AHRQ Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

# RESEARCH ACTIVITIES

U.S. Department of Health and Human Services | No. 392, April 2013

## New AHRQ evidence report details top patient safety strategies

In a major effort to help health care systems protect the safety of patients in the United States, AHRQ released a report in March identifying the top 10 patient safety strategies (see box on page 3) that can be implemented immediately by health care providers. Based on an assessment of evidence about patient safety interventions, the report finds that these 10 strategies, if widely implemented, have the potential to vastly improve patient safety and save lives in U.S. health care institutions.

**Highlights**

Topics



Regular Features



*Making Health Care Safer II: An Updated Critical Analysis of the Evidence for Patient Safety Practices* assesses the evidence for 41 patient safety strategies and most strongly encourages adoption of the top 10. The strategies can help prevent medication errors, bedsores, healthcare-associated infections, and other patient safety events.

"We have the evidence to show what really works to make care safer," said AHRQ Director Carolyn M. Clancy, M.D. "Armed with this knowledge about what works and how to apply it, we can continue to advance our efforts to ensure patient safety."

The new report emphasizes evidence about implementation, adoption, and the context in which safety strategies have been used. This helps clinicians understand what works, how to apply it, and under what circumstances it works best so it can be adapted to local needs. Many of the strategies are already widely in use and some are based on guidelines from the Centers for Disease Control and Prevention. Others have shown great promise but remain uncommon in practice. The report also identifies gaps where more research can further advance patient safety.

Ten of the 41 strategies were published as papers in a special supplement to the March 5 *Annals of Internal Medicine*. The entire report, including evidence reviews for all 41 patient safety strategies, can be found at www.ahrq.gov/research/findings/evidence-based-reports/ptsafetyuptp.html.

The report is an update to a landmark 2001 AHRQ report, *Making Health Care Safer: A Critical Analysis of Patient Safety Practices* (Evidence Report/Technology Assessment No. 43). The 2001 report helped identify early evidence-based safety practices and opportunities for research. That 2001 report was also preceded by two major Institute of Medicine reports, *To Err Is Human: Building a Safer Health System* and *Crossing the Quality Chasm*, which together galvanized the modern patient safety and quality improvement movements in the United States.

The Agency's ongoing work helps implement the Affordable Care Act (ACA) through support of the National Quality Strategy and Partnership for Patients. The National Quality Strategy (www.ahrq.gov/workingforquality) aligns national efforts to improve

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# From the Director

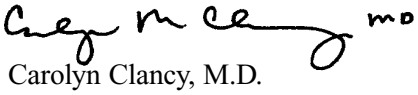
Two years after the 1999 Institute of Medicine's groundbreaking report *To Err Is Human* shocked clinicians and the public alike by highlighting the many thousands of U.S. deaths each year due to medical errors, AHRQ commissioned the report, *Making Health Care Safer: A Critical Analysis of Patient Safety Practices*. This report examined the evidence behind nearly 80 patient safety practices and became the cornerstone of efforts to rank safety practice by the strength of the evidence. At that time, hospitals and health care organizations were under relatively little pressure to implement safety practices. But a decade later, regulators and accreditors are pushing health care organizations to adopt safe practices and health care organizations themselves are making patient safety one of their top priorities. For example, most hospitals now have patient safety officers.

AHRQ's new evidence report *Making Health Care Safer II: An Updated Critical Analysis of the Evidence for Patient Safety Practices* assessed evidence for 41 patient safety strategies and most strongly encourages adoption of the top 10 (see box on page 3). The patient safety practices fall into three categories: (1) those aimed at a specific patient safety target, such as adverse drug events, or specific clinical topics, such as preventing pressure ulcers; (2) those designed to improve the overall system or to address multiple patient safety targets, such as nurse-staffing ratios or computerized provider order entry; and (3) crosscutting patient safety practices, such as those that promote a culture of safety or team training.

Our new report, described on this month's cover, took a step further by examining more than the evidence for the effectiveness of each patient safety practice. It also examined the scope of the problem targeted by the safety practice, its potential for harmful unintended consequences, costs to implement it, and difficulty of implementation.

In this way, the report reflects the growing recognition of the importance of context and implementability of patient safety practices and informs health care providers about the costs and ease or difficulty of implementing certain practices.

The report strongly encourages health care providers to adopt 10 patient safety practices and encourages them to adopt another 12. Although further research will continue to refine these recommendations, our report shows that there is enough evidence now to permit health care systems to adopt strategies we know will protect patients and save lives.



Carolyn Clancy, M.D.

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**Also in this issue:**

**Recommended Patient Safety Strategies***

- Preoperative checklists and anesthesia checklists to prevent operative and postoperative events.
- Bundles that include checklists to prevent central line-associated bloodstream infections.
- Interventions to reduce urinary catheter use, including catheter reminders, stop orders, or nurse-initiated removal protocols.
- Bundles that include head-of-bed elevation, sedation vacations, oral care with chlorhexidine, and subglottic-suctioning endotracheal tubes to prevent ventilator-associated pneumonia.
- Hand hygiene.
- The do-not-use list for hazardous abbreviations.
- Multicomponent interventions to reduce pressure ulcers.
- Barrier precautions to prevent healthcare-associated infections.
- Use of real-time ultrasonography for central line placement.
- Interventions to improve prophylaxis for venous thromboembolisms.

* Shekelle PG, Wachter RM, Pronovost P., et al. Making Health Care Safer II: An Updated Critical Analysis of the Evidence for Patient Safety Practices. Comparative Effectiveness Review No. 211. (Prepared by the Southern California-RAND Evidence-based Practice Center under Contract No. 290-2007-10062-I.) AHRQ Publication No. 13-E001-EF. Rockville, MD: Agency for Healthcare Research and Quality. March 2013. www.ahrq.gov/research/findings/evidence-based-reports/ptsafetyuptp.html.

## Patient safety strategies

*continued from page 1*

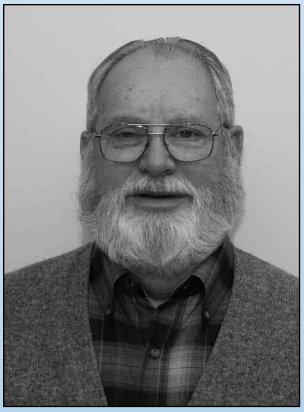
the quality and safety of care. Partnership for Patients (http://partnershipforpatients.cms.gov) is a national, public-private partnership of hospitals, employers, physicians, nurses, consumers, State and Federal governments, and other key stakeholders. Together with incentives created by the ACA, these efforts represent a coordinated approach to making care safer by drawing on the strengths and expertise of providers, Department of Health and Human Services agencies, and others to demonstrate and implement proven patient safety strategies.

The new report was prepared by AHRQ Evidence-based Practice Centers at the RAND Corporation, the University of California, San Francisco/Stanford University, Johns Hopkins University, and ECRI Institute, with input and recommendations from a team of patient safety experts.

For more information, please visit www.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.

# Research Activities asks the experts



**James Battles, Ph.D.**
AHRQ Task Order Officer for Safety Report.

**Peter J. Pronovost, M.D., Ph.D.**
Senior Vice President for Patient Safety and Quality at Johns Hopkins Medicine.

The new AHRQ evidence report *Making Health Care Safer II: An Updated Critical Analysis of the Evidence for Patient Safety Practice* described on this month's cover, identifies the top 10 patient safety strategies (see box on page 3) that can be implemented immediately by health care providers. If widely implemented, these patient safety strategies have the potential to vastly improve patient safety and save lives in U.S. health care institutions.

*Research Activities* interviews four of the many patient safety leaders involved in the development of the safety report: James Battles, Ph.D., AHRQ Task Order Officer for the report; Peter J. Pronovost, M.D., Ph.D., Senior Vice President for Patient Safety and Quality at Johns Hopkins Medicine; Paul G. Shekelle, M.D., Ph.D., Director of the Southern California Evidence-based Practice Center; and Kaveh Shojania, M.D., Director of the Centre for Patient Safety, University of Toronto.

**Research Activities (RA):** AHRQ has developed clinical tools to help clinicians implement a number of the patient safety practices identified in the new report. What impact have AHRQ's clinical tools already had in implementing the patient safety strategies identified in the report?

**James Battles, Ph.D. (JB):** Many of AHRQ's tools and resources designed to help institutions implement the safe practices outlined in this report have been extremely effective in reducing harm to patients. For example, our CUSP (Comprehensive Unit-based Safety Program) tools and support programs have had dramatic results on the outcome of care. Use of CUSP reduced central line-associated bloodstream infections (CLABSIs) in intensive care units by 40 percent nationwide. We are seeing similar results from our work with catheter-associated urinary tract infections (CAUTIs), with over a 47 percent reduction in CAUTIs in 800 participating hospitals in 33 States so far. Our tools to improve teamwork in health care like TeamSTEPPS® have been adopted by over 30 percent of hospitals nationwide. Improved teamwork has been shown to reduce surgical mortality and to reduce birth injuries. Improved communication and teamwork can also reduce medical liability claims.

**RA:** Given that several of the identified patient safety practices are targeted toward "common" safety problems that occur once per 100 hospitalized patients, such as potential adverse drug events, falls, and blood clots, do you anticipate a large impact on patient safety if they are implemented?

**JB:** If these safe practices are adopted and used, they will dramatically reduce harm to patients and lower the cost of care. However, they must be used and adopted by all care providers within the organization and units within the institution in order to achieve results. Implementation of safe practices is hard work and often requires significant behavioral change and changes in culture within institutions. When implementation is successful, the impact on outcome of care is significant.

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## Ask the experts

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**RA:** What would you say is the biggest take-home message of the report?

**JB:** Adoption of safe practices can have a dramatic impact on the care provided by institutions, hospitals, nursing homes, and medical offices. It is also important to not only look at the evidence about the effectiveness of a given patient safety practice, but also examine the evidence around adoption and uptake of these practices. You cannot expect changes and improvements in health care if a given safe practice is not implemented to improve care.

**RA:** With AHRQ funding, you developed CUSP to reduce healthcare-associated infections (HAIs) such as CLABSIs in hospital units. This bundle of safety practices has saved thousands of lives and hundreds of millions of dollars and is now being implemented across the United States and in several other countries. CUSP can be applied to several of the strongly encouraged patient safety practices in the report, such as prevention of CLABSIs, catheter-associated urinary tract infections, and ventilator-associated pneumonia. Do you anticipate that CUSP will be used to implement these patient safety practices and in your experience how easy is it for health care facilities to implement CUSP?

**Peter J. Pronovost (PP):** Yes, we believe CUSP can apply to many of the safe practices identified in the report. In our efforts to prevent CLABSI and other preventable harms, we learned that successful efforts have three components: (1) a model to implement evidence-based practices that includes a checklist of best practices, identifies and mitigates barriers to implementing the checklist items, and ensures patients receive the checklist items; (2) feedback of performance data on both the outcome and, when possible, process; and (3) an intervention to improve culture and engage local staff called CUSP. Change happens at the bedside. If improvement efforts are to be successful, they must engage and empower clinicians in the care areas. CUSP is that generic strategy and can be applied to any area, inpatient or outpatient, and coupled with efforts to reduce any type of preventable harm.

**RA:** A core part of several patient safety practices identified in the report is an emphasis on teamwork and communication to reduce patient safety problems. How have these areas improved in the 12 years since AHRQ's initial safety report and what barriers remain?

