



RESEARCH ACTIVITIES

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State Medicaid policy changes increasingly driven by evidence

Faced with shrinking State and Federal budgets and rising health care costs, Medicaid medical directors struggle each day to make policy decisions they hope will improve the care of the 62 million low-income children and adults insured by State Medicaid programs. The problems they face are many and often vary from state to state.

For example, Medicaid patients are 70 percent more likely to be readmitted to the hospital within a month of their initial hospitalization than their privately insured counterparts. These are



Members of the Medicaid Medical Directors Learning Network collaborate.

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costly and often preventable readmissions.

Medicaid also pays for the delivery of nearly half the newborns in the United States and delivery costs are skyrocketing. Cesarean section rates have jumped 50 to 75 percent across many States in just the past year. Rates of elective deliveries and elective deliveries prior to term are also rising fast, creating health problems for infants in many cases and higher costs.

States must also figure out how to manage the care of very complex patients who have serious mental illness, one or more chronic medical conditions such as diabetes, and substance abuse problems. These hard-to-treat

patients—some of whom may visit the emergency department 100 or more times in a year—comprise 5 percent of the Medicaid population, but 50 percent of its costs. Integrating mental health and primary care is one approach States are looking at to manage this group.

Balancing quality, cost, and access

“As Medicaid medical directors, we’re trying to balance care quality, cost, and access,” notes Jeffrey Thompson, M.D., chief medical officer for the Health Care Authority of Washington State. “If

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From the Director



the health care safety net for low-income adults, mothers, and children; individuals with disabilities; and low-income elders. Due to the current economic downturn, State Medicaid rolls are rapidly expanding. Yet Federal and State budgets are shrinking, forcing State Medicaid medical directors to wrestle with tougher challenges.

The Agency for Healthcare Research and Quality (AHRQ) began funding the Medicaid Medical Director's Learning Network (MMDLN) in 2005 to provide a forum for medical directors to address evolving

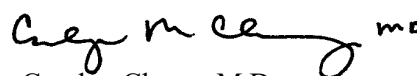
challenges and hear about solutions that may work in their State or could be adapted for their State. We were also interested in learning from them where AHRQ research investments were most needed to improve quality and value for Medicaid beneficiaries.

In the MMDLN, medical directors discuss mutual problems and agree on which ones they have the resources to tackle. In many cases, States that have data on a problem and the staff to analyze it form a group to look at the problem, like the 16 States who examined rehospitalization rates discussed in the cover story.

The medical directors use research evidence from these State studies, AHRQ patient-centered outcomes research, and AHRQ data sources such as the Health Care Cost and

Utilization Project (HCUP) to change practices and inform policy decisions.

For example, individual States can use data from HCUP to identify which hospitals in their State have higher readmission or c-section rates to pinpoint where improvements are needed. They can find out approaches to reduce those rates through MMDLN discussions and resources. In some cases, the solution can be a policy change; in others, it may be a change in care delivery or coordination. The goal is better, more efficient and appropriate care for our most vulnerable citizens.


Carolyn Clancy, M.D.

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you have to cut things, how do you do it in a way that doesn't hurt people and that doesn't lead to unintended consequences and that will bring value?"

Medicaid medical directors from 48 member States, including the District of Columbia,* study these problems and share best practices through the Medicaid Medical Directors Learning Network (MMDLN) that has been funded by AHRQ since 2005. Through the Network they discuss mutual problems, conduct studies, and share solutions to problems.

They also learn about and use AHRQ resources to study and find solutions to many problems. AHRQ resources include patient-centered outcomes research that compares diagnostic and treatment approaches to a wide range of medical conditions, assessments of medical technologies, and databases such as the Healthcare Cost and Utilization Project (HCUP), which details hospital costs and use patterns in each State.

"Using data to drive best practices is a big home run for the MMDLN," asserts Thompson. "The MMDLN has had a huge impact on Washington State's Medicaid policy due to sharing of research evidence and best practices... Through the Network you can probably find someone that has figured out how to address a problem your State has. It's very difficult for you to do that all by yourself."

Tackling preventable hospital readmissions

One problem the Network is focusing on is hospital readmissions. An average of 8

"Using data to drive best practices is a big home run for the MMDLN"

percent of adult Medicaid patients who were hospitalized in 2009 for a medical condition other than childbirth had to be readmitted within 30 days of their initial hospital stay that year, according to a 16-State study by the MMDLN. The readmission rate for each of the 16 participating States varied from 5.8 to 15.2 percent, for an average readmission rate of 8.3 percent. The average hospital payment for 30-day readmissions amounted to \$83,263,557 or 14 percent of the total Medicaid payment for acute hospital care.

Why are Medicaid patients 70 percent more likely to be readmitted to the hospital than their privately insured counterparts? "Some of it is the burden of illness issue," explains Judy Zerzan, M.D., chief medical officer for Colorado Medicaid. "This group tends to have more physical and behavioral health problems. Also, the Medicaid population is a low-income group, so they don't necessarily have the resources needed for care—for example, the ability to pay for support at home after a hospitalization, equipment needed for care, or the ability to travel to care. Access is also difficult because not all providers take Medicaid, so it can be hard to find a primary care provider and even harder to find a specialist in some areas. All these things together make a perfect storm for rehospitalization."

Zerzan and medical directors from 15 other States are examining the 2009 and 2010 data on

rehospitalizations they collected to see if there are any State policies, percentage of enrollees in managed care, or other factors that correlate with fewer rehospitalizations in States with lower numbers. The goal is to identify potential best practices other States can implement.

Some States are reworking policies based on the rehospitalization data to nudge hospitals to take action. For example, Colorado extended its nonpayment policy for hospital readmissions from 24 hours to 48 hours following the initial discharge. Pennsylvania extended its policy from 15 days to 30 days for readmissions related to the initial hospitalization. These were typically readmissions due to untimely discharge the first time, services that were not completed during the initial hospitalization, and complications due to the initial hospitalization such as surgical wound infections.

"We are very interested in where the rubber meets the road for interventions," David Kelley, M.D., chief medical officer in the Office of Medical Assistance Programs, Pennsylvania Department of Public Welfare, told *Research Activities*. "Our managed care organizations are meeting with hospitals, sharing information on their readmission rates and the financial implications, and asking them to work collaboratively to reduce preventable readmissions."

To tackle the problem, Colorado Medicaid developed a three-pronged program under an Accountable Care Collaborative to reduce readmissions. It includes seven Regional Care Collaborative Organizations, an umbrella group that provides care coordination,

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helps practices improve care, and facilitates connections to other community resources that impact health like housing, food, and transportation.

Primary care providers get a per-member per-month payment as an incentive to change practices to better coordinate care of Medicaid patients. The third part is a database that tracks the rehospitalization rates. Zerzan and colleagues share the data with hospitals and primary care providers so they can identify what could have been changed to prevent readmissions.

Says Zerzan, “Some readmissions can’t be helped. But there are others where there really is a gap in care, or something in transition of care that didn’t work that leads to readmissions. Those are the readmissions we are trying to stop.”

“Some readmissions can’t be helped. But there are others where there really is a gap in care, or something in transition of care that didn’t work that leads to readmissions.”

Zerzan says the MMDLN is critical to sharing what practices work and don’t. “We say that our informal motto at the MMDLN is ‘we share senselessly and steal shamelessly.’”

Reducing surgical and elective deliveries

Rates of surgical and elective deliveries and elective deliveries prior to term are soaring in the

United States. Medical directors in the MMDLN are sharing approaches to deter these practices. Washington, Ohio, and Pennsylvania Medicaid have used AHRQ’s research reviews on cesarean sections and elective delivery to drive change. Using these resources and a quality assessment approach, Washington Medicaid reduced preterm elective delivery by 65 percent in the past year.

Says Thompson, “People used to think that delivering a child between 37 and 39 weeks was safe and what we’re finding out is that you really do want to wait until the woman is term because the [infant’s] brain is bigger, the lungs are bigger, the immune system is better, the child is more developed and has more fat to keep itself warm.”

Ohio Medicaid used AHRQ’s evidence report, *Maternal and Neonatal Outcomes of Elective Induction of Labor*, to refine clinical policy and improve health outcomes for Medicaid mothers and infants. Using the report’s information and expertise, Ohio Medicaid’s Neonatal Transformation Team reduced the induction of labor without clear medical indication in near-term infants by 40 percent over an 18-month period in 20 maternity hospitals. This reduction equated to a shift of more than 8,300 infants from near-term to full-term, preventing nearly 200 neonatal intensive care unit admissions and some infant deaths, and resulting in a reduction in unplanned cesarean delivery rates.

“Reducing cesarean [deliveries] was not our primary intent, but reducing elective deliveries without

clear medical indication did result in a modest reduction of those rates,” notes Mary Applegate, M.D., medical director of Ohio Medicaid.

Pennsylvania Medicaid drew on research from the AHRQ Evidence Report/Technology Assessment, *Cesarean Delivery on Maternal Request*, which detailed appropriate and inappropriate reasons for cesarean deliveries, to change payment policies to managed care organizations for cesarean deliveries.

Pennsylvania’s c-section rate is 29 percent. Says Kelley, “In setting our rates for our managed care plans, we decided to pay for up to 25 percent of primary c-sections to the managed care plans. Any primary c-sections beyond that would be paid at the vaginal delivery rate.”

After 2 to 3 years of this approach, the State Medicaid program did not see a reduction, but it also didn’t see an increase in c-sections. “We had discussions with the six academic institutions that deliver about 95 percent of the babies in southeastern Pennsylvania. We’ve had all six OB [obstetric] chairs at the table with our managed care plans to discuss better care management and reducing inappropriate early inductions and c-sections.”

