THE AMERICAN TRAUMA SOCIETY'S

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SPOTLIGHT

CDC promotes EMS field triage guidelines with educational tools to follow

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ACS report delivers recommendations for improving Alaska's trauma system

Following a November 2008 consultation visit from the ACS Committee on Trauma, the Alaska Department of Health and Social Services has received a report detailing the committee's recommendations for the continued development of a statewide trauma system, the Associated Press reported.

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Study highlights outcomes disparities across similarly designated trauma centers

Risk-adjusted mortality rates vary considerably across similarly designated trauma centers, according to a study in the January *Archives of Surgery*.

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➢ SPOTLIGHT

1 CDC promotes EMS field triage guidelines with educational tools to follow

The Centers for Disease Control and Prevention (CDC) recently launched an initiative to increase awareness and use of its Field Triage Decision Scheme: The National Trauma Triage Protocol, *Occupational Health & Safety* reported. Specifically, the agency published a report detailing the rationale and development process for the guidelines, which are designed to ensure that the nation's 800,000 EMS providers transport trauma patients to hospitals equipped to deliver the appropriate level of care. In addition to highlighting standards for decision making and emergency resource utilization, the Decision Scheme—crafted by the CDC and the ACS Committee on Trauma, with support from the National Highway Traffic Safety Administration (NHTSA)—offers guidance on new technologies, such as vehicle crash notification systems that automatically call for EMS assistance. To further encourage dissemination of the field triage guidelines, the CDC is developing an accompanying educational program for local EMS directors, public health officials, and EMS providers, funded by the NHTSA. Educational materials will include a user's guide, a poster and pocket card of the Decision Scheme, a slide presentation for training purposes, and information on continuing education opportunities (1/23, available through ohsonline.com; *AHA News Now*, 1/22, available through www.ahanews.com; CDC release, 1/22, available through www.cdc.gov/media/archives.htm; CDC report, 1/22, available through www.cdc.gov/fieldtriage).

2 ACS report delivers recommendations for improving Alaska's trauma system

Following a November 2008 consultation visit from the ACS Committee on Trauma, the Alaska Department of Health and Social Services has received a report detailing the committee's recommendations for the continued development of a statewide trauma system, the Associated Press reported. The report highlights "clear progress…toward the betterment of trauma care"—such as the development of extensive and creative networks for transport—noting that the state "is challenged with issues of geography, remoteness, inclement weather, and limited health care resources." However, achievements have been "largely unplanned with limited coordination," the ACS said. Alaska has not yet crafted a statewide strategic plan for trauma services and has not established standards for field triage or interfacility transfer. In addition, trauma system issues have received little attention from the Alaska Council on EMS (ACEMS), the agency designated with oversight of trauma care. Moreover, while several Alaska Native facilities—such as the Level II **Alaska Native Medical Center** in Anchorage—have sought and achieved trauma center status, few facilities serving the majority of the population have prioritized trauma services. Among its recommendations, the report advises the development of a comprehensive trauma system strategic plan and the implementation of standardized prehospital triage and trauma activation protocols, customized to the state's three response areas—Anchorage, Southeast, and the bush. In addition, the ACS has called for Alaska to enact legislation that expands the ACEMS membership to include trauma experts, to hire and fund a full-time trauma system manger, to establish a second Level II trauma center in Anchorage, and to require all acute care hospitals to participate in the trauma system within two years (AP/Fairbanks *Daily News-Miner*, 1/26, available through http://newsminer.com; ACS Committee on Trauma report, accessed 1/27, available through www.chems.alaska.gov).

➢ IN THE JOURNALS

3 Study highlights outcomes disparities across similarly designated trauma centers

Risk-adjusted mortality rates vary considerably across similarly designated trauma centers, according to a study in the January *Archives of Surgery*. Noting the dearth of data to support the assumption that trauma centers with the same designation status provide equivalent care quality, researchers analyzed 2003 patient data from Level I and II trauma centers in the Texas EMS/Trauma Registry to compare in-hospital survival rates, adjusting for differences in age, sex, race, injury mechanism, and injury severity. The 18,584 study patients ranged in age from 15 to 99; 10,620 were treated at one of seven Level I trauma centers, and 7,964 were treated at one of eight Level II trauma centers. The study population constituted more than 70% of patients submitted to the trauma registry, excluding trauma centers that admitted fewer than 100 patients.

KEY FINDINGS

- The adjusted odds ratios (ORs) of survival were significantly different from crude ORs at six of the 14 trauma centers, underscoring the importance of risk adjustment when performing quality comparisons, the researchers said.
- Compared with the best-performing trauma center, eight trauma centers demonstrated significantly worse odds of patient survival ($p<0.05$), while six performed as well as the referent.
- Observed versus expected survival ratios—calculated for each trauma center by dividing the mean observed survival rate by the mean survival rate predicted with the risk-adjusted model—revealed that one trauma center had significantly worse severity-adjusted outcomes; others were "marginal," but none of the centers performed better than expectations.

