS Duration, Bundle-Branch Block Morphology, and Outcomes Among Older Patients With Heart

Failure Receiving Cardiac Resynchronization Therapy,” by Pamela N. Peterson, M.D. M.S.P.H., Melissa A. Greiner, M.S., Laura G. Qualls, M.S., and others in *JAMA Internal Medicine* 310 (6), 2013. ■

## New review evaluates strategies for predicting and preventing stroke in atrial fibrillation patients

A new research review by AHRQ’s Effective Health Care Program compares tools that evaluate stroke risk factors and available therapies for patients with atrial fibrillation, the most common cardiac arrhythmia seen in clinical practice. Patients with atrial fibrillation have a five-fold increased risk of stroke. It is estimated that up to 25 percent of all strokes in the elderly are a consequence of atrial fibrillation and that these strokes cost

Medicare approximately \$8 billion annually.

The review finds that, in patients with atrial fibrillation, CHADS2 and CHA2DS2-VASc scores have the greatest discrimination for stroke events among the risk scores reviewed, whereas HAS-BLED provides the best discrimination of bleeding risk. However, additional information is needed to determine how scores should be utilized in clinical practice.

According to the review, initial trials of newer oral anticoagulants, including apixaban and higher-dose dabigatran, show a high strength of evidence for reducing stroke and bleeding events compared with warfarin in patients with atrial fibrillation, though no studies directly compare the new therapies.

In addition, the review finds that for patients not suitable for oral anticoagulation therapies, apixaban is more effective and has a better safety and tolerability profile than aspirin in stroke prevention. However, additional studies are required for common clinical scenarios encountered with patients on therapies for stroke prevention, including strategies for patients undergoing invasive procedures, switching among anticoagulant therapies, and starting or restarting anticoagulant therapy in patients with previous major bleeding events. These findings and others can be found in the research review *Stroke Prevention in Atrial Fibrillation* at <http://go.usa.gov/DX7H>. ■ ■ ■

## Evidence lacking on effectiveness of interventions for incarcerated adults with serious mental illness

Treatment with antipsychotics other than clozapine appears to improve psychiatric symptoms more than clozapine in offenders with serious mental illness (SMI) who are incarcerated, concludes a new review of studies from AHRQ’s Effective Health Care Program. For all other incarceration-based interventions, including pharmacologic therapies, cognitive therapy, and modified therapeutic community, evidence was insufficient to draw any conclusions. Among incarcerated adults, 15 to 25 percent suffer from SMI, which includes schizophrenia, schizoaffective disorder, bipolar disorder, or major depression.

Two interventions, discharge planning with Medicaid-application assistance and integrated dual disorder treatment programs, appear to be effective interventions compared with standard of care for seriously mentally ill offenders transitioning back to the community. More research is needed to increase the confidence in current low-evidence-strength findings and to address interventions and populations where evidence is lacking. These findings can be found in the research review *Interventions for Adults with Serious Mental Illness Who Are Involved with the Criminal Justice System* at <http://go.usa.gov/DXAG>. ■

## More research needed on treating tinnitus

Among pharmacological/food supplements, medical/surgical treatments, sound treatments/technologies, and psychological/behavioral treatments for tinnitus (ringing in the ears), there is low strength of evidence indicating that cognitive behavioral therapy improves tinnitus-specific quality of life compared with controls. That's the conclusion of a research review by AHRQ's Effective Healthcare Program. It found that sertraline was the one pharmacological intervention with consistently significant effects on multiple outcomes in a clinical trial, such as reducing loudness, improving global quality of life, and alleviating severity.

However, for pharmacological interventions overall, the strength of evidence is low that neurotransmitter drugs improve subjective loudness compared with placebo in patients with tinnitus. The strength of evidence is

insufficient for all other pharmacological interventions and outcomes, including sleep disturbance, tinnitus-specific quality of life, anxiety, etc. In addition, there is not enough evidence to suggest that medical or sound technology interventions improve outcomes relative to controls.

