



RESEARCH ACTIVITIES

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AHRQ's annual conference focuses on innovation and collaboration

The Agency for Healthcare Research and Quality (AHRQ) hosted its fifth annual conference, which some attendees refer to as “AHRQ-A-Palooza,” September 19-21 in Bethesda, MD. Nearly 1,800 individuals attended the event in person or via the Webcasted plenary sessions to explore the conference theme of “Leading Through Innovation and Collaboration.” Choosing that theme, said Carolyn Clancy, M.D., AHRQ director, brings “attention to the urgent need for addressing the challenges that we face” and “points to the need for collaboration with others, both in



Dr. Gary Gunderson, Ms. Susan Vega, Dr. Carolyn Clancy, Dr. Rhonda Johnson, and Dr. Herbert Smitherman at the first plenary session.

and outside of the industry, to achieve the kind of improvements that will truly be transformational.”

Addressing Disparities

Panelists for the first plenary, “Addressing Health Care Disparities, Access, and Quality of Care,” discussed approaches and considerations for reducing disparities in health care. “This is one of those issues for which there is almost universal agreement. We all want to eliminate disparities in care,” Dr. Clancy said. “Mention it in a talk, and applause often breaks out spontaneously. Yet, in practice, the gap between that applause and taking that first step sometimes feels really, really big.”

Panelist Gary R. Gunderson, D.Min., M. Div., senior vice

president for the Faith & Health Division at Methodist Le Bonheur Healthcare in Memphis, TN, provided an overview of his hospital’s “audacious” first step that involved building a “web of trust” among 400 congregations to reduce health care disparities in Memphis. With the help of a local chaplain, he began tackling the misperception that hospitals see the community’s needs first. “Actually, we don’t. [Communities] are the ones who know before we do, in greater detail and further intricacy, what it is like to live on the ground in Memphis,” he said.

The congregational partners have taught Gunderson’s hospital that the critical issue the community faces is not communication but

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From the Director



annual conference reminded me again how exciting it is to be surrounded by passionate and visionary professionals

who are breaking new ground and advancing the field of health care. In the months since the fourth annual conference, great progress has been made in our efforts to transform the U.S. health care system into an information-rich, patient-centered enterprise that provides care for people when and where they need it. This year's theme, "AHRQ: Leading Through Innovation & Collaboration," focused on the urgency required to address today's challenges in improving quality and access to care, and finding value for what we spend. It called for collaboration with clinicians, patients, health care leaders and employers, as well as community

ners, who are working to make a difference, and the development and sharing of new ideas.

It was exciting to unveil an original series of new "Questions Are the Answer" videos at the first plenary session. The videos, which feature real patients and clinicians discussing the importance of asking questions and sharing information, underscore the importance of patient-centered care and good communication to quality care in the 21st century. The videos are available on the AHRQ Web site at www.ahrq.gov/questions.

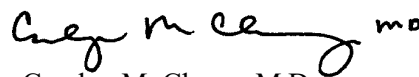
This year's conference agenda was aligned with the major aims outlined in the National Quality Strategy:

- Better Care: Promote person-centered care that works for patients, their families, and other caregivers and providers.
- Healthy People/Healthy Communities: Promote health and wellness at all levels for all populations.

- Affordable Care: Promote strategies that reduce costs for individual families, employers, and government, while improving access and the quality of care delivered to patients.

The plenary and other conference sessions featured pioneers of health care describing their work, much of which has the potential to affect cultural and system change on a national scale. We heard from four leaders from Detroit, Memphis, Chicago, and western Pennsylvania, whose efforts are making a difference now in reducing disparities in care in their communities. We also heard from leaders from Los Angeles to Baltimore on innovations to improve care, who noted that system change and market forces were critical to implementing innovations. In addition, we were challenged by one speaker to envision and achieve exceptional outcomes across the health care system.

Multiple sessions showcased current AHRQ-funded work in health information technology, primary care, preventing healthcare-associated infections and other safety problems, reducing disparities, as well as current collaborations with partners who apply the results of our research to improve health care. AHRQ's collaboration and partnership with these visionary individuals and organizations, and their collaboration with each other, have great potential to improve the quality, safety, efficiency, and effectiveness of health care for all Americans.


Carolyn M. Clancy, M.D.

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navigation. To address that problem, his team mapped the health care assets available in the community and found that a lot of what they thought they needed was already there. Now “navigators” are in place in hospitals so hospital and primary care partners can help people access the “extraordinary abundance of assets,” Dr. Gunderson said.

Susan Vega, manager of senior programs at Alvio Medical Center in Chicago, IL, is also a fan of this asset-based community planning approach. When patients visiting her center are eligible for public assistance programs, she helps them complete the paperwork instead of referring them to another office. And she does not wait for people to come through her door; she finds them through school-based clinics, health fairs, and community events, and ensures that everyone who hears her speak has a name and a phone number to call if they need her help navigating the system.

Policy, unfortunately, can often worsen disparities, said Herb C. Smitherman, Jr., M.D., M.P.H., assistant dean, Community and Urban Health at Wayne State University in Detroit, MI. For example, if individuals are on Medicaid, they lose that health insurance once they get a job. Then, because they can no longer afford to see their doctor, they can't get their medications, they get sick, and they lose their job. “This is social policy and it's really driving our health policy,” Dr. Smitherman said.

Innovative programs, though, can make inroads in reducing disparities and cost while improving care. Dr. Smitherman cited a 5-year program that helped Detroit's private hospitals reduce their



Dr. Arnold Milstein, Dr. Carolyn Clancy, Dr. Molly Coye, and Dr. Peter Pronovost at the second plenary session.

uncompensated care costs, which were totaling \$400-\$500 million each year. By putting community health workers in every hospital emergency room, they were able to identify uninsured patients who were relying on emergency room care for common colds or answers to medication questions and connect 33,000 of these uninsured patients to primary care providers. As a result, today these patients get better care that costs less.

Ms. Vega also stressed the pressing need for more bilingual clinicians to reduce disparities. Her group tracks the number of bilingual individuals enrolled in nursing programs and has found that if every slot were taken by a bilingual individual, the need for bilingual nurses would still outpace the demand.

Bridging language barriers is one part of reducing disparities. But the problem is larger than that, said Rhonda M. Johnson, M.D., M.P.H., medical director of Health Equity and Quality Services at Highmark, Inc., in Pittsburgh, PA. “We have to have a disparity lens on everything we do. I think sometimes it feels overwhelming, because the problems are so large and they are so ingrained. There's social, there's health care, there's access, there's language and communication, and

the list goes on and on. But the lesson I have learned is that you have to start somewhere. You must build a collective consciousness so the efforts to address disparities have uptake and spread.”

Unveiling a New Campaign

Attendees at the first plenary also got a sneak peek of AHRQ's updated “Questions are the Answer” initiative. The initiative includes an original series of new videos on the AHRQ Web site, www.ahrq.gov/questions, that features real patients and clinicians discussing the importance of asking questions and sharing information to get high-quality care and better health outcomes.

Unfortunately, the reality is that decreased reimbursements are forcing doctors to see more patients, which reduces the amount of time doctors have to talk with patients, noted Dr. Smitherman, a practicing physician for 25 years. He spoke of a woman he treated who had had at least \$30,000 worth of diagnostic tests in three different emergency rooms and was facing a cardiac catheterization. His diagnosis, after spending 20 minutes getting her health history,

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was that she had heartburn. “It took time, which we have less and less and less of,” he said. “Communication, communication: I can’t overemphasize it.”

Addressing Innovations

Panelists for the second plenary, titled “Addressing Health System Change, Patient Safety, and Quality of Care,” focused on innovation and implementation. “With quality, the good news is that the latest AHRQ *National Healthcare Quality Report* shows statistically significant improvement every year, across all populations and settings, since 2003. The slightly less good news is that the magnitude of those improvements is very modest, usually in the 1 to 2 percent ballpark. We’re moving in the right direction—I don’t want to discount that—but it’s slow,” Dr. Clancy said.

The panelists all agreed that implementing innovations quickly is challenging. Arnie Milstein, M.D., M.P.H., professor of medicine at Stanford and Director of the Stanford Clinical Excellence Research Center, said that cost-lowering, health-improving innovations might have quicker uptake if they move large numbers of patients and their revenue to providers who are willing to be accountable, for example, by participating in outcome registries that can be used to measure care quality.

Market forces do influence how quickly innovations are adopted.

“There’s no question that until purchasers and payers really crack the whip, this is not going to go as fast as we want it to go, said Molly Joel Coye, M.D., M.P.H., chief innovation officer for the University of California Los Angeles Health System. “We know there is a lot of money that can be saved everywhere in the country if the systems get really serious about how to do that.”