**PP:** The second step in CUSP is to ask staff how the next patient will be harmed. Poor teamwork is the most common answer to this question. Yet poor teamwork is not one behavior; it could be many, and the teamwork interventions should target the specific teamwork challenges. Luckily, AHRQ supported the development of TeamSTEPPS, a robust teamwork training program. We have worked to link specific teamwork challenges identified through CUSP with the specific tools in TeamSTEPPS to provide clinicians the tools that best address their needs. While broad teamwork

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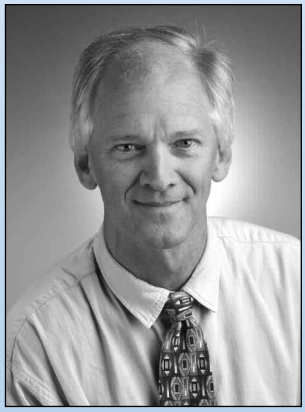

**Paul Shekelle, M.D., Ph.D.**
Director of the Southern California Evidence-based Practice Center.

**Kaveh Shojania, M.D.**
Director of the Centre for Patient Safety, University of Toronto.

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training is beneficial, it is also effective and efficient to offer specific training to address clinicians' specific concerns. Still, more work is needed to better diagnose teamwork problems and map that diagnosis to specific therapies (training).

**RA:** Did anything surprise you about the report's findings?

**PP:** I was impressed by how much the science had advanced. In the first report, the science was so immature and most of the recommendations were supported by weak evidence. Since then, the number of research studies evaluating patient safety interventions has increased dramatically, as well as the number of interdisciplinary teams working on safety and the quality of the studies. Yet many studies still lack a clear program theory, too many studies still use a "pre-post design," and many studies lack valid outcome measures and provide little information about context. Nevertheless, it takes time to mature a field.

Given that preventable deaths are likely the third leading cause of death, the research investment in patient safety is far too small for the magnitude of the problem. Greater investments would further accelerate the science of patient safety and save lives. It is encouraging that patient safety has finally become a respected scholarly discipline and that an ever-growing cadre of new faculty are focusing their careers on reducing preventable harm. The future of patient safety is indeed very bright.

**RA:** Successful implementation of safety practices has been shown to be highly context-dependent, often working effectively in some hospitals but not in others. You worked on an early AHRQ report that examined the role of context in patient safety. Could you give an example of how context can facilitate or impede the implementation of patient safety practice?

**Paul G. Shekelle (PS):** The role of context and implementation effectiveness is still early in its maturation as a field of scientific inquiry, so most studies to date have been descriptive and not hypothesis-testing. But one of the most commonly found contextual factors facilitating successful implementation is leadership support, either at the top level or the unit/program level or both. If the leaders are 100 percent behind making something happen, it most often does. Implementation of a patient safety practice might still succeed even if the leaders aren't all-in on it. But when problems arise during an implementation, as they almost always do, without the leaders' active support it is harder to overcome the barriers to success.

**RA:** How has the patient safety environment (context) evolved in the past decade in hospitals and other health care facilities both in recognizing problems such as preventable medical errors, taking steps to address them, and making patient safety a priority?

**PS:** I think the first big difference is that we now recognize that patient safety is a big problem, bigger than was previously thought before the Institute of Medicine report, and that making care safer is mostly not a matter of exhorting individual clinicians to do a better job or check their work more carefully, but rather building systems that will produce safer care. Years ago most hospitals did not have a chief safety officer or the equivalent, yet now almost all do. The importance of patient safety as an institutional concern has been elevated. And this concept of building safer systems is gaining ground.

*Making care safer is mostly not a matter of exhorting individual clinicians to do a better job or check their work more carefully, but rather building systems that will produce safer care.*

**RA:** What will be the biggest challenges for health care organizations in implementing the patient safety practices identified in the report and what will help them implement these practices more quickly?

**PS:** I think the biggest challenge will be the recognition that this will take a lot of active effort to make it work. We'd like it if we could make care much safer simply by buying a better technology or some other highly standardized, off-the-shelf solution. But the reality is that that's not going to be the answer in almost all cases. What is going to work is looking at what has worked in other institutions, and then not leaping to the conclusion that if you could just implement that exact solution at your institution then all will work out fine.

Instead, you need to look at the individual components of that patient safety strategy that was successful somewhere else, and see if they are likely to work in your practice environment. This will require talking to frontline staff, the people who are going to be most affected by the implementation. If something doesn't seem like it will "fit" in your environment, is there another way you might try to

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achieve the same or similar effect? Try it and see. Collect data. See if your care processes or outcomes are improving. See what can be further improved. Above all, get started.

**RA:** You have led many educational initiatives in patient safety and you and Dr. Robert Wachter authored a book on what you termed the "terrifying epidemic of medical mistakes." Do you see this report as a significant step forward in guiding hospitals toward fewer medical mistakes by identifying encouraged patient safety practices?

**Kaveh Shojania (KS):** We know that some 5–10 percent of hospitalized patients suffer harm from their medical care, i.e., "adverse events," so it isn't actually as sensational as the title—a concession Dr. Wachter and I made to the publisher—would imply. Yet, in recent years, a few studies have shown that the rates of preventable adverse events have not decreased over time.

In order for rates of adverse events such as bloodstream infections from central lines to go down, three things have to happen: we have to have patient safety practices that we know reduce common adverse events, these practices have to have been disseminated quite widely, and we have to have a measurement tool sensitive to changes in specific types of adverse events. This AHRQ evidence report speaks to the first of those necessary developments—the identification of effective patient safety practices.

If one compares patient safety to a major area of biomedical research, such as cancer, we're not doing that badly, as Dr. Eric Thomas and I point out in a recent editorial in *BMJ Safety & Quality*. The "war on cancer" has been going on for 40

*If one compares patient safety to a major area of biomedical research, such as cancer, we're not doing that badly.*

years and has consumed probably over $1 trillion, orders of magnitude more than has been spent on patient safety. Plus, cancer research had a substantial head start in the form of decades of relevant existing research and a huge scientific workforce. The fact that we have even some effective patient safety practices (and many more promising ones) after only one decade, much less financial investment, far less existing relevant research, and a much smaller scientific workforce, seems to me like a very reasonable achievement.

**RA:** The March *Annals of Internal Medicine* features a series of articles included in the report. You are editing a special issue of the *BMJ Quality & Safety* that will include additional articles based on chapters in the report. Do you see these special issues of the journals extending the impact of the report to more clinicians and researchers?

**KS:** Very much so. AHRQ has excellent dissemination processes that will reach many health care decisionmakers and researchers actively engaged in patient safety work. But medical journals will reach a broader audience of clinicians and researchers interested in topics covered in the new report. *Annals of Internal Medicine* has a very large audience of clinicians and researchers in the United States and abroad. *BMJ Quality & Safety* has a broad readership internationally, including researchers and health care managers actively involved in patient safety work. So I think the publication of many of the articles from the safety report in two medical journals—one a U.S.-based general medical journal and the other an international patient safety journal—substantially adds to the dissemination of this work.

**RA:** What changes in how we view evidence for safety practices have taken place between the first safety report and this report?

**KS:** First of all, the changes are the same as would occur for any area of research—some things we thought were very promising turned out not to be. Evidence changes over time. One of the more clear-cut examples of this was a very clinical patient safety intervention—the use of peri-operative beta-blockers to reduce post-operative cardiac complications. At the time of the previous report, it received the second highest ranking in terms of the recommendation to implement. But due to later evidence, we no longer can endorse this patient safety practice to the extent that we felt was appropriate in 2001.

Signs of progress in the new report include evidence that provides robust support for intensive teamwork training in terms of improvements in hard clinical outcomes. More generally, though, I think the updated evidence report highlights the degree to which it is often difficult to distinguish a patient safety practice from the strategies required to implement it successfully. We are looking closely at the role of context and the degree to which we can identify safety practices that work in some settings but not others. The next step will be to develop measures of specific aspects of context that can be reported in individual studies and applied in syntheses of the studies addressing a given topic. ■

## New measure helps evaluate interventions to reduce catheter-associated urinary tract infections

More than a third of all healthcare-associated infections originates in the urinary tract, including catheter-associated urinary tract infections (CAUTIs). Measures of CAUTIs are now used to rate hospital safety performance and are publically reported in some places. The measure from the National Healthcare Safety Network (NHSN) calculates the CAUTI rate by dividing the number of CAUTI episodes during a specific period by the total number of indwelling urinary catheter-days during the same period and multiplying by 1,000.

Although the NHSN CAUTI rate accounts for the risk of infection in patients with an indwelling urinary catheter, it does not account for the risk to the total hospitalized patient population. According to the authors of a new study, this approach may not be able to capture the effectiveness of all interventions to reduce catheter usage. They propose a new population-based outcome measure that may better reflect these hospital-wide efforts.

Their proposed population CAUTI rate involves dividing the number of CAUTI episodes taking place during a specific period by the total number of patient-days during the same time period, and multiplying by 10,000. The researchers used computer-based simulation to compare both measures on 100 simulated catheter interventions.

A total of 93 of the 100 simulated interventions produced reductions in both the total number of CAUTI episodes and population CAUTI rate. However, the NHSN CAUTI rate increased in 25 of these 93 simulations. For the 68 simulated interventions where both the NHSN and the population-based rate decreased, the reductions were consistently greater in the population-based CAUTI rate compared to the NHSN rate.

According to the researchers, hospitals should calculate both rates. Institutions may find the NHSN CAUTI rate helpful in comparing specific units with similar characteristics from different facilities. The population-based rate is ideal for evaluating improvement programs to reduce inappropriate urinary catheter placement in the same institution. The study was supported in part by AHRQ (HS19767).

See "Introducing a population-based outcome measure to evaluate the effect of interventions to reduce catheter-associated urinary tract infection," by Mohamad G. Fakih, M.D., M.P.H., M. Todd Greene, Ph.D., M.P.H., Edward H. Kennedy, M.S., and others, in the *American Journal of Infection Control* 40, pp. 359-364, 2012. ■ *KB*

## Medicare nonpayment for certain hospital-acquired conditions has not reduced certain infections in hospitals

In October 2008, CMS discontinued additional payments for certain hospital-acquired conditions that were deemed preventable. A new study did not find evidence that the CMS policy to reduce payments for central catheter-associated bloodstream infections and catheter-associated urinary tract infections had any measureable effect on these infection rates in U.S. hospitals.

There were no subgroups of hospitals where patients appeared to benefit from the implementation of this policy change. The study was based on data from 398 hospitals in 41 States ranging from small, nonteaching community hospitals to large academic medical centers. The findings did not differ for hospitals in States without mandatory reporting, nor did they differ according to the percentage of Medicare admissions.

The researchers examined changes in trends for these two healthcare-associated infections (HAIs) that were targeted by CMS policy by looking at a total of 398 hospitals or health systems and 14,817 to 28,229 hospital unit-months, depending on the type of infection. The researchers point out that there were already strong downward trends for targeted HAIs well before the implementation or announcement of the CMS policy.

