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Planting seeds for change in primary care practice

As primary care practices move toward a medical home model of care that provides comprehensive, patient-centered care, changes are needed to achieve the triple aim of better health care, better health, and reduced costs. "It's really hard for practices to do this on their own," says Michael Parchman, M.D., director of the MacColl Center for Health Care Innovation and a former Agency for Healthcare Research and Quality (AHRQ) staff member. "Change requires time for reflection and conversation to reach those 'aha' moments."

Some practices are achieving change through those "aha moments" with the help of practice facilitators, trained individuals who support practices through quality improvement coaching.

"One of the most promising methods to support primary care transformation is a practice facilitation model that supports an ongoing, trusting relationship between an external facilitator and a primary care practice," says Parchman. "I make the analogy that it's like bringing the foreign exchange student home for dinner. It changes the whole tenor of the conversation when you have a stranger at the table, but in this case it's someone you know."

Many primary care practice facilitators help practices change the way they provide care, for example, moving to a team-based model of care. In addition, facilitators work with practices to improve care through specific activities, such as creating registries to identify and reach patients with specific illnesses or conditions, increasing the number of well child visits, selecting and maximizing the use of electronic health record (EHR) systems, and even health education activities.

AHRQ is helping to lay the groundwork for primary care practice facilitation. Through a Web site, a learning community, a newsletter, webinars, and a how-to guide, organizations and individuals interested in providing primary care practice facilitation services learn how to hire, train, and use practice facilitators (www.pcmh.ahrq.gov).

Facilitators often work with 10 or 20 practices at a time, notes Parchman, and tailor their work to a practice's needs. "Practice facilitators work with primary care practices to make changes. They don't do the work—they help the practice develop the skills and capabilities to do the work," explains Parchman. "In some ways, practice facilitation is like the old agricultural cooperatives that used extension agents to reach out to help farmers."

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continued on page 3

Highlights

Topics

Regular Features

From the Director

When I'm asked about the future, I often say my crystal ball is a bit cloudy. But when people want to know about the need for primary care to change, my crystal ball is clear.

As a general internist who has spent much of my career in primary care practice, I take a special interest in payment reform, workforce development, building an infrastructure for primary care, and care coordination. Each of these activities is critical and contributes to success of the others. One strategy that can impact all these areas is practice facilitation.

As we move toward a medical home model of primary care, some primary care practices are beginning to not only change and grow—but thrive— by working with practice facilitators. These professionals, sometimes called coaches or enhancement assistants, build relationships with practices to help them become fertile for changes to redesign practices and incorporate best clinical practices and best management practices into daily clinic operations.

Facilitators typically work with a variety of practices in a geographic area, sharing ideas that have worked in other locations and making specific suggestions. Although facilitators focus primarily on helping primary care practices become medical homes, they also help practices with general quality improvement and redesign efforts. They tend to be people who like to teach and are service oriented.

Here at the Agency for Healthcare Research and Quality (AHRQ), we're supporting and encouraging organizations to work with facilitators who are trained to take a team approach to change. Through our online Patient-Centered Medical Home Resource Center (www.pcmh.ahrq.gov), we offer resources, webinars, newsletters, and a guidebook some of my colleagues here at AHRQ only half jokingly refer to as a bestseller *Developing and Running a Primary Care Facilitation Program: A How-To Guide.*

One of the reasons practice facilitators are so successful helping practices change is that they share their expertise, statistics, and stories about what they've seen working in other practices. Some of these facilitators' stories are in the cover story of this issue of *Research Activities*.

My crystal ball tells me that practice facilitators provide one way to improve primary care. What do you see?

Carolyn Clancy, M.D.

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Correction

The article on the impact of diabetes on school dropout rates and wages on page 6 of the November issue of *Research Activities* failed to note that Type 1 diabetes is not considered preventable, and that the authors' calls for prevention measures apply to those with type 2 diabetes, which may be prevented by changes in diet, exercise, and other lifestyle factors. You can see the corrected article at www.ahrq.gov/research/nov12/1112RA5.htm.

Seeds for change

continued from page 1

Parchman refers to an article published in the *Annals of Family Medicine* about a study that found that practices were 2.76 times more likely to adapt evidence-based guidelines if they had a practice facilitator. He says, "They empower the practice."

But Parchman adds, "Practice facilitation is in its infancy. We still have not touched the vast universe of where primary care is delivered in the United States." He calls practices that take advantage of practice facilitation "early adapters." "The early adapters are willing to try something new and make sure they do it in a way that is transparent so others can observe," says Parchman. He likens early adapters to students who raise their hands in class and plead, "Choose me."

Spreading good ideas

"Because I run a PBRN (practice-based research network), I wanted something meaningful and useful for our practices that was different," said Lyndee Knox, Ph.D., founding director of LA Net, a primary care network in Los Angeles County, which has received research funding from AHRQ for work on primary care improvement through practice facilitation. Twenty-four organizations, mainly Federally Qualified Health Centers, participate in LA Net, representing 116 practice sites, which handle more than 1.2 million patient visits per year.

"In the past, we had universities come in and say, 'We want to do research and study,' and our practices had enough of that. We never heard what happened," Knox told *Research Activities*. "We were looking for a way to be part of research and discovery, active quality improvement, and practice transformation."

She has had success through facilitation. "There's a difference between a consultant and a facilitator. A facilitator has intimate knowledge of the practice," says Knox. "The facilitator knows details about the practice's schedule, the receptionist, what EHR they're using so when a new treatment guideline or health services model shows promise, the facilitator already knows the landscape and can get to business very quickly and very efficiently. Basically, a facilitator has the key to the back door."

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And that key turns on a regular basis. "Building on data-driven information, facilitators are improving how practices work with patients who have heart disease, asthma, and diabetes—on a large scale and efficiently," says Knox. "We like to think our facilitators are like honeybees. They're pollinators who spread good ideas."

They call them PEAs in Oklahoma

Cheryl Aspy, Ph.D., of the University of Oklahoma and the Oklahoma Physicians Resource/Research Network, hires facilitators who work at practices throughout the State, focusing on the needs of individual practices.

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Oklahoma is one of four States (the others are Pennsylvania, New Mexico, and North Carolina) that received a grant from AHRQ to support and evaluate facilitation in small and mid-sized practices to assist with primary care redesign and transformation. The grants to these four States support creating State-level collaborations with the other States to assist with their primary care transformation efforts. Each project has the potential to serve as a model for future Federal and State initiatives.

"We call our facilitators practice enhancement assistants or PEAs. We've had fun with the name," Aspy admits. "We've had split peas or part-time PEAs, peas in a pod or pregnant PEAs. . . .It goes on and on." Four or five PEAs work with about 250 clinicians spread out in about 130 practices across the state.

"We look for PEAs with interpersonal skills, as well as computer skills to collect and manage data, and experience with quality improvement techniques, chart auditing, meeting facilitation, and practice redesign," says Aspy. "Most have at least a master's degree. Public health is a great background. They're more aware of problems."

To determine which practices would like a PEA, Aspy says, "We

continued on page 4

Seeds for change

continued from page 3

discovered the best way is to put a note up on the listserv asking 'Who is ready? Who is willing? Who is interested?'"

Aspy arranges for meetings between the PEAs and the practice. "We start with an academic detailing process. We go out and meet with practices," says Aspy. "We'll introduce the PEA if they haven't met. The PEA becomes part of the practice in a way. They approach solutions based on what's working down the street or in another town over. Sometimes it's local solutions that have credibility."

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Cara Vaught, M.P.H., a PEA in Oklahoma, has more than 10 years experience as a facilitator. "We don't have to make people change, we're just providing the avenues," she explains. "It's about repetition, lots of visits, and reminding them that I'm that 'project girl.'"

Katy Duncan Smith, M.S., a PEA since 2005, says, "It can take at least 2 to 3 months to build a comfortable relationship with a practice before you can start doing real work." Taking time to develop relationships is one way facilitators can create an environment where change is possible.

"We're looking for a champion—it's usually not a physician, it's often an office manager—but it might be the nurse who has worked there for 20 years and everyone in the community knows her. She calls the shots and has the resources," says Smith. She has helped practices choose EHR systems. "We're self taught on so many systems, we can help practices utilize them."

Sometimes, facilitation involves the classic "other duties as assigned."

"Once we're out at a site, we can help with just about anything. We even help physicians maintain their certification for the American Board of Family Medicine," says Smith. 'It's not difficult, but it's time-consuming for the physicians. It's a small part of what we do, but it's helpful. It's very important to me that when I walk into a clinic and they see my face, they go 'Oh great, Katy is here and I can ask for help and even if she doesn't have the answer, she's going to find it.'"

Once we're out at a site, we can help with just about anything.

Finding out how to increase the number of well child visits in a practice she called "chaotic" took time for Crystal Turner, M.P.H.

After several visits, Turner admitted, "I felt overwhelmed. There was so much fussing. The office manager was taking on too many roles and the person who was pulling charts seemed to work well with patients. I suggested she would work better for referrals. Working with the office manager, we rearranged some staff members' positions." Turner also began monthly staff meetings. "The number of well child visits soared. It was a great, great success—even to this day, they're doing very well." ■ *KM*

Editors note: You can find out more information about the patient-centered medical home at www.pcmh.ahrq.gov.

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.

High rates of paper-based prescribing errors found among community-based primary care providers

A great deal is known about the rates and types of prescribing errors in hospitals, but not in the outpatient setting. Now a new study reveals high rates of prescribing errors among community-based providers in two States. Errors resulting from illegible prescriptions were the biggest problem.

The study looked at 48 ambulatory care providers in New York and 30 providers in Massachusetts who used paper prescriptions for a period of 15 months. A total of 9,385 prescriptions were reviewed for 5,955 patients to identify any prescribing errors.

Provider groups in both States experienced high error rates. Overall, the rate of prescribing errors was 36.7 per 100 prescriptions, not including illegibility errors. There was no difference in rates between the groups. This amounted to 27.8 percent of prescriptions having at least 1 prescribing error. Although these errors have low potential for patient harm, they do result in significant rework for physicians, nurses, and pharmacists and delays in receiving medications for patients. The near-miss rate was 1.1 per 100 prescriptions, again with no difference between groups, and with illegibility errors excluded. Prescribing errors that were most common were illegibility errors, the use of inappropriate abbreviations, direction errors, and strength errors. Illegibility errors and dose errors were most responsible for near misses.

Among drug categories, antibiotics had the most prescribing errors, followed by cholesterol medications, narcotic analgesics, and blood pressure drugs. According to the researchers, use of electronic prescribing with a basic clinical decision support (CDS) system in place could have prevented 32 percent of prescribing errors; an advanced CDS system would have pushed this rate to 57 percent. A CDS system would also have prevented all of the illegibility errors and 42 percent of the near misses. The study was supported in part by the Agency for Healthcare Research and Quality (HS15397).