Appreciating that system change is crucial for innovation adoption is also essential if hospitals are to be successful adopters. “If they don’t have clear systems in place to actually be able to do it, and if they don’t have the driving force and the clear steps that are needed, it’s very easy to go off track,” Dr. Coye said. She cited the Veterans Administration’s (VA’s) success in monitoring chronic disease in the community, noting that if other health systems tried to duplicate the VA’s work they might be misguided by buying in-home monitoring technology, not realizing that the VA’s program is based on a system, not a technology.

One innovation that has achieved noteworthy spread is a Comprehensive Unit-based Safety Program (CUSP) that virtually eliminated blood stream infections in Michigan, saving 1,500 lives and \$100 million annually. The protocol is now being implemented across the United States and has reduced blood stream infections by 60 percent.

The father of CUSP is Peter Pronovost, M.D., Ph.D., a practicing anesthesiologist and critical care

physician and senior vice president for patient safety and quality at Johns Hopkins University in Baltimore, MD.

He attributes the success of the project to the fact that the protocol uses a measure that clinicians believe is valid, is guided by implementation science, and involves a community of clinicians. “Clinicians saw this as a social problem that they were capable of solving,” he said. Dr. Pronovost added that the biggest barrier was overcoming the belief that you actually couldn’t take a solution to a problem and bring it to scale across the country.

He used the example of Roger Bannister breaking the 4-minute mile in 1954, even after physicians said the human body wasn’t capable of this feat. Once Bannister broke that record, many, many others—including 10 male high school runners in a track meet in Falmouth, MA in August—accomplished that feat as well.

“I think the only thing that changed was their belief,” he said. “Roger Bannister freed up what was possible and in doing so it empowered all these other people to say, ‘Hey, we can do that too.’ That’s what you and the people at AHRQ are trying to do.” ■ KFM

Editor’s note: The plenary session Webcasts and session speaker presentations will be posted on the AHRQ Web site later this fall. The 2012 AHRQ Annual Conference will be held September 9-12 at the Bethesda North Marriott Convention Center in Maryland.

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.

Disparities/Minority Health

Blacks and patients at hospitals with a high percentage of black patients more likely to suffer adverse events

In a study of 100,000 Medicare patients hospitalized in 3,648 hospitals, researchers found that blacks had a higher risk than whites of suffering from a healthcare-associated infection or adverse drug event. Also, patients discharged from hospitals with the highest percentage of black patients had a significantly higher risk of hospital-acquired infection or adverse drug event than patients discharged from hospitals with the lowest percentage of black patients.

On the other patient safety measures studied, there was no difference between groups. The adverse events studied included: adverse drug events associated with hypoglycemic agents, heparin, and warfarin; general adverse events such as falls and pressure ulcers; four types of infection-related adverse events; and seven types of post-procedural adverse events.

Ernest Moy, M.D., M.P.H., of the Agency for Healthcare Research and Quality, and fellow researchers

suggest that hospitalized blacks experience higher rates of adverse drug events and hospital-acquired infections because they are independently at higher risk of these events. Also, blacks are more often cared for at hospitals where these events are more likely to occur, independent of race. The researchers call for greater attention to patient safety and quality improvement at these hospitals.

See “Racial disparities in the frequency of patient safety events. Results from the the National Medicare Patient Safety Monitoring System,” by Mark L. Metersky, M.D., David R. Hunt, M.D., Rebecca Kliman, M.P.H., and others in the May 2011 *Medical Care* 49(5), pp. 504-510. Reprints (AHRQ Pub. No. 11-R050) are available from the Agency for Healthcare Research and Quality.* ■ MWS

Among patients with diabetes, racial/ethnic discrimination by health care providers is uncommon

Discrimination has been suggested as one of the potential explanations for the presence of racial/ethnic health and health care disparities in the United States. In a group of almost 18,000 patients with diabetes enrolled in Kaiser Permanente Northern California, 3 percent reported health care discrimination from doctors or health care providers and 20 percent reported general discrimination in everyday life. All racial and ethnic groups (Blacks, Latinos, East Asians, and Filipinos) reported discrimination more frequently than whites. Blacks reported general discrimination most frequently (52 percent) and

Filipinos reported health care provider discrimination most frequently (8 percent). Individuals who reported general discrimination were significantly more likely to also report health care provider discrimination. Health care discrimination was more often reported not only by minorities, but also by those with poorer health literacy, limited English proficiency, and depression.

These findings suggest that perceived health care provider discrimination was uncommon, especially when compared with general discrimination. The researchers conclude that a provider's careful attention to

patient factors such as limited health literacy and language barriers may reduce perceptions of health care discrimination. The study was supported in part by the Agency for Healthcare Research and Quality (HS13853).

See “Correlates of patient-reported racial/ethnic health care discrimination in the Diabetes Study of Northern California (DISTANCE),” by Courtney R. Lyles, Ph.D., Andrew J. Karter, Ph.D., Bessie A. Young, M.D., M.P.H., and others in the *Journal of Health Care for the Poor and Underserved* 22, pp. 211-225, 2011. ■ MWS

Blacks have higher rates of pituitary adenoma

Pituitary adenomas are normally benign tumors on the pituitary gland. Although they do not cause any symptoms in many cases, some patients experience hormonal and neurological problems. More than 30 years have passed since a population-based study was conducted on demographic differences in pituitary adenoma. However, a recent study by University of Iowa researchers updates knowledge about its incidence. It found that blacks have a higher incidence of the condition than other ethnic groups.

Data for this study came from the Surveillance Epidemiology and End Results (SEER) Program that covers nearly 26 percent of the U.S. population. Four-year's worth of information on 8,276 cases of pituitary adenoma (2004 to 2007) were gathered and analyzed.

Incidence rates were found to increase with age. Females had a higher incidence of pituitary adenoma in early life, while males had a higher incidence in later life. Males also tended to be diagnosed with larger tumors, indicating a possible delay in diagnosis. The

highest, age-adjusted incidence rate was found for blacks (4.4 cases per 100,000), with the lowest rate observed in American Indians/Alaskan Natives (1.9 cases per 100,000). In the case of blacks, they were more likely to have their pituitary adenomas diagnosed through x-ray alone without microscopic confirmation.

Although their tumors were slightly larger than those found in whites, blacks had lower rates of surgical treatment than other ethnic groups. Future studies that incorporate the SEER and Medicare databases may be able to clarify some of these findings, including this racial/ethnic treatment disparity. The study was supported in part by the Agency for Healthcare Research and Quality (HS16094).

See "Demographic differences in incidence for pituitary adenoma," by Bradley D. McDowell, Ph.D., Robert B. Wallace, M.D., Ryan M. Carnahan, Pharm.D., and others in *Pituitary* 14, pp. 23-30, 2011.

■ KB

Patient Safety and Quality

Nearly 1 in 10 outpatient computerized prescriptions contains errors

Electronic prescribing (e-prescribing) has helped reduce medication errors and adverse drug events (ADEs) in a variety of health care settings, including the outpatient environment. However, computer-generated prescriptions can also introduce a new level of errors. What's more, they cannot prevent all of the errors normally made with paper prescriptions. A new study found that about 1 in 10 computer-generated prescriptions had at least 1 error. In addition, a third of these errors had the potential for harm.

Massachusetts researchers reviewed 3,850 computer-generated prescriptions from a retail outpatient pharmacy chain located

in three States. During a 4-week period, the pharmacy sent all computer-generated prescriptions to the study's research group. They were then reviewed by an independent clinical review panel. A total of 452 (11.7 percent) prescriptions were found to have 466 errors in them. More than a third of these errors (35.0 percent) were classified as potential ADEs. None of the ADEs were considered life-threatening; they were deemed either significant (58.3 percent) or serious (41.7 percent). The majority of medication errors involved anti-infectives, while nervous-system drugs accounted for the most ADEs.

Different computerized systems generated different types of medication errors. Omitted information such as dose, frequency, and duration, was the most common reason for error. Omitting a dose was responsible for 35 percent of all potential ADEs. Based on their findings, the researchers offer several strategies to reduce errors associated with computer-generated prescriptions. These include designing functions to prevent omitted information



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Computerized prescriptions

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(called forcing functions), incorporating maximum dose checking in drug-decision support features, and using system calculators to resolve quantity

errors. The study was supported in part by the Agency for Healthcare Research and Quality (HS16970).