Also, since ICD-9 diagnostic codes assigned by billing data were the

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**Hospital-acquired conditions**
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metric used by CMS, hospitals may have focused greater effort on improving documentation and coding of infections as "present on admission" than on preventing hospital-acquired infections. Thus, billing data may not reflect the underlying quality of care at institutions. Some of the infections were already areas of focus for other improvement initiatives. Finally, since reductions in CMS payment may have been equivalent to as little as 0.6 percent of Medicare revenue for the average hospital, the lack of effect may be due to the very small financial incentives at stake. This study was supported by AHRQ (HS18414).

See "Effect of nonpayment for preventable infections in U.S. hospitals," by Grace M. Lee, M.D., Ken Kleinman, Sc.D., Stephen B. Soumerai, Sc.D., and others in the *New England Journal of Medicine* 367, pp. 1428-1437, 2012. ■ *MWS*

## Factors identified that influence preventable hospitalization rates in small areas over time

Two new papers by AHRQ researcher, Jayasree Basu, Ph.D., and colleagues used small area analysis to explore how the rate of preventable hospitalizations over time (1995–2005) in adults is affected by the extent of managed care, primary care physician supply, and patient sociodemographic factors.

A lower rate of preventable hospitalizations, also known as ambulatory care-sensitive condition admissions, is considered an accepted indicator of access to quality primary care. Both studies used AHRQ's Health Care Utilization Project (HCUP)–State Inpatient Databases for 1995 and 2005, and analysis of small areas known as primary care service areas (PCSAs). They are briefly summarized here.

**Basu, J. (2012, August). "Preventable hospitalizations and Medicare Managed Care: A small area analysis."** ***American Journal of Managed Care*** **18(8), pp. 3280-3290.**
In this study, Dr. Basu developed an area-level estimate of preventable hospitalization rates and examined how these rates varied with percentage of elderly (ages 65 and above) managed care patients in PCSAs of Arizona, Massachusetts, and New York in 1995 and 2005. The unadjusted statistics showed that the proportion of elderly hospitalized beneficiaries enrolled in Medicare managed care plans increased from a mean of 2 percent in 1995 to 11 percent in 2005, while preventable hospitalization rates for elderly residents fell from a mean of 190.68 per 1,000 discharges in 1995 to 175.65 per 1,000 discharges in 2005 in these three States.

The multivariate regression analysis revealed that, although the proportion of enrollment under Medicare managed care was inversely related to preventable hospitalization rates in 1995, this negative relationship became substantially weaker (smaller in absolute value and not statistically significant) by 2005. According to the author, the results could be explained by the growth of private fee-for-service types of managed care plans and the resultant decline in emphasis on care coordination relative to health maintenance organization plans.

**Basu, J., Thumula, V., and Mobley, L.R. (2012, July-September). "Changes in preventable hospitalization patterns among adults. A small area analysis of U.S. States."** ***Journal of Ambulatory Care Management*** **35(3), pp.3280-3290.**
Dr. Basu and colleagues conducted a similar analysis for nonelderly adults aged 18–64 years using all-payer data from AHRQ's HCUP–State Inpatient Databases for 1995 and 2005 for five States (Arizona, California, Massachusetts, New Jersey, and New York).

They found that factors leading to higher preventable hospitalization rates (being uninsured, being enrolled in Medicaid fee-for-service, belonging to a minority subgroup, being in the 45–64 year age group) exerted a stronger impact on preventable hospitalization trends for adults than those associated with declines in these hospitalizations (primary care physician density, private or Medicaid managed care).

The authors concluded that a stronger influence of minority and uninsured status, weaker contributions of managed care enrollment in the commercial as well as in the Medicaid markets, and weaker contributions of primary care density may have caused slower-than-expected reduction in preventable hospitalization rates in nonelderly adults. ■ *DIL*

## Quality of care is similar for safety-net and non-safety-net hospitals

Safety-net hospitals are institutions typically located in urban areas that serve the poor and uninsured. These hospitals tend to struggle financially compared to their non-safety-net counterparts located in more affluent areas. Yet findings from a new study suggest that, despite their financial struggles, safety-net hospitals can achieve equal or even better outcomes compared to non-safety-net hospitals. It found similar hospital outcomes for mortality and readmission rates among Medicare patients hospitalized for three conditions at safety-net and non-safety-net hospitals. The margin of performance, on average, was less than one percentage point between safety-net and non-safety-net hospitals.

Yale and Harvard researchers looked at outcomes of fee-for-service Medicare patients age 65 and older who were hospitalized for heart attack, heart failure, or pneumonia. Patients were included from metropolitan areas that had at least one safety-net and one non-safety-net hospital. Patient deaths and hospital readmission from any cause within 30 days were analyzed from the data.

Safety-net hospitals tended to be teaching institutions with higher average patient volumes for each condition compared to non-safety-net institutions. Mortality rates were just slightly higher at safety-net hospitals for heart attack and pneumonia. In the case of heart failure, mortality rates did not differ between safety-net and non-safety net hospitals. Similarly, readmission rates were just slightly higher at safety-net hospitals for heart attack and pneumonia.

In the case of heart failure, readmission rates were modestly higher at safety-net hospitals. Importantly, for mortality and readmission rates, differences between the two types of hospitals within metropolitan statistical area ranged from no difference to 0.7 percentage points. The study was supported in part by AHRQ (HS18781).

See "Based on key measures, care quality for Medicare enrollees at safety-net and non-safety-net hospitals was almost equal," by Joseph S. Ross, M.D., Susannah M. Bernheim, M.D., M.H.S., Zhenqiu Lin, Ph.D., and others in the August 2012 *Health Affairs* 31(8), pp. 1739-1748. ■ *KB*

## Adding incentive payments to pay-for-performance hospital program boosts payments to hospitals treating more disadvantaged patients

Concerns have emerged that, by rewarding only high performance, hospital pay-for-performance programs might disproportionately benefit hospitals serving less disadvantaged patient populations, since lower performing hospitals tend to care for poorer patients. In Phase 2 of the Medicare and Premier Hospital Quality Incentive Demonstration (HQID), the structure of incentive payments to hospitals caring for disadvantaged patients was altered from one rewarding only high performance (Phase 1) to another rewarding high performance, moderate performance, and improvement.

A study of this change found that in Phase 2, the gap in incentive payments was not significant for the receipt of any payment, but it remained significant for payments per discharge. Although the payment gap per discharge narrowed in Phase 2, a significant gap persisted between hospitals with greater or lesser percentages of disadvantaged patients, according to researchers from Cornell University and New York University.

They estimated that in Phase 2 of the HQID, hospitals with the least disadvantaged patients received approximately 20 percent more in incentive payments per discharge than hospitals with the most disadvantaged patients. This gap was much smaller than it would have been had payments been made based on high-quality performance alone rewarded in Phase 1. Analysis of Phase 2 payments also showed that of the three classes of awards, incentive payments for improvement made up the largest share of total payments to hospitals serving the most disadvantaged patient populations. This study was supported by AHRQ (HS18546).

See "The effect of Phase 2 of the Premier Hospital Quality Incentive Demonstration on incentive payments to hospitals caring for disadvantaged patients," by Andrew M. Ryan, Ph.D., Jan Blustein, M.D., Ph.D., Tim Doran, M.D., and others in the August 2012 *HSR: Health Services Research* 47(4), pp. 1418-1436. ■ *MWS*

## Adolescent females living in disadvantaged neighborhoods are at increased risk for obesity

As adolescents transition into young adults, their weight may change from a healthy value to one reflecting either overweight or obesity. Overweight is most prevalent among black females during adolescence. Living in a disadvantaged neighborhood boosts the chances of becoming obese for adolescent black and Hispanic females, but not for males, according to a new study.

The researchers collected data on 5,759 adolescents who were 11 to 15 years of age during wave 1 when initial 1994 data were analyzed from The National Longitudinal Study of Adolescent Health. A second group of data was evaluated later when the adolescents were aged 17 to 21. More than half of the adolescents (54 percent) were female. Blacks comprised 21 percent and Hispanics 16 percent of the study population.

Blacks were the most socioeconomically disadvantaged of all three racial/ethnic groups. They lived in neighborhoods where 26 percent of individuals lived in poverty compared to whites who lived in neighborhoods where only 11 percent of individuals lived in poverty. At wave 1, the rate of obesity was highest for black females at 14 percent, followed by 9 percent of Hispanic females, and 5 percent of white females. This disparity became even more marked at wave 3 in 2002, when 34 percent of black females were obese compared to 30 percent of Hispanic females and 19 percent of white females. Although not as dramatic, obesity was highest among black males at wave 1 (17 percent), followed by 13 percent for Hispanics, and 9 percent for whites. By wave 3, black males were significantly more likely to be obese than whites (24 percent vs. 20 percent).

Neighborhood disadvantage was found to be a significant predictor of female obesity in young adulthood. However, this disadvantage did not increase the risk of obesity in males whether they were black, Hispanic, or white. According to the researchers, more policy efforts are needed to ameliorate challenges associated with living in disadvantaged neighborhoods, such as ensuring the availability of safe and adequate public recreational spaces and greater opportunities to buy healthy food. The study was supported by AHRQ (HS16568).

See "Racial and ethnic disparities in obesity during the transition to adulthood: The contingent and nonlinear impact of neighborhood disadvantage," by Lisa M. Nicholson, Ph.D., and Christopher R. Browning, Ph.D., in the *Journal of Youth and Adolescence* 41, pp. 53-66, 2012. ■ *KB*

## The poor and less educated in Canada are more likely to use health care than their counterparts in the United States

Low-income, less-educated and foreign-born individuals are more likely to use health care services in Canada than in the United States, reveals a new study. These differences were especially large among health care services that are likely to be expensive, such as visits to specialists and physicians, or having a medical doctor as a regular source of care. However, low-income, less educated, and foreign-born residents in the United States were more likely to use preventive care services than corresponding subpopulations in Canada. The use of preventive services like mammograms and Pap smears was considerably higher in the United States than in Canada. For individuals with high income and higher education, utilization rates were similar between the two countries and, in some instances, higher in the United States than in Canada.

The findings suggest that the health system in Canada might have played an important role in improving access to care for subpopulations examined in this study, note Yuriy Pylypchuk, Ph.D., of Georgetown Public Policy Institute, and Eric M. Sarpong, Ph.D., of AHRQ. Their findings were based on data from two nationally representative surveys, AHRQ's Medical Expenditure Panel Survey, and the Canadian Community Health Survey for Canada.

See "Comparison of health care utilization: United States versus Canada," by Drs. Pylypchuk and Sarpong, in the April 2013 *HSR: Health Services Research* 48, pp. 560-581. Reprints (AHRQ Publication No. 13-R017) are available from AHRQ.* ■ *MWS*

## Mental illness is common and left untreated in older public housing residents

Most residents of public housing are low-income minorities, who can experience a variety of disparities in health care, including mental health services. A new study reveals that mental illness is common and largely untreated in older adult public housing residents, with nearly a third of public housing residents in need of mental health services.

Researchers from the University of Rochester School of Medicine and Dentistry studied 190 residents of public housing who were 60 years of age and older. The majority (80 percent) were black and more than half (58 percent) were women. Most of the residents (92 percent) lived alone. After being recruited by questionnaires, residents participated in a 1.5-hour psychiatric research interview. They were assessed for anxiety and depression as well as need for mental health treatment. The researchers also looked at actual services received.

Among the participating residents, 21 percent suffered from anxiety and 15 percent from depression. Overall, 31 percent of residents were deemed to be in need of mental health services. However, less than half (46 percent) of those with a mental health care need were receiving treatment.