See "Ambulatory prescribing errors among community-based providers in two states," by Erika L. Abramson, M.D., David W. Bates, M.D., M.Sc., Chelsea Jenter, and others in the *Journal of the American Medical Informatics Association* 19, pp. 644-648, 2012. ■ *KB*

Including FDA hotline in print drug ads has small effect on adverse event reporting by consumers

In 2007, the Federal Government began requiring drug makers to include in their print direct-to-consumer advertisements information for consumers about how to report to the Food and Drug Administration (FDA) adverse events that they experienced after taking a prescription drug. The researchers studied adverse event reports for about 123 drugs that came from patients before and after the enactment of the print advertising requirement. They then estimated that requirement's impact with model simulations. In the period from July 2006 to May 2009, the FDA received 7,100 adverse drug reports from patients who were taking one of more of the 123 drugs. On average, patients reported more adverse events per month after the enactment of the requirement than before (2.35 events per drug, compared to 1.17 events). However, this difference was not significant.

Using model simulations, the researchers estimated that before enactment of the requirement, if the cumulative spending on print direct-to-consumer advertising increased to $7.7 million per drug, there would be 0.08 more reports each month of adverse drug events per drug.

After enactment, the same increase in spending on print advertising would result in 0.24 more monthly reports of adverse events per drug. Of that increase, 64.8 percent was attributable to the requirement that manufacturers include toll-free reporting numbers in print direct-to-consumer advertisements.

The researchers suggest that if the positive relationship between spending on direct-to-consumer advertising and adverse event

continued on page 6

FDA hotline
continued from page 5

reporting holds, adding the toll-free number to television advertisements could have a bigger impact than doing so in print advertising. They also point out that additional measures, such as more publicity about the Adverse Event Reporting System or more consumer education, should be considered to promote patient reporting of adverse events.

See "Despite 2007 law requiring FDA hotline to be included in print drug ads, reporting of adverse events by consumers still low," by Dongyi "Tony" Du, Ph.D., John Goldsmith, Ph.D., Kathryn J. Aikin, Ph.D., William E. Encinosa, Ph.D., and Clark Nardinelli, Ph.D., in *Health Affairs* 31(5), pp. 1022-1029, 2012. Reprints (AHRQ Publication No. 12-R085) are available from the Agency for Healthcare Research and Quality.* ■ *MWS*

Intravenous fentanyl can be given safely to trauma patients for pain in the prehospital setting

Trauma patients can suffer acute pain during prehospital care by paramedics. Intravenous fentanyl, an opioid, is fast-acting and effective at relieving pain in this setting, but it can also cause respiratory depression and low blood pressure. However, a new study found fentanyl was safe and effective at relieving the pain of adults cared for by paramedics. In fact, fentanyl improved the patient's emergency department (ED) shock index (heart rate divided by systolic blood pressure).

The researchers compared 217 trauma patients who received fentanyl with 247 patients who did not receive fentanyl prior to arrival at the hospital. Due to a protocol change, paramedics were able to give a single 100 µg dose of fentanyl without having to call the medical command center. In the fentanyl group, there was a larger proportion of blunt trauma patients, those with a Glasgow Coma Scale of 15 (scores of 3-8 indicates coma), and a higher Injury Severity Score. Patients receiving fentanyl were also more likely to be taken directly to the operating room and less likely to be discharged home. The ED shock index was better for those getting fentanyl compared to those who did not. This advantage continued even after results were adjusted for such things as age, gender, and prehospital shock index. According to the researchers, the findings can be applied to most urban prehospital systems and to the majority of major trauma patients who are not initially hypotensive. The study was supported by the Agency for Healthcare Research and Quality (HS18123 and HS17526).

See "Safety of prehospital intravenous fentanyl for adult trauma patients," by Gina C. Soriya, M.D., Kevin E. McVaney, M.D., Michael M. Liao, M.D., and others in the *Journal of Trauma* 72(3), pp. 755-759, 2012. ■ *KB*

Aldosterone antagonist therapy at hospital discharge linked to modest reduced risk of rehospitalization for heart failure

Among older patients experiencing heart failure and reduced ejection fraction (reduced pumping ability), using aldosterone antagonist therapy at hospital discharge was not independently associated with improved mortality or cardiovascular readmission, according to new research from AHRQ's Effective Health Care Program. However, it was associated with a modest reduction in the risk of rehospitalization for heart failure.

Though aldosterone has been shown to be effective in clinical trials, it may have limited effectiveness in real-world settings among the most vulnerable patients because of lack of adherence to or persistence with medical therapy, or inconsistent monitoring based on guideline recommendations. Strict protocols for careful monitoring and early follow-up after initiation of aldosterone antagonist therapy are needed. Additional research is also needed to evaluate the clinical effectiveness of aldosterone antagonists in the broad population of patients with heart failure and to identify strategies to overcome disparities between findings of clinical efficacy and clinical effectiveness.

See "Associations Between Aldosterone Antagonist Therapy and Risks of Mortality and Readmission Among Patients With Heart Failure and Reduced Ejection Fraction" by Adrian F. Hernandez, M.D., M.H.S., Xiaojuan Mi, Ph.D., Bradley G. Hammill, M.S., and others in the November 2012 *Journal of the American Medical Association* 308(20), pp. 2097-2107. ■

Skill in estimating blood loss declines 9 months after Web-based training

Accuracy and timeliness in estimating blood loss is important both in surgery and obstetrics. Yet, clinicians who go through a course of Web-based education on blood loss volume estimation, estimate blood loss less accurately 9 months later, according to a new study. Visual estimation of blood loss remains important, because it is faster than other, more accurate methods that require specialized equipment. The researchers retested 52 of 141 labor and delivery providers who completed an initial Web-based didactic training 9 months after their initial training.

In a pretest before the initial training, the clinicians underestimated the volume of blood loss by an overall 47.8 percent (aggregate accuracy for five simulation stations). The aggregate accuracy improved to a 13.5 percent underestimate for the immediate posttest, but worsened to an aggregate 34.6 percent underestimation at 9 months after training. The 9-month posttest accuracy was significantly better than that observed for the pretest, but significantly worse than that observed for the immediate posttest.

No significant differences in accuracy at the 9-month follow-up were associated with provider type (anesthesiologist, attending obstetrician, nurse), duration of clinical experience, or previous formal training on blood loss accuracy. Three of the simulation stations showed no change in estimation accuracy from the immediate posttest and 9-month test. The researchers suggest that this might be due to the participants having been given information concerning saturated capacity for the laparotomy sponge and a specific rule for estimating blood loss in a bed. The study was funded in part by the Agency for Healthcare Research and Quality (T32 HS00078).

More details are in "Decay in blood loss estimating skills after Web-based didactic training," by Paloma Toledo, M.D., M.P.H., Stanley T. Eosakul, M.S., Kristopher Goetz, B.A., and others, in the February 2012 *Simulation in Healthcare* 7(1), pp. 18-21. ■ *DIL*

Decision modeling can demonstrate potential trade-offs between survival and quality of life in advance directives

When patients are critically ill and no longer able to make decisions, advance directives help maintain patient autonomy by allowing them to specify ahead of time the type of care desired. To determine if they could identify patient preferences for quality of life that might make a Do Not Intubate (DNI) versus a Full Code advance directive result in more favorable outcomes, a research team built a decision analytic model (mathematical simulation) comparing Full Code versus DNI in patients with severe chronic obstructive pulmonary disease (COPD), as an example of a highly prevalent chronic disease. The modeled DNI advance directive only allowed noninvasive mechanical ventilation versus the Full Code advance directive that allowed all forms of mechanical ventilation, including invasive mechanical ventilation via an endotracheal tube (ETT).

The simulation revealed that for community dwellers with COPD, Full Code resulted in a greater likelihood of survival and higher estimated quality-adjusted life years (QALYs). When considering patient preferences regarding complications, however, if patients were willing to give up more than 3 months of life expectancy to avoid ETT complications, or were willing to give up more than 1 month of life expectancy to avoid long-term institutionalization, DNI resulted in higher estimated QALYs.

The researchers conclude that advance directive decisionmaking must be informed by the likelihood of outcomes beyond survival alone, such as potential tradeoffs between survival and complications, as well as patients' preferences for these outcomes. Decision analytic modeling can assist with such complex decisionmaking by synthesizing evidence-based data with patient-specific factors to estimate more individualized likelihoods of outcomes and potential tradeoffs. This study was supported in part by the Agency for Healthcare Research and Quality (HS19473).

See "Informing shared decisions about advance directives for patients with severe chronic obstructive pulmonary disease: A modeling approach" by Negin Hajizadeh, M.D., Kristina Crothers, M.D., and R. Scott Braithwaite, M.D., in *Value in Health* 15, pp. 357-366, 2012. ■ *MWS*

24-hour staffing of intensive care units with intensivists has benefits as well as some tradeoffs for patients and physicians

More and more hospitals are favoring 24-hour attending physician coverage in their intensive care units (ICUs), with some even opting for remote telemonitoring. While there are many benefits to having experienced intensivists present all the time, it may also produce some unintended consequences for patients, suggests a paper by University of Pennsylvania critical care medicine specialists, Meeta Prasad Kerlin, M.D., M.S.C.E., and Scott D. Halpern, M.D., Ph.D.

In a recent essay, they explore both the pros and possible cons associated with 24-hour intensivist staffing in teaching hospitals. Their opinions suggest that such coverage requires tradeoffs in training of residents (individuals with a medical degree but who practice under the supervision of fully licensed physicians, such as hospital attending physicians) and possible disparities in health care access at certain hospitals that cannot attract the limited number of intensivists.

Intensivist staffing on a 24-hour basis has several potential benefits for patients. These experienced specialists may improve the quality and efficiency of care, while at the same time increasing the satisfaction levels of families and staff. In addition, lowering on-call responsibility may reduce staff burn out. Some studies even suggest that patients who receive such high-intensity critical care have reduced mortality and shorter length of stays compared to patients in ICUs with other staffing models. Also, nurses appreciate having the intensivist present in the ICU, since it reduces communication delays when trying to reach a physician by phone.

However, the current shortage of intensivists means that not all critically ill patients can benefit from this type of care and staffing. Some ICUs have no intensivists at all. This 24-hour staffing trend may result in more specialists being taken away from hospitals who need them the most. Residents may also not have as many opportunities to learn by doing in the environment of round-the-clock intensivist coverage. Lesser autonomy may make residents feel less fulfilled, discouraging them from pursuing careers as intensivists. Given all of the questions surrounding this type of ICU staffing model, the authors recommend randomized trials comparing 24-hour versus daytime-only intensivist staffing. The study was supported in part by the Agency for Healthcare Research and Quality (HS018406).