See “Errors associated with outpatient computerized prescribing systems,” by Karen C. Nanji, M.D.,

M.P.H., Jeffrey M. Rothschild, M.D., M.P.H., Claudia Salzberg, M.S., and others in the June 29, 2011 online edition of the *Journal of the American Medical Informatics Association*. ■ KB

Nurses in hospital units with a higher proportion of short-term patients take longer to respond to patient call lights

Hospitalized patients typically use call lights to request pain medication, personal assistance, or bathroom assistance. Delays in responding to these calls can result in patient discomfort or even falls. A new study found that nurses took longer to respond to call lights when patient call-light use on the unit was higher and the average length of patient stay was shorter. Nurse response time was not affected by total nursing hours or registered nurse (R.N.) hours.

A shorter length of stay suggests the patients were generally less sick and should have presented fewer problems to the nursing staff. Instead, the important factor seems to have been the number of admissions and discharges to the unit, and more frequent procedures, treatments, and instances of patient education per patient-day—all activities that consume a substantial amount of nursing staff time, note the researchers. They found that the mean call-light response time in the five acute care community

hospital units in the study was about 3 minutes (181.99 seconds), and that mean call-light use was nearly 5 times per patient-day. The mean length of patient stay was 5.60 days, mean total nursing hours per patient-day were 8.15, and mean R.N. hours per patient-day were 4.76.

The researchers examined data from February 2007 through June 2008 (17 months) from five adult acute-care inpatient units at a community hospital. Analysis included only normal calls made from the patient's bed or bathroom. The study was funded in part by the Agency for Healthcare Research and Quality (HS18258).

More details are in “Exploring the relationship between patient call-light use and nurse call-light response time in acute care settings,” by Huey-Ming Tzeng, Ph.D., R.N., FAAN., and Janet L. Larson, Ph.D., R.N., in the March 2011 *CIN: Computers, Informatics, Nursing* 29(3), pp. 138-143. ■ DIL

Primary Care

Primary care model helps treat underserved patients with hepatitis C virus infection

An estimated 3.2 million Americans live with chronic hepatitis C virus (HCV) infection that can lead to cirrhosis and liver cancer. Treatment is available, although its complex nature means that specialists usually provide care. Yet a new study shows that, with proper training and the use of video conferencing, primary care providers at community-based

health centers can extend this treatment to underserved groups.

Called the Extension for Community Healthcare Outcomes (ECHO) model, the program takes advantage of telehealth technology to deliver training, advice, and support on optimal clinical care to patients with HCV infection. Clinicians at each community

provider site participate in weekly HCV clinics in which they present their cases to key specialists at a major academic medical center.

Sanjeev Arora, M.D., of the University of Mexico, and colleagues looked at 21 ECHO sites in rural areas and prisons in New

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Hepatitis C virus infection

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Mexico involving 407 patients with chronic HCV infection, who started treatment at these sites.

Participating patients received standard treatment consisting of peginterferon and ribavirin for either 24 or 48 weeks depending on the type of HCV infection they had.

More than half (58.2 percent) of patients at the ECHO sites had a sustained response to treatment.

This rate was similar for patients receiving treatment at the HCV clinic at the academic medical center (57.5 percent). However, patients at the ECHO sites experienced less serious adverse events (6.9%) than at the academic HCV clinic (13.7 percent).

According to the researchers, the ECHO model can be replicated elsewhere at other community health centers with the collaboration of local academic

specialists and the use of telehealth technology. The study was supported in part by the Agency for Healthcare Research and Quality (HS16510).

See “Outcomes of treatment for hepatitis C virus infection by primary care providers,” by Sanjeev Arora, M.D., Karla Thornton, M.D., Glen Murata, M.D., and others in the June 9, 2011 *The New England Journal of Medicine* 364(23), pp. 2199-2207. ■ KB

Prevention

Fecal occult blood tests and followup need to be better targeted to healthy older adults

Studies of the clinical use of the fecal occult blood test (FOBT) for the detection of colon cancer suggest that a person should have a life expectancy of at least 5 years to derive survival benefit from screening. Otherwise they are only subject to the potential burdens of followup procedures and treatments stemming from a positive result. Researchers who tracked over a 7-year period a group of 211 male veterans and 1 female veteran who had received FOBTs found that only 56 percent of patients received follow-up colonoscopy.

Colonoscopy found 34 significant adenomas and 6 cancers. Ten percent of patients experienced

complications from colonoscopy or cancer treatment (12 of 118). Forty-six percent of those without follow-up colonoscopy died of other causes within 5 years of FOBT, while three died of colorectal cancer within 5 years.

Eighty-seven percent of patients with the worst life expectancy experienced a net burden from screening compared with 70 percent with average life expectancy and only 65 percent with best life expectancy. The researchers concluded that older patients with the best predicted life expectancy were less likely to experience a net burden from screening than those with the worst. Their study supports

guidelines that recommend using life expectancy to guide colorectal cancer screening decisions in older adults, and argues against one-size-fits-all interventions that simply aim to increase overall screening and followup rates. The study was supported by the Agency for Healthcare Research and Quality (HS19468).

See “Long-term outcomes following positive fecal occult blood test results in older adults. Benefits and burdens,” by Christine E. Kistler, M.D., Katharine A. Kirby, M.S., Delia Lee, B.S., and others in the May 9, 2011 *Archives of Internal Medicine* 171(15), pp. 1344-1351.

■ MWS

Chronic Disease

Brief psychotherapy helps multiple sclerosis patients with insomnia and depression

Patients with multiple sclerosis (MS) experience a complex spectrum of symptoms such as fatigue, pain, reduced use of legs and arms, vision problems, and functional difficulties with their bowels and bladders, not to mention sexual problems. They also experience higher rates of insomnia—often linked to their depression and anxiety. A new study suggests that short-term psychotherapy can improve insomnia in these individuals, which may also lower levels of depression and anxiety.

A total of 127 patients with MS and depression were recruited from a large medical group in California and from regional chapters of the Multiple Sclerosis Society. Initial brief telephone interviews determined their level of depressive symptoms. Following this screening, participants were randomized to receive either cognitive behavioral therapy or supportive emotion-focused therapy, both delivered via telephone calls. Each patient was evaluated for depression, insomnia, anxiety, and quality of life criteria before treatment and then again at 8 weeks (mid-treatment) and 16 weeks (post-treatment).

A majority of patients (78 percent) initially reported insomnia occurring at least three or more times per week, which declined to 43 percent following psychotherapy. Insomnia symptoms, particularly sleep-

onset insomnia, improved with psychotherapy for depression, with greatest improvement seen in those with greatest relief of depression and anxiety. However, a considerable proportion of individuals continued to experience insomnia despite remission of major depressive disorder and low symptoms of anxiety. These results suggest that treatment of depression and anxiety has the potential to greatly improve insomnia in patients with MS, but may not be sufficient to address the multiple factors related to insomnia in these patients.

Following treatment, 27 percent of patients continued to have major depressive disorder and 21 percent continued to experience elevated anxiety symptoms. The researchers suggest that patients with MS receive comprehensive screening for all primary sleep disorders as well as management for depression, anxiety, and pain. The study was supported in part by the Agency for Healthcare Research and Quality (T32 HS00078).

See “Impact of psychotherapy on insomnia symptoms in patients with depression and multiple sclerosis,” by Kelly Glazer Baron, Ph.D., Marya Corden, B.S., Ling Jin, M.S., and David C. Mohr, Ph.D., in the *Journal of Behavioral Medicine* 34, pp. 92-101, 2011. ■ KB

Study finds regional differences in physicians' recommendations of implantable cardioverter-defibrillators

A new study reveals regional differences in physicians' recommendations of implantable cardioverter-defibrillators (ICDs) for patients considered eligible by current guidelines. It found that physicians in regions with low ICD use were no less likely to recommend ICDs to eligible patients. However, physicians in regions with high ICD use were more likely to recommend the device for patients who may receive limited benefit, such as frail and elderly patients with life expectancies of less than 1 year.

Researchers surveyed active members of the American College of Cardiology, with 1,210 responding. Cardiologists were asked to agree or disagree with statements about ICD use and costs, ability to enable the patient to live longer, improved/decreased quality of life, and recommending ICDs to all eligible patients.

Regardless of region, respondents were likely to agree that an ICD enables a patient to live longer. They were also likely to recommend an ICD to patients who meet eligibility

guidelines. The study was supported in part by the Agency for Healthcare Research and Quality (HS16964).

See “Regional variations in physicians' attitudes and recommendations surrounding implantable cardioverter-defibrillators,” by Dan D. Matlock, M.D., Jean S. Kutner, M.D., M.S.P.H., Caroline B. Emsermann, M.S., and others in the April 2011 *Journal of Cardiac Failure* 17(4), pp. 318-324. ■ KB

Physicians who use electronic health records more intensively are more likely to use patient registries to improve care

Helping medical practices implement electronic health records (EHRs) can give the members of the practice greater ability to create patient lists (known as registries) sorted by diagnosis, laboratory test results, or medication use, a new study finds. The ability to create patient registries allows practitioners to quickly identify patients overdue for followup visits or lab tests, those with abnormal lab results, or those taking a medication that requires frequent monitoring.