Residents with these needs tended to be younger, had less cognitive impairment, suffered from more medical conditions, and were less mobile compared to those without a need. They also used more medical care and required other services, such as transportation assistance.

Public housing residents receiving mental health care were more likely to be women, use an onsite social worker, and have more medical conditions compared to residents not receiving these services. Since public housing residents already have many risk factors for anxiety and depression, more community-based interventions are needed to provide a safety net for this vulnerable population, suggest the researchers. Their study was supported in part by AHRQ (HS18246).

See "Mental healthcare need and service utilization in older adults living in public housing," by Adam Simning, B.A., Edwin van Wijngaarden, Ph.D., Susan G. Fisher, M.S., Ph.D., and others in the May 2012 *American Journal of Geriatric Psychiatry* 20(5), pp. 441-451. ■ *KB*



## Survey finds rapid rise in antipsychotic use among young people

Antipsychotic treatment has risen rapidly among young people, with antipsychotics now being prescribed in about the same proportion of youth and adult visits to psychiatrists, reveals a national survey. New York researchers used data from the 1993–2009 National Ambulatory Medical Care Surveys to compare national trends in antipsychotic treatment of adults and youths in office-based medical practice. They specifically examined outpatient visits with a prescription of antipsychotic medications between 1993–1998 and 2005–2009.

They found that antipsychotic prescriptions for children 13 years of age and younger grew more than sevenfold (from 0.24 to 1.83 per 100 population) and more than quadrupled among adolescents aged 14 to 20 years (from 0.78 to 3.76 per 100 population). During the same period, antipsychotic prescriptions for adults nearly doubled from 3.25 to 6.18 per 100 population.

Not all visits with antipsychotics mentioned had a mental disorder diagnosis. Among child and adolescent visits with antipsychotic medication mentioned, disruptive

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**Antipsychotic use**
*continued from page 12*

behavior disorders were the most common diagnosis (63.0 percent and 33.7 percent, respectively). Among adult visits with antipsychotic medication mentioned, depression (21.2 percent) and bipolar disorder (20.2 percent) were the two most commonly diagnosed disorders.

Only a small proportion of child and adolescent visits included an antipsychotic prescription for a Food and Drug Administration (FDA) clinical indication. For antipsychotics prescribed for a non-FDA indication during child visits, the 3 most common diagnoses were attention-deficit/hyperactivity disorder (17.0 percent), oppositional defiant disorder (11.3 percent), and disruptive behavior disorder not otherwise specified (10.5 percent). For adolescents, the most common diagnoses were bipolar disorder not otherwise specified (14.9 percent), anxiety disorder not otherwise specified (12.6 percent), and attention-deficit/hyperactivity disorder (11.4 percent). For adults, the most common diagnoses were anxiety disorder not otherwise specified (17.7 percent), depression not otherwise specified (10.9 percent), and bipolar disorder not otherwise specified (10.9 percent).

The researchers believe that the trends reported in their survey may signal a need to reevaluate clinical practice patterns and strengthen efforts to educate physicians, especially primary care physicians, about the safety and efficacy of antipsychotic medications. The study was supported in part by AHRQ (HS21112).

See "National trends in the office-based treatment of children, adolescents, and adults with antipsychotics," by Mark Olfson, M.D., Carlos Blanco, M.D., Shang-Min Liu, M.S., and others in the August 2012 *Archives of General Psychiatry* 69, pp. 1247-1256. ■ *MWS*

## Study finds few clinically important differences between first- and second-generation medications for treating schizophrenia

Currently, there are 11 first-generation antipsychotics (FGA) and 10 second-generation antipsychotics (SGA) available to treat patients with schizophrenia. Clinicians tend to favor SGAs; 75 percent of patients with schizophrenia were prescribed an SGA in 2003. Despite these preferences, there is controversy over the comparative benefits and disadvantages of FGAs and SGAs. A recent review of studies showed few differences of clinical importance between FGAs and SGAs.

A total of 263 publications representing 114 primary studies were identified from the literature for inclusion in the analysis. Of these, 110 were randomized clinical trials. A total of 22 drug comparisons were included. All studies were published between 1974 and 2012.

Overall, there was low or insufficient strength of evidence from the studies. Wide variation existed in the ways symptoms were measured. In addition, there were only a small number of studies for specific drug comparisons. Nevertheless, the researchers were able to draw some conclusions. First, when it came to treating core illness symptoms, few differences of clinical importance were observed between FGAs and SGAs and those differences depended on the measure used for the symptoms. The FGA haloperidol appeared to be better than the SGA olanzapine for improving positive symptoms, such as hallucinations, delusions, and thought and movement disorders. However, the level of evidence was stronger for SGAs when it came to treating negative symptoms, such as flat affect and the lack of pleasure in everyday life. In this case, olanzapine was better than haloperidol.

Although the strength of evidence was low regarding medication-associated side effects, there was a higher incidence of developing the metabolic syndrome with olanzapine than for haloperidol. A higher incidence of tardive dyskinesia (repetitive and involuntary movements) was found for the FGA chlorpromazine than for the SGA clozapine. No differences in mortality were found for chlorpromazine versus clozapine or haloperidol versus the SGA aripiprazole. The study was supported in part by AHRQ (T32 HS00032).

See "Antipsychotics in adults with schizophrenia: comparative effectiveness of first-generation versus second-generation medications," by Lisa Hartling, Ph.D., Ahmed M. Abou-Setta, M.D., Ph.D., Serdar Dursun, M.D., Ph.D., and others in the October 2, 2012 *Annals of Internal Medicine* 157(7), pp. 498-511. ■ *KB*

## Patients with stroke or transient ischemic attack suffer high levels of depression and undertreatment with antidepressants

Depression is the most common psychiatric disorder affecting patients who have suffered a stroke. A new study reveals that patients with stroke or transient ischemic attack (TIA), a " warning stroke" not usually associated with long-lasting functional deficit, have similar frequency of depression and newly identified depression between 3 and 12 months after hospitalization. The North Carolina researchers used a patient registry to identify depression and antidepressant medication use 3 and 12 months after hospitalization among 1,450 individuals with ischemic stroke and 397 individuals with TIA.

Three months following hospitalization for stroke or TIA, 17.9 percent of stroke patients had depression compared to 14.3 percent of TIA patients; at 12 months, the percentages were 16.4 percent and 12.8 percent respectively. Persistent depression (diagnosis of depression at both 3 and 12 months) was present in 9.2 percent of those with stroke and 7.6 percent of those with TIA. A high proportion of patients with persistent depression was untreated with antidepressants (67.9 percent of those with stroke, 70 percent of those with TIA).

The risk of depression after even mild stroke or TIA was higher than the general population with a comparable age distribution. The researchers suggest that systematic evaluation for depression in patients with stroke or TIA may improve detection and treatment of this condition. This study was supported by AHRQ (HS16964).

See "Depression and antidepressant use after stroke and transient ischemic attack," by Nada El Husseini, M.D., Larry B. Goldstein, M.D., Eric D. Peterson, M.D., and others in *Stroke* 43, pp. 1609-1616, 2012. ■ *MWS*

***Ethics***

## ICU bed allocation: clinicians prioritize "rescuing" a critically ill patient over societal benefit

Allocating intensive care unit (ICU) beds can be challenging, particularly when the unit is nearly full. If there is one bed left, should it go to a gravely ill patient who wants to prolong life but has little chance of survival, or should the bed be given to a deceased or dying patient who could help others by donating organs? This is the question researchers recently asked critical care clinicians. According to their findings, physicians are more likely than nurses to give the last bed to the gravely ill patient in attempts to "rescue" them.

The questionnaires forced respondents to choose to give the final ICU bed to one of two patients. The first was a cancer patient for whom admission to the ICU was unlikely to change the course of survival with an already poor prognosis. The second was a patient arriving at the hospital after suffering cardiac arrest with non-recoverable brain injury for whom admission to the ICU would allow him to be an organ donor. Those surveyed received 1 set of 2 scenarios out of 4 possible pairs that differed in the social benefit of 5 versus 30 extra years of life to be gained by others from potential organ donation in addition to whether or not the organ donor was brain dead. Physicians and nurses were also asked about their perceptions of organ donation and conflicts of interest during end-of-life care.

The researchers received completed responses from 684 physicians and 438 nurses. A higher percentage of physicians (45.9 percent) selected the cancer patient for the last ICU bed compared to nurses (32.6 percent). Clinicians were less likely to allocate the last ICU bed to the cancer patient when the organ donation case offered 30 life-years compared to 5 life-years. The majority of physicians (65 percent) and nurses (75 percent) stated strong obligations to identifiable living patients when it came to ICU bed allocation, often termed the "rule of rescue" by researchers. The study was supported in part by AHRQ (HS18406).

See "Rule of rescue or the good of the many? An analysis of physicians' and nurses' preferences for allocating ICU beds," by Rachel Kohn, B.A., Gordon D. Rubenfeld, M.D., M.Sc., Mitchell M. Levy, M.D., and others in *Intensive Care Medicine* 37, pp. 1210-1217, 2011. ■ *KB*

## Disclosure of funding sources affects physician evaluation of research studies

A large proportion of clinical trials of new treatments is funded by the pharmaceutical industry. There is growing concern over how such support can affect the design of these trials and the reporting of the results. While some practitioners may be swayed by potential bias in industry-supported publications to use certain medications more widely than would be appropriate, a new study found that physicians were about half as willing to prescribe new drugs if the clinical trial were performed with industry funding compared to funding from the National Institutes of Health (NIH).

Researchers presented a randomly selected national sample of 503 board-certified internists with hypothetical scenarios in which three new drugs were being evaluated for the treatment of unmet clinical needs commonly encountered in primary care. For each drug, one trial had a high level of methodologic rigor, one had a medium level of rigor, and one had a low level of rigor. The scenarios also allowed for three variations on funding status: no funding source mentioned, funding by the NIH, or funding by one of a dozen different pharmaceutical companies.

In general, internists were about four times as likely to prescribe drugs tested in high-rigor trials, compared to medium-rigor trials and eight times as likely compared to low-rigor trials. However, keeping the methodologic rigor constant, physicians were about one-third less willing to prescribe drugs tested in studies funded by a pharmaceutical company compared to studies with no funding support listed, and about half as willing compared to studies listed as supported by NIH.

The researchers attributed these results to recent high-profile reports of unethical trial conduct by pharmaceutical companies, including selective reporting of data. They concluded that disclosure of the funding source can have important effects on physicians' perceptions of the research. Yet these effects were indiscriminate, similarly affecting high-quality and low-quality studies. Therefore, more fundamental strategies, such as ensuring protocol and data transparency and providing an independent review of end points, will be needed to more effectively promote the translation of high-quality clinical trials—whatever their funding source—into practice. This study was supported in part by AHRQ (HS18465).