See "Twenty-four-hour intensivist staffing in teaching hospitals: Tensions between safety today and safety tomorrow," by Drs. Kerlin and Halpern in the May 2012 *Chest* 141(5), pp. 1315-1320. ■ *KB*

Alcohol screening questionnaire can help identify high-risk drinkers with increased postoperative health care use

Alcohol misuse is a potentially modifiable risk factor for postoperative complications. The commonly used three-item AUDIT-C alcohol screening questionnaire could be used to identify patients at increased risk for costly postoperative inpatient health care use, concludes a new study. Providing these patients with preoperative alcohol interventions might provide a cost-effective approach to decrease postoperative resource use as well as improve patient outcomes, suggest the researchers.

The study included male Veterans Affairs patients who completed the AUDIT-C on mailed surveys from October 2003 through September 2006, who were hospitalized for nonemergency, noncardiac major operations in the following year. The researchers evaluated postoperative inpatient health care use across four AUDIT-C risk groups (scores 0, 1 to 4, 5 to 8, and 9 to 12), adjusting for smoking status, sociodemographics, and other factors.

continued on page 9

Alcohol screening

continued from page 8

Patients with high-risk drinking (AUDIT-C scores 9 to 12) spent nearly a day longer in the hospital and had longer intensive care unit stays after surgery compared with low-risk drinkers (AUDIT-C scores 1 to 4), and were twice as likely to return to the operating room. High-risk drinking was not associated with hospital readmission. Lower level at-risk drinking (AUDIT-C scores 5 to 8) was not associated with any measure of postoperative health care use. Nondrinkers (AUDIT-C score 0) had increased health care use on all measures compared with low-risk drinkers, but the differences were relatively small. This study was supported in part by the Agency for Healthcare Research and Quality (T32 HS13853).

See "AUDIT-C alcohol screening results and postoperative inpatient health care use" by Anna D. Rubinsky, M.S., Haili Sun, Ph.D., David K. Blough, Ph.D., and others in the *Journal of the American College of Surgeons* 214, pp. 296-395, 2012. ■ *MWS*

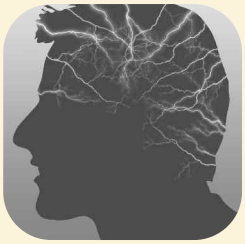
Mental Health

Headache and nausea most common side effects among adults and adolescents taking antidepressants

Much of what we know about the side effects of antidepressants comes from randomized trials. A new study sheds light on side effects of antidepressants observed in patients being treated by clinicians in a real-world setting. The side effects varied, depending on the class of drug and age of the patient.

The University of Colorado researchers reviewed 11 years of data to identify 36,400 adults and 3,617 adolescents who received an antidepressant to treat a new episode of major depressive disorder. They studied seven classes of antidepressants for side effects: serotonin reuptake inhibitors (SSRIs), selected serotonin-norepinephrine reuptake inhibitors (SNRIs), tricyclics, bupropion, monoamine oxidase inhibitors (MAOIs), phenylpiperazine, and tetracyclic antidepressants. They also studied the prevalence of five of the most common side effects: headache, nausea/vomiting, agitation, sedation, and sexual dysfunction.

Most patients were taking SSRIs (66 percent), followed by bupropion (14 percent), and SNRIs (12 percent). Within the SSRI group, the most popular drugs were sertraline, escitalopram, and fluoxetine. Two-thirds of patients receiving an SNRI took venlafaxine. Patients taking MAOIs were significantly older than patients taking other classes of drugs.



The most common side effects among all age groups were headache and nausea or vomiting. Adults receiving bupropion had significantly fewer episodes of headaches and nausea compared to those taking an SSRI or SNRI. Adolescents receiving bupropion had significantly less nausea or vomiting compared to those taking an SSRI. Among adults taking an SSRI, there was a higher risk of nausea. Adolescents were more at risk for headaches if they were taking a tetracyclic antidepressant verses an SSRI. The results of this study were consistent with data from previous clinical trials. The study was supported by the Agency for Healthcare Research and Quality (HS19464 and Contract No. 290-05-0037).

See "Rates of 5 common antidepressant side effects among new adult and adolescent cases of depression: A retrospective US claims study," by Heather D. Anderson, Ph.D., Wilson D. Pace, M.D., Anne M. Libby, Ph.D., and others in the January 2012 *Clinical Therapeutics* 34(1), pp. 113-123. ■ *KB*

Study is first to show improved outcomes with postpartum depression screening and care

Studies have shown that maternal postpartum depression (PPD) affects one in every 5 to 6 postpartum women, but is often undetected and if recognized, undertreated. A new practice-based research network study compared a system of screening, supported diagnosis, and PPD management within family medicine practices to usual care. The new approach significantly increased rates of PPD recognition, treatment, and fewer depressive symptoms at 12 months.

The researchers randomly assigned 14 family medicine practices to usual care and 14 to the intervention. Intervention practices received education and tools for postpartum depression screening, diagnosis, and therapy initiation, and care systems to encourage patient followup, which occurred within each practice. Usual-care practices received a 30-minute presentation about postpartum depression.

Of the 2,343 women enrolled shortly after giving birth, 1,897 (80.1 percent) provided outcome information and were included in the analysis. They were mailed packets that included two depression screening tools (the Edinburgh Postnatal Depression Scale and the 9-item Patient Health Questionnaire, PHQ-9), plus assessments related to parenting and partner relationships to complete and return to the central site at intake (baseline), 6 months, and 12 months later.

Elevated screening scores, indicating high risk for depression, were noted for 34.5 percent (654) of women—255 at usual care practices and 399 at intervention practices. Baseline PHQ-9 scores consistent with moderate to severe depression were found for 5.1 percent of usual-care women and 5.6 percent of intervention women.

At the end of 12-months followup, intervention group women were significantly more likely to receive a diagnosis and therapy for postpartum depression. Also, women in the intervention group with initially elevated depression scores were 74 percent more likely to show a clinically significant drop in depression compared with those from the usual-care group. Worthy of note is the modest amount of additional time required in the intervention practices. The study was funded by the Agency for Healthcare Research and Quality (HS14774).

More details are in "TRIPPD: A practice-based network effectiveness study of postpartum depression screening and management," by Barbara P. Yawn, M.D., M.Sc., Allen J. Dietrich, M.D., Peter Wollan, Ph.D., and others in the July/August 2012 *Annals of Family Medicine* 10(4), pp. 320-329. ■ *DIL*

Computerized clinical decision support may promote contraceptive counseling for women prescribed teratogenic medications

Each year, 12 million women of reproductive age receive prescriptions for drugs that can potentially cause birth defects (teratogenic). Alerting women to these risks and providing them with contraceptive counseling is very important. However, less than 50 percent of women actually receive such counseling. A new study concludes that electronic medical records with clinical decision support (CDS) systems can improve counseling and prescribing practices, including the frequency of discussing the risks of medication use during pregnancy.

In the study, 41 primary care physicians (PCPs) received a CDS system. One group was randomized to receive a simple version that delivered a cautionary alert when ordering potentially teratogenic medications. The second group of PCPs received a CDS system that used a tailored alert text and a structured order set for safe prescribing. All PCPs, regardless of which CDS they received, were only alerted once per encounter with a patient. The researchers abstracted data from 35,110 encounters of 9,972 female patients of child-bearing age.

Before CDS was implemented, 24.2 percent of patient visits had documented contraceptive counseling when a teratogenic drug was prescribed. Following CDS implementation, this increased to 26.5 percent in both

continued on page 11

Contraceptive counseling
continued from page 10

CDS groups. Those who received the multifaceted CDS reported an increase in the number of times per month they discussed medication risks during pregnancy with women to whom they prescribed teratogenic drugs. They also improved several prescribing and counseling practices. However, PCPs reported more satisfaction with the simple CDS system. Thus, the researchers conclude that, although CDS systems have the potential to boost provision of family planning services when fertile women are prescribed potentially teratogenic medications, further refinement of these systems is needed. Their study was supported in part by the Agency for Healthcare Research and Quality (HS17093).

See "Clinical decision support to promote safe prescribing to women of reproductive age: A cluster-randomized trial," by Eleanor Bimla Schwarz, M.D., M.S., Sara M. Parisi, M.S., M.P.H., Steven M. Handler, M.D., Ph.D., and others in the *Journal of General Internal Medicine* 27(7), pp. 831-838, 2012. ■ *KB*

Child/Adolescent Health

Quality improvement collaborative improves outcomes in children with inflammatory bowel disease

The care of children with inflammatory bowel disease (IBD), Crohn's disease (CD), or ulcerative colitis (UC) can be complex. There is a lack of consensus on the best way to manage these patients. As a result, variations in care delivery exist in both diagnosis and treatment. However, a new study suggests that a quality improvement (QI) collaborative may improve outcomes for these chronic conditions. The QI system uses training, coaching, team building, and performance self-reporting to create new care approaches and then to test them.

A network of six care centers shared in the costs of creating the program's technical infrastructure and data sharing. Changes in care delivery were based on the Chronic Illness Care Model. The changes included a set of recommendations to standardize diagnosis, classify disease severity, and evaluate the patient's nutritional and growth status. As care processes improved, additional changes were implemented that centered on medications, managing nutrition and growth, and inducing and maintaining disease remission. A Model IBD Care Guideline was developed to help standardize therapy.

Testing the care changes and collecting monthly data on them revealed several positive outcomes. First, there was an increase in the proportion of medical visits with complete disease classification. Second, there was more frequent measurement of thiopurine methyltransferase (TPMT) levels before thiopurines were administered (drugs commonly used to treat these conditions). Patients were more likely to receive an initial thiopurine dose appropriate to their TPMT level. There was also an increase in the number of CD and UC patients who went into remission. Finally, the application of evidence-based changes resulted in an increase in the percentage of CD patients not taking corticosteroids. The study was supported in part by the Agency for Healthcare Research and Quality (HS16957).

See "Improved outcomes in a quality improvement collaborative for pediatric inflammatory bowel disease," by Wallace V. Crandall, M.D., Peter A. Margolis, M.D., Ph.D., Michael D. Kappelman, M.D., M.P.H., and others in the April 2012 *Pediatrics* 129(4), pp. e1030-e1041. ■ *KB*

New guidelines help clinicians assess and treat maladaptive aggression in youth

Maladaptive aggression in youth can have devastating consequences on the child and the family. It can lead to violence, expulsion from school, broken relationships at home, and run-ins with the juvenile justice system. Recently, a team of national experts from the Center for Education and Research on Mental Health Therapeutics (CERTs) at Rutgers University, working with the REACH Institute, several States, and other stakeholders, convened national experts to review available evidence to develop evidence-based consensus treatment recommendations for youth with maladaptive aggression.