The researchers analyzed responses from 163 physicians in 134 practices to surveys sent before and after a State pilot program to assist practices in adoption and use of robust EHR software. They found that the physicians were equally able to generate a diagnosis registry before and after the intervention (89 percent in 2005 and 88 percent in 2009). However, the ability of the physicians to generate a laboratory results registry increased markedly (from 44 percent in 2005 to 78 percent in 2009), as did the ability to generate a medication registry (from 33 percent in

2005 to 83 percent in 2009). The researchers suggest that implementation of EHR had little effect on diagnosis registries, because most billing software had this ability, even in 2005.

The study also found that high users of EHR were more likely than low users to generate lists of diabetes patients with overdue tests (55 vs. 30 percent) or abnormal lab results (51 vs. 37 percent), but not lists of patients with overdue visits (60 vs. 51 percent). However, high and low EHR users did not differ in generating any of these three lists for patients with coronary artery disease. The study was funded in part by the Agency for Healthcare Research and Quality (HS15397).

More details are in "Massachusetts E-health project increased physicians' ability to use registries, and signals progress toward better care," by Marshall Fleurant, M.D., Rachel Kell, M.P.H., Jennifer Love, M.D., and others in the July 2011 *Health Affairs* 30(7), pp. 1256-1264. ■ DIL

Parents are satisfied with telemedicine care for their child's obesity

Rates of childhood obesity are rising, including in rural communities. Obesity is a complex condition requiring in-depth lifestyle and psychosocial interventions that may be difficult to access in rural areas. A new study suggests that telemedicine has potential to deliver childhood obesity interventions to parents and their children. It found that parents were as satisfied with telemedicine care as they were with face-to-face management of their child's obesity.

California researchers compared two groups of children who had received consultation for obesity at a university-affiliated pediatric

weight-management clinic. One group received traditional, face-to-face care from a pediatrician specializing in weight management and a dietitian at the clinic. The other group of children received their care from the clinic's pediatrician and dietitian via telemedicine at rural and remote clinics.

All parents then received questionnaires that asked about various aspects of the care their children received, such as provider listening skills, parental understanding of instructions, and how comfortable parents were at discussing health concerns. The

study evaluated surveys of 10 telemedicine visits and 15 face-to-face visits. Overall satisfaction scores were similar for both groups of parents. This included satisfaction with the consulting health care provider. There was one notable difference in the telemedicine group. These parents rated the telemedicine visits slightly lower than face-to-face parents when it came to providers explaining things about their child's health in an easy-to-understand manner. Parents who had participated in telemedicine visits in the past said they would be

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happy to participate in future telemedicine consultations. The study was supported in part by the

Agency for Healthcare Research and Quality (HS18567).

See “Comparison of parent satisfaction with care for childhood obesity delivered face-to-face and by telemedicine,” by Kirk W.

Mulgrew, M.D., Ulfat Shaikh, M.D., M.P.H., M.S., and Jasmine Nettiksimmons, M.A., in the June 2011 *Telemedicine and e-Health* 17(5), pp. 383-387. ■ KB

Child/Adolescent Health

Children are commonly exposed to ionizing radiation from medical diagnostic imaging procedures

Use of medical diagnostic imaging is not uncommon among children under 18 years old. The highest rates are in children older than 10, with frequent use in infants younger than 2 years as well, reveals a new study. This is worrisome, note the researchers. That's because infants and children exposed to ionizing radiation are at higher risk of developing cancers and other problems than adults, because their longer expected lifespan means a longer time for adverse effects to emerge, and their rapidly developing tissues are more sensitive to radiation damage. The researchers found that 42.5 percent of the 355,088 children studied underwent 436,711 imaging procedures during the 3-year study period. A fourth of the children underwent two or more such procedures, while 16 percent underwent 3 or more procedures.

Children older than 10 years had the highest rate of all imaging procedures involving ionizing radiation (506–512 per 1,000 person-years), with high rates of use in infants younger than 2 years as well. Plain x-rays accounted for 84.7 percent of imaging procedures performed. However, computed tomographic (CT) scans, which are linked to substantially higher doses of radiation, were commonly used—accounting for 11.9 percent of all imaging procedures during the study period.

Overall, 7.9 percent of children received at least one CT scan and 3.5 percent received two or more. Children under 2 years old accounted for 1,675 of the patients undergoing CT imaging for 27 CT scans per 1,000 person-years. Nearly 40 percent of children received at least 1 plain x-ray, with children age 10 years and above having the highest rates of use (395–441 x-rays per 1,000 person-years). While the rate of plain x-rays was highest for the chest (68 procedures per 1,000 person-years), the CT imaging rate was highest for the head (15 procedures per 1,000 person-years).

The findings were based on inpatient and outpatient claims data for 355,088 children enrolled in a large health care plan from the beginning of 2005 through the end of 2007. The study was funded in part by the Agency for Healthcare Research and Quality (HS18781).

More details are in “Use of medical imaging procedures with ionizing radiation in children. A population-based study,” by Adam L. Dorfman, M.D., Reza Fazel, M.D., M.Sc. Andrew J. Einstein, M.D., Ph.D., and others in the May 2011 *Archives of Pediatrics and Adolescent Medicine* 165(5), pp. 458–464. ■ DIL

Pediatric emergency department visits surged during the 2009 H1N1 flu pandemic, but few children were hospitalized

During the peak of the April to July 2009 H1N1 influenza pandemic, there was a substantial 29 percent increase in the number of pediatric emergency department (ED) visits and a 51 percent increase in influenza-related illness (IRI) visits, according to a new study. Overall,

61 percent—14 of 23 children's hospitals studied—experienced a surge in ED volume, with an average increase of 49 ED visits per ED day. Surge patients with IRI were less ill than expected. For example, the percentage of children admitted from the ED to intensive

care unit (ICU) beds and non-ICU beds were 56 percent and 30 percent lower than expected. Overall patient acuity also remained low, with only 5 percent of children hospitalized, and only

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Pediatric emergency visits

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0.01 percent requiring mechanical ventilation.

Higher-than-expected ED IRI visits were seen for children 2 to 17 years old (highest for ages 9 to 17), females, Hispanics, the insured, and those with asthma. Lower-than-expected ED-IRI visits were seen for children under age 2, the uninsured, those with immune deficiencies or cardiovascular disease, and those in the Middle Atlantic region.

Marion R. Sills, M.D., M.P.H., of the University of Colorado School of Medicine, and colleagues used data from the Pediatric Health Information System, which contains demographic and health care resource utilization data for 41 nonprofit children's hospitals across the U.S. Twenty-three of the hospitals had ED data available continuously from 2004 through 2009, permitting calculation of expected utilization prior to the pandemic. Overall, the 23 hospitals reported 390,983 ED visits and

88,885 ED-IRI visits during the 14-week study period (April–July 2009). The study was funded in part by the Agency for Healthcare Research and Quality (HS16418).

More details are in “Resource burden at children's hospitals experiencing surge volumes during the Spring 2009 H1N1 influenza pandemic,” by Dr. Sills, Matthew Hall, Ph.D., Harold K. Simon, M.D., M.B.A., and others in the February 2011 *Academic Emergency Medicine* 18(2), pp. 158-166. ■ *DIL*

Recent trends in hospital use by children and youths are a mixed bag—lower for teen pregnancies, much higher for skin infections

An annual report of trends in children's health care between 2000 and 2007 reveals that the rate of hospital discharges for children 15 to 17 years old declined by 7.8 percent. This was primarily due to a 15.8 percent decline in the rate of pregnancy and delivery discharges for girls of that age. Yet the rate of hospitalizations for skin infections doubled to 9 per 10,000 children during this period, which coincided with the first reports of community-acquired, methicillin-resistant *Staphylococcus aureus* (MRSA).

The composite rate for hospital discharges for asthma and short-term complications of diabetes among children 5 to 17 years declined by 18.5 percent during the period. Children in the lowest-income ZIP codes had persistently higher rates of admission for these conditions. Hospital cost per discharge grew by an annual average of 4.5 percent, and Medicaid became an increasingly important payer for children's hospital care relative to private insurance. Nevertheless, trends were not the same in all types of hospitals, all regions, or income categories.