See "A randomized study of how physicians interpret research funding disclosures," by Aaron S. Kesselheim, M.D., J.D., Christopher T. Robertson, Ph.D., J.D., Jessica A. Myers, Ph.D., and others in the September 12, 2012 *New England Journal of Medicine* 367(12), pp. 1119-1126. ■ *MWS*

***Chronic Disease***

## Trends in diabetes treatment suggest more multidrug regimens, resulting in high financial burden on persons with diabetes and their families

Over the last several years, the care and treatment of patients with diabetes has changed considerably with the introduction of new and more expensive drug therapies. The use of multidrug regimens has risen significantly in concert with these changes and patients with diabetes are increasingly spending more of their family income on health care, reveals a new study. AHRQ researchers Eric M. Sarpong, Ph.D., Didem M. Bernard, Ph.D., and G. Edward Miller, Ph.D., recently examined changes in diabetes care and the financial burden of treatment using data from AHRQ's Medical Expenditure Panel Survey collected during 1997–1998 and 2006–2007.

They also identified nonelderly adults with diabetes and coexisting cardiovascular conditions, such as high

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**Diabetes**

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blood pressure and high cholesterol. The researchers assessed drug use and expenditures and measured the family financial burden for diabetes care.

Between the two time periods studied, the total number of nonelderly adults treated for diabetes nearly doubled, representing 5.7 percent of the total U.S. population in 2006–2007. The prevalence of treated coexisting conditions also grew significantly, including a tripling of lipid disorders. There was an increase in the use of multidrug regimens. The proportion of those using two or more oral drugs increased from 15.7 percent to 30.1 percent. In terms of family financial burden, approximately one-fifth of patients spent 10 percent or more of their income on health care. One in nine patients spent 20 percent or more. Higher financial burdens were experienced more by patients who were older, female, had poor health, or were uninsured. Such financial strain may result in inadequate treatment of some patients with diabetes.

More details are in "Changes in pharmaceutical treatment of diabetes and family financial burdens," by Drs. Sarpong, Bernard, and Miller, in the August 2012 *Medical Care Research and Review* 69(4), pp. 474-491. Reprints (AHRQ Publication No. 12-R079) are available from AHRQ.* ■ *KB*

## Infliximab may be riskier than etanercept for younger patients with arthritis

Anti-tumor necrosis factor alpha (TNF) agents like etanercept and infliximab improve clinical and functional outcomes in patients with rheumatoid arthritis. These biologic agents block the protein tumor necrosis factor that is involved in inflammation. But because these biologic agents suppress the immune system, they can increase the risk of infections. For patients younger than 65 years of age infliximab may carry a higher risk of serious infections than etanercept, according to a new study.

The researchers investigated the comparative safety of anti-TNF agents with regard to serious infections among members of Kaiser Permanente Northern California who began taking infliximab (793) or etanercept (2,692) in 1997–2007. The researchers estimated the risk of serious infections requiring hospitalization for opportunistic infections (infections that arise from the opportunity of a suppressed immune system).

Compared with etanercept, the adjusted hazard ratio during the study period was elevated threefold for infliximab in patients younger than 65, but not in those 65 years and older. One possible explanation was that older patients may have more risk factors for serious infections than younger patients. Therefore, the impact of an additional risk factor such as infliximab may be smaller. No evidence suggested that the effect of infliximab on serious infections varied by sex, race/ethnicity, body mass index, or smoking status, although the researchers acknowledged the ability to detect a difference was limited due to their sample size. The researchers believe that theirs is the first study to examine whether the differential risk of serious infections between the two anti-TNF agents varies by important modifiable and nonmodifiable patient characteristics. Their study was supported in part by AHRQ (HS17919).

See "Comparative safety of infliximab and etanercept on the risk of serious infections: Does the association vary by patient characteristics?" by Sengwee Toh, Sc.D., Lingling Li, Ph.D., Leslie R. Harrold, M.D., and others in *Pharmacoepidemiology and Drug Safety* 21, pp. 524-534, 2012. ■ *MWS*

## Mortality rate and major complications have declined among adult trauma patients cared for in trauma centers

Trauma is the leading cause of death in people under the age of 65. Greater access to level I and level II trauma centers has helped reduce death and complications in adult trauma patients. In fact, a new study found that in-hospital mortality rates and major complications for adult trauma patients admitted to level I or level II trauma centers declined 30 percent between 2000 and 2009 in Pennsylvania. Mortality rates and major complications declined even more (40 to 50 percent) for patients with moderate or severe injuries. Mortality rates remained unchanged for patients with the least severe or most severe injuries. Those are the findings of a study of 208,866 patients admitted to level I or level II trauma centers in Pennsylvania that compared 2000–2001 data with 2008–2009 data.

The median age of patients increased from 44 to 52 years during the study period. While low-severity trauma decreased from 34.5 percent to 30 percent, severe trauma increased from 14.5 percent to 19.9 percent. Other prevalence increases were noted for blunt trauma and low falls. However, there were decreases for motor vehicle crashes (30.9 percent to 21 percent) and gunshot wounds (6.8 percent to 5 percent).

Overall, the mortality rate declined by 29 percent and complications decreased by 32 percent. Mortality rates for patients with moderate and severe trauma dropped by 42 percent and 51 percent, respectively. In the case of patients with the least severe or more severe injuries, mortality rates did not improve as significantly as other patient groups. The study was supported by AHRQ (HS16737).

See "Outcomes of adult trauma patients admitted to trauma centers in Pennsylvania, 2000-2009," by Laurent G. Glance, M.D., Turner M. Osler, M.D., Dana B. Mukamel, Ph.D., and Andrew W. Dick, Ph.D., in the August 2012 *Archives of Surgery* 147(8), pp. 732-737. ■ *KB*

## Study tracks hospitalization rates for various respiratory viruses

Respiratory syncytial virus (RSV) and human metapneumovirus (HMPV) are well-known causes of disease in children and are increasingly recognized to affect adults as well. In fact, a new study shows that RSV accounted for 6.1 percent and HMPV accounted for 4.5 percent of hospitalizations for acute respiratory illness among older adults during the winter viral season. Influenza was detected in 6.5 percent of hospitalizations for acute respiratory illness in this group. Over the 3-year study period, the Vanderbilt University Medical Center researchers found annual rates of hospitalization per 10,000 residents were 15.01 for RSV, 9.82 for HMPV, and 11.81 for influenza. The study included 508 patients admitted to 4 different hospitals with acute respiratory infection.

For patients 50 years of age and older, hospitalization rates for both RSV and HMPV were similar to those for influenza. For adults 65 years and older, hospitalization rates for RSV and HMPV were higher than for influenza, probably due to successful influenza vaccination of the older population in the United States. In this study, 71 percent of the enrolled patients had received influenza vaccination, including 78 percent of those aged 65 and older.

Compared with patients with confirmed influenza, patients with RSV were older and more immunocompromised; patients with HMPV were older, had more cardiovascular disease, were more likely to have received the influenza vaccination, and were less likely to report fever than those with influenza. This study was supported in part by AHRQ (HS13833).

See "Rates of hospitalization for respiratory syncytial virus, human metapneumovirus, and influenza virus in older adults," by Kyle Widmer, M.D., Yuwei Zhu, M.D., John V. Williams, M.D., and others in the July 1, 2012 *Journal of Infectious Disease* 206, pp. 56-62. ■ *MWS*

## Short spacing between children boosts the older child's risk of behavioral and cognitive problems

Closely spaced births are associated with a range of adverse health and social and economic consequences for women, ranging from poor maternal nutritional status to reduced employment and education, especially for adolescent mothers. Now a new study reveals that giving birth to another child within 24 months of the previous one raises the older child's risk of behavioral and cognitive problems. Johns Hopkins University School of Medicine researchers examined the impact of these rapid repeat births (RRBs) on the next older child in the family, whom they termed the index child.

As part of a large randomized trial of the Hawaii Healthy Start Program, families were screened for risk of child maltreatment. At-risk families who spoke English and had no current involvement with Child Protective Services (CPS) were randomly assigned to either the Hawaii Healthy Start program or a control group. For these analyses, 658 families were included.

The researchers compared index children in families with RRBs and families without RRBs in terms of parenting behaviors at index child age 2, age 3, and first grade, as well as child behavior and development. They found that, controlling for maternal age, number of births, and intervention group status, the women who had an RRB were 50 percent more likely to report neglecting their index child, and 80 percent more likely to have a substantiated report from CPS. Index children of mothers with an RRB exhibited externalizing behavior twice as often as those whose mothers did not have an RRB. The index children of RRB mothers had lower scores for communication and socialization adaptive behaviors, and had significantly lower verbal reasoning and short-term memory in first grade.

The researchers screened 5,810 families, who had a birth on the island of Oahu between November 1994 through December 1995, for being at-risk of child maltreatment. The data analysis for this study was funded in part by AHRQ (T32 HS17596).

More details are in "Relationship between birth spacing, child maltreatment, and child behavior and development outcomes among at-risk families" by Sarah Shea Crowne, Ph.D., Kay Gonsalves, M.S.P.H., Lori Burrell, M.A., and others in the October 2012 *Maternal and Child Health Journal* 16(7), pp. 1413-1420. ■ *DIL*

## No short-term risk of severe cardiac events seen in children taking central nervous system stimulants

Central nervous system (CNS) stimulants are frequently used to treat children with attention deficit/hyperactivity disorder (ADHD). Controversy surrounds these drugs regarding their potential to cause cardiovascular events such as sudden cardiac death, heart attack, and stroke. A recent study shed new light on the cardiovascular safety of these stimulants. It found no significant short-term risk of children developing severe cardiac events. This was true even for children with congenital heart and other cardiac disease, even though the smaller sample size did not allow precise comparisons.

Researchers reviewed Medicaid health claims data on more than 1.2 million children with a diagnosis of ADHD or other emotional disturbance disorder. Of these, more than 386,000 had at least one claim for stimulants. The data came from 28 States during the period from 1999 to 2006. Stimulant exposure was determined along with the occurrence of any major cardiac event.

There were 66 cases of sudden cardiac death, stroke, or heart attack. This resulted in an overall event rate of 2.8 per 100,000 patient-years. Event rates during periods of stimulant use, adjusted to balance risk factors, were 2.2 per 100,000 patient-years compared to 3.5 for periods when no stimulants were used. Twenty-six events occurred in high-risk children with an event rate of 63 per 100,000 patient-years, with similar rates between treated and untreated periods.

There was no major association between the use of stimulants to treat ADHD and other emotional

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**Central nervous system stimulants**
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disturbance disorders and the development of major cardiovascular events. The researchers call for more studies, however, to determine the impact of long-term use of stimulants among this group. The study was supported in part by AHRQ (HS18506).

See "Cardiovascular safety of central nervous system stimulants in children and adolescents: Population based cohort study," by Almut G. Winterstein, Ph.D., Tobias Gerhard, Ph.D., Paul Kubilis, and others in the July 18, 2012 *British Medical Journal* 345, e4627. ■ *KB*

## Low-molecular-weight heparin often used in treating young trauma patients despite insufficient scientific evidence

Children and adolescents aged 21 years or younger who are hospitalized for major trauma are often treated with low-molecular-weight heparin (LMWH), an anticoagulant, to prevent blood clots in veins, called venous thromboembolism (VTE). This treatment is routinely recommended for adults with certain major traumas on the basis of scientific evidence. However, there is not similar evidence supporting this treatment's use in patients under age 21, and there is evidence that the risk of VTE in pediatric trauma patients is much lower than for adults. A new study calls for research to more accurately describe the risks and benefits of this treatment for young trauma patients.

