



## SPOTLIGHT

### **NEJM study links older blood products to poorer outcomes**

Cardiac-surgery patients who received transfusions of blood that had been stored for more than two weeks experienced higher rates of in-hospital mortality and postoperative complications, as well as reduced short- and long-term survival, according to a study in today's *NEJM*.

See story #1

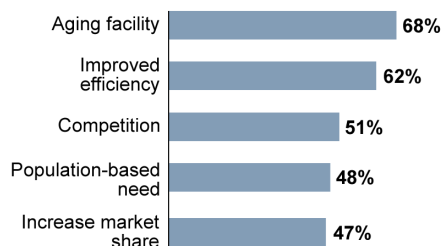
## RESEARCH HIGHLIGHT

### **The need for new facilities**

In their current state, many of today's hospitals are ill-equipped to accommodate emerging new technologies and to treat a higher-acuity patient population. Many hospitals are also looking to facility investments as key levers in improving operational efficiency, capturing market share, or accommodating expected—or actual—volume growth. To learn more, please read the Innovations Center's *Hospital of the Future* study.

### **Drivers of hospital construction boom**

2006 survey of hospital executives



Source: U.S. Census Bureau, 5/1/07; Healthcare Facilities Management/ASHE 2006 construction survey

## THIS DAY IN BRIEF

### **Chip advances could fuel portable ultrasound development, *WSJ* says**

In their efforts to create smaller and faster electronics, semiconductor manufacturers are eyeing growth opportunities in the medical device market, particularly in the development of portable ultrasound machines weighing less than 11 pounds, the *Wall Street Journal* reports.

See story #2

### **Walgreen shifts gears with purchase of worksite health center operators**

Walgreen Co. this week announced that it plans to purchase two worksite health center operators as part of the company's broader attempt to "refashio[n] itself into a broad health care provider," the *Wall Street Journal* reports.

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### **CDC: Staph-caused pneumonia more prevalent in U.S. children**

Community-acquired pneumonia caused by the *Staphylococcus aureus* bacterium may be more common in U.S. children than previously believed, according to new research from the CDC.

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## FROM THE ADVISORY BOARD

### **Online compendium provides easy access to IT practices**

A new online compendium provides all published practices and accompanying implementation guidance in the information technology terrain. Organized by business challenge and by specific technology, the compendium provides access to real-time downloads of critical information.

See story #5

## NAMES IN THE NEWS

Carolinas Medical Center (N.C.) (#7) ■ Cleveland Clinic (Ohio) (#1) ■ Flagler Hospital (Fla.) (#6)  
Levine Children's Hospital (N.C.) (#7) ■ Middlesex Hospital (Conn.) (#7) ■ Sutter Auburn Faith Hospital (Calif.) (#7)  
University of California-San Diego (#1) ■ University of Pittsburgh (Pa.) (#7)



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Thursday, March 20, 2008

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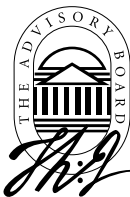
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## ► Today's Headlines

### 1 **NEJM study links older blood products to poorer outcomes**

Cardiac surgery patients who received transfusions of blood that had been stored for more than two weeks experienced higher rates of in-hospital mortality and postoperative complications, as well as reduced short- and long-term survival, according to a study in today's *NEJM*. Although the **FDA** allows blood to be stored for as long as 42 days before use, the median storage time for red blood cells nationwide is 15 days, suggesting that "about half of the country's supply falls into the older range of stored blood," according to the *Wall Street Journal*. For the study, researchers from the **Cleveland Clinic** examined data on 6,002 adults who underwent coronary artery bypass grafting, heart-valve surgery, or a combination of both procedures at the facility between June 30, 1998, and January 30, 2006. Slightly less than half of patients received blood stored for 14 days or less—"newer blood"—while the remainder received blood that had been stored for more than 14 days, or "older blood." The median blood storage time was 11 days for patients who received newer blood and 20 days for patients who received older blood. Researchers found that the in-hospital mortality rate for patients who received older blood was 2.8% compared with 1.7% among patients who received comparable amounts of newer blood. Furthermore, the rate of intubation after 72 hours was 9.7% in the older blood group compared with 5.6% in the newer blood group, while sepsis or septicemia rates were 4.0% in the older blood group compared with 2.8% in the newer blood group. Patients given older blood also were more likely to have a composite outcome of multiple serious adverse events compared with those in the newer blood group. Finally, the researchers found that overall survival was significantly reduced among patients who received older blood, particularly in the first six months following surgery. Moreover, after one year, 11% of the patients who received older blood died compared with 7.4% of those who received newer blood.