What’s driving early induction of labor and c-sections? Kelley says he can only speculate, but presumes the malpractice issue associated with OB care in the State is a particularly sensitive issue within the OB community. “I don’t know if the concern about malpractice drives a low tolerance for natural delivery to progress, but that

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certainly may be a factor. I have been told the malpractice premium rates for OBs in southeastern Pennsylvania are on average close to \$220,000 a year.”

“I don’t know if the concern about malpractice drives a low tolerance for natural delivery to progress, but that certainly may be a factor.”

Integrating mental health with primary care

Pennsylvania Medicaid also piloted a program to tackle the care of patients with serious mental illness based on information in an AHRQ report, *Integration of Mental Health/Substance Abuse and Primary Care*, which described successful and unsuccessful approaches to integration.

They piloted with the Center for Health Care Strategies a pay-for-performance program from 2009 to 2011 in collaboration with select counties, behavioral health and physical health managed care organizations (MCOs), and consumers.

To get the incentive payments, MCOs had to perform four tasks. They had to categorize individuals with serious mental illness, work with counties and health plans to develop a care plan for members, and notify each other within one business day if a patient had been hospitalized and work with patients to ensure they did not land back in the hospital. They also had to notify a prescriber of an atypical antipsychotic that a patient hadn’t refilled a prescription within a few business days.

In the second year of the program, half of the incentive money was set aside for two outcomes: hospital admissions and emergency department (ED) visits. A preliminary analysis of the data indicates significant reductions in both hospitalizations and ED visits for this difficult-to-manage group.

Pennsylvania and other States are also trying co-location of physical and mental health services in one place, having federally qualified health centers provide mental health services, and, as they are doing in Washington, training staff in primary care practices to assess and measure depression and anxiety in patients.

“I think there needs to be a lot

more research and understanding about how to manage across chronic mental and medical health conditions and substance use,” notes Thompson. “This is the 5 percent group that incurs 50 percent of Medicaid costs. I think everyone’s trying to figure out how to run the medical home so you can provide access to quality, affordable health care. However, it’s still in the early stages of our understanding, especially with seriously mentally ill children and adults. How do you take care of a patient with schizophrenia, diabetes, and alcoholism? It’s not just about putting a primary care doc in a mental health setting or a mental health professional in a primary care setting.” ■

***Editor’s note:** The MMDLN is open to all Medicaid medical directors and clinical leaders who advise them. AHRQ funding for the MMDLN supports in-person meetings, Web conferences, and other activities that help the members use evidence-based research findings to make policy decisions. For more information on the MMDLN, go to www.ahrq.gov/news/kt/mmdl.htm.

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.

Acute Care/Hospitalization

Outcomes of trauma patients depend heavily on whether recommended practices are followed

Traumatic injuries place patients at increased risk for death and disability, not to mention the high costs associated with the high-tech care these individuals receive. Traumatic injuries represent the fifth most common cause of death overall in the United States and the leading cause of death in those younger than 45 years old. A set of quality indicators for trauma care has been developed by the American College of Surgeons. In a recent study, researchers found a direct correlation between these best practices of care and patient outcomes. Better performance on six quality indicators was associated with lower rates of mortality or major complications.

For example, not performing surgery on abdominal gunshot wounds was associated with a five-fold increase in mortality. Patients with head trauma who did not receive a computerized tomographic scan had a four-fold increase in mortality and a three-fold increase in major complications. Patients with femoral fractures who did not have fixation were also found to have significant increases in mortality and major

complications. Interestingly, the researchers found that 40 percent of patients transported to the hospital by air or ground ambulance had a missing ambulance record. Another 28 percent of patients had missing emergency department hourly documentation of vital signs. However, there was no association found between incomplete documentation and worse outcomes.

These findings were based on analysis of data on 210,942 patients who were admitted to 35 trauma centers in Pennsylvania between 2000 and 2009. Blunt trauma, motor vehicle collisions, and low falls were the three leading causes of injury. Overall, the mortality rate was 6.3 percent and the major complication rate was 7.2 percent. The study was supported by the Agency for Healthcare Research and Quality (HS16737).

See “Association between trauma quality indicators and outcomes for injured patients,” by Laurent G. Glance, M.D., Andrew W. Dick, Ph.D., Dana B. Mukamel, Ph.D., and Turner M. Osler, M.D., in the April 2012 *Archives of Surgery* 147(4), pp. 308-315. ■ KB

Patients hospitalized for burn injuries in New York have comparable outcomes at major burn centers

A patient treated for burns at any of nine high-volume New York hospitals (facilities that treat more than 100 hospitalized burn patients annually) have very similar death rates, after adjusting for other factors, according to a new study. Each year, 40,000 people in the United States are hospitalized for burn injuries and 1,000 of them die from their injuries. Most burn patients are treated at specialized hospital burn centers. This study of burn patients hospitalized between 2004 and 2008 found that nine high-volume hospitals cared for 83 percent (10,878) of the State's burn patients; the remaining 185 hospitals cared for 2,235 patients (an average of 8 burn patients a year each).

The overall mortality rate in New York State for patients hospitalized with burns was 3.2 percent for this period (3.7 percent in the high-volume hospitals, 1.0 percent in the low-volume hospitals). Although crude mortality rates at the high-volume hospitals ranged from 2–6.5 percent, after adjusting for other factors affecting likelihood of dying, the mortality rates were similar at 1 percent among all the centers. When the remaining low-volume hospitals were treated as a single “hospital,” the adjusted mortality rates was 0.43. This confirmed the researchers’ suspicion that the low-volume hospitals were only treating less serious burn cases.

The researchers used data from the New York State Statewide Planning and Research Cooperative System, but excluded patients with nonthermal burn injuries due to lightning and electrical or chemical accidents. This study was funded in part by the Agency for Healthcare Research and Quality (HS16737).

More details are in “Comparison of hospital mortality rates after burn injury in New York State: A risk-adjusted population-based observational study,” by Turner Osler, M.D., M.Sc., Laurent G. Glance, M.D., and David W. Hosmer, Ph.D., in the October 2011 *Journal of Trauma® Injury, Infection, and Critical Care* 71(4), pp. 1040-1047. ■ DIL

Medicare managed care reduced preventable hospitalizations in 2004 more than fee-for-service Medicare

Medicare beneficiaries enrolled in Medicare Advantage (MA) managed care plans in three States during 2004, when HMOs dominated the market in those States, had lower risk of preventable hospitalizations than Medicare fee-for-service (FFS) beneficiaries. Preventable hospitalizations are those that can typically be avoided by quality primary care. These findings show the benefit of care coordination provided in Medicare HMOs and suggest their added value to the quality of primary care for the elderly in reducing preventable hospitalizations, note Jayasree Basu, Ph.D., M.B.A., of the Agency for Healthcare Research and Quality (AHRQ), and Lee

Rivers Mobley, Ph.D., of Research Triangle Institute International.

The researchers used 2004 hospital discharge files from AHRQ's Healthcare Cost and Utilization Project State Inpatient Databases. They found that MA beneficiaries in California, Florida, and New York had 22 percent, 16 percent, and 9 percent fewer preventable hospital admissions, respectively, than FFS beneficiaries. The evidence was mixed about the specialty referrals provided by MA plans. For example, the relative risk of hospitalization for referral-sensitive conditions versus marker conditions (urgent conditions insensitive to primary care) was 37 percent higher in New York and 41

percent higher in Florida for MA beneficiaries compared to FFS beneficiaries, but was 13 percent lower in California for MA than FFS beneficiaries. These findings suggest that maturity of MA plans and higher use control mechanisms are probably important for controlling such non-urgent hospital admissions.

More details are in "Medicare managed care plan performance: A comparison across hospitalization types," by Drs. Basu and Mobley in the *Medicare & Medicaid Research Review* 2(1), pp. E1-E20, 2012. Reprints (Publication No. 12-R061) are available from AHRQ.* ■ DIL

New study counters the urban legend that insurers won't cover patients who leave the hospital prematurely

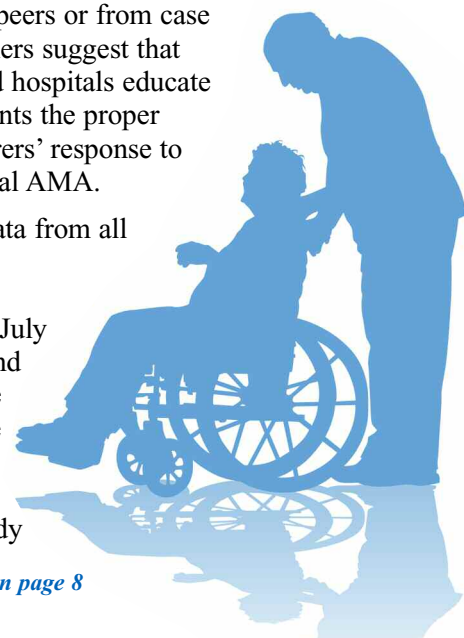
Nationally, 500,000 patients (1–2 percent) in the United States leave hospitals against medical advice (AMA) each year. Many of these patients are warned by their doctors that if they leave, they might have to pay their bills themselves. However, a recent study failed to find any hospital patient whose insurer refused to pay because the patient left against medical advice. The researchers sought to determine whether this course of action by insurers was real or represented an urban legend, primarily used to dissuade the patient from leaving the hospital. They found that, of 526 patients who left the medical center AMA over a 9-year period (1.1 percent of patients admitted during this period), insurance refused payment in 18 cases (4.1 percent), but no patient was refused payment because they left before discharge.

However, the researchers found in a June 2010 survey of 50 internal medicine residents and 41 attending physicians that a majority of the physicians (74 and 56 percent for residents and attending physicians,

respectively) believed that insurers will hold patients who leave the hospital AMA financially responsible. Most of the physicians reported that they learned this from their peers or from case managers. The researchers suggest that residency programs and hospitals educate physicians to give patients the proper information about insurers' response to them leaving the hospital AMA.