The team's first published report (part I of the guideline) describes the literature review process and establishes nine recommendations to help health care providers engage families, assess youth, and effectively evaluate and manage maladaptive aggression.

In the second report (part II), guideline developers offer 11 recommendations to help primary care and specialty providers select appropriate psychosocial interventions and medication treatments. Both guideline publications were funded in part by grants from the Agency for Healthcare Research and Quality (HS16097) to the Rutgers University CERT. For more information on the CERTs program, visit www.certs.hhs.gov.

Knapp, P., Chait, A., Pappadopulos, E., and others. (2012, June). "Treatment of maladaptive aggression in youth: CERT guidelines I: Engagement, assessment, and management." ***Pediatrics*** **129(6), pp. e1562-e1576.**
This guideline report highlights the absolute necessity for clinicians to use intensive "engagement procedures" focused on the patient and the family during the initial evaluation and diagnostic workup in order to obtain families' "buy in" and co-participation in the initial treatment plan.

Effective engagement also tends to increase families' trust in and alliance with the health care provider, which further aids in a more complete assessment of the child's emotional and behavioral problems, as well as families' strengths and challenges. Intensive psychoeducation and support to both parents and youth is essential right from the outset, and youth at risk for harming themselves or others should be referred to a psychiatrist for evaluation.

Guidelines further recommend that standardized measures be used to evaluate aggression at baseline and throughout treatment, with continuous monitoring to ensure treatment strategies are effective over time. Also, because clinical interventions alone are often insufficient to fully address maladaptive aggression, clinicians must ensure that parents are connected to community agencies that can assist them in obtaining the full range of supports needed to return youth to healthier developmental life pathways. Similarly, providers' ongoing consultation with teachers and school systems is often required to effectively help patients and families manage maladaptive aggression in and outside the home.

Rosato, N.S., Correll, C.U., Pappadopulos, E., and others. (2012, June). "Treatment of maladaptive aggression in youth: CERT guidelines II: Treatment and management." ***Pediatrics*** **129(6), pp. e1577-e1586.**
The second guideline report details 11 treatment recommendations to guide the initial and ongoing therapies. Importantly, for the overall management of maladaptive aggression, the child and family need to take active and continuing roles in treatment planning.

In terms of treatment selection, the literature review and resulting guideline indicate that children and youth with maladaptive aggression benefit greatly from a range of therapeutic interventions that include cognitive behavioral therapies (CBT) and appropriate medication treatments.

Younger children benefit from psychosocial interventions that include programs teaching parents positive parenting skills, effective classroom management by teachers, and interpersonal skills building for the child. In contrast, older children tend to benefit from brief strategic family therapy and CBT. Regardless of age, continued followup and maintenance of psychosocial interventions is critical, as learned skills tend to dissipate over time.

The recommendations emphasize treating the underlying disorder first, as well as beginning with psychosocial interventions before pharmacological treatment because of the lower risk. Considerations for the appropriate selection of psychotropic treatments, and

continued on page 13

Maladaptive aggression
continued from page 12

balancing risks with benefits, are reviewed. When aggression cannot be adequately managed with alternative interventions, use of antipsychotics had the greatest efficacy in addressing these symptoms, followed by stimulants, while mood stabilizers tended to yield poorer or mixed results. The guideline advises clinicians to avoid using more than two psychotropic medications simultaneously, and emphasizes the importance of giving parents information on how to identify and manage medication side effects in order to assist compliance and produce better therapeutic outcomes. ■ *KB*

Elderly Health/Long-Term Care

Being a caregiver linked to poor health behaviors among baby boomers

If you are a baby boomer who is an informal caregiver, you have greater odds of having behaviors that increase your health risk, according to a new study. The incidence of chronic illness (e.g., obesity, diabetes, and cardiovascular disease) among boomers, men and women born between 1946 and 1964, has grown in recent years. This group also has higher obesity rates and has spent more of their lifespan obese than have previous generations. More than 10 million adults over age 50 care for an aging parent. To see if caregiving stress plays a role in poor health behaviors, the researchers compared the health behaviors of 5,688 California baby boomers who were informal caregivers to that of 12,941 noncaregiving boomers.

The caregivers were slightly older than the noncaregivers (by 0.5 years), more likely to be women (59.8 percent vs. 47.4 percent), more likely to be educated beyond high school, more likely to have higher family income, but less likely to be employed. After controlling for psychological distress, and for personal characteristics and social resources, the caregivers had 127 percent the odds of noncaregivers of poor overall health behaviors. Compared to noncaregivers, caregivers had 36 percent greater odds of being a current smoker, 41 percent greater odds of consuming soda at least 3.5 times weekly, and 17 percent greater odds of eating fast food at least once a week.

The researchers did not find significant differences in health-risk behaviors for spousal caregivers compared to adult children, other relatives, or nonrelatives—or for higher intensity of caregiving (an additional hour per week or an extra month of caregiving). The findings were based on data on 18,629 noninstitutionalized adults of baby boomer age from the 2009 California Health Interview Survey. The study was supported in part by the Agency for Healthcare Research and Quality (T32 HS00046).

More details are in "Health behaviors among baby boomer informal caregivers," by Geoffrey J. Hoffman, M.P.H., Jihey Lee, Ph.D., and Carolyn Mendez–Luck, Ph.D., M.P.H., in the April 2012 *The Gerontologist* 52(2), pp. 219-230. ■ *DIL*

Elderly colon cancer patients receiving chemotherapy after surgery are at risk for various toxicities

Patients who receive surgery for stage III colon cancer can benefit from 5-flurouracil (5-FU)-based chemotherapy. However, 5-FU-based chemotherapy is associated with increased risk of developing gastrointestinal (GI), blood, and cardiac toxicities in elderly patients with colon cancer. These patients need to be closely monitored so that the benefits of chemotherapy can outweigh the risks, suggest the study authors.

They identified 12,099 patients with stage III colon cancer from a Medicare database. Of these, 4,359 did not receive any chemotherapy following surgery, with the remaining 7,740 (63.9 percent) getting 5-FU-based chemotherapy within 3 months after tumor resection. Researchers calculated the 3-month cumulative incidence rate for GI and blood toxicities and risk for heart disease.

Patients receiving chemotherapy were more likely to be younger, married, and have fewer coexisting conditions than the untreated group. This difference was most

continued on page 14

Colon cancer patients

continued from page 13

pronounced for age, with 88.2 percent of patients aged 65 to 69 initiating chemotherapy compared to just 18.1 percent of patients aged 85 and older.

During 3 months after surgery, the cumulative incidence rate of toxicities was 9.1 percent in the chemotherapy group and 4.3 percent in the non-chemotherapy group. Common toxicities included volume depletion disorder, agranulocytosis (potentially lethal reduction in the number of white blood cells), diarrhea, nausea, and vomiting. Women were 35 percent more likely to experience toxicities than men and blacks were 35 percent less likely to develop toxicities than whites. Chemotherapy was only slightly associated with the risk for developing heart disease. The study was supported by the Agency for Healthcare Research and Quality (HS16743).

See "Adjuvant chemotherapy and risk of gastrointestinal, hematologic, and cardiac toxicities in elderly patients with stage III colon cancer," by Chung-Yuan Hu, Ph.D., Wenyaw Chan, Ph.D., George P. Declos, M.D., Ph.D., and Xianglin L. Du, M.D., Ph.D., in the June 2012 *American Journal of Clinical Oncology* 35(3), pp. 228-236. ■ *KB*

Antipsychotic choices in nursing homes partly influenced by nursing home's prescribing culture

Between one-fifth and one-third of all nursing home patients receive antipsychotic medications. Their use continues to remain popular despite serious safety concerns. Today, nursing homes can select from older, conventional agents to newer, atypical ones. A new study reveals that the majority of nursing homes favor treating patients with atypical antipsychotics. Yet, patients and facility characteristics contribute partially to the medications selected.

Using a variety of data sources, including Medicaid and Medicare data, the researchers identified 65,618 patients 65 years or older residing in nursing homes in 45 States. All had started treatment with an antipsychotic after their admission between 2001 and 2005. Nearly half of the nursing homes studied (45 percent) never prescribed a conventional antipsychotic medication. In fact, 91.2 percent of patients started treatment with an atypical medication. Of the 8.8 percent of patients treated with a conventional medication, the most frequently prescribed drugs were haloperidol (86 percent) and chlorpromazine (8 percent).

Among atypical agents, the most popular choices were risperidone (41 percent) followed by olanzapine (32 percent) and quetiapine (23 percent). Nursing homes that favored conventional agents tended to have a larger proportion of less educated patients.

They also had a greater proportion of patients with congestive heart failure and those with a history of hypnotic medication use. Facilities preferring atypical agents had more white patients and more patients with dementia or depression. Nursing homes prescribing conventional agents tended to be hospital-based, while those prescribing atypical agents tended to be larger, urban-based facilities with special Alzheimer care units and a team-based approach to care.

Individually, patient characteristics accounted for 36 percent of the between-nursing home variation in prescribing (atypical vs. conventional antipsychotic), facility characteristics for 23 percent, and nursing home prescribing tendency (prescribing 'culture') for 81 percent. The study was supported in part by the Agency for Healthcare Research and Quality (HS17918).

See "Variation in antipsychotic treatment choice across US nursing homes," by Krista F. Huybrechts, M.S., Ph.D., Kenneth J. Rothman, Dr.P.H., M. Alan Brookhart, Ph.D., and others in the February 2012 *Journal of Clinical Psychopharmacology* 32(1), pp. 11-17. ■ *KB*

Partial kidney removal offers survival advantage for elderly patients with small tumors

The number of patients diagnosed with small kidney tumors has increased considerably over the last 2 decades. As a result, partial removal of the affected kidney has replaced complete removal as the standard treatment in order to preserve kidney function. A new study shows that patients treated with partial rather than total removal of the kidney had a significantly lower risk of dying of kidney cancer.

The researchers retrospectively studied the outcomes of 7,138 Medicare patients with early-stage kidney cancer. Thirty-seven (1.9 percent) patients who underwent partial kidney removal died compared to 222 (4.3 percent) of those whose complete kidney was removed. Based on a predicted survival difference of 15.5 percentage points at 8-year follow-up, the researchers estimated that one life would be saved for every seven patients treated with partial rather than total kidney removal.

Although these findings contradict the results of an earlier clinical trial that found a survival benefit for those treated with total kidney removal, the researchers believe that this is because partial kidney removal was much less widely used in the period covered by the clinical trial. At that time, physicians were much less skilled in its intricacies, and the patient population it was applied to differed considerably from those receiving partial kidney removal in the period covered by the newer study. This study was supported in part by the Agency for Healthcare Research and Quality (HS18346).