The study authors concluded that the variation in trauma patient outcomes between similarly designated trauma centers may reflect care quality discrepancies—and should spur improvement efforts. They noted that the quality gap could stem from shortcomings in current trauma center evaluation criteria, which may not include all factors that influence patient outcomes, adding that such factors should be identified and included in the designation process (Shafi et al., "Significant variations in mortality occur at similarly designated trauma centers," *Archives of Surgery*, January 2009, available through www.archsurg.com).

➢ TRAUMA HEADLINES

4 Community Medical Center (Pa.) hires neurosurgeons to maintain trauma service

Community Medical Center (CMC)—a Level II facility in Scranton, Pa.—recently hired two neurosurgeons to fill the ED call coverage gap created when an independent neurosurgeon transitioned into semiretirement, the Scranton *Times-Tribune* reported. The retiring physician served for the past seven years as the only trauma neurosurgeon for seven Northeast Pennsylvania counties until nearby **Geisinger Wyoming Valley Hospital** in Wilkes-Barre received Level II trauma center designation last October. According to the *Times-Tribune*, CMC's new neurosurgeons relinquished their private practices to join the medical center in bolstering its neurology service line (Axelrod, 1/21, available through www.thetimes-tribune.com).

5 Erie County Medical Center (N.Y.) to expand ED, Level I trauma center

Buffalo-based **Erie County Medical Center**—a Level I trauma center and the Regional Trauma and Disaster Preparedness Center for Western New York—recently received initial state approval for a $7 million ED and OR expansion, *Business First of Buffalo* reported. Erie County Medical Center launched the project to accommodate swelling ED volumes, which rose from 48,670 in 2005 to 55,000 last year. Pending final approval from the state Health Department, the project will increase the number of ED beds from 29 to 41 and add two ORs for a total of 12. According to hospital officials, the increased capacity will allow the hospital to improve trauma care and respond to growing surgical volumes (Drury, 1/14, available through buffalo.bizjournals.com).

6 Utah Valley Regional Medical Center receives ACS Level II verification

Provo-based **Utah Valley Regional Medical Center** (UVRMC) earlier this month was verified by the ACS as Utah's only Level II trauma center south of Salt Lake City, the *Desert News* reported. According to a UVRMC spokeswoman, the facility submitted the application in 2006, following nearly a decade of upgrades—including an ED renovation and a helicopter acquisition—and staff training. UVRMC joins Ogden-based **McKay-Dee Medical Center** and **Ogden Regional Medical Center** as the third Level II trauma center in the state; Utah's Level I trauma centers include Salt Lake City-based **University Hospital** and **Primary Children's Medical Center**, as well as **Intermountain Medical Center** in Murray (Stuart, *Desert News*, 1/20, available through www.desertnews.com; AP/Local News 8, 1/20, available through www.localnews8.com; KSL 5, 1/29, www.ksl.com).

7 Staten Island University Hospital (N.Y.) to open new trauma facility

The new $39 million **Elizabeth A. Connelly Emergency and** (Level I) **Trauma Center** at **Staten Island University Hospital's** Ocean Breeze campus is slated to open in June, more than tripling the size of the hospital's current 12,000-square-foot ED and increasing its capacity from 70,000 to 90,000 visits per year, the *Staten Island Advance* reported. The new 56-bed ED will feature three trauma bays and several resuscitation rooms, as well as a radiology suite, a decontamination area, four isolation rooms, a four-room psychiatric unit, an eight-room urgent care center, and a seven-room pediatric care center. In addition, collapsible walls will allow staff to temporarily close units that are not in use (Donnelly, 1/24, available through www.silive.com).

➢ GENERAL HEALTH CARE HEADLINES

8 HealthGrades study: Mortality risk 27% lower at 'top hospitals'

Medicare beneficiaries who receive care at the nation's top-performing hospitals are about 27% less likely to die and about 8% less likely to experience complications compared with patients treated at other hospitals, according to a study released last week by health care ratings group HealthGrades. For the *HealthGrades Seventh Annual Hospital Quality and Clinical Excellence* study, HealthGrades reviewed more than 41 million hospital discharge records for Medicare patients treated at the nation's nearly 5,000 short-term, non-federal, non-children's acute-care hospitals between 2005 and 2007 for 26 common inpatient procedures and diagnoses, including cardiac surgery, percutaneous coronary intervention, myocardial infarction, heart failure, pneumonia, pulmonary embolism, respiratory failure, and sepsis, among others. HealthGrades identified 270 facilities with risk-adjusted mortality and complication rates that scored in the top 5% of all U.S. hospitals, designating each of those facilities as a HealthGrades Distinguished Hospital for Clinical Excellence. Comparing those top hospitals with other institutions, HealthGrades found that the risk-adjusted mortality rates at the top-performing hospitals were between 18% and 40% lower than at all other hospitals for 17 procedures and diagnoses where mortality was the endpoint. Meanwhile, risk-adjusted complication rates at top-performing hospitals were between 2% and 14% lower than at all other hospitals for nine procedures where the endpoint was in-hospital complications.