The researchers used data from all patients enrolled in the University of Chicago Hospitalist Study from July 2001 to March 2010, and surveyed a convenience set of internal medicine residents and attending physicians in the Chicago area. Their study

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Leaving the hospital

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was funded in part by a grant from the Agency for Healthcare Research and Quality (HS16967) to the Hospital Medicine and Economics Center for Education and Research on Therapeutics (CERT) at the University of Chicago. For more information on the CERTs program, visit www.certs.hhs.gov.

More details are in “Financial responsibility of hospitalized patients who left against medical advice: Medical urban legend?,” by Gabrielle R. Schaefer, B.A., Heidi Matus, M.D., John H. Schumann, M.D., and others in the *Journal of General Internal Medicine* 27, 2012. ■ *DIL*

Ways to reduce contrast-induced acute kidney injury from imaging procedures in patients with cardiovascular disease

Patients with cardiovascular disease frequently have radiographic procedures involving the use of infused radio-contrast agents. In 3–14 percent of patients, the use of these agents is associated with contrast-induced acute kidney injury (CI-AKI). Radio contrast has been hypothesized to cause AKI through direct toxicity and via hemodynamic changes. A new study has identified ways to reduce CI-AKI in patients with cardiovascular disease. When researchers looked at 10 Northern New England medical centers, they found a fivefold variation in the rates of CI-AKI. Centers with lower rates of CI-AKI were those

with strong clinical leadership and aggressive prophylaxis through volume expansion with fluids prior to the procedure.

For example, centers with lower rates of CI-AKI were more likely to bypass the nothing by mouth after midnight in favor of nothing by mouth 4 hours prior to the radiographic procedure and standardizing volume administration protocols in combination with administering three to four high doses of N-acetylcysteine (1200 mg) for each patient.

This study is part of an effort by the Northern New England

Cardiovascular Disease Study Group to evaluate the relationship of high-intensity quality improvement efforts on patient safety and CI-AKI. Their next step is to start a high-intensity quality improvement intervention. This study was supported in part by the Agency for Healthcare Research and Quality (HS19443).

See “How do centres begin the process to prevent contrast-induced acute kidney injury: A report from a new regional collaborative,” by Jeremiah R. Brown, M.D., Peter A. McCullough, M.D., Mark E. Splaine, M.D., and others in the *BMJ Journal of Quality and Safety* 21, pp. 54-62, 2012. ■ *MWS*

Discharge to skilled nursing facilities after a heart attack or heart failure explains little of variation in hospital readmissions

After a heart attack or heart failure, some patients are sent to skilled nursing facilities (SNFs) to take advantage of intensive monitoring and recuperation. Hospitals vary widely in how many of these patients they send to SNFs after hospitalization. Also, high rates of admission to SNFs had no substantial impact on 30-day readmission rates to hospitals, according to a new study.

The researchers reviewed claims data from fee-for-service Medicare patients admitted to a hospital with a heart attack or heart failure. From these data, rates of admission to SNFs were calculated as well as 30-day readmission rates to hospitals.

Hospital readmission rates were 24.7 percent for heart failure patients and 19.9 percent for heart attack patients. The rate of admission to a SNF ranged considerably

among various hospitals for both groups of patients. For heart failure patients, higher rates of SNF use were not associated with lower hospital readmission rates. Hospitals with high SNF usage rates for heart attack patients had higher readmission rates for these patients. However, this relationship was weak, with SNF rates explaining less than 4 percent of the variation in hospital readmission rates. Even hospitals with low readmission rates for both groups had high and low usage of SNFs. The study was supported in part by the Agency for Healthcare Research and Quality (HS18781).

See “Skilled nursing facility referral and hospital readmission rates after heart failure or myocardial infarction,” by Jersey Chen, M.D., M.P.H., Joseph S. Ross, M.D., M.H.S., Melissa D.A. Carlson, Ph.D., and others in the January 2012 *The American Journal of Medicine* 125(1), pp. 100.e1-100.e9. ■ *KB*

Patient Safety and Quality

New tool developed to reduce risks to patients during clinical handoffs

New restrictions on medical resident duty hours in hospitals may raise the risk of poor patient outcomes by increasing the number of handoffs between inpatient care providers. During the handoff process, physicians routinely use written sign-outs to convey important information to covering physicians, with the result being loss of information and decreased communication.

The least commonly conveyed information, according to one recent study, was the patient's current clinical condition. However, a new tool uses a simple score with potential to convey complex assessment of at-risk patients during clinical handoffs.

Researchers from the University of Chicago have developed a simple tool for quantifying provider judgment in order to

predict which floor patients may suffer cardiac arrest or emergency intensive care unit (ICU) transfer in the next 24 hours. The tool, called the Patient Acuity Rating (PAR), is a 7-point Likert scale to quantify clinician judgment regarding the stability of inpatients outside of the ICU.

Providers were prospectively surveyed once per call-cycle on the day after patient admission and asked to rate each of their patients on their likelihood of suffering a cardiac arrest or being transferred to the ICU.

PAR scores were obtained for 1,663 patients over the course of 2,019 admissions to a large academic medical center. The risk of clinical deterioration decreased as the PAR score got closer to 1 for all provider types (attending, resident, intern, and midlevel

providers). Attending physician judgment was most predictive and resident judgment the least predictive of clinical deterioration.

The researchers concluded that the PAR has the potential to be added to any handoff system as a way to convey individual severity of illness for patients. It also has potential use in risk stratifying patients for interventions, such as increased vital sign monitoring. This research was supported in part by the Agency for Healthcare Research and Quality (HS16967).

See "Patient acuity rating: Quantifying clinical judgment regarding inpatient stability," by Dana P. Edelson, M.D., Elizabeth Retzer, M.D., Elizabeth K. Weidman, B.A., and others in the *Journal of Hospital Medicine* 6, pp. 475-479, 2011. ■ MWS

Complications increase mortality of trauma patients

Trauma patients admitted to the hospital frequently have complications that contribute to morbidity and mortality. In a study of 409,393 trauma patients admitted to 159 California hospitals between 2004 and 2008, researchers identified 175,299 complications as contributing significantly to the deaths of these patients. Complications fell into 82 separate categories or conditions as defined by the International Classification of Diseases (ICD-9) and ranged from hyperosmolarity (increased concentration of bodily fluids, as in dehydration) to ventricular fibrillation (irregular heart beat).

Most complication-related mortality was due to 25 individual conditions. Each additional complication experienced by a patient increased mortality by 8

percent. If no complications had occurred, there would have been 7,292 fewer deaths, a 64 percent reduction in mortality.

A complication was defined as any ICD-9 code that accrued after hospital admission. A single complication (respiratory arrest) accounted for 9 percent of attributable deaths and only 8 complications accounted for 50 percent of the attributable deaths. On average, each patient experienced 0.4 complications, with 24 percent of patients experiencing 1 or more complications.

The researchers believe that they have derived the first empirical list of complications for trauma patients. They recommend that clinicians target complications

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Complications

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linked to the greatest number of deaths, perhaps with specific clinical protocols, to avert the greatest number of fatalities. This study was supported by a grant from the Agency for Healthcare Research and Quality (HS16737).

See “Complication-associated mortality following trauma. A population-based observational study,” by Turner Osler, M.D., Laurent G. Glance, M.D., and David W. Hosmer, Ph.D. in the *Archives of Surgery* 147(2), pp. 152-158, 2012. ■ MWS

Liver transplant patients who taper off or do not take corticosteroids after transplantation have better quality of life

Patients who undergo liver transplants show improved quality of life when they receive a drug regimen of immunosuppressant drugs that prevent organ rejection, and also reduce or avoid using corticosteroids for immune suppression, according to a new study. Corticosteroid treatment, used since the beginning of liver transplantation to prevent transplant rejection, can cause both physical problems, such as increased infections and metabolic disturbances, and mental health problems, including insomnia and behavioral and mood disturbances.

Newer antirejection protocols allow clinicians either to taper patients off corticosteroids or avoid their use altogether. To establish the impact of this approach on health-related quality of life (HRQOL), the researchers followed 186 adult patients who received liver transplants. They evaluated their HRQOL before

transplantation and at least once after the procedure—for a median of 14 months and up to 6 years after transplantation. Most of the patients (81 percent) had post-transplant HRQOL reported at least twice, depending on the length of followup.

High-dose steroid use (at least 10 mg/day of prednisone or prednisone equivalents) following transplantation was significantly associated with lower scores on the physical component survey (PCS) and mental component survey (MCS), which contribute to a lower overall HRQOL for the patient.

High-dose steroid use was also associated with a significant increase in post-transplant anxiety, but not depression. Values for PCS, MCS, and anxiety at 1 year after transplantation were significantly better when patients were not on steroids than when patients were maintained on high-

dose steroids. The researchers recommend the reduction or elimination of corticosteroids from post-transplant maintenance therapy. The findings were based on retrospective analysis of patients who underwent liver transplants at the Vanderbilt University Medical Center from 2002 through 2009. This study was funded in part by a grant from the Agency for Healthcare Research and Quality (T32 HS13833).

More details are in “Reduction in corticosteroids is associated with better health-related quality of life after liver transplantation,” by Victor Zaydfudim, M.D., M.P.H., Irene D. Feurer, Ph.D., Matthew P. Landman, M.D., M.P.H., and others in the February 2012 *Journal of the American College of Surgeons* 214(2), pp. 164-173. ■ DIL

Benefits and risks of helicopter transport for trauma patients investigated

Helicopters have been used to transport trauma patients since 1972. Debate continues as to whether they improve patient outcomes. Concerns have also been raised about patient and crew safety, owing to a number of high-profile crashes. A recent review of studies in the literature suggests that helicopter emergency medical service (HEMS) does reduce deaths among certain subgroups of trauma patients. However, more strict, evidence-based criteria are needed to determine who is likely to benefit from HEMS transport.