See "Long-term survival following partial vs. radical nephrectomy among older patients with early-stage kidney cancer" by Hung-Jui Tan, M.D., Edward C. Norton, Ph.D., Zaojun Ye, M.S., and others in the April 18, 2012 *Journal of the American Medical Association* 307(15), pp. 1629-1635. ■ *MWS*

Health Care Costs and Financing

Defense expenses for medical malpractice claims have risen faster than settlement amounts

Defense expenses represent a growing percentage of the average indemnity (the amount paid to plaintiffs) for malpractice claims paid over a 23-year period, according to a new study. While medical malpractice insurance premiums appeared to have leveled off in 2010 after falling in recent years, no one has looked at the impact of defense expenses, also called "allocated loss adjustment expenses" (ALAE), on the total costs of malpractice insurers.

The researchers examined data from the Physicians Insurers Association of America's Data Sharing Project to whom member insurance companies submit deidentified claim and loss data every 6 months. They first looked at the proportion of paid to closed malpractice claims. They found that the percentage of closed claims resulting in payouts (paid claims) was 33 percent of 8,136 closed claims in 1985. Paid claims fell below 30 percent for 1994–1998, and have stayed below 30 percent since 2003. Despite this variability, the average indemnity (in 2008 dollars) rose almost in a straight line from $174,260 in 1985 to $342,670 in 2008. Meanwhile, the average ALAE rose (in 2008 dollars) from $13,395 to $43,258 (from $0.24 to $0.45 for each "indemnity dollar" paid). Claims resulting in plaintiff verdicts had the highest average ALAE, while 64 percent of claims that were dropped, withdrawn, or dismissed averaged ALAE of only $15,056. The researchers found that most of the ALAE (74 percent) represented defense attorney expenses, while expert witnesses and other expenses split the remaining 26 percent evenly.

Possible reasons for increases in ALAE include the use of technology advancements during jury trials, use of mock trials and jury consultants, increased court reporter costs, and increased hourly rates and use of expert witnesses, the researchers suggest. The study was funded in part by the Agency for Healthcare Research and Quality (HS17572).

More details are in "The impact of defense expenses in medical malpractice claims," by Aaron E. Carroll, M.D., M.S., Parul Divya Parikh, M.P.H., and Jennifer L. Buddenbaum, M.H.A., M.S., in the Spring 2012 *Journal of Law, Medicine, and Ethics* 40(1), pp. 135-142. ■ *DIL*

Occupational back injuries lead to increased financial and domestic hardship for black and young workers

Blacks and younger adults (age 18 to 35) who suffer occupational back injuries face increased legal problems ranging from foreclosure to domestic disturbances for years after receiving a worker's compensation (WC) settlement. What's more, these problems escalated with each passing year after claim settlement, according to a new study.

St. Louis University researchers compared pre- and post-settlement levels of financial and domestic court actions for WC claimants by analyzing data from a judicial database for Missouri and a telephone survey.

Their analysis included four types of court cases in which claimants were involved in the 5 years before and after the WC settlement: general financial (nonpayment of contracts), domestic financial (nonpayment of child support), residence financial (nonpayment of rent, foreclosure), and domestic behavior (divorce).

For blacks, levels of general financial and domestic financial cases increased to 10 percent above pre-settlement levels by post-settlement year 5 versus 3 percent for whites. For workers younger than 35, there was a nearly 14 percent increase in general financial court actions relative to baseline, a rate that was three times higher than that of middle-aged claimants, and five times higher than that of an older group (age 55 and up). The researchers suggest that the racial disparity raises both ethical and medico-legal questions regarding the social justice implications of current WC processes. This study was supported in part by the Agency for Healthcare Research and Quality (HS13087 and HS14007).

See "Legal sequelae of occupational back injuries" by Raymond C. Tait, Ph.D., and John T. Chibnall, Ph.D., in *Spine* 36, pp. 1402-1409, 2011. ■ *MWS*

Computerized clinical decision support produces only modest savings for nursing home residents with impaired kidney function

Computerized clinical decision support (CCDS) systems can help ensure proper treatment for residents in long-term care facilities who have renal insufficiency (impaired kidney function). However, a new study finds that cost reductions due to CCDS are modest compared to unassisted prescribing by a physician.

Renal insufficiency, defined as a creatinine clearance of less than 60 ml/min, affects up to 40 percent of nursing home residents older than 75 years. The researchers conducted a randomized study assessing CCDS prescribing recommendations and the impact on costs in a long-term care setting. The CCDS modestly reduced drug costs, which were partially offset by an increase in additional laboratory testing that resulted from alerts.

Units of the facility where the doctors received CCDS alerts reduced direct costs for drugs 7.6 percent ($1,391), assuming a course of drug treatment of 30 days. Estimated savings increased further assuming longer courses of drug therapy (e.g., 90 days or 180 days). The calculations did not include the savings from avoidance of serious adverse drug events due to renal insufficiency.

The study was conducted in an academically affiliated long-term care facility in Canada with an electronic medical record system with integrated computerized provider order entry. Twenty-two long-stay units were randomly assigned to having physicians receive alerts for medication treatments requiring consideration of renal function or having alerts generated, but not presented to the prescribing physician. The study was funded in part by the Agency for Healthcare Research and Quality (HS10481 and HS15430).

More details are in "Immediate financial impact of computerized clinical decision support for long-term care residents with renal insufficiency: A case study," by Sujha Subramanian, Ph.D., Sonja Hoover, M.P.P, Joann L. Wagner, M.S.W., and others in the May 2012 *Journal of the American Medical Informatics Association* 19(3), pp. 439-442. ■ *DIL*

Electronic health record-based medication monitoring improves patient compliance in primary care clinics

Toxicity-related adverse drug events (ADEs) are significant both for the direct harm they cause and the indirect effects they may have on patients' compliance with medications. Prevention of ADEs associated with medication toxicity depends, in part, on conscientious medication monitoring. Yet a new study by a team of Baltimore, Maryland researchers found that two in five patients at two federally qualified health centers (FQHCs) were overdue for laboratory monitoring of medications during a 12-month period.

The patients were taking digoxin, statins, diuretics, and angiotensin-converting enzyme inhibitors/angiotensin II-receptor blockers. As the number of index medications the patient was prescribed increased, the likelihood of ever being overdue for monitoring decreased. To monitor patients' medication compliance, analysts from each health center used an automated, electronic health record (EHR)-derived algorithm to identify patients taking one or more of the reference medications who were overdue for recommended laboratory monitoring.

Every 1 to 2 months during the 1-year study, providers were sent a paper-based medication monitoring bulletin that included a summary of the monitoring recommendations, a list of the provider's overdue patients, and a graphical summary of each provider's individual performance. Being listed on a provider-specific monitoring bulletin doubled the odds of a patient receiving recommended laboratory monitoring before the next measurement period (1-2 months later).

The researchers concluded that provider-specific feedback reports increased the likelihood that identified patients would subsequently receive recommended monitoring. The researchers noted that although EHRs may be an important component of systems designed to improve medication monitoring, multimodal interventions will likely be needed to achieve greater reliability.

The 2,013 patients included in the study were being treated at two FQHCs in Baltimore with drugs for which the National Committee for Quality Assurance had established monitoring guidelines. This study was supported in part by the Agency for Healthcare Research and Quality (HS17018).

See "Electronic health record-based monitoring of primary care patients at risk of medication-related toxicity" by David G. Bundy, M.D., Jill A. Marsteller, Ph.D., Albert W. Wu, M.D., and others in the May 2012 *Joint Commission Journal on Quality and Patient Safety* 38(5), pp. 216-223. ■ *MWS*

Careful design of personal health records can improve the delivery of preventive care

Studies show that Americans receive just half of the preventive care services they need. New information technologies may help improve these outcomes, suggests a new study. It focused on designing a patient-centered personal health record (PHR) to promote preventive care. When the PHR was integrated with the patient's electronic medical record, it gave patients individualized guidance on preventive care services and was successfully adopted by busy primary care practices.

Researchers designed an interactive PHR that addressed 18 different clinical preventive services. They included the receipt of immunizations, colonoscopy, pap smears, cholesterol tests, mammograms, and more. The PHR asked patients to take a brief health risk assessment to gather additional information that might be missing from the medical record. Users received a customized profile with reminders to obtain various preventive services specific to them and explanations of the benefits.

continued on page 18

Personal health records

continued from page 17

The researchers recruited 14 primary care practices to promote the PHR to all adult patients and sought practice and patient input in designing the PHR to ensure its usability and generalizability. Within 6 months, between 1.5 percent and 28.3 percent of patients across the 14 practices used the PHR. After establishing their PHR account, nearly half of patients (49 percent) returned at least once within 3 months. The average time spent on the site was 7 minutes 21 seconds. Patients reported its ease of use and enjoyed seeing their health information in one place. In addition, each practice was able to incorporate the PHR into patient visits. Providers used it to provide behavioral counseling, explain test results, and develop preventive care plans for their patients. The PHR also helped providers know about overdue care and fulfill annual wellness visit requirements for Medicare. The study was supported in part by the Agency for Healthcare Research and Quality (HS17046 and HS18811).

See "Designing a patient-centered personal health record to promote preventive care," by Alex H. Krist, M.D., Ph.D., Eric Peele, Steven, H. Woolf, M.D., M.P.H., and others, in *BMC Medical Informatics & Decision Making* 11, pp. 73-84, 2011. ■ *KB*

Provision of personal digital assistants alone does not help providers avoid drug-drug interactions

Incomplete knowledge of a patient's medication history commonly contributes to prescribing errors such as drug-drug interactions (DDIs). Unfortunately, patients don't always disclose everything they are taking. Use of a personal digital assistant (PDA) by physicians to update patient medication histories did not reduce the rate of potential drug-drug interactions, according to a new study. In fact, the researchers found that the PDA was not frequently used by the physicians to update medication histories.

A total of 1,615 prescribers received a wireless PDA for medication management. This group was compared to 600 prescribers who did not receive the device. Each provider's prescribing history for a single State's Medicaid population was reviewed during a 1-year baseline period and then again 1-year later. The wireless handheld PDA gave the physician real-time access to patient medication histories along with comprehensive drug information and potential drug-drug interactions.

At the start of the study, 68.4 percent of the PDA group and 74.8 percent of the comparison group had no potential DDIs of interest. After 1 year, these percentages were 70 percent and 77 percent, respectively. The most widely prescribed potential DDIs involved warfarin (a blood thinner) with nonsteroidal anti-inflammatory drugs. Following adoption of the PDA, there was a gradual increase in the number of patient medication history update requests. PDA use peaked during the first half of the study period; it then declined and finally stabilized.

The rate of e-prescribing using the PDA was low, with an average of 2 prescriptions submitted electronically for every 1,000 claims. No significant differences were found between the two groups regarding the change in the rate of potential DDIs from the baseline to the follow-up period. The study was supported in part by the Agency for Healthcare Research and Quality (HS10385).