Future research investigating the effectiveness of treatments for tinnitus should focus on improving collection of adverse effects, calculating sample size, and specifying doses for interventions. Furthermore, additional research is needed to investigate measures used to assess patients for management needs and the identification of prognostic factors.

To put this research in perspective, tinnitus is fairly common, with an estimated 16 percent of the American population (50 million people) experiencing it and up to 16 million seeking medical help; two million people with tinnitus are unable to lead a normal life. The prevalence of tinnitus



increases with age and noise exposure. A variety of conditions and experiences can lead to tinnitus, but the exact physiology is still unknown.

These findings are available in the research review, *Evaluation and Treatment of Tinnitus: A Comparative Effectiveness Review* at <http://go.usa.gov/DXsW>.



## Review finds insufficient evidence to compare effectiveness of most local therapies for unresectable primary liver cancer

A new research review from AHRQ finds that there is not enough evidence in the available literature to draw conclusions about effectiveness outcomes (overall survival, quality of life, disease progression, local recurrence, length of hospital stay, and days of work missed) and adverse events across the majority of the local hepatic therapies that were studied for the treatment of unresectable primary liver cancer (hepatocellular carcinoma [HCC]).

However, there is a moderate strength of evidence demonstrating that radiofrequency ablation (RFA) improves overall survival at 3 years and a low strength of evidence indicating that it lengthens the time to disease progression and results in better local disease

control compared with percutaneous ethanol or acetic injections (PEI/PAI).

In patients with larger tumors, there is a low strength of evidence demonstrating longer overall survival after RFA compared with PEI/PAI. However, this difference in survival was not found in patients with smaller tumors. A low strength of evidence also shows that patients treated with RFA remain in the hospital longer than patients treated with PEI/PAI.

HCC is the fifth most common cancer and the third leading cause of cancer death worldwide. Approximately 80 percent of patients with primary

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## Primary liver cancer

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HCC – the most common type of liver cancer – are not candidates for surgery because of advanced-stage disease, tumors in unresectable locations, or other medical conditions that result in high surgical risk. Local therapies (e.g., ablation, embolization, and radiotherapy), which are used to prolong survival and/or palliate symptoms in these patients, are an important part of disease management.

The review highlights the need for additional clinical studies to address the current gaps in research, especially considering that the incidence of and mortality rate due to HCC are projected to increase worldwide in the next 20 years.

These findings are available in the research review *Local Therapies for Unresectable Primary Hepatocellular Carcinoma*, which can be accessed at <http://go.usa.gov/DXH3>. ■

## News and Notes

### New interactive map spotlights AHRQ's impact

“AHRQ’s Impact on Health Care” is a new interactive Web page (<http://go.usa.gov/DXFV>) from AHRQ that highlights Impact Case Studies from each State and the District of Columbia on how AHRQ’s research, products, and tools are being used and how they improve care. The new page features an interactive map that allows searching by State, as well as a full-text keyword search. Impact Case Studies are unique because they feature the “downstream” effects of AHRQ funding, highlighting real people who have successfully used the tools and resources to change practice, change policy, or improve patient outcomes. For more information, to provide a lead for a possible Impact Case Study, or to provide your own feedback about an AHRQ product, please contact [ImpactCaseStudies@ahrq.hhs.gov](mailto:ImpactCaseStudies@ahrq.hhs.gov).

### AHRQ announces treatment options initiative to help patients

AHRQ’s Effective Health Care Program announces new resources to help educate patients about the importance of exploring their treatment options, comparing the benefits and risks of each, and preparing to discuss these options with their health care providers. Three animated videos ([www.youtube.com/playlist?list=PLIdlsdOC4igivG-4jcFkBdz3bOmgmI6uO](http://www.youtube.com/playlist?list=PLIdlsdOC4igivG-4jcFkBdz3bOmgmI6uO)) focus on newly diagnosed patients, considering treatment options, and caring for a loved one. Also available are two new Facebook