Published studies have produced varied findings regarding improved mortality and the benefits of ground versus air transport. HEMS appears to be most beneficial for patients with severe injuries aged 18-54. The majority of studies do find that HEMS is cost-effective when it comes to cost per life-year, per life saved, and per quality-adjusted life-year. However, trauma systems vary widely in their design and implementation, so HEMS

may not be cost-effective for all systems.

The rate of fatal crashes is higher than in all other sectors of aviation. As a result, HEMS must be used judiciously in order to maximize patient survival outcomes and minimize crash risk to those onboard. Given all of these findings, strict, validated triage criteria need to be developed that will assist emergency medical services personnel on the ground if HEMS transport is necessary. This is best determined at the local level with further studies needed to create optimal approaches that are cost-effective, safe, and efficacious, conclude the researchers. Their study was supported in part by the Agency for Healthcare Research and Quality (HS19482).

See "Helicopter transport: help or hindrance?" by Rebecca E. Plevin, M.D. and Heather L. Evans, M.D., M.S., in *Current Opinions in Critical Care* 17, pp. 596-600, 2011. ■ KB

Mental Health

More patients with anxiety disorders are being prescribed antipsychotic medications by office-based psychiatrists

Antipsychotic agents are increasingly being used to treat a wide range of conditions. Their increased use is due to the ever-expanding Food and Drug Administration's approved indications as well as their inherent sedation properties. This quality has made them attractive in patients with treatment-resistant anxiety disorders. While there is a dearth of information about their effectiveness for anxiety disorders, a new study finds that the use of antipsychotics to treat these conditions has risen dramatically.

Researchers analyzed data over a 12-year period from the National Ambulatory Medical Care Survey that contains information from patient visits to office-based physicians. The sample for this study included 4,166 visits to psychiatrists where there was a diagnosis of an

anxiety disorder, including traumatic stress disorders, panic disorders, phobias, and generalized anxiety disorder. Up to six medications mentioned on the medical records were captured, including antipsychotic agents.

Psychiatric visits where an anxiety disorder was diagnosed increased from 21.2 percent in 1996-1999 to 25.7 percent in 2004-2007. During the 12-year study period, prescriptions for antipsychotics during visits in which anxiety disorders were diagnosed doubled from 10.6 percent to 21.3 percent. Most of the increase in this prescribing trend occurred among new patients. Patient characteristics particularly associated with antipsychotic prescribing included younger age, being black, having

public insurance, and the presence of a coexisting condition. The biggest jump in antipsychotic prescriptions occurred in patients with panic disorder. Given the side effect profiles of antipsychotics, which can carry metabolic, endocrine, and cerebrovascular risks, the researchers suggest that clinicians limit their use to patients where there is a clear indication. The study was supported in part by the Agency for Healthcare Research and Quality (HS16097).

See "National trends in the antipsychotic treatment of psychiatric outpatients with anxiety disorders," by Jonathan S. Comer, Ph.D., Ramin Mojtabai, M.D., Ph.D., M.P.H., and Mark Olfson, M.D., M.P.H., in the October 2011 *American Journal of Psychiatry* 168(10), pp. 1057-1065.

■ KB

Effects of antidepressants on suicidal thoughts and behavior differ by age group

The U.S. Food and Drug Administration has issued black box warnings on the use of antidepressants by children, adolescents, and young adults. These warnings were based on the occurrence of suicidal thoughts and attempts, not on actual suicides. A re-analysis of data from 41 previous studies that included 9,185 patients has found no evidence of increased suicide risk in children and adolescents ages 7–18 receiving active medication. Relative to placebo, depression symptoms lessened among treated patients in this group. However, unlike the older population, there was no greater decrease of suicidal thoughts and behavior in treated versus control subjects.

It's unclear why some youths whose depressive symptoms are reduced continue to have suicidal ideation and behavior. The authors suggest that perhaps other psychopathology, such as aggressive impulsive traits in youths, plays a more important role in this. Nevertheless, the overall rate of suicidal thoughts and attempts was not significantly greater than that of youths randomized to placebo in the study.

The findings were based on a synthesis of 41 adult, geriatric, and youth trials of the antidepressant drugs, fluoxetine and venlafaxine. Only fluoxetine was administered to youth. Despite a strong association between depression severity and suicide risk in youths, treatment with fluoxetine did not decrease suicide risk beyond that observed with placebo. By contrast, with older patients receiving either fluoxetine or venlafaxine treatment, there was a greater reduction in suicide risk relative to control patients receiving placebo. The effect of treatment on depression severity appears to be the mechanism whereby antidepressants lower suicide risk in adult and geriatric patients. This study was supported, in part, by the Agency for Healthcare Research and Quality (HS16973).

See “Suicidal thoughts and behavior with antidepressant treatment. Reanalysis of the randomized placebo-controlled studies of fluoxetine and venlafaxine,” by Robert Gibbons, Ph.D., Hendricks Brown, Ph.D., Kwan Hur, Ph.D., and others in the *Archives of General Psychiatry* published online February 6, 2012. ■ MWS

Comparative Effectiveness Research

Insulin pump and glucose monitoring improve blood-sugar control for diabetes patients

Insulin pumps combined with real-time continuous glucose monitoring (sensor-augmented insulin pumps) are superior to multiple daily insulin injections and self-monitoring of blood glucose (SMBG) with fingersticks to lower high blood sugar in patients with type 1 diabetes.

That's the conclusion of a new research review from the Effective Health Care Program of the Agency for Healthcare Research and

Quality (AHRQ). Quality of life was improved with continuous insulin infusion for individuals with type 1 diabetes. Insulin pumps are superior to SMBG in regulating blood sugar when patients wear the sensor at least 60 percent of the time, as indicated by lower levels of blood sugar.

Diabetes is a chronic condition that affects nearly 8 percent of Americans. Of the people who have diabetes, 90 to 95 percent have type

2 diabetes. Type 1 diabetes is characterized by autoimmune destruction of pancreatic islet cells that results in an inability to produce insulin and a need for daily insulin administration to sustain life. Type 2 diabetes is the result of a combination of insulin resistance and impaired insulin secretion by the beta cells of the pancreas. Typically, insulin resistance

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Blood-sugar control

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predominates early, and insulin secretion decreases over time.

Diabetes is associated with increased risk of coronary artery disease, chronic kidney disease, and retinal damage. Diabetes can be treated by controlling or monitoring glucose levels in the blood and reducing high blood sugar, which can be managed by insulin

therapies, oral medications, and/or through lifestyle and dietary changes.

The research review, *Methods of Insulin Delivery and Glucose Monitoring: Comparative Effectiveness*, summarizes evidence on the effectiveness of intensive insulin therapies in individuals with type 1 and type 2 diabetes. The review suggests additional research is needed to investigate the

effectiveness of these treatments for children with type 1 diabetes, elderly patients, pregnant woman with type 1 or type 2 diabetes, and racially diverse patient populations with type 2 diabetes. To access this review and other materials that explore the effectiveness and risks of treatment options for various conditions, visit AHRQ's Effective Health Care Program Web site at www.effectivehealthcare.ahrq.gov. ■

Some noninvasive tests are better than others at detecting coronary artery disease in women

Noninvasive tests (NIT) that produce images of how well the heart is functioning, such as echocardiography and single proton emission computed tomography, more accurately diagnose coronary artery disease (CAD) in women with symptoms suspicious of CAD than electrocardiography, which monitors heartbeats to detect restricted blood flow. That's the conclusion of a new research review from AHRQ's Effective Health Care Program. The review, *Noninvasive Technologies for the Diagnosis of Coronary Artery Disease in Women*, found there is insufficient evidence from studies to determine what clinical or demographic factors may influence the diagnostic accuracy, risk determinations, prognostic value, treatment decisions, clinical outcomes, or harms associated with NITs for CAD in women.

Heart disease is the leading cause of mortality for women in the United States, and claims more lives than all forms of cancer combined. Approximately one in

three women has some form of this disease. It is estimated that 8.1 million women currently have a history of heart-related issues. Early detection and treatment can potentially reduce deaths attributed to CAD. The American College of Cardiology/American Heart Association recommend NITs for symptomatic women who are at intermediate to high risk for CAD, but not for women who are at low risk.

The AHRQ research review supports these recommendations. The review also found that more research is needed to determine the levels of accuracy based on age, race, sex, and body size on test performance, and the impact of these tests on clinical decisionmaking and patient outcomes.

To access this review and other materials that explore the effectiveness and risks of treatment options for various conditions, visit AHRQ's Effective Health Care Program Web site at www.effectivehealthcare.ahrq.gov. ■

Newer antidepressants equally effective in treating major depressive disorder

An updated evidence review from AHRQ's Effective Health Care Program reinforces previous findings that second-generation antidepressants are equally effective in treating major depressive disorder and its symptoms. There is no evidence to support choosing one antidepressant over another based on either greater efficacy or effectiveness.

Although second-generation antidepressants are similar in efficacy, they cannot be considered identical drugs. Evidence supports some differences among individual drugs with respect to onset of action, side effects, and some measures of health-related quality of life.

The new report, *Comparative Effectiveness of Second-Generation*

Antidepressants in the Pharmacologic Treatment of Adult Depression—An Update to a 2007 Report, reviews the evidence on 13 second-generation antidepressants—bupropion, citalopram, desvenlafaxine, duloxetine, escitalopram, fluoxetine, fluvoxamine, mirtazapine, nefazodone, paroxetine, sertraline,

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Antidepressants

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trazodone, and venlafaxine. It updates current evidence on the comparative efficacy, benefits, and harms of second-generation therapies in treating patients with

major depressive disorder, dysthymia, and subsyndromal depression.