The report was compiled by the Agency for Healthcare Research and Quality (AHRQ) researchers, Bernard Friedman, Ph.D., Terceira Berdahl, Ph.D., and Roxanne Andrews, Ph.D., and

colleagues. Their findings were based on data from AHRQ's Medical Expenditure Panel Survey and Healthcare Cost and Utilization Project, which included 9 indicators of patient safety for children in hospital care. Several measures of patient safety improved—the rates of postoperative sepsis, iatrogenic (care-caused) pneumothorax, and selected infections due to medical care declined by 14.2 percent, 17.8 percent, and 23.5 percent, respectively. These and other safety indicators are some of the many Quality Indicators (QIs) developed by AHRQ, which measure health care quality using readily available hospital inpatient administrative data. The QIs can be used to highlight potential quality concerns, identify areas that need further study and investigation, and track changes over time. For more information on AHRQ's QIs, go to www.qualityindicators.ahrq.gov.

More details are in “Annual Report on Health Care for Children and Youth in the United States: Focus on trends in hospital use and quality,” by Dr. Friedman, Dr. Berdahl, Lisa A. Simpson, M.D., B.Ch., M.P.H., and others in the July/August 2011 *Academic Pediatrics* 11(4), pp. 263–279. Reprints (Publication No. 11-R061) are available from the AHRQ Publications Clearinghouse.* ■ *DIL*

Agency News and Notes

Blood infections most costly hospital care in 2009

Septicemia, an illness caused by blood infections with bacteria such as *E. coli* and methicillin-resistant *Staphylococcus aureus*, was the single most expensive condition treated in U.S. hospitals at nearly \$15.4 billion in 2009, according to the latest News and Numbers from the Agency for Healthcare Research and Quality (AHRQ). Data include cases of septicemia acquired within the community and during hospital stays. The Federal agency also found that:

- The number of hospital stays principally for septicemia more than doubled between 2000 and 2009 (337,100 admissions and 836,000 admissions, respectively), making it the sixth
- most common principal reason for hospitalization in 2009.
- Complication resulting from a device, implant, or graft was the most common reason for these hospitalizations, representing one of every five septicemia-related stays.
- The in-hospital death rate for septicemia was 16 percent in 2009—more than eight times as high as for all other hospital stays.
- More than half of all patients hospitalized for septicemia were elderly; about 14 percent were 85 and older and nearly 40 percent were 65 to 84. Some 27 percent of cases were in patients age 45

to 64, nearly 11 percent were in patients age 18 to 44, and only 1.6 percent were in children age 1 to 17.

This AHRQ News and Numbers summary is based on data from Statistical Brief #122, *Septicemia in U.S. Hospitals, 2009* (www.hcup-us.ahrq.gov/reports/statbriefs/sb122.pdf). The report uses data from the Nationwide Inpatient Sample. For information about this AHRQ database, go to www.ahrq.gov/data/hcup/datahcup.htm. For other information, or to speak with an AHRQ data expert, please contact Linwood Norman at linwood.norman@ahrq.hhs.gov or call (301) 427-1248. ■

Updated report highlights hospitals' progress in reducing bloodstream infections

The Agency for Healthcare Research and Quality released a second report that highlights the progress that has been achieved by hospitals taking part in a national effort to reduce the incidence of central line-associated bloodstream infections (CLABSI) by implementing a Comprehensive Unit-based Safety Program (CUSP). *Eliminating CLABSI: A National Patient Safety Imperative-Second Progress Report on the National On the CUSP: Stop BSI Project* provides an update on the impact of the project and the number of State hospital associations, hospitals, and hospital teams that are implementing the clinical and safety

culture changes proven to reduce CLABSI. Adult intensive care units included in this report are drawn from 32 States and territories and more than 75 hospitals. This is an increase to 10 States and 400 hospitals since November 2010. These units have reduced their CLABSI rates by an average of 33 percent. As of November 2010, CLABSI rates had decreased by an average of 35 percent, indicating rates are continuing to decrease but at a marginally slower rate. You can access the report at www.ahrq.gov/qual/clabsiupdate. ■

AHRQ initiative encourages better two-way communication between clinicians and patients

“Questions are the Answer,” a new initiative from the U.S.

Department of Health and Human Services’ Agency for Healthcare Research and Quality (AHRQ) and the Ad Council, encourages clinicians and patients to engage in effective two-way communication to ensure safer care and better health outcomes.

An original series of new videos on the AHRQ Web site, www.ahrq.gov/questions, features real patients and clinicians discussing the importance of

asking questions and sharing information.

The Web site also features new resources to help patients be prepared before, during, and after their medical appointments. The resources include:

- An interactive “Question Builder” tool that enables patients to create, prioritize, and print a personalized list of questions based on their health condition.
- A brochure, titled “Be More Involved in Your Health Care:

Tips for Patients,” that offers helpful suggestions to follow before, during, and after a medical visit.

- Notepads to help patients prioritize the top three questions they wish to address during their appointment.

For more information, go to www.ahrq.gov/questions. To request free copies of the brochure and notepad, please call 1-800-358-9295 or email

AHRRQpubs@ahrq.hhs.gov. ■

Off-label use of atypical antipsychotics not supported by evidence for some conditions

There is little evidence to support the use of atypical antipsychotic drugs for some treatments other than their officially approved purposes, even though many clinicians continue to commonly prescribe these drugs for so-called “off label” uses, according to a new report from the Effective Health Care Program of the Agency for Healthcare Research and Quality (AHRQ). Atypical antipsychotic medications, which are approved by the U.S. Food and Drug Administration for treatment of schizophrenia, bipolar disorder and, in some cases, depression, are commonly prescribed to treat other behavioral conditions.

The report, which is an update of a 2007 report, found limited evidence to support the off-label use of certain atypical antipsychotic medications. Evidence was strongest, for example, for the off-label use of risperidone, olanzapine, and aripiprazole to treat symptoms of dementia; quetiapine to treat generalized anxiety disorder; and risperidone to treat obsessive-compulsive disorder. However, evidence was lacking to

justify the use of these and other atypical antipsychotic drugs to treat substance abuse problems, eating disorders, or insomnia. Atypical antipsychotic medications have been linked to some harms, including a small increased risk of death in elderly patients with dementia, the report said.

Off-Label Use of Atypical Antipsychotics: An Update found further research is needed on the efficacy, effectiveness, and harms of off-label use of atypical antipsychotics to determine which population subsets, stratified by age, gender, or race, could benefit from such treatment. Additional research examining differing medication dosages within populations and treatment length will also better guide clinician prescribing practice.

You can read and download the full review and other publications from AHRQ’s Effective Health Care Program Web site, www.effectivehealthcare.ahrq.gov. ■

Hospital readmissions for COPD highest among black patients

For patients age 40 and over with chronic obstructive pulmonary disease (COPD), hospital readmissions within 30 days of initial treatment were 30 percent higher among blacks than Hispanics or Asians and Pacific Islanders and about 9 percent higher than whites in 2008, according to the latest News and Numbers from the Agency for Healthcare Research and Quality.

Based on data for patients who were hospitalized with COPD in 15 States during 2008:

- About 7 percent of patients were readmitted within 30 days principally for COPD, but 21 percent were readmitted for any health condition (all-cause readmission). There were

190,700 initial hospital admissions specifically to treat COPD at an average cost of \$7,100. The average readmission cost principally for COPD was 18 percent higher, at \$8,400 per stay, but all-cause readmissions were 50 percent more expensive than the initial stay—\$11,100.

- Readmissions were 22 percent higher among patients from the poorest communities than among those from the highest income areas.
- Readmissions were about 13 percent higher among male patients compared to females.

This AHRQ News and Numbers summary is based on data from Statistical Brief #121:

Readmissions for Chronic Obstructive Pulmonary Disease, 2008 (www.hcup-us.ahrq.gov/reports/statbriefs/sb121.pdf). The report uses data from the State Inpatient Databases for 15 States: Arkansas, California, Florida, Hawaii, Louisiana, Massachusetts, Missouri, Nebraska, New Hampshire, New York, South Carolina, Tennessee, Utah, Virginia, and Washington. For information about these AHRQ databases, go to <http://www.ahrq.gov/data/hcup/data/hcup.htm>.

For additional information, or to speak with an AHRQ data expert, please contact Linwood Norman at linwood.norman@ahrq.hhs.gov or call (301) 427-1248. ■

Uncertainty surrounds use of terbutaline to prevent preterm birth

A new research report from the Agency for Healthcare Research and Quality (AHRQ) concludes that not enough evidence is available to determine whether terbutaline administered by a subcutaneous infusion pump can effectively and safely prevent repeat episodes of preterm labor. The report, produced by AHRQ's Effective Health Care Program, also concludes that the adverse effects of terbutaline pump therapy for mothers or their children, in both the short term and long term, are not fully understood.