While the researchers say they cannot pinpoint the specific mechanism linking adverse outcomes to increased duration of blood storage, they suggest that stored blood cells "undergo progressive functional and structural changes" over time that may reduce red blood cell function and viability after transfusion. While concluding that the findings are not enough to recommend changes to current blood storage guidelines, the study's lead author suggests that blood banks may need to "explore changing their inventory-management practices." Meanwhile, a scientist from the **University of California-San Diego** notes in an accompanying editorial that while the study "will not settle the debate" about blood storage because the patients studied were not representative of all patients receiving transfusions, hospitals should still look for ways to reduce the need for transfusions, in part by adopting more conservative hemoglobin and hematocrit triggers and salvaging intraoperative blood (Koch et al., *NEJM*, 3/20 [subscription required]; Adamson, *NEJM*, 3/20 [subscription required]; Armstrong, *Journal*, 3/20 [subscription required]; Stobbe, *Associated Press*, 3/19; Edelson, *HealthDay*, 3/19).

### 2 **Chip advances could fuel portable ultrasound development, WSJ says**

In their efforts to create smaller and faster electronics, semiconductor manufacturers are eyeing growth opportunities in the medical device market, particularly in the development of portable ultrasound machines weighing less than 11 pounds, the *Wall Street Journal* reports. Saying that expanded use of ultrasound technology could offer a cost-effective way to improve patient care, analog chip makers are seeking to achieve the sort of advances that gave rise to smaller and more effective cell phones and laptops. The *Journal* notes that the companies' push comes amid growing use of many portable medical devices—from home equipment that helps patients monitor blood pressure, glucose, and breathing to portable ultrasound machines used in hospitals and physician

offices. Reflecting the trend, sales of semiconductors associated with medical equipment totaled \$3.02 billion in 2007, up 65% from five years earlier. And while the total ultrasound market grew by approximately 5% to more than \$4 billion last year, sales of portable systems grew 42% to \$565 million and are projected to reach \$1.2 billion in five years, according to **Klein Biomedical Consultants**. Helping to fuel this growth, ultrasound use has expanded to include “new classes of specialists”—such as ED physicians and anesthesiologists—as well as traditional users such as radiologists, cardiologists, obstetricians, and gynecologists. While noting that some observers say increased use of ultrasound could help cut health care costs by enabling speedier and more accurate diagnoses, the *Journal* adds that “the technology needs improvement,” pointing out, for example, some portable devices do not show color images and have a limited battery life (Richmond, [Journal](#), 3/20 [subscription required]).

### 3 Walgreen shifts gears with purchase of worksite health center operators

Walgreen Co. this week announced that it plans to purchase two worksite health center operators as part of the company’s broader attempt to “refashio[n] itself into a broad health care provider,” the *Wall Street Journal* reports. The acquisitions will be part of a new division called Walgreen Health and Wellness that will manage worksite-based health centers and pharmacies, as well as Walgreen’s 136 in-store retail Take Care Health Clinics. Pending regulatory approval, Walgreen—the nation’s largest drugstore chain by revenue—will acquire **CHD Meridian Healthcare** parent **I-trax** for about \$259.7 million in cash, including the assumption of approximately \$18.3 million in net debt. Walgreen also will purchase **Whole Health Management**, although the drugstore chain has not disclosed the terms of that deal. I-trax provides worksite health services—ranging from the treatment of simple illnesses to counseling patients on chronic disease management—for more than 160 employers, including Toyota Motor Corp., and World Health Management provides health services through 69 worksite health centers for companies including Continental Airlines and Sprint Nextel Corp. Walgreen officials say that if the deals close, the company will have more than 500 worksite and retail health centers across 40 states, including its in-store retail clinics. Noting that there exist more than 7,600 U.S. office sites that have 1,000 or more employees and could support an onsite health care center, Walgreen’s chairman and CEO says the latest acquisition is “a natural extension of [the company’s] existing worksite pharmacy services” and “only the beginning of [Walgreen’s] presence in this sector” (Merrick, [Journal](#), 3/19 [subscription required]; Kardos, [Journal](#), 3/18 [subscription required]; Japsen, [Chicago Tribune](#), 3/17 [registration required]).

### 4 CDC: Staph-caused pneumonia more prevalent in U.S. children

Community-acquired pneumonia (CAP) caused by the *Staphylococcus aureus* (*S. aureus*) bacterium may be more common in U.S. children than previously believed, according to new research from the **CDC**. For the study—expected to be presented this week at the International Conference of Emerging Infectious Diseases in Atlanta—a CDC team examined *S. aureus* CAP data from the seven-month 2006-07 influenza season from three Atlanta-area pediatric hospitals. The researchers identified 53 *S. aureus* CAP cases, an amount higher than they had expected given previous estimates that *S. aureus* causes just 3% to 5% of all CAP cases. While the fatality rate of 13% was much lower than some previous estimates of 30% to 50%, researchers found that 22 of the *S. aureus* CAP cases involved methicillin-resistant *S. aureus* (MRSA)—a finding that they called “not unexpected but quite concerning.” Of the six children who died, three had CAP involving MRSA. However, nearly 40% of the children with MRSA CAP did not receive antibiotics that could have treated the drug-resistant strain, prompting the lead author to suggest that “clinicians are not recognizing this organism as a cause of CAP during influenza season.” While the study involved only children, the lead author notes

the same trends in the findings may also be occurring among adults, adding that more research is needed to better understand the patterns of *S. aureus* CAP (Dunham, [Reuters](#), 3/20; [HealthDay](#), 3/19).