The report also highlights areas for future research, including the need for research on the efficacy of second-generation antidepressants

in subpopulations and in patients who have not responded to initial treatments. Read and download the full review and other publications from AHRQ's Effective Health Care Program Web site at www.effectivehealthcare.ahrq.gov. ■

JAMA special issue focuses on comparative effectiveness research

The April 2012 issue of the *Journal of the American Medical Association (JAMA)* focused on comparative effectiveness research (CER), including the key role played by the Agency for Healthcare Research and Quality (AHRQ) in supporting this research. CER is designed to inform health care decisions by providing evidence on the effectiveness, benefits, and harms of different treatment options. The evidence is generated from research studies that compare drugs, medical devices, tests, surgeries, or ways to deliver health care.

Of the \$1.1 billion that the Department of Health and Human Services received to fund such work under the American Recovery and Reinvestment Act, \$473 million was channeled through AHRQ to fund CER research. The Affordable Care Act, passed in 2010, provides additional funding for this type of research, including efforts by AHRQ. Agency Director Carolyn M. Clancy, M.D., noted in a two-page interview with *JAMA*.

In the interview, she gave some of the history of the CER initiative and noted that AHRQ has been active in disseminating the results of Agency-funded CER in forms usable by clinicians, patients (both in English and in Spanish translations), and policymakers. AHRQ is focusing, Dr. Clancy said, on rapidly disseminating information on CER to health care providers and making

simple explanations of the findings more available to patients.

Among the original papers published in the special issue of *JAMA* are two funded by AHRQ's Effective Health Care Program. One of the papers compares two drug regimens for lung cancer (AHRQ Contract No. 290-10-0006) and another compares the different approaches to radiation therapy in treating prostate cancer (AHRQ Contract No. 290-05-0040). Both studies are briefly discussed here.

Zhu, J., Sharma, D.B., Gray, S.W., and others. (2012, April). "Carboplatin and paclitaxel with vs without bevacizumab in older patients with advanced non-small cell lung cancer." *Journal of the American Medical Association* 307(15), pp. 1593-1601.

This study did not find a survival benefit when the biological agent bevacizumab was added to combination chemotherapy using carboplatin and paclitaxel for elderly patients with advanced non-small cell lung cancer.

An earlier randomized clinical trial involving 878 patients with this form of lung cancer found that adding bevacizumab to the combination chemotherapy increased survival time significantly—though not for the 366 patients aged 65 years or older. In a retrospective cohort study, the researchers found that 1-year survival probability for patients receiving all three drugs was 39.6

percent versus 40.1 percent for those receiving carboplatin–paclitaxel (and 35.6 percent for those treated with carboplatin–paclitaxel).

Sheets, N.C., Goldin, G.H., Meyer A.-M., and others. (2012, April). "Intensity-modulated radiation therapy, proton therapy, or conformal radiation therapy and morbidity and disease control in localized prostate cancer." *Journal of the American Medical Association* 307(15), pp. 1611-1620.

The researchers compared newer radiation treatments for localized prostate cancer (intensity-modulated radiation therapy [IMRT] and proton therapy) against an older treatment (conformal radiation therapy [conformal RT]). Prostate cancer is the most common malignancy in men. More than 200,000 men are diagnosed with the disease annually and 30,000 men die from it each year.

Adoption of the newer radiation therapies is estimated to have increased health expenditures in the United States by \$350 million in 2005 alone, as the more-expensive IMRT replaced conformal RT. A further rise in health care costs is expected as the use of proton therapy increases. In a population-based study using Surveillance, Epidemiology and End Results–Medicare-linked data on

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Comparative effectiveness

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nonmetastatic prostate cancer for 2000–2009, the researchers compared the rates of side-effects (gastrointestinal or urinary morbidity, erectile dysfunction, hip fractures, additional cancer therapy) among the three radiation therapies.

They found that use of IMRT versus conformal RT increased from 0.15 percent in 2000 to 95.9 percent in 2008. Men undergoing IMRT were relatively 9 percent less likely than those receiving conformal RT to develop gastrointestinal morbidities, 22 percent less likely to experience hip fractures, and 19 percent less likely to require additional cancer

treatment. However, IMRT patients were 12 percent more likely to experience erectile dysfunction than conformal RT patients. Comparing patients undergoing IMRT versus proton therapy, IMRT patients had a relative 34 percent lower risk of gastrointestinal morbidities; no other significant differences were noted. ■ *DIL*

Chronic Disease

Screening based on risk factors and birth year boosts screening rates for hepatitis C

Effective treatment is available for persons infected with the hepatitis C virus (HCV), but approximately 50 percent of patients are not aware that they are infected. A new study found that HCV screening reminders based on either a person's risk factors or the year they were born (high-risk years 1945-1964) increased HCV screening rates. Specifically, the risk-based screening reminder raised the proportion of patients tested from 6 percent to 13.1 percent and the birth-cohort screening reminder raised the proportion of persons tested from 6 percent to 9.9 percent.

The risk-based screener prompted physicians with a clinical reminder sticker in the progress notes to ask whether a patient had specific HCV-related risks and to order HCV tests based on the presence of those risks. The second intervention (birth cohort) also used a clinical reminder sticker to order an HCV test for

all patients born between 1945 and 1964.

The population studied consisted of all adult patients who had a primary care visit to one of three urban primary care clinics during the study periods. The authors recommend that HCV screening programs using either a risk-based or birth-cohort strategy should become integrated within primary care settings in order to realize the potentially life-saving benefits of treatment. This study was supported in part by the Agency for Healthcare Research and Quality (Contract No. 290-06-00012).

See “Primary care-based interventions are associated with increases in hepatitis C virus testing for patients at risk,” by Alain H. Litwin, M.D., Bryce D. Smith, Ph.D., Mari-Lynn Drainoni, Ph.D., and others in *Digestive and Liver Disease* 44, pp. 497-503, 2012. ■ *MWS*

Provider-patient dialogue could be improved to foster medication adherence in HIV care

Patients' failure to take medications as prescribed often results in failure to meet treatment goals. Even in the case of antiretroviral (ARV) therapies for HIV, where successful treatment is life-saving, many people do not consistently take their medications as prescribed. One

concern is that provider communication with patients about medication adherence may not be effective in promoting better adherence.

Researchers analyzed voice recordings of 45 providers

interacting with 415 patients with AIDS during clinical visits. Three main findings emerged. First, about 10 percent of utterances concerned antiretroviral treatment, and among those using but reporting non-

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HIV care

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adherence to ARVs, only about 23 percent of utterances had any ARV problem-solving dialogue. Second, when engaged in ARV problem-solving dialogue, providers used significantly more directives and controlling speech. Third, overall, providers asked relatively few open questions or few questions that elicited patient opinions, values or preferences, and only rarely did they check patients' understanding.

The researchers note that these

speech patterns may not be consistent with the concepts of patient-centeredness and shared decisionmaking. However, they also point out that patients with HIV often have a variety of social and clinical problems that make their care a tremendous challenge for providers. It is not surprising, they suggest, that in this context, physicians speak more than patients, tend to ask relatively few open or expressive questions, and rarely check patients' understanding.

The researchers concluded that more effective dialogue would likely result in better treatment outcomes. The study was supported in part by the Agency for Healthcare Research and Quality (HS13903).

See "Provider-patient adherence dialogue in HIV care: Results of a multisite study," by M. Barton Laws, Ph.D., Mary Catherine Beach, M.D., Yoojin Lee, M.S., M.P.H., and others in *AIDS Behavior*, published online January 31, 2012. ■ *MWS*

Single-lung transplantation for COPD improves access to transplantation without jeopardizing survival

Compared to single-lung transplantation (SLT), bilateral lung transplantation (BLT) improves survival in some patients with chronic obstructive pulmonary disease (COPD). However, a new study finds that adopting a strategy of SLT for patients with COPD could improve access to lung transplantation and reduce waitlist mortality, without jeopardizing overall post-transplant survival.

Researchers used a decision-analysis model to simulate the effect of SLT and BLT allocation strategies. They used data from patients listed for lung transplantation in the United Network for Organ Sharing Standard Transplant Analysis and Research file.

When the model was used to simulate the waitlist experience of 1,000 patients, doing a SLT for patients with COPD resulted in 809 transplant recipients compared to 758 recipients under a BLT strategy. There were also fewer waitlist deaths with SLT (157) compared to BLT (199).

Post-transplant survival was similar for both approaches. In sensitivity analyses, SLT was always

able to maximize the number of patients transplanted. Factors influencing the best strategy to maximize post-transplant survival included the relative survival benefit of BLT versus SLT, the donor interval, and the waitlist size. So while SLT always maximized access to transplantable lungs, BLT maximized the total number of life-years gained post-transplant when there were short waitlists or plentiful donors. Decisions about optimal allocation will therefore depend on whether society chooses to prioritize the number of patients transplanted or total post-transplant survival. Additionally, the best strategy may vary from region to region and even among different centers. The study was supported in part by the Agency for Healthcare Research and Quality (HS18406).

See "The societal impact of single versus bilateral lung transplantation for chronic obstructive pulmonary disease," by Jeffrey C. Munson, M.D., Jason D. Christie, M.D., and Scott D. Halpern, M.D., Ph.D., in the *American Journal of Respiratory Critical Care Medicine* 184, pp. 1282-1288, 2011. ■ *KB*

Fewer patients with primary sclerosing cholangitis die while awaiting liver transplants than those with other liver diseases

Liver transplant is the only real, lasting cure for patients suffering from primary sclerosing cholangitis (PSC), a progressive and sometimes fatal disease. Normal liver transplant criteria (the Model for End-stage Liver Disease [MELD] score) may not be well-suited for these patients, owing to their increased risk for developing biliary cancer and other complications. In a new study, researchers examined the risk of waitlist removal for death or clinical deterioration of these patients, compared to those with other forms of end-stage liver disease. They found that the risk of death or waitlist removal was lower for these patients than patients with other forms of end-stage liver diseases.