pages—Treatment Options: Explore. Compare. Prepare. ([www.facebook.com/yourtreatmentoptions/app\\_120636791438297](http://www.facebook.com/yourtreatmentoptions/app_120636791438297)) and Toma Las Riendas: Informate. Compara. Preparate. ([www.facebook.com/AHRQehc.espanol/app\\_144178165736411](http://www.facebook.com/AHRQehc.espanol/app_144178165736411)), which encourage patients to obtain AHRQ’s unbiased treatment information to become better informed before talking with their health care team about treatment options. Patients and caregivers also can get short health messages and tips directly via their mobile phones with AHRQ’s new text messaging program. To sign up, text COMPARE to 22764 for messages in English or text MISALUD to 22764 for messages in Spanish. To access resources from the Treatment Options initiative visit [www.ahrq.gov/patients-consumers/treatmentoptions/index.html](http://www.ahrq.gov/patients-consumers/treatmentoptions/index.html).

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## **AHRQ's "Questions Are the Answer" offers tools to promote patient involvement**

"Questions Are the Answer," AHRQ's ongoing public education initiative on patient involvement, offers several consumer tools to improve communication between patients and clinicians to help make health care safer. AHRQ's Web site features these valuable tools at <http://go.usa.gov/DXMG>:

- A 7-minute DVD of patients and clinicians discussing the importance of asking questions and sharing information, which is ideal for a lobby or waiting room area.
- A brochure, titled "Be More Involved in Your Health Care: Tips for Patients," which offers helpful suggestions to follow before, during, and after a medical visit.
- Notepads to help patients prioritize the top three questions they wish to ask during their medical appointment.

"Questions Are the Answer" is designed to promote safer care and better health outcomes. To request a free supply of these materials, email [AHRQpubs@ahrq.hhs.gov](mailto:AHRQpubs@ahrq.hhs.gov) or call 1-800-358-9295.

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## **AHRQ announces health IT career development and dissertation research grants**

AHRQ has published a Special Emphasis Notice (SEN) to support health information technology (IT) career development (K08) and research dissertation (R36) grants. This SEN is focused on five research areas that include health IT design, implementation, use, impact on outcomes, and measurement. These areas of interest are critical to supporting health care quality and are considered part of a continuous quality improvement process. You can access additional information on these grants at <http://go.usa.gov/DXeC>.

## **New journal supplement on comparative effectiveness and patient-centered outcomes research methods available**

A new special supplement to the *Journal of Clinical Epidemiology* provides proceedings from the fourth AHRQ-sponsored symposium on research methods for comparative effectiveness and patient-centered outcomes research. The symposium, developed via AHRQ's Effective Health Care Program through the DEcIDE Network, examined the methodological work that serves to illuminate the mechanisms contributing to potential differences between research results from randomized clinical trials that measured treatment efficacy versus observational studies that measured effectiveness. Each of the 17 articles can be downloaded for free from the Effective Health Care Program Web site at <http://go.usa.gov/DXed>.



# Research Briefs

Centurion, V.P., Huang, F., Naureckas, E.T., and others. (2012). “Confirmatory spirometry for adults hospitalized with a diagnosis of asthma or chronic obstructive pulmonary disease exacerbation.” (AHRQ grant HS17894). *BMC Pulmonary Medicine* 12(73).

This study was designed to determine the feasibility of spirometry and to determine its usefulness in confirming the diagnosis in patients hospitalized with a physician diagnosis of asthma or chronic obstructive pulmonary disease exacerbation. It found that confirmatory spirometry was a useful tool to help reduce overdiagnosis of obstructive lung disease, especially among obese patients.

Cohen, M.D., Hilligoss, B., and Amaral, A.C. (2012). “A handoff is not a telegram: An understanding of the patient is co-constructed.” (AHRQ grant HS18758). *Critical Care* 16(303). The authors are concerned that an undue emphasis on one-way information transfer during handoffs of hospitalized patients can lead to research designs and policy recommendations that fail to recognize the active participation of both parties in co-constructing the oncoming caregiver’s understanding

of the patient. They present some of the findings from research outside medicine that support and refine this idea.