Terbutaline is approved by the Food and Drug Administration for treatment of asthmatic bronchospasm, but is sometimes used “off-label” for maintenance tocolysis—the prevention of uterine contractions to delay preterm labor. Earlier this year,

the Food and Drug Administration warned doctors and consumers about safety risks from long-term use of terbutaline. This was based on reports from women who experienced serious side effects while using the drug, although not from formal research trials.

AHRQ's review found some evidence suggesting that terbutaline pump therapy may prevent preterm labor, particularly for some populations, but the overall benefit on the neonate and the safety for mother and child is unclear. AHRQ's full report, *Terbutaline Pump for the Prevention of Preterm Birth*, includes research findings and identifies needs for future research. You can read and download the full review and other publications from AHRQ's Effective Health Care Program Web site, www.effectivehealthcare.ahrq.gov. ■

Announcements

Report finds DMARDs effective in treating juvenile arthritis

Medications known as disease-modifying anti-rheumatic drugs, or DMARDs, appear to be more effective than other treatments for children with arthritis, but there is not enough evidence to support one kind of DMARD over another, according to a new report from the Agency for Healthcare Research and Quality (AHRQ).

The report compared DMARDs with conventional treatments such as ibuprofen and steroids. It found that DMARDs are more effective than other treatments for improving symptoms of juvenile idiopathic arthritis, but the evidence was unclear about their long-term effectiveness and safety.

The new comparative effectiveness review was prepared for AHRQ's Effective Health Care Program by the Duke Evidence-based Practice Center. To accompany the new report, AHRQ also released summary publications for consumers and clinicians explaining juvenile arthritis and options for treatment. The report and the companion guides are available at www.effectivehealthcare.ahrq.gov.

"The pain associated with juvenile arthritis can be debilitating and even excruciating for young patients and is a major concern for both patients and their families," said AHRQ Director Carolyn M. Clancy, M.D. "Until a cure for juvenile arthritis is found, patients want the best, safest treatment to relieve that pain. This report will help patients choose the right treatment together with their clinician."

Juvenile idiopathic arthritis, sometimes called juvenile rheumatoid arthritis, is a common childhood disease that affects up to 400 out of every 100,000 children in the United States. Juvenile idiopathic (meaning it has no known cause) arthritis is the most common form of persistent arthritis in children. It is marked by severe joint pain that is sometimes accompanied by a fever and rash and may cause long-term joint damage. There is no cure,

but the development of DMARDs over the past 25 years has significantly advanced treatment and control of symptoms.

The AHRQ review compared traditional treatments—which include ibuprofen and other nonsteroidal anti-inflammatory drugs and corticosteroids—with DMARDs. The report also compared different types of DMARDs with each other. DMARDs work by interfering with immune cells that cause joint inflammation. They are typically classified as either biologic drugs, which target specific proteins in the immune system, or nonbiologic drugs, which act through a variety of different ways. In general, nonbiologic DMARDs are older. The nonbiologic DMARD methotrexate, which has been approved for treating arthritis since 1988, is often considered part of conventional treatment.

Researchers have hoped that the development of newer biologic DMARDs might put arthritis into long-term remission for more patients. But there are many unanswered questions about the safety of these drugs, especially for long-term use in children. The AHRQ report did not find evidence supporting the use of biologic DMARDs over nonbiologic DMARDs.

The report, *Disease-Modifying Antirheumatic Drugs (DMARDs) in Children with Juvenile Idiopathic Arthritis (JIA)*, is a recent comparative effectiveness review from AHRQ's Effective Health Care Program. The Effective Health Care Program helps patients, doctors, nurses, pharmacists and others choose the most effective treatments by sponsoring the development of evidence reports and technology assessments. These reports assist public- and private-sector organizations in their efforts to improve the quality of health care in the United States. More information about the program can be found at www.effectivehealthcare.ahrq.gov. ■

AHRQ director helps consumers navigate the health care system in a new advice column on the Web

AHRQ Director Carolyn M. Clancy, M.D., offers advice to consumers in brief, easy-to-understand columns. The columns help consumers better navigate the health care system. To read Dr. Clancy's advice column about research on women's health issues to help you make more informed treatment choices, go to www.ahrq.gov/consumer/cc/cc090611.htm. ■

Updated GERD research reviews and summaries available

A new review, *Comparative Effectiveness of Management Strategies for Gastroesophageal Reflux Disease: Update*, updates the Agency for Healthcare Research and Quality's 2005 review that compared the effectiveness of different treatment options for adults with gastroesophageal reflux disease (GERD). The update finds proton pump inhibitors to be superior to histamine type 2 receptor antagonists for the treatment of chronic GERD. Also, laparoscopic fundoplication

appears to be as effective as medication in improving GERD symptoms, but serious adverse effects are more common after surgery. Despite the availability of medical, surgical, and endoscopic options, optimal management strategies remain unsettled.

You can read and download the full review update, summaries, and other publications from AHRQ's Effective Health Care Program Web site, www.effectivehealthcare.ahrq.gov. ■

Brief on multidisciplinary pain programs for chronic noncancer pain available

A new technical brief, *Multidisciplinary Pain Programs for Chronic Noncancer Pain*, is available from the Effective Health Care Program of the Agency for Healthcare Research and Quality. This technical brief adds to the literature on Multidisciplinary Pain Programs (MPPs) by describing the current evidence base on this treatment modality, highlighting gaps in the evidence, and outlining the key issues facing patients and practitioners considering treatment

options for chronic, noncancer pain.

The brief finds the most pressing problems facing MPPs are declining access to MPP services and providers receiving inadequate reimbursement from third-party payers. The brief also outlines the possible role of MPPs as alternatives to widespread opioid therapy. It highlights the need for more research related to these programs, including more detailed information addressing cost-effectiveness, options for patients who are refused

MPP treatment or who do not experience relief, information on the decrease in the number of available programs, the structural supports needed to increase access to MPPs, and more randomized studies within the United States.

To access this brief and learn more about the AHRQ's Effective Health Care Program and treatment options for other health conditions visit www.effectivehealthcare.ahrq.gov. ■

New AHRQ white paper helps decisionmaking and consistency in public reporting

AHRQ's new white paper, *Methodological Considerations in Generating Provider Performance Scores*, is intended to help Chartered Value Exchanges (CVEs) and other organizations involved in public reporting of health care provider performance information. The paper offers guidance on identifying the sequence of decisions involved in public reporting and the range of options for each of these decisions. The paper addresses decisions encountered when working on six key tasks: negotiating consensus on goals and value judgments of performance reporting; selecting the measures for evaluating provider performance; identifying data sources and aggregating performance data; checking data quality and completeness; computing provider-level performance scores; and creating reports.

The paper also helps organizations involved in public reporting of health care provider performance information avoid the problem of inconsistent reports

based on the same data. Variances in methodological decisions by different organizations using the same exact data can produce divergent performance reports, thereby sending conflicting messages to patients and providers. AHRQ's new white paper helps users understand different types of measurement error, how sources of error may enter into the construction of provider performance scores, and how to mitigate or minimize the risk of misclassifying a provider. The paper also includes a summary of methodological decisions made by a sample of CVE stakeholders.

Developed for AHRQ by Mark W. Friedberg, M.D., and Cheryl L. Damberg, Ph.D., of RAND Corporation, the white paper is intended to support ongoing dialogue on data and measurement decisions as the Nation contemplates the future of public reporting for consumers. For details, go to <http://www.ahrq.gov/qual/value/perfscoresmethods>. ■

Research Briefs

Carson, A.P., DaJuanicia, N.H., and Howard, D.L. (2010). "Weight change and functional limitations among older adults in North Carolina." (AHRQ grant HS13353). *Journal of Community Health* 35, pp. 586-591.

This study of adults age 65 and older in North Carolina finds that changes in weight are associated with a number of functional limitations that affect activities of daily living. Both weight gain (>8 percent increase in weight from age 50) and loss (>8 percent decrease) were associated with severe (4 or more) functional limitations compared with weight maintainers (<8 percent change).

Chetty, V.K., Culpepper, L., Phillips, R.L. (2011, May). "FPs lower hospital readmission rates and costs." *Graham Center Policy One-Pager: American Family Physician* 83(9), pp. 1053A.

A new study finds that 30-day readmission rates for pneumonia, heart attack, and heart failure decrease as the number of family physicians increase. The study is based on data from the Medicare Compare Hospital Database that includes readmission rates for 4,459 hospitals and on data from the Area Resource File that shows the number of physicians per population at the county level.