See "Evaluation of a wireless handheld medication management device in the prevention of drug-drug interactions in a Medicaid population," by Daniel C. Malone, Ph.D., and Kimberly R. Saverno, Ph.D., in the January/February 2012 *Journal of Managed Care Pharmacy* 18(1), pp. 33-45. ■ *KB*

Four drugs to treat chronic heart failure found similarly effective

Thanks to their tolerability profiles, angiotensin receptor blockers (ARBs) are becoming the preferred medications to treat chronic heart failure (CHF). A new study that compared four ARBs to determine their ability to reduce mortality in patients with CHF found them to be similarly effective at reducing the death rate in everyday clinical practice.

The researchers identified 1,536 veterans with CHF from electronic medical records, with review of their medical charts providing additional clinical data. They categorized patients into one of four groups based on the ARB initially used: candesartan, valsartan, losartan, and irbesartan. They measured time to death during the study's 2-year period.

Of the 4 ARBs, irbesartan was the most popular, taken by 55.21 percent of patients. This was followed by losartan, candesartan, and valsartan. There was significant geographic variation in use of ARBs. For example, Midwest patients tended to use losartan and candesartan.

However, no patients from the northeast were on candesartan and only two patients in the West were on valsartan. Concurrent hospitalization rates were higher for patients receiving irbesartan; valsartan had the lowest rate.

After the researchers controlled for numerous demographic and clinical factors, they found no statistically significant difference among the four ARBs in their ability to reduce mortality. The study was supported in part by the Agency for Healthcare Research and Quality (HS16901).

See "Comparative effectiveness of individual angiotensin receptor blockers on risk of mortality in patients with chronic heart failure," by Rishi J. Desai, M.S., Ph.D., Carol M. Ashton, M.D., M.P.H., Anita Deswal, M.D., M.P.H., and others in *Pharmacoepidemiology and Drug Safety* 21, pp. 233-240, 2012. ■ *KB*

Review examines Hepatitis C screening effects in adults

A new research review from the Agency for Healthcare Research and Quality's Effective Health Care Program has found that although screening strategies for Hepatitis C Virus (HCV) can accurately identify adults with the disease, more research is needed to understand the effects of targeted screening strategies in adults. The review also noted that evidence remains limited on the effects of knowing one's HCV status on clinical health outcomes in patients diagnosed with HCV.

This review also discusses the effects that screening has on pregnant women and their ability to pass the infection onto their offspring. Studies found no clear association between type of birth delivery and risk of transmission in mothers and children, and consistently found no association between breastfeeding and transmission risk. These findings are available in the research review *Screening for Hepatitis C Virus Infection in Adults* that can be found at www.effectivehealthcare.ahrq.gov. ■

Dual therapy may be slightly less effective than triple therapy for chronic infection with hepatitis C virus

According to a new research review by the Agency for Healthcare Research and Quality (AHRQ), patients with Hepatitis C Virus (HCV) who achieve a sustained virologic response (SVR), i.e., undetectable levels of HVC 6 months after completing treatment, appear to have a lower risk of death compared with those without an SVR. Dual therapy with pegylated interferon alfa-2b plus ribavirin was slightly less likely to achieve an SVR compared with dual therapy with pegylated interferon alfa-2a plus ribavirin (a difference of approximately 8 percentage points).

HCV is the most common chronic bloodborne pathogen in the United States. Based on a national survey of households, approximately 1.6 percent of U.S. adults over 20 years of age have antibodies to HCV, indicating prior acute HCV infection. SVR rates are substantially higher (66–88 percent) in patients who receive FDA-

continued on page 20

Hepatitis C virus
continued from page 19

approved triple therapy regimens with pegylated interferon (alfa-2a or alfa-2b), ribavirin, and boceprevir or telaprevir compared with dual therapy with pegylated interferon plus ribavirin. Given the availability of new treatment options, it is particularly important to understand the comparative benefits and harms of dual and triple therapy treatments.

Treatment for Hepatitis C Virus Infection in Adults suggests more research is needed to evaluate the comparative effectiveness of current antiviral treatments on long-term clinical outcomes such as mortality, complications of chronic HCV infection, and quality of life. To access this review and other materials that explore the effectiveness and risks of treatment options for various conditions visit AHRQ's Effective Health Care Program Web site at www.effectivehealthcare.ahrq.gov. ■

Many non-oral medications appear to effectively treat acute migraines in emergency department patients

Many non-oral agents, such as nonsteroidal anti-inflammatory drugs (NSAIDs), opioids, and triptans, appear to be effective for treating acute migraine headache when compared to placebo for patients seeking treatment at the emergency department. However, the strength of evidence is not sufficient to show any one treatment is better than another, according to a recent review of the evidence by the Agency for Healthcare Research and Quality (AHRQ).

The review compares the effectiveness of non-oral medications versus standard care, placebo, or other treatments for acute migraine headaches in patients who seek treatment at an emergency department. Nine different classes of drugs are reviewed: antiemetics (metoclopramide), neuroleptics, ergotamines, NSAIDs, opioids, corticosteroids, triptans, magnesium sulfate ($MgSO_4$), and antihistamines.

Intravenous systemic corticosteroids were found to be effective for preventing headache recurrence up to 72 hours after discharge, especially in patients with prolonged headaches. The report also discussed that adverse event reporting is not consistent across trials. Therefore, there is not enough evidence to compare adverse events among different treatments. More research is required to identify the most effective non-oral treatments for adults with acute migraine in an emergency setting.

Acute migraine is a debilitating condition caused by dysfunction of the central and peripheral nervous systems and intracranial vasculature. Episodes of migraine cause severe and disabling pain that often results in visits to an emergency department as well as decreased productivity and missed time from work, school, and other activities. Migraine has a negative impact on overall quality of life, and in the United States, migraine and related medical issues result in costs of more than $13 billion per year in lost productivity.

These findings are available in the research review *Acute Migraine Treatment in Emergency Settings*. You can read this review and other reports from AHRQ's Effective Health Care Program at www.effectivehealthcare.ahrq.gov. ■

New review evaluates treatment options for plaque psoriasis

A new review of treatment options for chronic plaque psoriasis finds there is not enough evidence to compare the effectiveness of different types of therapies, including biologic agents (genetically engineered drugs that target specific steps in the development of psoriasis), nonbiologic agents (synthetic drugs), and phototherapy (exposure to daylight or to specific wavelengths of light). When comparing health measures such as quality of life, spread and severity of the disease, and physician and patient assessments of disease severity, the review shows some evidence that favors treatment with biologic agents versus nonbiologic agents.

However, the strength of evidence is low. Additional clinical trials are required to compare the

continued on page 21

Psoriasis
continued from page 20

effectiveness and tolerability of these three types of treatments and to determine which types of patients may respond best to specific treatments.

Plaque psoriasis is defined as a common skin condition that causes skin redness and irritation and is often associated with thick, red skin that has flaky, silver-white patches, known as scales.

Psoriasis currently affects more than 3 percent of the U.S. population and costs the health care system more than $11 billion every year, so new information on treatment options is important for providers and patients alike.

These findings are available in the research review *Biologic and Nonbiologic Systemic Agents and Phototherapy for Treatment of Chronic Plaque Psoriasis*. You can view this review and other reports from the Agency for Healthcare Research and Quality's Effective Health Care Program at www.effective healthcare.ahrq.gov. ■

Agency News and Notes

Combining strategies cuts hospitals' healthcare-associated infection rates

The new evidence report *Prevention of Healthcare-Associated Infections* shows that basic quality improvement strategies are more effective at reducing healthcare-associated infections among hospital patients when coupled with either care audit and clinician feedback plus provider reminder systems, or audit and feedback alone. These strategies were also effective at increasing hospital staff adherence to infection-specific patient safety protocols.

This report from the Agency for Healthcare Research and quality (AHRQ) is part of a larger initiative, *Closing the Quality Gap: Revisiting the State of the Science*, developed by AHRQ's Effective Health Care Program, which funds effectiveness and comparative effectiveness research and makes findings available for clinicians, consumers, and policymakers. For details, go to www.ahrq.gov/clinic/tp/gaphaistp.htm ■

AHRQ report examines the effect of quality improvement interventions on palliative care

Patient education and self-management can help to reduce pain in patients with advanced and serious illnesses, according to a new report from the Agency for Healthcare Research and Quality (AHRQ) on the impact of quality improvement interventions on palliative care. The authors, who are with the AHRQ-supported Johns Hopkins University Evidence-based Practice Center in Baltimore and were led by Sydney M. Dy, M.D., also reviewed the evidence for the impact of quality improvement strategies on quality of life, patient or family satisfaction, health care utilization, and other outcomes. For details, see *Improving Health Care and Palliative Care for Advanced and Serious Illness. Closing the Quality Gap: Revisiting the State of the Science* at www.ahrq.gov/clinic/tp/gappallcaretp.htm.

The report is part of the *Closing the Quality Gap: Revisiting the State of the Science* series and builds on an earlier AHRQ series of evidence reports, *Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies*. To see the full list of completed AHRQ evidence reports, go to www.ahrq.gov/clinic/epc/epcseries.htm. ■

AHRQ Stats

Adult asthma rates nearly doubled in past decade

The number of U.S. adults treated for asthma nearly doubled between 1998–1999 and 2008–2009, from 5.5 million to 10.3 million, while asthma drug expenditures quadrupled from $2.5 billion to $10.2 billion. [Source: Agency for Healthcare Research and Quality, MEPS, Statistical Brief #374: *Changes in Adult Asthma Medication Use and Expenditures, United States, 1998-1999 to 2008–2009* and Statistical Brief #378: *Asthma Medication Use Among Adults With Reported Treatment for Asthma, United States, 1998–1999 and 2008–2009*. ■

Announcements

Registration now open for TeamSTEPPS® training in 2013

Registration for TeamSTEPPS training in 2013 is now open. You can register your team of two to four staff members at www.onlineregistrationcenter.com/registerlist.asp?m=347&p=3. Please note the new process for registration that is explained on the home page and throughout the Web site. A total of 15 training sessions will take place between January and September 2013 at the following locations: University of Washington (Seattle), University of Minnesota (Minneapolis), Tulane University (New Orleans, LA), Duke University (Durham, NC), and North Shore Long Island Jewish Health System (Manhasset, NY). Registration is on a first-come, first-serve basis, so please be prepared to have each team member sign up promptly and individually in order to help ensure attendance for all team members. Please direct questions to AHRQTeamSTEPPS@aha.org. ■

Alexander, G.C., and Lambert, B.L. (2012). "Is treatment heterogeneity an Achilles' heel for comparative effectiveness research?" (AHRQ grant HS18960). *Pharmacotherapy* 32(7), pp. 583-585.
Criticism of comparative effectiveness research highlights individual differences in treatment response (treatment heterogeneity) and warns against the perils of overreliance on "average effects." This editorial highlights misuse of the concept of treatment heterogeneity by those seeking to diminish any leverage that comparative effectiveness research may be able to achieve in improving health care value.