Daly, J.M., Xu, Y., and Levy, B.T. (2012). “Patient and physician management of self-monitoring of blood glucose: An Iowa research network study.” (AHRQ grant HS14859). *Journal of Diabetes Science and Technology* 6(3), pp. 718-720.

The purpose of this study was to compare those who and those who do not conduct self-monitoring of blood glucose (SMBG) as recommended with respect to patient demographics, self-care behaviors, barriers to SMBG, and purchase of blood-glucose testing supplies. Twenty of the 42 participants reported testing their blood glucose one or more times a day while 7 had their blood glucose tested only when they were at their physician’s office.

Dusetzina, S.B., Mack, C.D., and Sturmer, T. (2013, May). “Propensity score estimation to address calendar time-specific channeling in comparative effectiveness research of second generation antipsychotics.” (AHRQ grant HS18996). *PLOS ONE* 8(5), p. e3973.

The researchers sought to demonstrate channeling among new users of second-generation antipsychotics following an FDA safety advisory and to evaluate the impact of channeling on cardiovascular risk estimates over time. They found that changes in channeling had limited impact on cardiovascular risk estimates,

possibly due to unmeasured confounding factors.

Dusetzina, S.B., Farley, J.F., Weinberger, M., and others. (2012). “Treatment use and costs among privately insured youths with diagnoses of bipolar disorder.” (AHRQ grant T32 HS00032). *Psychiatric Services* 63(10), pp. 1019-1025.

The objectives of this study were to identify utilization patterns and estimate health plan payments for inpatient, outpatient, and pharmacy services among privately insured children with bipolar disorder diagnoses. The researchers found that the costs of care among this population are similar to those for adults. However, spending on children is concentrated on mental health-related services.

Elliott, S.J., Ivanescu, A., Leland, N.E., and others. (2012). “Feasibility of interdisciplinary community-based fall risk screening.” (AHRQ grant T32 HS00011). *American Journal of Occupational Therapy* 66, pp. 161-168.

The researchers undertook a pilot study to examine the feasibility of (1) conducting interdisciplinary fall risk screens at a communitywide adult fall prevention event and (2) collecting preliminary follow-up data about the balance confidence of adults screened at the event, as well as home or activity modifications they made after receiving educational information at the event. They found that screening conducted in this context is feasible

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## Research briefs

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and can facilitate environmental and behavior changes to reduce fall risk.

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**Garman, A., McAlearney, A., Robbins, J., and Harrison, M. (2012). “Getting to zero on CLABSI—and staying there.” *H & HN Daily* December 5. Reprints (AHRQ Publication No. 13-R063) are available from AHRQ.\***

This article describes recent research to determine why some organizations are more successful than others in reducing central line-associated bloodstream infections (CLABSI). In case studies at nine hospitals involving interviews with 226 clinicians and administrators, researchers identified some keys to successful efforts. These included strong, visible clinical leadership; systematic approaches to training; a belief that zero CLABSI is achievable; more pervasive information sharing; a greater sense of personal accountability; and an eye toward sustainability.

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**Garroutte, E.M., Sarkisian, N., and Karamnov, S. (2012). “Affective interactions in medical visits: Ethnic differences among American Indian older adults.” (AHRQ grant HS10854). *Journal of Aging and Health* 24(7), pp. 1233-1251.**

These authors investigated the influence of ethnicity on older American Indian patients’ interpretations of providers’ affective behaviors. Using data from 115 older American Indian patients, the researchers found that in models accounting for patients’ ethnicity only, high scores for American Indian ethnicity were linked to reduced evaluations for providers’

respect. High scores on white ethnicity were associated with elevated ratings for empathy and rapport.