Patients listed for liver transplant were identified from the United Network for Organ Sharing/Organ

Procurement and Transplantation Network database. A total of 71,976 patients met the inclusion criteria. Of these, 4.4 percent had PSC. Patients with PSC were more likely to be younger, white males with insurance.

A significantly greater proportion of patients without PSC died or were removed from the waitlist as a result of clinical deterioration (20.5 percent) compared to patients with PSC (13.6 percent). PSC patients who died or were removed from the donor list experienced significantly greater wait times before list removal compared to non-PSC patients. However, non-PSC patients also more commonly experienced complications from portal hypertension. MELD scores were similar for both groups of patients at the time of death or waitlist removal. The lower risk of

death or waitlist removal in patients with PSC remained reduced even after adjustments were made for MELD scores, complications of portal hypertension, and other factors.

Given these findings, the researchers see no reason for changing MELD scoring methods in order to promote greater access to liver transplants among patients with PSC. The study was supported in part by the Agency for Healthcare Research and Quality (HS18406).

See “Waitlist survival of patients with primary sclerosing cholangitis in the model for end-stage liver disease era,” by David Goldberg, M.D., Benjamin French, Ph.D., Arwin Thomasson, M.S., and others in *Liver Transplantation* 17(11), pp. 1355-1363, 2011. ■ KB

Elderly Health/Long-Term Care

Adverse drug reactions a major cause of unplanned hospitalizations of elderly veterans

Veterans who are age 65 and older and taking multiple medications for various conditions are at risk of adverse drug reactions (ADRs) that can lead to unplanned hospitalizations. In fact, a new study reveals that 10 percent of unplanned hospitalizations among this group were related to ADRs. The study included a group of 678 veterans hospitalized directly from an ambulatory care setting for an unplanned admission. There were 70 ADRs involving 113 drugs in 68 hospitalizations. More than one-third (36.8 percent) of these hospitalizations were considered to be preventable. The researchers estimated that if they applied these findings to the population of more than 2.4 million veterans receiving care during the study

period (2003–2006), as many as 8,000 hospitalizations would have been preventable.

Multiple medication use, also known as “polypharmacy,” has been shown to be the most consistent and strongest predictor of ADRs in older adults. Overall, 44.8 percent of veterans took nine or more outpatient medications and 35.4 percent took five to eight. The authors suggest that their findings should be useful to highlight areas for future intervention (e.g., reducing inappropriate prescribing by using computerized physician order entry with decision support) to reduce preventable health care use. This

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Adverse drug reactions

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study was supported in part by the Agency for Healthcare Research and Quality (HS19461).

See “Prevalence of unplanned hospitalizations caused by adverse drug reactions in older veterans,” by

Zachary A. Marcum, Pharm.D., Megan E. Amuan, M.P.H., Joseph T. Hanlon, Pharm.D., and others in the *Journal of the American Geriatric Society* 60, pp. 34-41, 2012. ■ MWS

Certain medications are associated with functional decline in the elderly

Functional status is the hallmark by which geriatric care is measured. Having a good functional status means an elderly individual can still take part in activities of daily living, be mobile, and engage in various activities including cooking, cleaning, shopping, and managing finances. Medication use is a known risk factor for functional status decline, but a recent review of studies on the topic revealed that some drug classes are associated with greater functional decline than others.

The literature review included 19 studies that looked at the relationship between medication use and type and functional decline among older adults. In general, as the number of prescriptions increased, so did functional decline.

Specifically, three of four studies found a negative association between functional decline and the use of benzodiazepines. There was also a relationship found between worse functional status and increasing exposure to anticholinergic medications. Other studies produced

mixed results for other drug classes, such as antidepressants and antihypertensives. The study was supported in part by the Agency for Healthcare Research and Quality (HS17695, HS18721, HS19461).

See “Medication use and functional status decline in older adults: A narrative review,” by Emily P. Perone, Pharm.D., Shelly L. Gray, Pharm.D., M.S., and Joseph T. Hanlon, Pharm.D., M.S., in the December 2011 *The American Journal of Geriatric Pharmacotherapy* 9(6), pp. 378-391. ■ KB

Bowel incontinence and other clinical factors predict the development of pressure ulcers

The elderly are vulnerable to pressure ulcers, particularly when they have limited mobility and cannot ambulate. Once they develop, such ulcers need care and treatment to prevent systemic infections and hospitalization. Identifying which patients are most at risk for pressure ulcers is an important part of prevention. In this study, researchers were able to determine a set of factors that raise the risk of developing pressure ulcers in older home care patients. Information was obtained on 5,395 patients 60 years of age and older who were cared for by 5 home health care agencies. The researchers used data from the Outcome and Assessment Information Set (OASIS), which must be collected in order to receive reimbursement from Medicare and Medicaid. Various details on clinical, functional, and mental health status were extracted that represented potential predictors of pressure ulcer development. Patients were followed until they developed an ulcer or were discharged from home health care.

The cumulative incidence of new pressure ulcers was 1.3 percent. Among the 71 patients who developed an ulcer, there was a higher prevalence of a cancer diagnosis, diabetes, and longer time in home health care. The two top predictors of developing a new ulcer were bowel incontinence and patient inability to transfer self. Other factors included needing assistance with grooming and dressing, dependence in toileting, being bedfast or chairfast, and already having a pressure ulcer at the start of home health care. The usefulness of OASIS data to identify patients most at risk for pressure ulcers can assist agencies to develop prevention protocols and improve quality of care. The study was supported in part by the Agency for Healthcare Research and Quality (HS17353).

See “Outcome and assessment information set data that predict pressure ulcer development in older adult home health patients,” by Sandra Bergquist-Beringer, Ph.D., R.N., C.W.C.N. and Byron J. Gajewski, Ph.D., in *Advances in Skin & Wound Care* 24(9), pp. 404-414, 2011. ■ KB

Introduction of hospice services by nursing homes does not significantly affect nursing assistant staffing

More and more nursing homes are providing hospice care to their residents. End-of-life care is managed by hospice organizations, which can also provide routine hands-on care normally provided by certified nursing assistants (CNAs). As a result, nursing homes could reduce staffing, thereby serving as an incentive for hospice referrals. However, a new study finds that the introduction of hospice services in nursing homes does not result in significant CNA staffing changes. Rather, as hospice patient volume increased, small increases in CNA staffing were observed.

Researchers included in their study free-standing nursing homes that

ranged from 30 to 500 beds. Data were collected from two Medicare databases that contain information on nursing home care, including the transition of residents from one facility to another and from one care type to another.

Overall, 45 percent of the nursing homes studied had at least 1 percent of resident days covered by hospice services in 1999. This began to rise significantly after 2000. By 2006, nearly 80 percent of all nursing homes offered hospice. Introducing hospice services did not significantly affect the number of minutes per day spent by CNAs at patient bedsides. However, as hospice volume increased, so did time spent with

patients. For every 1,000 hospice days added every year, time spent with patients grew by more than three-quarters of a minute. This means that nursing homes did not shrink nurse assistant staffing by receiving additional hospice staff. The study was supported in part by the Agency for Healthcare Research and Quality (T32 HS00011).

See “Effect of increased nursing home hospice use on nursing assistant staffing,” by Denise A. Tyler, Ph.D., Natalie Leland, Ph.D., O.T.R./L., Michael Lepore, Ph.D., and Susan C. Miller, Ph.D., in the *Journal of Palliative Medicine* 14(11), pp. 1236-1239, 2011. ■
KB

Child/Adolescent Health

No significant link found between treatments used for juvenile idiopathic arthritis and development of cancer

Juvenile idiopathic arthritis (JIA) is an autoimmune disease that usually occurs in children before age 16. It can cause joint pain and swelling, fevers, and rash. Treatment includes therapy with methotrexate (MTX) and tumor necrosis factor (TNF) inhibitors. The latter class of drugs, which inhibit the ability of TNF, an inflammation-producing protein that also can kill cancer cells, has been associated with a risk of malignancy. A new study has found a higher rate of incident malignancy in children with JIA compared to children with attention deficit hyperactivity disorder (ADHD) or asthma. However, the type of treatment for JIA was not significantly associated with a child developing a malignancy.

Researchers used Medicaid claims data obtained from all 50 States and the District of Columbia. Children diagnosed with JIA were identified. Children without

JIA who had asthma (652,234) or ADHD (321,821), chronic disorders that are not suspected to be associated with cancer, were used for comparison. The researchers also categorized the children with JIA by their exposure to MTX and TNF inhibitors. Using diagnostic codes, procedure codes, and pharmacy claims, they identified incident malignancies that developed in the children.

Nearly half of the 7,812 children with JIA had taken MTX; one-fifth had taken TNF inhibitors. There were a total of 265 malignancies found: 10 in the JIA group, 68 in the ADHD group, and 193 in the asthma group. Six of the 10 malignancies in the JIA group were identified in children who had not taken MTX, TNF inhibitors, or other immune-system agents. Three

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Juvenile idiopathic arthritis

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malignancies were found in JIA patients taking only MTX; 1 malignancy was found in a child taking a TNF inhibitor for JIA. The standardized incidence ratio was 4.4 for malignancies in the children with JIA compared to children without the disease. No significant association was found between cancer and treatment of JIA with either MTX or TNF inhibitors. The study was

supported in part by the Agency for Healthcare Research and Quality (HS17919 and HS18517).