Baiocchi, M., Small, D.S., Yang, L., and others. (2012, June). "Near/far matching: A study design approach to instrumental variables." (AHRQ grant HS18403). *Health Services and Outcomes Research Methodology*.
Near/far matching is capable of estimating causal effects when the outcome is not continuous and also when unmeasured covariates produce selection bias. The authors illustrate near/far matching by using Medicare data to compare the effectiveness of carotid arterial stents with cerebral protection versus carotid endarterectomy for the treatment of carotid stenosis.

Bright, T.J., Wong, A., Dhurjati, R., and others. (2012). "Effect of clinical decision-support systems. A systematic review." (AHRQ Contract No. 290-07-10066). *Annals of Internal Medicine* 157, pp. 29-43.
This systematic review adds to the literature by summarizing trials of clinical decision support systems (CDSSs) implemented in a clinical setting to aid decisionmaking at the point of care or for a specific care situation. From their review of 148 randomized, controlled trials, the authors concluded that both commercially and locally developed CDSSs are effective at improving health care process measures across diverse settings. However, evidence for clinical, economic, workload, and efficiency outcomes remains sparse.

Clancy, C. (2012). "Eliminating central line-associated blood stream infections. Progress continues on a national patient safety imperative." *Journal of Nursing Care Quality* 27(3), pp. 191-193. Reprints (AHRQ Publication No. 12-R101) are available from the Agency for Healthcare Research and Quality.*
The director of the Agency for Healthcare Research and Quality (AHRQ), discusses AHRQ's efforts to eliminate central line-associated blood stream infections. A key part of this effort is the implementation of the Comprehensive Unit-based Safety Program which has now been extended to 46 States.

Clancy, C., Brach, C., and Abrams, M. (2012). "Assessing patient experiences of providers' cultural competence and health literacy practices: CAHPS item sets." *Medical Care* 50(9) suppl. 2, pp. S1-S2. Reprints (AHRQ Publication No. 12-R100) are available from the Agency for Healthcare Research and Quality.*
This article introduces a special issue focusing on two supplements to the Clinicians Group Consumer Assessment of Healthcare Providers and Systems (CAHPS)—the CAHPS Cultural Competence Item Set and the CAHPS Item Set for Addressing Health Literacy—and one supplement to the CAHPS Hospital Survey—the Hospital CAHPS Item Set for Addressing Health Literacy.

Concannon, T.W., Meissner, P., Grunbaum, J.A., and others. (2012). "A new taxonomy for stakeholder engagement in patient-centered outcomes research." (AHRQ grant HS17726). *Journal of General Internal Medicine* 27(8), pp. 985-991.
No common taxonomy exists to guide researchers and stakeholders into the area of stakeholder-engaged research. The authors set out to develop such a taxonomy by offering definitions of "stakeholder" and "engagement," and addressing the following questions: (1) Who are the stakeholders in patient-centered outcomes research (PCOR) and comparative effectiveness research (CER)? (2) What roles and responsibilities can stakeholders have in PCOR and

continued on page 24

continued from page 23

CER? (3) How can researchers start engaging stakeholders?

Dalal, A.J., Schnipper, J.L., Poon, E.G., and others. (2012). "Design and implementation of an automated email notification system for results of tests pending at discharge." (AHRQ grant HS18229). *Journal of the American Medical Informatics Association* 19, pp. 523-528.
Physicians are often unaware of the results of tests pending at discharge (TPADs). The authors describe the design and implementation of an automated email notification system that pushes the final results of TPADs to the responsible inpatient-attending physician at discharge and facilitates communication with the primary care physician.

Desai, J.R., Wu, P., Nichols, G.A., and others. (2012). "Diabetes and asthma case identification, validation, and representativeness when using electronic health data to construct registries for comparative effectiveness and epidemiologic research." (AHRQ grant HS19859). *Medical Care* 50, pp. S30-S35.
The researchers describe selected conceptual and practical challenges related to development of multisite diabetes and asthma registries, including development of case definitions, validation of case identification methods, and variations in electronic health data sources. They also discuss the representativeness of registry populations, including the impact of attrition.

Etchgaray, J.M., Gallagher, T.H., Bell, S.K., Dunlap, B., and Thomas, E.J. (2012). "Error disclosure: A new domain for safety culture assessment." (AHRQ grant HS17145). *BMJ Quality and Satisfaction* 21, pp. 594-599.
The authors developed and tested survey items that measure error disclosure culture, examined relationships among error disclosure culture, teamwork culture, and safety culture, and sought to establish predictive validity for survey items measuring error disclosure culture. They found two factors to measure error disclosure culture: one focused on the general culture of error disclosure and the other one focused on trust.

Garfinkel, S. (2012, July 5). "Making health care lean." *H&HN Daily*. Reprints (AHRQ Publication No. 12-R102) are available from the Agency for Healthcare Research and Quality.*
To find out how Lean (an industrial improvement approach rooted in Toyota Production Systems) fits health care, the Agency for Healthcare Research and Quality commissioned the first independent comparative study of Lean implementation among organized delivery systems. The author offers a preliminary report of findings from 13 projects in diverse delivery systems.

Gold, R., Angier, H., Mangione-Smith, R., and others. (2012, July). "Feasibility of evaluating the CHIPRA care quality measures in electronic health record data." (AHRQ grant HS18569). *Pediatrics* 130(1), pp. 139-149.
The Children's Health Insurance Program Reauthorization Act of 2009 includes 24 measures designed to be evaluated by using claims data from health insurance plan populations. The authors outline how to operationalize many of these measures for application in electronic health record (EHR) data through a case study of a network of more than 40 outpatient community health centers with a single EHR.

Hamilton Lopez, M., Holve, E., Sarkar, I.N., and Segal, C. (2012). "Building the informatics infrastructure for comparative effectiveness research (CER). A review of the literature. (AHRQ grant HS19564). *Medical Care* 50, pp. S38-S48.
This review examines peer-reviewed literature at the intersection of comparative effectiveness research (CER) and clinical informatics. The authors' aims are to characterize this new body of literature on CER and clinical informatics, as well as identify cross-cutting themes and gaps in the literature.

Holve, E., Segal, C., Lopez, M. H., and others. (2012). "The Electronic Data Methods (EDM) Forum for comparative effectiveness research (CER)." (AHRQ grant HS19564). *Medical Care* 50, pp. S7-S10.
The EDM Forum is focused on identifying and sharing lessons learned to advance the national dialogue on the use of electronic clinical data to conduct comparative

continued on page 25

continued from page 24

effectiveness research and patient-centered outcome research. This report provides a brief review of research networks participating in the EDM Forum and is based on an environmental scan conducted by the EDM Forum.

Holve, E., Segal, C., and Lopez, M.H. (2012). "Opportunities and challenges for comparative effectiveness research (CER) with electronic clinical data. A perspective from the EDM Forum." (AHRQ grant HS19564). *Medical Care* 50, pp. S11-S18.
This paper discusses crosscutting challenges and opportunities for 11 comparative effectiveness research (CER) projects that are participating in the Electronic Data Methods (EDM) forum. The EDM forum is a 3-year grant from the Agency for Healthcare Research and Quality to facilitate learning and foster collaboration among these projects.

Hsu, J.Y., Lurch, S.A., and Small, D.S. (2012). "Perils and prospects of using aggregate area level socioeconomic information as a proxy for individual level socioeconomic confounders in instrumental variable regression." (AHRQ grant HS01569). *Health Services Outcomes and Research Methodology* 12, pp. 119-140.
The instrumental variable method is an approach to estimating a causal relationship in the presence of unmeasured confounding variables. The authors study the effects on the bias of the two-stage least squares estimates in instrumental variables regression when using an area-level variable as a controlled confounding variable that may be correlated with the instrument.

Issel, L.M., Bekemeier, B., and Kneipp, S. (2012). "A public health nursing research agenda." (AHRQ grant HS18852). *Public Health Nursing* 29(4), pp. 330-342.
In order to advance the science needed to guide public health nursing practice, a national research agenda-setting conference was held in 2010. The authors report on the process by which a set of high-priority research themes were identified, as well as describe corresponding research directions within each theme. They conclude by providing recommendations for advancing the health nursing research agenda.

Jiang, X., Boxwala, A.A., El-Kareh, R., and others. (2012). "A patient-driven adaptive prediction technique to improve personalized risk estimations for clinical decision support." (AHRQ grant HS19913). *Journal of the American Medical Informatics Association* 19, pp. e137-e144.
The goal of this study was to develop a patient-driven adaptive prediction technique. The technique developed used individualized confidence intervals to select the most 'appropriate' model from a pool of candidates to assess the individual patient's clinical condition. This approach significantly outperformed the CROSS model selection strategy in terms of discrimination and calibration.

Kahn, M.G., Batson, D., and Schilling, L.M. (2012). "Data model considerations for clinical effectiveness researchers." (AHRQ grant HS19908). *Medical Care* 50, S60-S67.
The Scalable Architecture for Federated Translational Inquiries Network (SAFTINet) was one of 3 projects receiving AHRQ funds to create a scalable, distributed network to support comparative effectiveness research. SAFTINet's method of extracting and compiling data from disparate entities requires the use of a shared data model. After the researchers examined the suitability of several models, SAFTINet chose the Observations Medical Outcomes Partnership common data model.

Kahn, M.G., Raebel, M.A., Glanz, J.M., and others. (2012). "A pragmatic framework for singlesite and multisite data quality assessment in electronic health record-based clinical research." (AHRQ grant HS19912-01). *Medical Care* 50, pp. S21-S50.
A conceptually based and systematically executed approach to data quality assessment is essential to achieve the potential of the electronic revolution in health care. The authors propose a "fit-for-use" conceptual model for data quality assessment and a process model for planning and conducting single-site and multisite data quality assessments. Using examples from prior multisite studies, they illustrate their approach.

Kahn, M.G., and Weng, C. (2012). "Clinical research informatics. A conceptual perspective." (AHRQ grants HS19908, HS19726). *Journal of*

continued on page 26

continued from page 25

***the American Medical Informatics Association* 19, pp. e36-e42.**
Clinical research informatics is the rapidly evolving subdiscipline within biomedical informatics that focuses on developing new informatics theories, tools, and solutions to accelerate the full translational continuum. The authors present a conceptual model based on an informatics-enabled clinical research workflow, integration across heterogeneous data sources, and core informatics tools and platforms.