The study is the first to characterize the injuries of young trauma patients given LMWH and clotting-related outcomes (major bleeding or blood clots). The researchers used trauma registry data to describe the number and characteristics of pediatric and adolescent trauma patients treated at two pediatric and two adult trauma centers. Among 706 youngsters treated with LMWH at the four trauma centers during 2007, 38 patients (all but 4 of whom were age 16 or younger) were treated at the pediatric centers and 668 patients (all 14–21 years old) were treated at adult trauma centers. However, the majority of patients receiving LMWH were older (18 to 21 years).

Less than 2 percent of patients had chronic illnesses, and the most common injuries for youngsters were lower extremity fractures (50 percent of those in pediatric trauma centers and 34.7 percent of those in adult centers) and head injuries (31.6 percent and 19.8 percent, respectively). A total of 2.1 percent of patients (all at least 15 years old) developed VTE despite LMWH treatment, and approximately half of these patients had a central venous catheter in place. The researchers used data from each center's trauma registry for 2007–2008. The study was funded by AHRQ (HS17344).

More details are in "Utilization of low-molecular-weight heparin prophylaxis in pediatric and adolescent trauma patients," by Sarah H. O'Brien, M.D., M.Sc., Jennifer Klima, Ph.D., Barbara A. Gaines, M.D., and others in the April–June 2012 *Journal of Trauma Nursing* 19(2), pp. 117-121. ■ *DIL*

## Most children can delay their first dental visit until age 3 without affecting later dental outcomes

To prevent later costs for dental treatment visits, some Medicaid programs have promoted preventive dental visits by 1 year of age. The North Carolina Medicaid Program recommends the first visit take place by 1 year of age, but allows it to be put off until 3 years because of the limited number of dentists. A new study suggests this may not be a bad strategy. It found that children insured through North Carolina Medicaid who had their first preventive dental visit by 18 months did not have a lower rate of treatment visits at age 43–72 months.

Researchers at the University of North Carolina at Chapel Hill analyzed claims data for nearly 20,000 children enrolled in North Carolina Medicaid from October 1999 through December 2006. The 7 percent of the children who had a first preventive dental visit by 18 months did not differ significantly in the rate of treatment at age 43–72 months from the 35 percent of children whose initial preventive visits occurred at 37–42 months. The early treatment group was also not significantly different from those in the other age categories in the likelihood or amount of treatment-related expenditures.

However, higher-risk children older than 18 months whose preventive

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**Dental visits**
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care coincided with a visit to treat existing caries (tertiary preventive care) had higher rates of subsequent treatment and significantly higher predicted expenditures at age 43-72 months (as much as $529 for those first seen at 25-30 months) than children who had a tertiary prevention visit by 18 months ($391). The findings were based on analysis of data from North Carolina Medicaid files for 19,888 children enrolled in North Carolina Medicaid before their first birthday. The study was funded by AHRQ (HS18076).

More details are in "Effect of early preventive dental visits on subsequent dental treatment and expenditures," by Heather Beil, Ph.D., M.P.H., Richard Gary Rozier, D.D.S., M.P.H., John S. Preisser, Ph.D., and others in the September 2012 *Medical Care* 50(9), pp. 749-756. ■ *DIL*

## *Elderly/Long-Term Care*

# Antipsychotic use among the elderly boosts risk of stroke

Warnings of increased risk of death and vascular adverse events associated with off-label use of antipsychotics among the elderly surfaced in 2002. Yet, considerable use of antipsychotics among the elderly has persisted, due in part to the lack of pharmacological alternatives for management of behavioral and psychological symptoms of dementia. These medications may boost the risk of stroke, suggests a new study. It found that the odds of stroke were 1.8 times higher during time exposed to antipsychotic medications than during time unexposed. This effect was found to be greater among older veterans.

The researchers analyzed data from the Veterans Health Administration on inpatient hospitalizations for ischemic stroke between 2002 and 2007. The study included 511 stroke cases; 85 percent had taken antipsychotic medications in the 30 days prior to their stroke and 15 percent had taken them 90 to 120 days before their stroke.

The researchers recommend that antipsychotic therapy among the elderly be initiated only after alternative strategies of dealing with symptoms of behavioral and psychological symptoms of dementia have been fully investigated. Their study was supported in part by AHRQ (T32 HS000011).

See "Age, antipsychotics, and the risk of ischemic stroke in the Veterans Health Administration," by Shirley Wang, Ph.D., Crystal Linkletter, Ph.D., David Dore, Ph.D., and others in *Stroke* 43, pp. 28-31, 2012. ■ *MWS*

# The proportion of high-risk drugs used by the elderly declined when they gained Medicare Part D coverage

Patients who moved from no drug coverage to Medicare Part D drug coverage increased their use of medications deemed Drugs to Avoid in the Elderly (DAE) from 15.72 percent to 17.61 percent. However, the proportion of DAE in overall drug use declined slightly from 3.01 percent to 1.98 percent, according to a new study. The proportion of drug-disease interactions remained stable. Medicare Part D, implemented in 2006, brought drug coverage to 28 million beneficiaries who either lacked it previously or had higher out-of-pocket costs, increased prescription drug use, and resulted in greater adherence to drug treatment for chronic diseases.

The researchers suggest that to maximize the potential for Part D to improve the quality of medication use among older adults, additional changes to pharmacy benefit design (for example, cost-sharing) and health professional education may be necessary. Their findings were based on analysis of pharmacy and medical data from a large health insurer in Pennsylvania from 2004 to 2007, which had a variety of Medicare managed care plans. The study was funded in part by AHRQ (HS17695, HS18721, and HS19461).

More details are in "Medicare Part D and potentially inappropriate medication use in the elderly," by Julie M. Donohue, Ph.D., Zachary A. Marcum, Pharm.D., M.S., Wallid F. Gellad, M.D., M.P.H., and others in the September 2012 *The American Journal of Managed Care* 18(9), pp. e315-e322. ■ *DIL*

## Care processes in nursing home and residential long-term care settings may benefit people with dementia

According to a new research review from AHRQ's Effective Health Care Program comparing characteristics and related outcomes of nursing homes and other residential long-term care settings for people with dementia, pleasant sensory stimulation, such as calm music, may reduce agitation for people with dementia. Also, while more research is necessary, some evidence suggests that protocols for individualized care, such as for showering and bathing, can reduce pain, discomfort, agitation and aggression. Functional skill training may also improve physical function in basic activities of daily living.

Overall, outcomes for people with dementia do not differ between nursing homes and residential care/assisted living settings, except for people needing medical care, who may benefit more from a nursing home setting. More than 5 million Americans—as many as one in every eight individuals ages 65 years or older—have dementia. It is the most common reason for entry into long-term care settings.

More research is needed to support decisionmaking on the care choices and questions faced by people with dementia and their families. To access this review, *Comparison of Characteristics of Nursing Homes and Other Residential Long-Term Care Settings for People With Dementia*, 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. ■

## Self-reported vision impairment does not always predict disability in older adults when other factors are present

Vision typically declines as people age. Vision impairment makes it more difficult to drive, work, and to remain independent. However, the impact of poor vision on disability among the elderly (age 65 and older) is substantially reduced or eliminated when other health factors are taken into account, according to a new study. It found that when vision impairment did predict disability, it usually centered on doing highly visual activities at home, such as reading or watching television.

The researchers obtained data on 6,550 individuals 65 years and older who participated in the National Health and Nutrition Examination Survey between 1999 and 2008. They paid particular attention to information on self-reported vision status, disability outcomes, coexisting conditions, and demographic details to examine the relationship between vision impairment and limitations in activities of daily living and participation in leisure activities.

More than three-fourths of those studied reported having either good or better vision. Fair vision was reported by 18 percent and poor vision by 7 percent. Relative to their representation in the sample, rates of self-reported poor vision were greater for Black and Hispanic participants.

Greater proportions of persons reporting poor vision had problems with dressing, getting in and out of bed, and doing household chores compared to those with good vision. Nearly a third of those with poor vision (30.8 percent) reported being unable to attend social events.

However, when other health conditions and variables were controlled in models, the effects of poor vision in reporting greater disability were reduced across all daily activities investigated. In fact, the effect of poor vision was completely eliminated for getting in and out of bed. The researchers do note, however, that those with poor vision are more than twice as likely as those with good or better vision to move into the next level of disability when it comes to going to social events and managing money. Performing leisure activities at home is also significantly affected by poor vision. These individuals are five times more likely to have greater disability.

According to the researchers, vision rehabilitation interventions need to address multiple health dimensions, improve access to services, and establish connections with other agencies that serve the elderly.

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**Vision impairment**
*continued from page 21*

Their study was supported in part by AHRQ (T32 HS00011).

See "Self-reported vision impairment and its contribution to disability among older adults," by Bernard A. Steinman, Ph.D., and Susan M. Allen, Ph.D., in the *Journal of Aging and Health* 24(2), pp. 307-322, 2012. ■ *KB*

## *Comparative Effectiveness Research*

## Adherence interventions may help patients with hepatitis C

Adherence interventions for patients with chronic hepatitis C may improve patient adherence to prescribed medication and treatment plans and achieving a virological response, according to a new research review from AHRQ's Effective Health Care Program. However, evidence is too limited to draw firm conclusions.

Existing literature consistently shows that increasing adherence to hepatitis C treatment is associated with improved likelihood of achieving a virological response. But adherence to treatment is challenging because of the lengthy duration, complex treatment regimen, and frequent adverse events associated with therapies. As such, efforts to improve treatment adherence in hepatitis C are needed.

Some evidence suggests that patient-level and regimen-related interventions improved medication and treatment plan adherence when compared with standard care. These interventions included patient support groups and therapeutic education, as well as special drug packaging with instructions (i.e., RibaPak) to reduce pill load. However, while findings look promising for clinical practice, the uncertain evidence suggests that caution should be used when applying them to patient care. These findings can be found in the research review *Interventions To Improve Patient Adherence to Hepatitis C Treatment: A Comparative Effectiveness Review*. This and other reviews can be found on AHRQ's Effective Health Care Program Web site at www.effectivehealthcare.ahrq.gov. ■

## Certain medications are effective in reducing restless leg syndrome symptoms

In patients with restless leg syndrome (RLS), evidence suggests that certain medications, when compared to placebo, reduce RLS symptoms and improve patient-reported sleep outcomes and quality of life, according to a new research review by AHRQ's Effective Health Care Program. These medications include dopamine agonists (pramipexole, rotigotine, ropinirole and cabergoline) and anticonvulsant alpha-2-delta ligands (gabapentin enacarbil, gabapentin, and pregabalin). However, these drugs may not work in all patients, since short- and long-term negative side effects, treatment withdrawals, and lack of effectiveness are common.

RLS is a neurological disorder characterized by unpleasant sensations in the legs and a distressing, irresistible urge to move one's body. RLS can result in reduced quality of life and negatively impact sleep, leading to daytime fatigue. Most research on RLS treatments is limited to short-term studies of dopamine agonists and alpha-2-delta ligands in adults with moderate to very severe primary RLS of long duration.

Evidence is lacking on long-term drug effectiveness and whether these results apply to adults with less severe or less frequent RLS symptoms, children, or individuals with secondary RLS, including those with iron deficiency, end-stage renal disease, or pregnant

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**Restless leg syndrome**
*continued from page 22*

women or those intending to become pregnant.