See “Rates of malignancy associated with juvenile idiopathic arthritis and its treatment,” by Timothy Beukelman, M.D., M.S.C.E., Kevin Haynes, Pharm.D., Jeffrey R. Curtis, M.D., M.S., M.P.H., and others in the April 2012 *Arthritis & Rheumatism* 64(4), pp. 1263-1271. ■ KB

Treatment guideline reduces hypoglycemic events in critically ill children

Children may develop stress hyperglycemia (elevated blood-glucose levels) during critical illness. Strict blood-sugar control in critically ill children may impact outcome. However, this strategy increases the risk of hypoglycemia (low blood glucose). In adults the occurrence of hypoglycemia has been shown to be an independent risk factor for mortality. Recently, a major children’s hospital developed a guideline for the initiation and maintenance of insulin infusions for stress hyperglycemia in the pediatric intensive care unit. Hypoglycemic events declined significantly after the guideline’s implementation.

A quality improvement team of physicians in critical care medicine and endocrinology developed and implemented the guideline. Other

team members included a pharmacist, a quality improvement consultant, a patient safety officer, and a project manager. The guideline consisted of an algorithm to determine an initial dose of insulin, instructions on how to adjust and then discontinue the infusions, and recommendations for bedside blood-glucose monitoring. The guideline was released as an order set in the hospital’s computerized clinical order entry system. A hard copy was also placed in every chart.

Hypoglycemic events dropped dramatically from 36 percent before guideline implementation to 12 percent after implementation, despite an increase in the total number of patient days on insulin infusion. After 2 years, the

incidence of these events dropped further to 3 percent. Additionally, the average number of days between hypoglycemic events lengthened from 21 to 186 days. These successful outcomes were due to greater provider adherence to glucose checks as suggested by the guideline. The study was supported in part by the Agency for Healthcare Research and Quality (HS16957).

See “Reduction in hypoglycemic events in critically ill patients on continuous insulin following implementation of a treatment guideline,” by Ranjit S. Chima, M.D., Pamela J. Schoettker, M.S., Kartik R. Varadarajan, M.P.H., and others in the January-March 2012 *Quality Management in Health Care* 21(1), pp. 20-28. ■ KB

Primary Care

Patients often say good things about their physicians on rate-your-doc Web sites, but are less positive about system issues

Most reviews of primary care physicians (63 percent) are positive that are posted to two Web sites that let patients rate their doctors. In fact, they often recommend the physician. However, not all positive reviews (for example, “Dr. B is a great doctor.”) give enough detail for a potential patient to make an informed choice, according to a new study.

Even when patients comment on the doctor’s interpersonal manner or technical competence, these

comments tend to be more positive (69 percent and 80 percent positive, respectively) than those about the doctor’s staff or other systems-level issues (60 percent positive vs. 40 percent negative). The systems issues include comments on staff (60 percent positive), appointment wait time (39 percent positive), access to appointments (57 percent positive), and the practice office environment (56 percent positive).

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Primary care physicians

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The researchers also viewed comments that they could not categorize as positive or negative, for example, how the patient chose the physician, the cost of care, the practice's use of health information technology, and convenience of the practice location. The presence of specific, negative interpersonal reviews underscores the importance of a good bedside manner—as perceived by the patient—for a successful physician-patient interaction, the researchers conclude. They suggest that physicians who try to address negative comments about staff, access, or convenience could make the office environment more patient-centered.

The researchers examined physician rating comments on two Web sites, the medicine-specific site,

ratemds.com, and Yelp.com, a general consumer-rating Web site. Ratings were selected for 445 doctors in four urban areas (Atlanta, Chicago, New York, San Francisco), resulting in 712 reviews (397 from ratemds.com and 315 from Yelp.com) that were almost evenly divided among the cities. This study was funded in part by the Agency for Healthcare Research and Quality (HS17594).

More details are in “What patients say about their doctors online: A qualitative content analysis,” by Andrea Lopez, B.S., Alissa Detz, M.D., Neda Ratanawongsa, M.D., and Urmimala Sarkar, M.D., in the June 2012 *Journal of General Internal Medicine* 27(6), pp.685-692. ■ DIL

Agency News and Notes

Limited evidence on best strategies during a mass casualty event



There is limited evidence to help policymakers and health care professionals identify the most effective strategies to allocate scarce resources during mass casualty events, according to a new report from the Agency for Healthcare Research and Quality (AHRQ). A mass casualty event, whether a natural event such as a hurricane, flood, or disease outbreak, or man-made event such as a bioterrorism attack, can occur suddenly and severely

challenge highly experienced and well-equipped health care providers and systems.

Researchers at the AHRQ-supported Southern California RAND Evidence-based Practice Center conducted an evidence review to identify the most effective strategies available to health care providers and policymakers during mass casualty events. They found that it remains unclear which of the many options will be most effective.

Led by Justin Timbie, Ph.D., and Art Kellerman, M.D., M.P.H., the researchers also found that commonly used field triage measures do not perform consistently during mass casualty events. However, evidence did

suggest that specific strategies influence the speed and efficiency of biological countermeasures during a bioterrorism attack or influenza pandemic. For example, delivering medical countermeasures to the public via postal carriers reaches more people faster than making them available at a centralized location.

Researchers noted that, although some promising strategies exist, additional research is needed to identify the optimal methods, techniques, and technologies to employ during mass casualty events. A copy of the report, *Allocation of Scarce Resources During Mass Casualty Events*, is available at www.effectivehealthcare.ahrq.gov/. ■

Electronic health records help researchers harness data

New initiatives are establishing how electronic health records connected to shared databases can be used by scientists to conduct comparative effectiveness research (CER). These initiatives are funded by the American Recovery and Reinvestment Act and managed by the Agency for Healthcare Research and Quality's Effective Health Care Program.

One initiative, the Electronic Data Methods Forum, was established to advance the national dialog on use of electronic clinical data to conduct CER, improve care quality, and develop clinical decision support systems. The Forum commissioned national experts to write articles that are featured in a special supplement of the July 2012 issue of *Medical Care*, the official journal of the Medical Care Section of the American Public Health Association. The articles are available for free at <http://journals.lww.com/>

lww-medicalcare/toc/2012/07001.

The articles address the challenges of building infrastructure for CER with electronic clinical data. Obstacles and opportunities related to analytic methods, clinical informatics, and data governance are highlighted. The analytic methods papers address challenges on how to assess data quality and approaches to developing cohorts for CER studies. The clinical informatics papers examine the capabilities and limitations of different informatics platforms to perform CER and practical considerations when using new clinical informatics approaches. The data governance papers address approaches to protect patients' confidentiality and privacy and to facilitate multisite Institutional Review Board approval for CER. ■

Announcements

New tool aims to guide formulary role in drug prescribing

A new tool is designed to help drug formulary committees at hospitals, health systems, and insurance companies make decisions based on a deliberative evaluation of drug evidence, efficacy, and therapeutic alternatives. Researchers from the University of Illinois Center for Education and Research on Therapeutics (CERT) note that while formularies have received much attention regarding cost containment, their role in guiding rational drug use remains underdeveloped. Their role could be enhanced by a more standardized critical evaluation of drugs proposed for formulary placement.

The new tool, funded by the Agency for Healthcare Research and Quality and used at two U.S. teaching hospitals, consists of a checklist of questions for evaluating drugs. The tool poses 48 questions related to six domains: evidence of need (7 questions), efficacy (6), medication safety (6), misuse potential (7), cost issues (10), and decisionmaking process (12).

According to the CERT researchers, who derived and applied the tool in the formulary of several hospitals and systems, the checklist can facilitate more standardized and critical scrutiny of the evidence and therapeutic alternatives. Potential

uses the authors propose for the tool include (1) education of new pharmacy and therapeutics committee members related to questions to be asked for new drug applications, (2) guidance of committee discussions of drugs proposed for formulary addition, and (3) evaluation of quality of committee decisionmaking to assess whether key questions were raised and addressed.

The checklist is available in the article, "A Prescription for Improving Drug Formulary Decision Making," which was published in *PLoS Medicine* on May 22, 2012. ■

Spanish-language novella on managing type 2 diabetes available

Aprinde a vivir (Learn To Live), a three-episode Spanish-language videonovela that provides information about managing type 2 diabetes, is available from the Agency for Healthcare Research and Quality (AHRQ). The story reflects the reality of many Hispanics and others with type 2 diabetes who stop taking medication due to unpleasant side effects or other reasons.

The videonovela is available at <http://healthcare411.ahrq.gov/aprendavivir.aspx> and is also available with English captions. A DVD version is available to play in DVD players only. In addition, you will find other resources on diabetes in both English and Spanish.

To order a free copy of the DVD (12-0059-DVD) or a sample kit of the brochures featured in the videonovela (OM12-0067), call the AHRQ Publications Clearinghouse at 800-358-9295 or email AHRQPubs@ahrq.hhs.gov.

Bulk copies of the brochures are also available for order:

- *Medicines for Type 2 Diabetes*: Spanish (11-EHC038-B); English (11-EHC038-A)
- *Your Medicine: Be Smart. Be Safe*: Spanish (11-0049-B); English (11-0049-A)
- *Treating High Cholesterol*: Spanish (09(10)-EHC024-B); English (09(10)-EHC024-A)



- *Choosing Medicines for High Blood Pressure*: Spanish (11(12)-EHC063-B); English (11(12)-EHC063-A)
- *Measuring Your Blood Pressure at Home*: Spanish (12-EHC002-B); English (12-EHC002-A)

Please refer to publication numbers when ordering. ■

MONAHRQ 3.0 released



The Agency for Healthcare Research and Quality (AHRQ) has released version 3.0 of MONAHRQ (My Own Network, Powered by AHRQ). This free desktop software tool helps organizations quickly and easily generate a health care reporting Web site using their own local hospital discharge data, health care quality measures from the Centers for Medicare & Medicaid Services' Hospital Compare Web site, and/or HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) patient survey measures.

The software is useful for organizations and community collaboratives such as hospitals and hospital associations, state health departments, health care data organizations, health plans, and Chartered Value Exchanges. MONAHRQ 3.0 adds four additional AHRQ Quality Indicators, including three composite measures; 12 additional Hospital Compare measures, including outpatient care and imaging use; and a new health topic on nursing-sensitive care.