## ► From the Advisory Board

### 5 Online compendium provides easy access to IT practices

To improve member access to all IT-centric past work, IT Insights is pleased to introduce our next-generation online research library. Moving forward, members may search our archive by research study or through our new Online IT Research Compendium. Organized by business challenge and by specific technology, the Compendium enables member executives and staff to find—in one place—all published practices and accompanying implementation guidance for addressing any one of a host of IT challenges, all available to download in real time.

#### For more information

For more information about the Online IT Research Compendium and to use the tool, click [here](#).

### 6 Using business intelligence to increase OR margin performance

At last month's HIMSS national conference, the Advisory Board's Dr. David Katz spoke to a standing-room only crowd of 500 IT professionals on how the nation's most progressive hospitals are using advanced analytic tools to transform their business and clinical performance. Examining top performers in and out of the health care industry, the research discussed the key best practices for implementing and managing a business intelligence system so that it maximizes the return on investment.

Dr. Katz was joined by members from **Flagler Hospital** in St. Augustine, Fla., as they profiled their recent successes improving their orthopedic margins. Using the Advisory Board's **Surgery Compass** program, members from Flagler were able to identify significant potential savings on their implant purchases.

With the help of its dedicated compass advisor and cohort benchmarking data, Flagler was able to leverage pricing visibility in vendor negotiations and secure a single price point across suppliers, achieving a realized savings of **\$150,000 in the first two months** of its new pricing system.

#### For more information

To receive a copy of the presentation or for more information on the Surgery Compass solution, please contact Chelsea Fleckenstine at [fleckenc@advisory.com](mailto:fleckenc@advisory.com) or 202-266-5710.

## ► Regional Round-up

### 7 Around the nation: Bite-sized hospital and health industry news



- **California: Sutter Auburn Faith Hospital** will undergo an \$18.6 million renovation across the next three years to upgrade the hospital's four ORs and 61 patient rooms. As part of the facility wide project, the hospital will replace equipment, lighting, and ventilation systems in the ORs, convert most semi-

private rooms to private rooms, install new patient safety equipment, and make mechanical upgrades. Construction is slated to begin in May and is scheduled for completion in mid-2011 (Robertson, [Sacramento Business Journal](#), 3/18 [registration required]).

- **Connecticut: Middlesex Hospital** yesterday opened its new \$31 million ED, a facility that is triple the size of the previous ED. In addition to nearly doubling the ED bed count to 44, the expanded ED features new technology to streamline patient care, such as laptops in each room for instant access to patient records and a system enabling physicians to prescribe medications electronically. The ED also features an express-care area for patients with nonemergent ailments, special rooms for patients with bacterial illnesses and infectious diseases, and an area for decontamination (Kovner, [Hartford Courant](#), 3/19).
- **Michigan:** Noting that seven of Southeast Michigan's largest hospital systems reported that they were functioning at or near capacity last week, the Michigan Health & Hospital Association (MHA) is projecting February admissions this year will have been the highest of any month for the past several years. Attributing the spike to flu cases and falls resulting from icy weather, MHA officials note that March has been the top admission month for Michigan hospitals across the last few years; in 2006 (Anstett, [Detroit Free Press](#), 3/19).
- **North Carolina: Levine Children's Hospital** has announced plans to launch a new pediatric bone-marrow transplant program in three months, which will make it the third medical center in the state to offer the procedure. The procedure will be one of 30 specialty services available at the 234-bed hospital, which opened in December 2007. Located on the main campus of **Carolinas Medical Center**, Levine Children's is the largest children's hospital between Atlanta and Washington, D.C. ([Charlotte Business Journal](#), 3/18 [registration required]).
- **Pennsylvania:** The **University of Pittsburgh** has received an \$11.4 million donation from the **Bill & Melinda Gates Foundation** to develop new strategies for combating tuberculosis. Researchers are developing positron emission tomography and computed tomography imaging studies in animals to track the progression of the disease, as well as to analyze changes in tissue and responses to certain drugs ([Pittsburgh Business Times](#), 3/19 [registration required]).

## ► Endnotes

### 8 Et cetera

#### Wine damage: Study finds wine shrinks hippocampus more than beer

Casting a shadow on scientific evidence published in recent years touting the health benefits of drinking wine, a new study published in the journal *Alcohol and Alcoholism* finds that consuming wine damages the brain more than consuming beer or spirits by shrinking the hippocampus. For the study—which the co-authors say is the first to examine “the impact of the type of preferred beverage on brain-volume shrinkage in patients with alcohol dependence”—researchers from Germany's Göttingen University compared brain scans from diagnosed alcoholics with those for healthy adults. They found that the hippocampus—the part of the brain that controls memory, navigation, and special awareness—was largest among non-alcoholics at 3.85 ml and smallest among alcoholics who preferred wine at 2.8 ml; in alcoholics who drank beer and spirits, the size of the hippocampus was measured at 3.4 ml and 2.9 ml, respectively. Noting that women tend to drink more wine than beer, the authors say that women are more likely to be affected.

—Allen, [Daily Mail](#), 3/16