No high-quality data was found on the comparative effectiveness and risks of commonly used treatments and non-drug interventions such as exercise, limb massage, hot or cold baths, avoiding caffeine and alcohol, acupuncture, or cognitive behavioral therapy; or the effect of patient or RLS characteristics on outcomes. More research is needed to determine whether treatment benefits observed in short-term studies are maintained, and whether the therapies are tolerated long term. These findings can be found in the research review *Treatments for Restless Legs Syndrome*. This and other reviews can be found on AHRQ's Effective Health Care Program Web site at www.effectivehealthcare.ahrq.gov. ■

## More evidence is needed on biomarkers to detect iron deficiency anemia in CKD patients

A new research review from AHRQ evaluates the evidence on the comparative effectiveness and accuracy of using different biomarkers to identify iron deficiency anemia. The review found that no single laboratory test looking at biomarkers of iron status is adequate to determine iron deficiency, and more evidence is needed to determine the comparative accuracy of various biomarker combinations for diagnosing iron deficiency.

A low level of evidence suggested that two tests measuring newer biomarkers (hemoglobin content in reticulocytes [CHr] and percentage of hypochromic red blood cells) better predict responses to intravenous (IV) iron treatment than classical markers (e.g., transferrin saturation or ferritin) in patients with chronic kidney disease undergoing hemodialysis.

Some trials suggested that managing patients' iron levels by testing CHr may reduce the number of tests and IV iron treatments required compared to the use of classic biomarkers to guide treatment. However, there is insufficient evidence about the potential harms associated with these tests. Overall, the strength of evidence supporting these conclusions is low, particularly related to children and non-hemodialysis patients, and there is considerable clinical uncertainty regarding the use of newer biomarkers in the assessment of iron status and management of iron deficiency in patients with stages 3–5 chronic kidney disease.

Chronic Kidney disease currently affects 26 million people and anemia is a common side effect of the disease, so it is important to continue to study the most effective way to identify iron deficiency. Download and read *Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease*. This and many other materials are available on AHRQ's Effective Health Care Program Web site at www.effectivehealthcare.ahrq.gov. ■

### Hospital inpatient care spending averages over $4,000 a day

Spending on hospital inpatient care in 2010 averaged $4,221 a day or $13,131 for the entire hospital stay from all sources of payments, according to AHRQ statistical Medical Expenditure Panel Survey Statistical Brief #401, *Expenses for Hospital Inpatient Stays, 2010*. You can access the brief at http://meps.ahrq.gov/mepsweb.

### Average Hospital stay expense reaches nearly $18,000

Only 7 percent of Americans were hospitalized in 2010, but the average expense per hospital stay was almost $18,000, according to AHRQ Medical Expenditure Panel Survey Statistical Brief #396, *National Health Care Expenses for the U.S. Civilian Noninstitutionalized Population, 2010*. You can access the brief at http://meps.ahrq.gov/mepsweb.

### Medical care spending to treat adults for heart disease reached nearly $96 billion in 2009

Medical care spending to treat adults for heart disease totaled nearly $96 billion in 2009, with hospital stays accounting for more than half the cost, according to AHRQ's Medical Expenditure Panel Survey Statistical Brief #393, *Expenditures for Heart Disease Among Adults Age 18 and Older: Estimates for the U.S. Civilian Noninstitutionalized Population, 2009*. You can read the brief at http://meps.ahrq.gov/mepsweb.

### Hospital admissions rise for knee replacements due to osteoarthritis

The number of hospital admissions per quarter for first-time knee replacements due to osteoarthritis will reach 176,000 by the end of 2012, or 704,000 for the entire year, compared with 104,000 per quarter in 2004 or 416,000 for that entire year, according to projections from AHRQ's Healthcare Utilization Project (HCUP). You can find more details in *HCUP Projections: Mobility/Orthopedic Procedures 2011 to 2012* at http://go.usa.gov/2nhh. ■

## AHRQ toolkit can help hospitals lower preventable readmissions

Every year millions of patients are readmitted to hospitals, and many of those stays could have been prevented. The Re-Engineered Discharge (RED) Toolkit funded by AHRQ can help hospitals reduce readmissions rates by replicating the discharge process that resulted in 30 percent fewer hospital re-admissions and emergency room visits.

Developed at Boston University Medical Center, the newly expanded toolkit provides guidance to implement the RED process for all patients, including those with limited English proficiency and from diverse cultural backgrounds. By helping hospitals plan and monitor the implementation of the RED process, the new toolkit ensures a smooth and effective transition from hospital to home. You can download the toolkit at http://go.usa.gov/2Q3d. To order copies of the instructional manual, contact the AHRQ Publications Clearinghouse at AHRQPubs@ahrq.hhs.gov or call 1-800-358-9295. ■

## Initiative shows how health IT can advance patient-centered care

Health information technology (IT) can be effectively used to deliver patient-centered care and improve relevant outcomes, according to a new AHRQ-funded report that highlights findings and lessons from the Enabling Patient-Centered Care through Health IT Grant Initiative. However, the effectiveness of these interventions is impacted by how well they are designed and implemented, and the extent to which the intervention addresses the unique needs of diverse patient populations. Grantees studied different approaches for using technologies to create or enhance the delivery of patient-centered care in ambulatory care settings. All of the studies examined ways to improve patient self-management, defined as patients' skills and confidence to manage their own health. In addition, 10 projects explored ways to provide patients, their caregivers, or providers access to medical information. You can read the report or access a brief video that highlights the research of Dr. James Mold at http://healthit.ahrq.gov/portal/server.pt. ■

## Guide to clinical preventive services now available

The 2012 *Guide to Clinical Preventive Services* is now available. The guide includes updated recommendations from the U.S. Preventive Services Task Force on clinical preventive services such as screening, counseling, and preventive medications from 2002 through March 2012. This edition also includes information on topics in development, background about the Task Force, at-a-glance clinical summary tables, and additional resources. You can access and download or order a free print copy of the guide at www.ahrq.gov/legacy/clinic/pocketgd.htm. ■

## AHRQ publishes first evaluation highlight on CHIPRA quality demonstration grant program

AHRQ's Evaluation Highlight No. 1 reports on the early accomplishments, challenges, and lessons learned on practice-level quality measurement and reporting from four States that received grants to improve health care quality under the Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA). AHRQ is leading a national evaluation of the CHIPRA Quality Demonstration Grant Program, which provided funds to 18 States to improve the quality of health care for children enrolled in Medicaid and CHIP. This report is the first in a series of reports that will present descriptive and analytic findings from the national evaluation. A supplemental report provides detailed descriptions of the approaches taken by the four States (Maine, Massachusetts, North Carolina, and Pennsylvania) featured in the Evaluation Highlight. You can access the reports at http://go.usa.gov/2Qxe. ■

## AHRQ free online tutorials teach how to use HCUP data

AHRQ's series of free, online HCUP (Healthcare Cost and Utilization Project) tutorials helps health services researchers, students, and data analysts use record-level data effectively from the Nationwide Inpatient Sample, Kid's Inpatient Database, and Nationwide Emergency Department Database. The Multiyear Analysis Tutorial is the latest course in this series. The five other tutorials provide an overview of HCUP data, tools, and products; sample design; loading and checking data; calculating standard errors; and producing national estimates. Each course is modular, thereby enabling the user to either move through the entire course or access selected parts. To access the HCUP Online Tutorials, go to www.hcup-us.ahrq.gov/overviewcourse.jsp. For more information about HCUP, go to www.hcup-us.ahrq.gov/overview.jsp. ■

## New guide available for developing observational comparative effectiveness research

AHRQ's Effective Health Care Program has released a new publication entitled *Developing a Protocol for Observational Comparative Effectiveness Research: A User's Guide*. This 11-chapter guide serves as a resource for researchers developing observational comparative effectiveness research (CER) studies and working with stakeholders in designing patient-centered health studies. The user's guide identifies best practices for designing observational CER studies and provides guidance on the review of study protocols with checklists in each chapter. Topics in this new user's guide include but are not limited to developing study objectives and questions, study design, data sources, and analysis. In addition, a collection of 12 training modules in PowerPoint format, aligned with each chapter, are also available to expand training and education for graduate students and other researchers in these best practices.

Both the user's guide and training modules are free from the EHC Program. Free printed copies of the User's Guide may be ordered by email from the AHRQ Clearinghouse, publication 12(13)-EHC099. ■

## National Quality Strategy offers free communications toolkit

The National Quality Strategy (NQS), called for in the Affordable Care Act and led by HHS in cooperation with AHRQ, is offering a new toolkit to support the activities of private and public organizations in advancing its mission. The toolkit contains links to factsheets that can be printed and distributed, blogs and social media announcements, and a briefing slide set. Organizations can use these materials to develop messages that align with NQS aims and priorities. You can access the NQS toolkit at www.ahrq.gov/workingforquality. ■

## Register for April 25-26 Conference on Health Disparities Research at the Intersection of Race, Ethnicity, and Disability

An AHRQ-sponsored national conference, to be held April 25–26 in Washington, DC, will bring together researchers, advocates, and policymakers to share information and discuss racial, ethnic, and disability-related disparities. Attendees will learn about barriers to health care and health promotion for people with disabilities in underserved racial and ethnic groups, share research work on the intersection of racial/ethnic disparities and disabilities, and discuss priorities for future research and action. The conference is sponsored by AHRQ, the Association of University Centers on Disabilities, and the Special Hope Foundation. You can register for the conference at www.ohsu.edu/xd/research/centers-institutes/institute-on-development-and-disability/public-health-programs/project-intersect/index.cfm. ■

## Register for May 3 Conference on Advancing Quality Improvement Science for Children's Healthcare Research

Register today for the American Pediatric Association's third annual conference on pediatric quality improvement methods, research, and evaluation. Individuals with interest and/or experience in how to conduct, evaluate, apply, or interpret quality improvement research should attend. CME credit is available. This AHRQ-funded meeting will be held on May 3 in Washington, DC. You can register for the conference at www.academicpeds.org/Elink/APA_QI_Conference_Registration_Packet.pdf. ■

## Register for May 8 HCUP Data Users' Workshop

AHRQ is conducting a full-day, instructor-led, hands-on workshop to provide participants with experience working with Healthcare Cost and Utilization Project (HCUP) resources. The May 8 workshop will give in-depth exposure to several HCUP databases and tools. Faculty will be available for consultation on how HCUP data can support participants' research interests. Instructional and reference materials will be distributed and discussed.

**Target Audience:** This is an intermediate-level workshop designed for health services researchers and analysts who want to learn how to improve their use of HCUP databases and products. Individuals interested in learning more about the HCUP State databases and conducting revisit and readmission analyses would benefit from this workshop.

**Course Content:** The course will contain a brief overview of HCUP and a demonstration of HCUPnet—a free online querying tool that provides instant access to HCUP statistics. Faculty will then present step-by-step instruction on working with HCUP databases to conduct revisit analyses with HCUP data. Participants will use computers loaded with subsets of HCUP State Inpatient Databases and State Emergency Department Databases, and will run SAS programs on the HCUP databases. All SAS programs will be provided. Faculty will cover the basics of loading data files and progress to more advanced topics.

**Prerequisites:** Given the nature and pace of this course, prior experience with large administrative databases is encouraged. Experience with HCUP databases is helpful. It is highly recommended that attendees review the HCUP Online Overview Course prior to the workshop: https://www.hcup-us.ahrq.gov/overviewcourse.jsp. Prior familiarity with statistical software packages such as SAS is also recommended.