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**Holve, E., Lopez, M.H., Scott, L., and Segal, C. (2012). “A tall order on a tight timeframe: Stakeholder perspectives on comparative effectiveness research using electronic clinical data.” (AHRQ grant HS19564). *Journal of Comparative Effectiveness Research* 1(5), pp. 441-451.**

The AcademyHealth Electronic Data Methods Forum aims to advance the national dialogue on the use of electronic clinical data (ECD) for comparative effectiveness research (CER) by facilitating exchange and collaboration among 11 research projects and external stakeholders. To this end, AcademyHealth conducted a mixed-method needs assessment with the forum’s key stakeholders to assess stakeholder views on developing new infrastructure for CER using ECD.

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**Husky, M.M., Olfson, M., He, J-P., and others. (2012). “Twelve-month suicidal symptoms and use of services among adolescents: Results from the National Comorbidity Survey.” (AHRQ grant HS02112). *Psychiatric Services* 63(10), pp. 989-996.**

This study examined national rates of suicidal ideation, plans, and attempts in the past year among a large, nationally representative sample of adolescents. During 12 months, 3.6 percent of adolescents reported suicidal ideation without a plan or attempt, and 1.9 percent made a suicide attempt. Most of those in either category did not have any contact with a mental health specialist in the past year.

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**Irwin, B., Hirsch, B.R., Samsa, G.P., and Abernethy, A.P. (2012). “Conflict of interest disclosure in off-label oncology clinical trials.” (AHRQ Contract No. 290-02-0025). *Journal of Oncology Practice* 8(5), pp. 298-302.**

The researchers examined the prevalence, reliability, and predictors of conflict of interest (COI) and funding disclosure statements for studies of anticancer targeted therapies conducted in the off-label prescribing setting. They found that disclosure of potential sources of bias in COI and funding statements was low and did not increase substantially over time.

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**Leland, N.E., Elliott, S.J., O’Malley, L., and Murphy, S.L. (2012). “Occupational therapy in fall prevention: Current evidence and future directions.” (AHRQ grant T32 HS00011). *American Journal of Occupational Therapy* 66(2), pp. 149-160.**

The purpose of this literature review is to summarize the existing occupational therapy-related fall prevention literature in order to develop information on occupational therapy’s current involvement in these efforts and offer suggestions for future opportunities for occupational therapy in fall preventions for community-dwelling older adults.

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**Maher, A.R., and Theodore, G. (2012). Summary of the comparative effectiveness review of off-label use of atypical antipsychotics.” (AHRQ Contract No. 290-10-00006). *Journal of Managed Care Pharmacy* 18(5-b), pp. S3-S18.**

This article summarizes the key findings of the AHRQ 2011

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## Research briefs

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Comparative Effectiveness Review (CER), which describes the efficacy and harms of off-label uses of atypical antipsychotics, updated from the 2006 AHRQ CER report. Scientific literature on the utilization, efficacy, adverse effects, dosing, and treatment duration on patient outcomes is reviewed in order to inform prescribing decisions. Applications of the AHRQ findings to practice are discussed to provide clinicians information to support evidence-based care for their patients.

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**Olomu, A.B., Corser, W.D., Stommel, M., and others. (2012). “Do self-report and medical record comorbidity data predict longitudinal functional capacity and quality of life health outcomes similarly?” (AHRQ grant HS10531). *BMC Health Services Research* 12, p. 398.**

The study evaluated the performance of the Self-Administered Comorbidity Questionnaire (SCQ) to predict functional capacity and quality of life health outcomes compared to Charlson Comorbidity Index (CCI) medical records data in the same patients. The patients were admitted to the hospital with a diagnosis of acute coronary syndrome. The results showed that the self-report SCQ index is a good alternative method to predict quality of life health outcomes when compared to a CCI medical record score.

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**Paugh, T.A., Dickinson, T.A., Theurer, P.F., and others. (2012). “Validation of a perfusion registry: Methodological approach and initial findings.” (AHRQ grant HS15663). *Journal***

***of ExtraCorporeal Technology* 44, p. 104-115.**

The researchers developed and implemented a cardiovascular perfusion registry to improve understanding of the practice of cardiopulmonary bypass within the setting of a regional cardiovascular surgical collaborative (Michigan Society of Thoracic and Cardiovascular Surgeons [MSTCVS]). They were able to successfully and accurately collect data on cardiovascular perfusion among 14 institutions in conjunction with the MSTCVS.