The researchers calculated that if all hospitals performed at the level of top-performing hospitals, 152,666 deaths and 11,772 in-hospital complications could have been prevented between 2005 and 2007. Additionally, the researchers found that across the study period, reductions in risk-adjusted mortality were greatest at top-performing hospitals, which recorded an 18% improvement between 2005 and 2007, compared with a 13% improvement among all other hospitals. Similarly, top-performing hospitals posted a 4% reduction in in-hospital complication rates, compared with a 2.5% reduction at all other hospitals. Based on the findings, HealthGrades concluded that the top performers have "set the bar for all other U.S. hospitals and represent the standard for clinical excellence that consumers and payers should demand" (Ruiz/Whelan, *Forbes*, 1/27, available through www.forbes.com; HealthGrades release, 1/27, available through www.healthgrades.com; HealthGrades report, January 2009, available through www.healthgrades.com).

9 Study finds health IT use improves outcomes, reduces costs

A study assessing the relationship between hospitals' use of health information technology (IT), costs, and clinical outcomes found that increased use of such technologies is associated with lower mortality and complication rates, as well as with decreased costs and length of stay. For the study—published in the *Archives of Internal Medicine*—a researcher from the **University of Texas Southwestern Medical Center** in Dallas and colleagues surveyed physicians from 41 Texas hospitals about their health IT use. Using the Clinical Information Technology Assessment Tool—which measures levels of automation through physician interactions with the facility's information system—the researchers correlated the assessment score with clinical outcomes and costs for 167,233 inpatients older than age 50 who were treated at the participating hospitals between December 2005 and May 2006 for myocardial infarction (MI), heart failure, coronary artery bypass graft (CABG), and pneumonia. Specifically, the researchers evaluated four technologies, including those that automate medical notes and records, manage test results and physician order entry, and provide clinical decision support. The researchers found that higher decision support scores were associated with statistically significant reductions in risk of complications among all conditions and for MI specifically; higher decision support scores were also associated with reduced mortality risk from pneumonia. Meanwhile, each 10-point increase—on a 100-point scale—in automation of notes and records scores correlated with a 15% decrease in the adjusted odds of fatal hospitalizations, while higher scores in physician order entry were associated with 9% and 55% decreases in the adjusted mortality risk among MI and CABG patients, respectively.

Additionally, higher scores for use of test results, order entry, and decision support technology were associated with lower adjusted costs for all hospital admissions. Although the researchers noted that electronic notes and records scores were associated with significant reductions in mortality risk across all patients, the scores were not associated with a cost benefit. In an accompanying editorial, a physician from Brigham and Women's Hospital said the "landmark" study is "likely to be helpful in convincing policy experts…of the benefits when these technologies are in routine use," adding that computerizing clinical documentation "should be high on the 'to do' list of organizations" (Amarasingham et al., *Archives of Internal Medicine*, 1/26, available through archinte.ama-assn.org; Bates, *Archives of Internal Medicine*, 1/26, available through archinte.ama-assn.org; Gever, *MedPage Today*, 1/26, available through www.medpagetoday.com; Steenhuysen, Reuters, 1/26, available through uk.reuters.com; *AHA News Now*, 1/26, available through www.ahanews.com).

10 Pediatric head, neck MRSA infections increasing, study finds

The prevalence of pediatric head and neck infections with methicillin-resistant *Staphylococcus aureus* (MRSA) has risen alarmingly, according to a study published in the January issue of *Archives of Otolaryngology-Head & Neck Surgery*. For the study, a researcher from Emory University and colleagues reviewed data on 21,009 pediatric head and neck MRSA infections that occurred between January 2001 and December 2006. The data was collected from a peer-reviewed national electronic microbiology database—called the Surveillance Network—which aggregates strain-specific antimicrobial drug resistance test results from clinical laboratories affiliated with more than 300 U.S. hospitals across the country. More than half of the patients were male and the patients averaged 6.7 years in age. *MedPage Today* reported that about 73% of the cases were treated as outpatients. According to the researchers, MRSA head and neck infection rates more than doubled across the study period, from 11.8% in 2001 to 28.1% in 2006. *HealthDay* reported that about one-third of the MRSA infections affected the ears, while about 28% affected the nasal and sinus areas. The researchers also found that 47% of clinical MRSA isolates also were resistant to the antimicrobial agent clindamycin. Commenting on the findings, the researchers suggested that "judicious use of antibiotic agents and increased effectiveness in diagnosis and treatment are warranted to reduce further antimicrobial resistance in pediatric head and neck infections" (Naseri et al., *Archives of Otolaryngology-Head & Neck Surgery*, January 2009, available through archotol.ama-assn.org; Gever, *MedPage Today*, 1/19, available through www.medpagetoday.com; Mozes, *HealthDay*, 1/19, available through www.healthday.com; Rabin, *New York Times*, 1/20, available through www.nytimes.com; Tanner, Associated Press, 1/20, available through www.ap.org).

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