Martinez, E.A., Thompson, D.A., Errett, N.A., and others. (2012). "High stakes and high risk: A focused qualitative review of hazards during cardiac surgery." (AHRQ grants HS13904, HS18762). *Anesthesia & Analgesia* 112, pp. 1061-1072.
The goal of this review is to identify and classify types of hazards in cardiac surgery. This review fills a gap in the cardiac surgery literature by providing a comprehensive classification of intraoperative and immediate perioperative hazards among cardiac patients, recommendations for harm-reduction strategies, and priorities for future research.

Memtsoudis, S.G., Kirksey, M., Ma, Y., and others. (2012). "Metabolic syndrome and lumbar spine fusion surgery." (AHRQ grant HS00514). *Spine* 37(11), pp. 989-995.
The researchers elucidate the epidemiology and perioperative impact of metabolic syndrome (MetS) in patients undergoing primary posterior lumbar spine fusion. Using the National Inpatient Sample, they found that patients with MetS had significantly longer length of stay, higher rates of nonroutine discharges, and increased rates of major life-threatening complications than patients without metabolic syndrome.

Memtsoudis, S.G., Sun, X., Chiu, Y-L., and others. (2012, July). "Utilization of critical care services among patients undergoing total hip and knee arthroplasty." (AHRQ grant HS00514). *Anesthesiology* 117(1), pp. 107-116.
The authors sought to identify the incidence and risk factors for the use of critical care services (CCS) among patients undergoing total hip and knee arthroplasty and to compare the characteristics and outcomes of patients who require CCS to those who do not. They found that 3 percent of 528,495 patients undergoing this procedure required CCS. On average, CCS patients were older and had a higher comorbidity burden than those not requiring CCS.

M'ikanatha, N.M., Dettinger, L.A., Perry, A., and others. (2012, March). "Culturing stool specimens for *Campylobacter* spp., Pennsylvania, USA." (AHRQ grant HS10399). *Emerging Infectious Diseases* 18(3), pp. 484-487.
The researchers surveyed 176 clinical laboratories in Pennsylvania about stool specimen testing practices for enteropathogens, including *Campylobacter* spp. Most of the labs routinely test for *Campylobacter* spp., but in 17 labs, a stool antigen test is the sole method for diagnosis. The authors recommend that laboratory practice guidelines for *Campylobacter* spp. testing be developed.

Nichols, G.A., Desai, J., Lfata, J.E., Lawrence, J.M., and others. (2012). "Construction of a multisite datalink using electronic health records for the identification, surveillance, prevention, and management of diabetes mellitus: The SUPREME-DM Project." (AHRQ grant HS19969). *Preventing Chronic Disease* at: http://www.ncbi.nlm.nih.gov/pubmed/22677160
The objective of this study was to identify the number of people with diabetes from a diabetes DataLink developed as part of the SUPREME_DM (Surveillance, PREvention, and ManagEment of Diabetes Mellitus) project, a consortium of 11 integrated health systems that use comprehensive electronic health record data for research. The study identified 1,085,947 members of those systems that met one or more criteria for diabetes.

Norris, S.L., Burda, B.U., Holmer, H.K., and others. (2012). "Author's specialty and conflicts of interest contribute to conflicting guidelines for screening mammography." (AHRQ grant HS18500). *Journal of Clinical Epidemiology* 65, pp. 725-733.
The goal of this study was to examine the relationship between financial, intellectual, and professional conflicts of interest, and the recommendations in guidelines for or against routine screening mammography for asymptomatic, average-risk women aged 40–49 years. The specific objectives were to examine the relationship between the guideline recommendations and (1) the

continued on page 27

continued from page 26

specialty of physician guideline authors, (2) financial disclosures of physician authors, and (3) the focus of the lead guideline author's academic interests inferred from his or her publications.

Odukoya, O.K., and Chui, M.A. (2012, Spring). "Commentary on the Federal Government's role in influencing e-prescribing use and research." ***Perspectives in Health Information Management*** **at http://www.ncbi.nlm.gov/pubmed/2273095**

The authors discuss the Federal Government's role influencing e-prescribing use and research. Financial incentive and penalties have encouraged many organizations to rapidly adopt e-prescribing systems. However, rapid implementation has uncovered long-term costs and unintended patient safety hazards. This has led to a shift in focus from e-prescribing usefulness to an emphasis on safety concerns and expanded use.

Quinn, M.A., Kats, A.M., Kleinman, K., and others. (2012, August 13/27). "The relationship between electronic health records and malpractice claims." (AHRQ grant HS15397). ***Archives of Internal Medicine*** **172(15), pp. 1187-1189.**

Given the potential of electronic health records (EHRs) to reduce adverse events and health care costs, the question of whether EHRs reduce the risk of malpractice lawsuits is a logical one. A survey of 189 Massachusetts physicians from different specialties has found that the rate of malpractice claims when EHRs were used was about one-sixth the rate when EHRs were not used. Unmeasured factors may, in part, account for the apparent sixfold reduction in malpractice claims.

Randhawa, G.S., and Slutsky, J.R. (2012). "Building sustainable multi-functional prospective electronic clinical data systems." ***Medical Care*** **50, pp.S3-S6. Reprints (AHRQ Publication No. 12-R098) are available from the Agency for Healthcare Research and Quality.***

This paper highlights the Agency for Healthcare Research and Quality's (AHRQ) activities in building a sustainable, scalable electronic infrastructure designed to meet the needs of diverse users. It discusses the benefits of an electronic health record-based infrastructure as well as AHRQ's experience with distributed research networks. Finally, it discusses the goals of current American Recovery and Reinvestment Act comparative effectiveness research infrastructure projects with emphasis on AHRQ-related projects.

Reid, R.J., and Larson, E.B. (2012). "Financial implications of the patient-centered medical home." (AHRQ grant HS19129). ***Journal of the American Medical Association*** **308(1), pp. 83-84.**

This editorial discusses an article by Nocon and colleagues that provides a detailed look at some of the financing aspects of a large and presumably diverse set of 669 federally funded community health centers. The study confirms that sizable and ongoing investments are needed to create and sustain medical homes. The impact of the Affordable Care Act and accountable care organizations on medical homes is also discussed.

Resnicow, K., Andrews, A.M., Zhang, N., and others. (2012). "Development of a scale to measure African American attitudes toward organ donation." (AHRQ grant HS08574). ***Journal of Health Psychology*** **17, pp. 389-398.**

This study reports the psychometric properties, initial results, and correlates of a measure of organ donation attitudes and practices for blacks. It is a part of a larger church-based organ donation intervention trial in southeast Michigan. The three subscales identified—Barriers, Family/Race Benefits, and Altruism: Helping Others—had good psychometric properties.

Rosenbloom, S.T., Daniels, T.L., Talbot, T.R., and others. (2012). "Triaging patients at risk of influenza using a patient portal." (AHRQ grant HS19276). ***Journal of the American Medical Informatics Association*** **19, pp. 549-554.**

At Vanderbilt University, which has a widely adopted patient portal, an interdisciplinary team developed and pilot-tested Flu Tool, a decision-support application targeted to patients with influenza-like illness and designed to be integrated into a patient portal. Early experience suggests that health care consumers are willing to use patient-targeted decision support.

Secola, R., Lewis, M.A., Pike, N., and others. (2012). "Feasibility of the use of a reliable and valid central venous catheter blood draw bundle checklist." (AHRQ grant HS19103). ***Journal of Nursing Care Quality*** **27(3), pp. 218-225.**

continued on page 28

Research briefs

continued from page 27

The researchers aimed to test the feasibility of creating a central venous catheter (CVC) blood draw bundle checklist to ensure adherence to the evidence-based blood draw procedure. The results show that it is feasible to create a checklist that can be used to assess CVC blood draw procedures among pediatric oncology patients.

Sittig, D.F., Hazlehurst, B.L., Brown, J., and others. (2012). "A survey of informatics platforms that enable distributed comparative effectiveness research using multi-institutional heterogeneous clinical data." (AHRQ grant HS19828). ***Medical Care*** **50, pp. S49-S59.**

The purpose of this paper is to compare and contrast 6 large-scale projects that are either developing or extending existing informatics platforms for comparative effectiveness research (CER). The focus is on specific CER projects that implement informatics platforms and highlight design requirements and solutions.

Truog, R.D., Kesselheim, A.S., and Joffe,S. (2012, July). "Paying patients for their tissue: The legacy of Henrietta Lacks." (AHRQ grant HS18465). ***Science*** **337, pp. 37-38.**

The authors consider issues surrounding sharing revenues with patients who provide tissue for research. They discuss several actual examples, beginning with Henrietta Lacks, a poor woman who was the source of the first immortal cell line but received no financial compensation. After weighing various factors, they conclude that the stance that tissue donors are owed financial compensation is mistaken as a matter of policy and ethics.

Wilcox, A.B., Gallagher, K.D., Boden-Albala, B., and Bakken, S.R. (2012). "Research data collection methods. From paper to tablet computers." (AHRQ grant HS19853). ***Medical Care*** **50, pp. S68-S73.**

Recent changes in consumer electronic devices, both in functionality and portability, have boosted the potential utility of mobile technologies for research data collection. This paper discusses these changes and their potential impact on the clinical research process, including specific case studies highlighting their use.

Yeh, H-C., Brown, T.T., Maruthur, N., and others. (2012, September). "Comparative effectiveness and safety of methods of insulin delivery and glucose monitoring for diabetes mellitus." (AHRQ Contract No. 290-07-10061). ***Annals of Internal Medicine*** **157(5), pp. 336-347.**

To critically evaluate current evidence and fill in the literature gaps, the authors performed a systematic review to see whether intensive insulin therapy (multiple daily injections vs. continuous subcutaneous insulin infusion) has a differential effect in persons with type 1 or 2 diabetes mellitus and whether outcomes differ by monitoring strategy.

Yehia, B.R., Fleishman, J.A., Metlay, J.P., and others. (2012). "Sustained viral suppression in HIV-infected patients receiving antiretroviral therapy." ***Journal of the American Medical Association*** **308(4), pp. 339-342. Reprints (AHRQ Publication No. 12-R092) are available from the Agency for Healthcare Research and Quality.***

The researchers examined the change in and the determinants of sustained viral suppression over time in HIV-infected adults receiving anti-retroviral therapy (ART). Despite various improvements in therapy, they found that in 2008–2010, only 64 percent to 72 percent of patients receiving ART had suppressed viral loads throughout the year. ■

2012 *Research Activities* Author Index

continued on page 30

2012 Author index

continued from page 29

continued on page 31

2012 Author index

continued from page 30

2012 *Research Activities* Subject Index

The following is an alphabetical listing of research topics featured in *Research Activities* in 2012. Month of publication and page number(s) are given.

continued on page 33

2012 Subject index

continued from page 32

continued on page 34

2012 Subject index

continued from page 33

continued on page 35

2012 Subject index

continued from page 34

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