**Registration Details:** Deadline is April 29, 2013 (or until maximum number is reached); fee: no charge; date & time: Wednesday, May 8, 2013 from 9:00 a.m. – 4:00 p.m. ET; location: AHRQ Conference Center – 540 Gaither Road, Rockville, MD 20850. Registration details are available on HCUP-US at http://hcup us.ahrq.gov/hcup_workshop.jsp. ■

**Alexander, G.C., Kruszewski, S.P., and Webster, D.W. (2012, November). "Rethinking opioid prescribing to protect patient safety and public health." (AHRQ grant HS18960). *Journal of the American Medical Association* 308(18), pp. 1865-1866.**
The authors believe that the substantial increase in the nonmedical use of opioids, along with the accompanying rise in the numbers of fatal drug overdoses, is a predictable effect of substantial increases in the prescribing of these medications. They call for changes in prescribing practices to reverse what has become a pervasive epidemic leading to widespread morbidity, mortality, and community strife.

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**Bowblis, J.R., Crystal, S., Intrator, O., and Lucas, J.A. (2012). "Response to regulatory stringency: The case of antipsychotic medication use in nursing homes." (AHRQ grant HS16097). *Health Economics* 21, pp. 977-993.**
This study found that nursing homes increased their use of antipsychotics, but that the rate of increase varied significantly by State, consistent with the general trend in antipsychotic use from 2000 to 2005. Although case mix partly explains the rise in the use of antipsychotics, an important factor is the variation in the deficiency citation rates across States.

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**Carlos, R.C., Buist, D.S.M., Wernii, K.J., and Swan, J.S. (2012). "Patient-centered outcomes in imaging: Quantifying value." (AHRQ grant HS19482). *Journal of the American College of Radiology* 9, pp. 725-728.**
This article describes the role of the newly created Patient-Centered Outcomes Research Institute with particular emphasis on the need for such research in radiology. The authors argue that patient-centered outcomes research in radiology should focus on patients' experiences of care beyond traditional measures of patient satisfaction. They encourage radiologists across the practice spectrum to participate in studies demonstrating imaging as a high-value service in the patient-centered care arena.

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**Carpenter, W.R., Meyer, A.M., Abernethy, A.P, and others. (2012). "A framework for understanding cancer comparative effectiveness research data needs." (AHRQ Contract No. 290-05-0040). *Journal of Clinical Epidemiology* 65, pp. 1150-1158.**
The authors reviewed prevalent data models and incorporated feedback from cancer comparative effectiveness research (CER) and outcomes researchers to develop a conceptual model for examining secondary data in cancer CER. Their model provides a template for informing future data collection and method development efforts relevant to not only secondary data but also prospective research.

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**Cleary, P.D., Crofton, C., Hays, R.D., and Horner, R. (2012). "Introduction." (AHRQ grants HS16978, HS16980). *Medical Care* 50(11) suppl 3, p. S1. Reprints (AHRQ Publication No.13-R030) are available from AHRQ.***
This article introduces a special issue focusing on recent work by Consumer Assessment of Healthcare Providers and Services (CAHPS) researchers. Specific subjects include how experiences with Medicare Part D insurance varies by race and ethnicity and whether cultural competence among hospital staff is associated with better patient experiences. Also included is a section on reporting the results from CAHPS surveys and using CAHPS data for quality improvement.

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**Courtwright, S.H., Stewart, G.L., and Ward, M.M. (2012). "Applying research to save lives: Learning from team training approaches in aviation and health care." (AHRQ grant HS18396). *Organizational Dynamics* 41, pp. 291-301.**
As with aviation, many health care professionals and government officials agree that teamwork is one of the most important ways to curb errors. TeamSTEPPS®, like Crew Resource Management (used in aviation), is an evidence-based framework and training approach to improving care safety through teamwork. The authors discuss barriers to implementing this type of approach in health care as well

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as implementation solutions to overcome these barriers.

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**Dimick, J.B., Staiger, D.O., Osborne, N.H., and others. (2012, November). "Composite measures for rating hospital quality with major surgery." (AHRQ grant HS17765). *HSR: Health Services Research* 45(7), pp. 1862-1879.**

The researchers investigated the value of empirically weighted composite measures for assessing surgical performance. They found that several input measures explained much of the hospital-level variation in risk-adjusted mortality, but the relative importance of each measure varied across each of five major surgical procedures. Composite measures combining hospital volume, risk-adjusted mortality, and structural measures such as nurse-to-patient ratios were better at forecasting future performance than existing quality indicators.

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**Dyer, N., Sorra, J.S., Smith, S.A., and others. (2012, November). "Psychometric properties of the Consumer Assessment of Healthcare Providers and Systems Clinician and Group Adult Visit Survey." (AHRQ Contract No. 290-07-10024, grants HS16978, HS16980). *Medical Care* 50, pp. S28-S34.**

The Consumer Assessment of Healthcare Providers and Systems Clinician and Group Survey (CG-CAHPS) was developed to assess patient experiences with ambulatory care. The researchers evaluated the reliability and hypothesized factor structure of the CG-CAHPS Adult Visit Survey using data submitted to the CG-CAHPS database. They found that the survey has acceptable psychometric properties at the individual level and practice-site level.

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**Fawale, O.A., Dy, S.M., Wilson, R.F., and others. (2012). "A systematic review of communication quality improvement interventions for patients with advanced and serious illness." (AHRQ Contract No. 290-07-10061). *Journal of General Internal Medicine* [Epub ahead of print].**

In their review, the authors found that communications in the care of patients with advanced and serious illness can be improved using quality improvement interventions, particularly for health care use as an outcome. Interventions using a consultative as opposed to an integrative approach may be more effective.

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**Frentzel, E.M., Sangl, J.A., Evensen, C.T., and others. (2012). "Giving voice to the vulnerable. The development of a CAHPS Nursing Home Survey measuring family members'experiences." (AHRQ grant HS13193). *Medical Care* 50, pp. S20-S27. Reprints (AHRQ Publication No. 13-R026) are available from AHRQ.***

The researchers describe the development of a survey to measure family members' experiences with nursing homes. This survey complements a related nursing home resident survey. The paper discusses the procedures that were used, the issues that were identified, and the bases on which candidate questions were developed, eliminated, retained, or revised to finalize the Consumer Assessment of Healthcare Providers and Systems Nursing Home Surveys: Family Member Instrument.

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**Gagne, J.J., Walker, A.M., Glynn, R.J., and others. (2012). "An event-based approach for comparing the performance of methods for prospective medical product monitoring." (AHRQ grant HS18088). *Pharmacoepidemiology and Drug Safety* 21, pp. 631-639.**

Many stakeholders are currently developing and testing methods for medical product safety monitoring systems, but little attention has been paid to how such methods should be evaluated. The authors propose an event-based classification approach that explicitly accounts for the accuracy in alerting, the timeliness in alerting, and the trade-offs between the false-negative and false-positive alerting.

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**Martino, S.C., Kanouse, D.E., Elliott, M.N., and others. (2012, November). "A field experiment on the impact of physician-level performance data on consumers' choice of physician." (AHRQ grant HS16980). *Medical Care* 50(11) suppl 3, pp. S65-S73.**

A Michigan-based health plan introduced an online primary care provider (PCP) report that displays clinical quality data and patients' ratings of their experience with PCPs on a public Web site. A study comparing the responses of plan members who received added encouragement (a letter and follow-up phone call) to use the report with those who did not found that although those receiving additional encouragement selected PCPs with

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higher patient experience ratings, this difference was not explained by their greater likelihood of accessing the online report.

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**McInnes, D.K., Brown, J.A., Hays, R.D., and others. (2012, November). "Development and evaluation of CAHPS questions to assess the impact of health information technology on patient experiences with ambulatory care." (AHRQ grants HS16978, HS16980). *Medical Care* 50(11) suppl 3, S11-S19.**
The Consumer Assessment of Healthcare Providers and Systems Clinician and Group 1.0 Survey is used to measure patient experiences with ambulatory care, but it does not include health information technology (IT) questions. The authors developed health IT items and assessed their psychometric properties. The resulting items, and the 3 composites they formed, assess patients' experiences when the doctor uses health IT and patients' direct interactions with health IT.

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**Memtsoudis, S.G., Mantilla, C.B., Parvizi, J., and others. (2013). "Have bilateral total knee arthroplasties become safer?" (AHRQ grant HS01675). *Clinical Orthopedics and Related Research* 471, pp. 17-25.**
Younger and healthier individuals are increasingly likely to undergo bilateral total knee arthroplasty (TKA) in an effort to reduce complications, but it remains unclear whether this development has reduced overall perioperative morbidity and mortality. Using data between 1999 and 2008, the researchers determined whether demographics and comorbidity patterns of patients undergoing TKAs changed with time, and if there were detectable changes in the length and cost of hospitalization or the in-hospital mortality rate and incidence of major complications.

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**Morrato, E.H., and Ling, S.H. (2012, November). "The drug safety and risk management advisory committee. A case study of meeting frequency, content, and outcomes before and after FDAAA." (AHRQ grant HS19464). *Medical Care* 50(11), pp. 970-986.**
The Food and Drug Administration Amendments Act (FDAAA) of 2007 granted FDA expanded drug safety authority. After enactment, the annual number of meetings of the Drug Safety and Risk Management Committee doubled due to the increased focus on safety. FDA questions to the committee were more likely to request an explicit drug safety assessment after FDAAA (from 31 percent to 76 percent of meetings).

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**Nembhard, I.M., Northrup, V., Shaller, D., and Cleary, P.D. (2012, November). "Improving organizational climate for quality of care." (AHRQ grants HS16978, HS18987). *Medical Care* 50(11), suppl 3, S74-S82.**
This study of 21 clinics, 4 of which participated in a collaborative to improve quality of care, found that collaborative membership did not offer an advantage compared with other activities that nonparticipating clinics used to improve their quality-oriented climate. All study clinics seem to have pursued equally effective, organizational climate improvement efforts once they had received their baseline Leading a Culture of Quality Survey results.

**O'Connor, S.S., Zatzick, D.F., Wang, J., and others. (2012, June). "Association between posttraumatic stress, depression, and functional impairments in adolescents 24 months after traumatic brain injury." (AHRQ grant T32 HS13835). *Journal of Traumatic Stress* 25, pp. 264-271.**
Little research has examined the association between posttraumatic stress, depression, and functional impairments in adolescents 24 months after traumatic brain injury (TBI). A new study of adolescents 14–17 years of age with mild TBI without intracranial hemorrhage finds that they reported significantly worse post traumatic stress disorder (PTSD) compared with those who experienced an arm injury only. Greater levels of PTSD syndrome were associated with poorer school functioning.

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**Patterson, B.J., Doucette, W.R., Lindgren, S.D., and Chrischilles, E.A. (2012). "Living with disability: Patterns of health problems and symptom mediation of health consequences." (AHRQ grant HS16094). *Disability and Health Journal* 5, pp. 151-158.**
This study found that adults with disability reported significantly greater prevalence and frequencies for 21 commonly reported symptoms, with pain and fatigue being the most common. The indirect effect through cumulative symptom frequency explained roughly half of the total effect of disability on general health status, and about one-third of the total effect on physical functioning. ■

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