Chin, M.H., Goldmann, D. (2011, January). "Meaningful disparities reduction through research and translation programs." (AHRQ grant T32 HS00063). *Journal of*

***the American Medical Association* 305(4), pp. 404-405.**

The authors describe an approach for making equity an integral component and explicit requirement of funding announcements aimed at improving quality of care and outcomes. The approach makes disparities a key goal in the development and rollout of a grant initiative and requires applicants to provide a detailed description of how they will address the equity in their conceptual, intervention, and analytical models.

Clancy, C.M. (2011). "Kidney-related diseases and quality improvement: AHRQ's role." *Clinical Journal of the American Society of Nephrology* 6, pp. 1-3. Reprints (AHRQ Publication No. 11-R077) are available from AHRQ.*

The author, director of the Agency for Healthcare Research and Quality (AHRQ), stresses that AHRQ has done work relevant to the broad area of clinical nephrology by pinpointing where quality problems lie, advancing the evidence base to do something about them, and promoting patient-centered outcomes research to give patients and clinicians tools to make decisions about their care. A number of specific programs, tools, and products are described.

Cresswell, K.M., Bates, D.W., Phansalkar, S., and Sheikh, A. (2011). "Opportunities and challenges in creating an international centralized knowledge base for clinical

decision support systems in ePrescribing." (AHRQ grant HS16970). *BMJ Quality and Safety* 20, pp. 625-630.

Given the redundancies in local and national developments related to clinical decision support systems (CDSSs) for ePrescribing, the authors consider some of the opportunities and challenges in moving towards a more concerted collaborative international effort in developing and maintaining the knowledge base for these systems. They hope that their ideas will stimulate debate, since a centrally shared resource could potentially result in significant cost savings facilitating increased adoption and penetration of CDSS internationally.

Curtis, J.R., and Levy, M.M. (2011). "Improving the science and politics of quality improvement." (AHRQ grant HS17715). *Journal of the American Medical Association* 305(4), pp. 406-407.

The authors discuss the results of an important study designed to evaluate the effectiveness of quality improvement efforts in community-based critical care units in Ontario. The goal of the multifaceted knowledge-transfer intervention was to increase adherence to six quality measures that have been documented to improve patient outcomes. Improvement was relatively modest, with improvements seen in only two of six measures.

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Research briefs

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Edmonds, B.T., Fager, C., Srinivas, S., and Lorch, S. (2011). "Predictors of cesarean delivery for periviable neonates." (AHRQ grant HS05696). *Obstetrics and Gynecology* 118(1), pp. 49-56.

A study testing for racial or ethnic disparities in periviable cesarean delivery has found that women of African American, Hispanic, and other racial or ethnic groups were somewhat less likely to undergo cesarean delivery. However, the odds were not statistically different from those of white women.

Ultimately, maternal coexisting medical conditions and pregnancy complications were found to be the strongest predictors of cesarean delivery.

Gonzales, A.A., Ton, T.G.N., Garrouette, E.M., and others. (2010, Autumn). "Perceived cancer risk among American Indians: Implications for intervention research." (AHRQ grant HS108534). *Ethnicity and Disease* 20, pp. 458-462.

The researchers conducted a random survey of 182 American Indians to assess whether knowledge of cancer risk factors, attitudes about cancer prevention, and family history of cancer were associated with perception of risk. They found that neither knowledge of cancer risk factors nor attitudes toward cancer prevention were associated with risk perception. Perceived cancer risk was significantly associated with self-reported family history of cancer.

Haywood, C., Beach, M.C., Bediako, S., and others. (2011). "Examining the characteristics

and beliefs of hydroxyurea users and nonusers among adults with sickle cell disease." (AHRQ grant HS 13903). *American Journal of Hematology*, pp. 85-87.

The researchers surveyed the attitudes and beliefs of 94 adults with sickle cell disease to compare current and previous users of hydroxyurea (HU) therapy with those who had never used it. They found that half of the never-users had received no information about HU from any source and 85 percent of never-users thought that HU would provide no improvement in their condition.

Hodge, J.G., Anderson, E.D., Kirsch, T.D., and Kelen, G.D. (2011). "Facilitating hospital emergency preparedness: Introduction of a model memorandum of understanding." (AHRQ grant HS14533). *Disaster Medicine and Public Health Preparedness* 5, pp. 54-61.

The authors discuss a model memorandum of understanding (MOU) that seeks to align regional hospitals through advance agreements on procedures of mutual aid that reflect modern principles of emergency preparedness and changing legal norms in declared emergencies. The MOU outlines essential principles on how to allocate scarce resources among providers across regions. The model MOU, which can be modified by hospitals depending on their needs and preferences, creates options for collaboration without significant legal obligations.

Krumholz, H.M., Lin, Z., Drye, E.E., and others. (2011). "An administrative claims measure suitable for profiling hospital

performance based on 30-day all-cause readmission rates among patients with acute myocardial infarction." (AHRQ grant HS16929). *Circulation: Cardiovascular Quality and Outcomes* 34, pp. 243-252.

The researchers present a model to produce hospital-specific risk-standardized estimates of 30-day readmission rates after discharge for an acute myocardial infarction. The hierarchical logistic regression claims-based model produces estimates that are excellent surrogates for those produced from a medical record model. This model is being used to publicly report the variation in readmission rates among U.S. hospitals.

Kuna, S.T., Badr, S., Kimoff, J., and others. (2011). "An Official ATS/AASM/ACCP/ERS workshop report: Research priorities in ambulatory management of adults with obstructive sleep apnea." (AHRQ grant HS17402). *Proceedings of the American Thoracic Society* 8, pp. 1-16.

This workshop identified barriers preventing incorporation of portable monitor testing into clinical management pathways and determined the research and development needed to address these barriers. Recommendations were developed concerning research study design and methodology that include the need to standardize technology, identify the patients most appropriate for ambulatory management, ensure patient safety, and identify sources of research funding.

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Research briefs

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Manfredi, C., Cho, Y.I., Warnecke, R., and others. (2011). “Dissemination strategies to improve implementation of the PHS smoking cessation guideline in MCH public health clinics: Experimental evaluation results and contextual factors.” (AHRQ grant HS10544). *Health Education Research* 26(2), pp. 348-360.

Using three dissemination strategies, researchers tested the effectiveness of dissemination interventions to improve implementation of smoking cessation guidelines in 12 Illinois maternal and child health clinics. The three strategies were: core dissemination (a tested smoking cessation program), core dissemination plus telephone counseling, and core dissemination with both telephone counseling and outreach visits to clinics. The seven clinics showing experimental effectiveness were distinguished by clinic type and absence of disruptive events from the other clinics.

Meissner, H.I., Klabunde, C.N., Han, P.K., and others. (2011, July). “Breast cancer screening beliefs, recommendations, and practices.” (AHRQ interagency agreement with the National Institutes of Health). *Cancer* 117, pp. 3101-3111.

This study represents the first national assessment of primary care physicians’ (PCPs) breast cancer screening beliefs, recommendations, and practices since 1989. It found that virtually all 1,212 PCPs surveyed reported routinely recommending mammography, clinical breast

examinations, and breast self-examinations to their patients age 40 and over. Eighty percent of the PCPs reported that mammography for average-risk women age 50 and over was very effective in reducing cancer mortality.

Ovretveit, J.C., Shekelle, P.G., Dy, S.M., and others. (2011). “How does context affect interventions to improve patient safety? An assessment of evidence from studies of five patient safety practices and proposals.” (AHRQ Contract No. 290-2009-10001). *BMJ Quality and Safety* 20, pp. 604-610.

Experience suggests that context is important for understanding why some patient safety practices are implemented successfully and are more effective in some organizations and regions and not in others. In a review of the literature on five patient safety interventions, researchers found little strong evidence of the influence of different context factors. However, the research reviewed was not specifically designed to investigate context influence.

Polivka, B.J., Casavant, M., and Baker, S.D. (2010). “Factors associated with healthcare visits by young children for nontoxic poisoning exposures.” (AHRQ grant HS15713). *Journal of Community Health* 35(6), pp. 572-578.

Over a 4-year period, 2,494 children up to 5 years old in Columbus, Ohio, and its surrounding area made visits to local emergency departments or urgent care centers to treat poisonings. Poisoning exposures in the study were primarily to

medication (77 percent), which a poison control center can generally help parents handle by telephone.

Pronovost, P.J., and Goeschel, C.A. (2011, July). “Time to take health delivery research seriously.” (AHRQ Contract No. 290-06-0221 and AHRQ grant HS19934). *Journal of the American Medical Association* 306(3), pp. 310-311.

The authors argue for increased emphasis on research to improve the delivery of health care, in addition to research to create new treatments. Such changes would mean bringing human factors and systems engineers, sociologists, psychologists, and health services researchers into academic medical centers to use their skills in implementing basic biomedical research in clinical settings. The authors suggest that health care funders and researchers should supplement hypothesis-testing research with outcome-optimizing research.