The new version comes with updated AHRQ Quality Indicators software for Windows, updated Cost-to-Charge Ratio Files from the Healthcare Cost and Utilization Project, and a number of new Web site customization features. For more information and to download MONAHRQ, go to www.monahrq.ahrq.gov/monahrq_software.shtml. ■

HCUP 2010 Nationwide Inpatient Sample (NIS) Database released

The Healthcare Cost and Utilization Project (HCUP) Nationwide Inpatient Sample (NIS) featuring 2010 data is now available. The NIS (<http://hcup-us.ahrq.gov/nisoverview.jsp>) is the largest all-payer inpatient care database in the United States.

The NIS is nationally representative of all short-term, non-Federal hospitals in the U.S. It is drawn from the HCUP State Inpatient Databases (<http://hcup-us.ahrq.gov/sidoverview.jsp>) and includes more than 8 million hospital stays. The NIS includes all patients from each sampled

hospital, regardless of payer—including persons covered by Medicare, Medicaid, private insurance, and the uninsured.

The NIS contains data from 45 States and can be weighted to produce nationwide estimates, allowing researchers and policymakers to use the NIS to identify, track, and analyze national trends in health care utilization, access, charges, quality, and outcomes. The vast size of the NIS enables analyses of infrequent conditions, uncommon treatments, and special patient populations.

As part of the HCUP database family, the NIS is considered by health services researchers to be one of the most reliable and affordable databases for studying important health care topics.

The 2010 NIS can be purchased through the HCUP Central Distributor (http://hcup-us.ahrq.gov/tech_assist/centdist.jsp) and data can be accessed via HCUPnet (<http://hcupnet.ahrq.gov>), a free online query system. Additional information about the NIS and other products is located on the HCUP-US Web site at <http://hcup-us.ahrq.gov>. ■

Symposium on new and emerging data methods published as a supplement to *Pharmacoepidemiology and Drug Safety*

A June supplement to the journal *Pharmacoepidemiology and Drug Safety* focuses on methods for developing and analyzing clinically rich data for patient-centered outcomes research (PCOR). The supplement papers comprise the proceedings of the 3rd invitational symposium on new and emerging methods for comparative effectiveness research and PCOR, which was sponsored by the DECIDE (Developing Evidence to Inform Decisions about Effectiveness) program of the Agency for Healthcare Research and Quality (AHRQ) and held at AHRQ in June 2011. In an introductory overview, the editors note that the symposium's focus was on techniques that use clinically rich data sources or enrich existing data sources to bridge the gap between available data (often administrative) and data needed to study a question (incorporating necessary clinical detail).

The supplement also includes a commentary on the proper use and limitations of randomized clinical trials, and 16 original reports. The topics range from dealing with or adjusting for partially missing data, improving confounder adjustment, addressing

heterogeneity of treatment, and methods for emerging therapies. Most of the reports in this supplement aim to advance readers' understanding of approaches to combine information from various data sources and realize benefits in terms of breadth and depth of data so that resulting research better informs decisionmakers.

The symposium and the supplement were funded by AHRQ (Contract No. 290-05-0016). Some of the specific studies were funded in part by AHRQ grants or contracts.

More details are in the journal supplement, "Methods for Developing and Analyzing Clinically Rich Data for Patient-centered Outcomes Research" edited by Sebastian Schneeweiss, Sc.D., M.D., M.S., and Scott R. Smith, Ph.D., M.S.P.H., R.Ph., in the May 2012 *Pharmacoepidemiology and Drug Safety* 21(Suppl. S2), pp. 1-154. A limited number of copies of the supplement (Publication No. OM12-0043) are available from AHRQ.* ■ DIL

Research Briefs

Krawlewski, J.E., Zink, T., and Boyle, R. (2011). "Factors influencing electronic information exchange in small medical group practices." (AHRQ Contract No. 290-07-10010). *Journal of Rural Health* 28, pp. 28-33.

The researchers conducted interviews at eight small rural group practices to identify factors influencing their participation in health information exchange (HIE) and to suggest initiatives that would enhance HIE implementation. They found that HIE was largely limited to exchanging immunization data through the State health department and exchanging clinical information within owned provider systems. Limiting factors included data protection concerns, competition among providers, costs, and lack of compatible electronic health record systems.

Sarkar, U., Schillinger, D., Bibbins-Domingo, K., and others. (2011). "Patient-physicians' information exchange in outpatient cardiac care." (AHRQ grant HS01758). *Patient Education and Counseling* 85, pp. 173-179.

Researchers surveyed English, Spanish, or Cantonese-speaking patients and their doctors at a public hospital cardiology clinic to learn if patients and their physicians agreed on the following areas: cardiac functional status, barriers to self-management, cardiac diagnoses, and treatment. They found that physicians and

patients often fail to communicate effectively and suggest further studies of determinants of concordance in cardiovascular care.

Singh, H., Graber, M.L., Kissam, S.M., and others. (2012). "System-related interventions to reduce diagnostic errors: A narrative review." *BMJ Quality and Satisfaction* 21, pp. 160-170. Reprints (AHRQ Publication No. 12-R052) are available from the Agency for Healthcare Research and Quality.*

The authors conducted a literature review of articles published over the last decade to identify key interventions to reduce or prevent diagnostic errors. They aimed at identifying interventions that have been, or could be, implemented to address system-related factors that contribute directly to diagnostic errors. Few empirical studies have tested interventions to reduce diagnostic errors.

Spector, W.D., Limcangco, M.R., Ladd, H., and Mukamel, D.A. (2011, February). "Incremental cost of postacute care in nursing homes." *HSR: Health Services Research* 46(10, Part I), pp. 105-119. Reprints (AHRQ Publication No. 12-R057) are available from the Agency for Healthcare Research and Quality.*

The authors analyze whether the Resource Utilization Groups Case Mix Index sufficiently captures the cost burden of postacute patients. They estimate cost functions that include inpatient days, ownership,

wage index, and the percent of days due to Medicare skilled care days. In addition to the impact on total costs, they also estimate the impact on two cost categories that are expected to be affected—rehabilitation and non-therapy ancillary services.

Tapp, H., Herbert, L., and Dulin, M. (2011). "Comparative effectiveness of asthma interventions within a practice based research network." (AHRQ grant HS19946). *BMC Health Services Research* 11, p. 188.

A study protocol is presented for a study investigating the impact of three interventions on clinical outcomes for patients with asthma. Interventions are: an integrated approach to care that incorporates asthma management based on the chronic care model, a shared decisionmaking intervention for asthma patients in underserved or disadvantaged populations, and a school-based approach.

Thygeson, N.M., Solberg, L.I., Asche, S.E., and others. (2012, February). "Using fuzzy set qualitative comparative analysis (fs/QCA) to explore the relationship between medical 'homeness' and quality." (AHRQ Contract No. 290-07-10010). *HSR: Health Services Research* 47(1), Part I, pp. 22-44.

The purpose of this study is to use fuzzy set qualitative comparative analysis (fs/QCA) to evaluate the

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Research briefs

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connection between medical home system capabilities and quality outcomes. In the 21 Level III Patient Centered Medical Home (PCMH) clinics, fs/QCA identified relationships between PCMH-related systems capabilities and quality outcomes that were not statistically significant using conventional analysis.

Tija, J., Mazor, K.M., Field, T., and others. (2011). “Predicting nursing home adherence to a clinical trial intervention: Lessons for the conduct of cluster randomized trials.” (AHRQ grant HS16463). *Journal of the American Geriatric Society* 59, pp. 2332-2336.

This study describes nursing home (NH) adherence to a clinical trial intervention and examines its relationship with factors hypothesized to be associated with intervention adherence. These factors include structural NH characteristics, NH quality of care, and participation in a study survey. Three factors differentiated adherent from nonadherent NHs: director of nursing turnover, Centers for Medicare and Medicaid

Services nurse staffing ratio, and questionnaire response rate.

Williams, S.K., and Ogedegbe, G. (2012). “Unraveling the mechanism of renin-angiotensin-aldosterone system activation and target organ damage in hypertensive blacks.” (AHRQ grant TS32 HS00066). *Hypertension* 59, pp. 10-11.

Blacks experience disproportionately higher rates of hypertension-related target organ damage (TOD) compared with whites. The mediators of the higher rates of TOD noted in blacks are most likely attributed to high levels of downstream mediators of renin-angiotensin-aldosterone system (RAAS), such as aldosterone and angiotensin II. This commentary discusses an article in the same issue that addresses the mechanism by which RAAS activation affects blood pressure regulation.

Winthrop, K.L., Varley, C.D., Ory, J., and others. (2011, September). “Pulmonary disease associated with nontuberculous mycobacteria, Oregon, USA.” (AHRQ grant HS17552).

***Emerging Infectious Diseases* 17(9), pp. 1759-1761.**

The researchers report on a statewide nontuberculous mycobacteria (NTM) surveillance project in Oregon. Their findings suggest that pulmonary NTM disease is closely associated with urban living. They suspect that the difference in disease rates between urban and rural areas might reflect differences in host exposure to these pathogens.

Young, M.J., Brown, S.E.S., Truog, R.D., and Halpern, S.D. (2012). “Rationing in the intensive care unit: To disclose or disguise?” (AHRQ grant HS18406). *Critical Care Medicine* 40(1), pp. 261-266.

The authors consider the conceptual and practical complexities surrounding the disclosure of rationing decisions to patients and surrogates and the ethical justifications for and against disclosure. They conclude that disclosure will often be consistent with clinicians’ professional obligations. Systematic disclosure of prevailing intensive care norms for making allocation decisions can promote transparent, professional, and effective health care delivery. ■

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