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**Prince, J.D., Walkup, J., Akincigil, A., and others. (2012). “Serious mental illness and risk of new HIV/AIDS diagnoses: An analysis of Medicaid beneficiaries in eight States.” (AHRQ grant HS16097). *Psychiatric Services* 63(10), pp. 1032-1038.**

The researchers explored the relationship between diagnosis of serious mental illness and subsequent new diagnoses of HIV in a Medicaid population in 8 States. After substance abuse or dependence was controlled for longitudinally, little independent association between serious mental illness and the risk of new HIV diagnoses was found.

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**Raman, G., Moorthy, D., Hadar, N., and others. (2013, May). “Management strategies for asymptomatic carotid stenosis.” (AHRQ Contract No. 290-07-10055). *Annals of Internal Medicine* 158, pp. 676-685.**

The primary objective of this systematic review was to compare management strategies for adults with asymptomatic carotid artery disease. The secondary objective was to evaluate contemporary stroke rates in studies evaluating

medical therapy alone. The review of 47 studies found that evidence was neither sufficiently robust for carotid artery stenting nor applicable to current clinical practice for carotid endarterectomy to determine the comparative effectiveness of management approaches for adults with asymptomatic carotid stenosis.

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**Shoemaker, J.S., Davidoff, A.J., Stuart, B., and others. (2012). “Eligibility and take-up of the Medicare Part D low-income subsidy.” (AHRQ grant HS20866). *Inquiry* 49, pp. 214-230.**

The researchers evaluated eligibility and participation in the Medicare Part D Low-Income Subsidy (LIS) by enhancing the reliability of the Medicare Current Beneficiary Survey financial information. They used unpublished survey data on income and assets together with an income imputation procedure. They found an LIS take-up rate of 30 percent among those who were not auto-enrolled. Also, the majority of LIS-eligible nonenrollees obtained unsubsidized drug coverage.

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**Viswanathan, M., Nerz, P., Dalberth, B., and others. (2012). “Assessing the impact of systematic reviews on future research: Two case studies.” (AHRQ Contract No. 290-07-10056). *Journal of Comparative Effectiveness Research* 1(4), pp. 329-346.**

The researchers evaluated the impact of systematic reviews on research funded by AHRQ through Evidence-based Practice Centers (EPCs) to identify barriers to and facilitators of the effects of these documents on future research. They concluded that AHRQ and the EPCs

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## Research briefs

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may be able to improve the likelihood of impact by creating more targeted products, planning for and expanding dissemination activities, improving the readability and other attributes of the reports themselves, and actively involving funders early on and throughout the process of creating and publishing the reviews.

**Wagner, L.M., McDonald, S.M., and Castle, N.G. (2012). "Joint Commission accreditation and quality measures in U.S. nursing homes." (AHRQ grant HS13983). *Policy, Politics, and Nursing Practice* 13(1), pp. 8-16.**

The researchers examined the association between accreditation and select measures of quality in U.S. nursing homes. Comparing quality in the year before accreditation by the Joint Commission with the first year after accreditation, all five quality measures and both five-star categories demonstrated

improvement. After 8 years of accreditation, three of the quality measures continued to improve. There were no cases where accreditation was associated with decreased quality.

**Zuvekas, S.H. (2012). "Health economics and investments in suicide prevention." In: *Suicide from a Global Perspective: Public Health Approaches*. Eds. Shrivastava, A., Kimbrell, M., and Lester, D. Chapter 4. New Jersey: Nova Science Publishers, 2012.**

The few existing economic studies cannot serve as a strong evidence base for guiding effective formulation of national suicide prevention strategies. The author makes a series of recommendations for improving the scientific evidence base to support more effective formulation and implementation of suicide prevention strategies, using economic analyses to maximize scarce resources. ■



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