Quest, T.E., Asplin, B.R., Cairns, C.B., and others. (2011). “Research priorities for palliative and end-of-life care in the emergency setting.” (AHRQ grant HS18114). *Academic Emergency Medicine* 18, pp. e70-e76.

This article proposes a research agenda for studying the integration of palliative care in the emergency department setting. The agenda was developed by the Palliative Care Workgroup, part of a conference convened by the American College of Emergency Physicians. The group concluded that the integration of palliative care into

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routine emergency practice will require a paradigm shift in care delivery.

Rattanaumpawan, P., Tolomeo, P., Bilker, W.B., and others. (2011). “Risk factors for fluoroquinolone resistance in Enterococcus urinary tract infections in hospitalized patients.” (AHRQ grant 10399). *Epidemiology of Infection* 139, pp. 955-961.

This study is the first study specifically designed to identify risk factors for fluoroquinolone (FQ) resistance in healthcare-acquired urinary tract infections. It found that independent risk factors for FQ resistance included cardiovascular diseases; hospitalization within the past 2 weeks; hospitalization on a medicine service; and recent exposure to beta-lactamase inhibitors, extended spectrum cephalosporins, FQs, and clindamycin.

Rivera-Soto, W.T., Rodriguez-Figueroa, L., and Calderón, G. (2010, December). “Prevalence of childhood obesity in a representative sample of elementary school children in Puerto Rico by socio-demographic characteristics, 2008.” (AHRQ grant HS14060). *Puerto Rico Health Science Journal* 29(4); pp. 357-363.

Elementary school children in Puerto Rico have higher rates of overweight and obesity than is observed among Hispanic children in the United States, according to a new study. Overall, 27 percent of the students fit the criteria for obesity compared with 19 percent for non-Hispanic whites or blacks in the U.S., and 25 percent for all Hispanic children in the U.S.

Another 11 percent of Puerto Rican elementary school children were overweight.

Sarkar, I.N., Butte, A.J., Lussier, Y.A., and others. (2011). “Translational bioinformatics: Linking knowledge across biological and clinical realms.” (AHRQ grant HS19913). *Journal of the American Medical Informatics Association* 18, pp. 354-357.

The authors present translational bioinformatics (TBI) as a discipline that builds on the successes of bioinformatics and health informatics for the study of complex diseases. A major goal of TBI is to develop informatics approaches for linking across traditionally disparate data and knowledge sources, enabling both the generation and testing of new hypotheses. Projects involving TBI approaches to integrating biological and clinical data are already underway.

Schiff, G.D., Galanter, W.L., Duhig, J., and others. (2011, September). “Principles of conservative prescribing.” (AHRQ grant HS16973). *Archives of Internal Medicine* 171, pp. 1433-1440.

The authors, who are physicians, pharmacists, and educators, have identified principles for safer and more evidence-based prescribing. These principles urge clinicians to think beyond drugs; practice more strategic prescribing; maintain heightened vigilance regarding adverse effects; and exercise caution and skepticism regarding new drugs. Taken together, these principles represent a shift in the prescribing paradigm from “newer and more is better” to “fewer and more time-tested” is better.

Schuur, J.D., Baugh, C.W., Hess, E.P., and others. (2011). “Critical pathways for post-emergency outpatient diagnosis and treatment: Tools to improve the value of emergency care.” (AHRQ grant HS181134). *Academic Emergency Medicine* 18, pp. e52-e63.

This article reports the results of a working group charged to address methods to improve value in post-emergency department (ED) transitions. The working group was part of a conference convened by the American College of Emergency Physicians. The authors describe a model of post-ED pathways, describe the role of pathways in emergency care, list common diagnoses that are amenable to critical pathways in the outpatient setting, and propose a research agenda.

Seidling, H.M., Phansalkar, S., Seger, D.L., and others. (2011). “Factors influencing alert acceptance: A novel approach for predicting the success of clinical decision support.” (AHRQ grant HS11169). *Journal of the American Medical Informatics Association* 18, pp. 479-484.

The researchers attempted to quantify the impact of some of the major human factors issues that may affect computer alert acceptance by specification of three variables—the display of the alert, the textual information, and the prioritization of the alerts. The alert display most strongly correlated with alert acceptance. The textual information did not influence the frequency of alert acceptance. Only drug-drug interaction alerts were included in the study.

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Sloane, P.D., Wroth, T., Halladay, J., and others. (2011, July/August). "How eight primary care practices initiated and maintained quality monitoring and reporting." (AHRQ Contract No. 209-07-10014). *Journal of the American Board of Family Medicine* 24(4), pp. 360-369.

To better understand the process by which practices initiate, support, and maintain performance data reporting, the researchers conducted a study of 8 diverse practices, each of which was participating successfully in one or more of 34 performance-data-reporting programs. They found that implementing and sustaining quality reporting requires a complex set of motivators, facilitators, and strategies to overcome inherent barriers that can present themselves to practices seeking to implement change.

Tarnutzer, A.A., Berkowitz, A.L., Robinson, K.A., and others. (2011, June). "Does my dizzy patient have a stroke? A systematic review of bedside diagnosis in acute vestibular syndrome." (AHRQ grant HS17755). *Canadian Medical Association Journal* 183(9), pp. E571-E592).

The most common causes of acute vestibular syndrome are vestibular neuritis and ischemic stroke in the brainstem or cerebellum, according to a review of 10 studies describing 392 patients. These studies focused largely on bedside test of vestibular and oculomotor function, as assessed through care examination of eye movements. Expert opinion suggests a combination of focused

history and physical examination as the initial approach to determining if there is a stroke.

Taylor, S.L., Dy, S., Foy, R., and others. (2011). "What context features might be important determinants of the effectiveness of patient safety practice interventions?" (AHRQ Contract No. 290-09-1001). *BMJ Quality and Safety* 20, pp. 611-617.

In order to identify which contextual factors are likely to have the most relevance to and impact on a diverse range of patient safety practices, the authors used an iterative process of formal group discussions with a 22-member technical expert panel. The panel identified four broad domains of contextual features important to patient safety practice implementations: safety culture, teamwork and leadership involvement, structural organizational characteristics, external factors, and availability of implementation and management tools.

Tschampi, C., Bernardo, J., Garvey, T., and Garnick, D. (2011, July). "The need for performance measures on testing for latent tuberculosis infection in primary care." (AHRQ grant T32 HS00062). *The Joint Commission Journal on Quality and Patient Safety* 37(7), pp. 309-316.

Using a National Quality Forum-endorsed measure that calculates the rate of tuberculosis screening in persons with HIV as a model, the authors propose a set of performance measures focused on the rate of persons at high risk of TB who are tested for latent tuberculosis infection and have the test read. The proposed

performance measures will address a neglected secondary prevention opportunity and will be consistent with national priorities and health reform.

Webb, J.R., Feinglass, J., Makoul, G., and others. (2010). "Can electronic health records help improve patients' understanding of medications?" (AHRQ grant HS17220). *The American Journal of Managed Care* 16(12), pp. 919-922.

Researchers have come up with a novel approach that incorporates the benefits of electronic health records with direct patient communication. Patients receive a computer-generated list of their medications to review in the waiting room before the physician visit. After their visit, patients were asked if they were still taking each medication in the manner prescribed and if they had any problems or concerns with it. Nearly half of patients expressed problems, concerns, or questions about their current medications. Use of the list was an opportunity to educate them.

Welsh, C.A., Flanagan, M.E., Hoke, S.C., and others. (2011). "Reducing health care-associated infections (HAIs): Lessons learned from a national collaborative of regional HAI programs." (AHRQ Contract No. 290-06-0001). *American Journal of Infection Control*, pp. 1-8.

In 2007, the Agency for Healthcare Research and Quality (AHRQ) created the AHRQ Healthcare-Associated Infections (HAI) initiative, which funded five regional collaboratives. These

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collaboratives consisted of 33 hospitals with a range of hospital types and geographic locations. This article summarizes the successes, challenges, and lessons learned that were common to these collaboratives.

Werner, R.M., Konezka, R.T., Stuart, E.A., and others. (2011, April). “Changes in patient sorting to nursing homes under public reporting: Improved patient matching or provider gaming?” (AHRQ grant HS16478). *Health Services Research* 46(2), pp. 555-571. Public reporting of nursing home quality does appear to influence the type of patient going to a skilled

nursing facility, the researchers found—although they could not rule out that some providers are gaming the system by reducing the degree of pain or delirium reported at patient admission. The study compared the percentages of short-stay patients at an SNF without moderate to severe pain, without delirium, and whose walking remained independent or improved. ■



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