CALS Training Provides Solution to Emergency Provider Shortages

By Darrell Carter, MD

Training of emergency physicians is not keeping pace with the growing demand for their skills, creating a shortage of board certified EPs to staff emergency departments across the country, as recent studies report. Demand is likely to continue and shortages to increase, especially in rural areas, where geographic densities for EPs are much lower than urban areas.

Although rural EDs represent only 16 percent of EP demand, significant disparities in supply exist. Only 33 percent of physicians practicing in rural EDs are residency trained or board certified in emergency medicine, compared with 72 percent in urban areas, according to the study, “Assessment of Emergency Physician Workforce, 2005.” (Acad Emerg Med 2008;15[12]:1317.) As older physicians retire and die, fewer new graduates are likely to replace them. The number of recent EP graduates currently practicing in rural areas is a fraction of the total. Of those graduated within the previous five years, only one percent practice in small rural areas and five percent in any rural area, compared with five percent and 15 percent, respectively, of those graduated 20 or more years previously. (“National Study of the Emergency Physician Workforce, 2008,” Ann Emerg Med 2009;54[3]:349.)

The conundrum of providing emergency medical care is well understood. Any emergency situation can present itself at anytime to the ED, necessary expertise must be made available around the clock, and patient demand for treatment is unrestricted. Economic issues aside, this dilemma presents complex challenges in supplying the needs of EDs — both in personnel and equipment — and meeting the demand for patient care, something that is increasing.

According to a 2006 Institute of Medicine report, alternate staffing models will soon be required, according to the report, “Hospital-Based Emergency Care: At the Breaking Point.” (Washington, D.C.: National Academies Press; 2006), particularly in rural areas (“Qualification Discrepancies Between Urban and Rural Emergency Department Physicians,” J Emerg Med 2005;28[3]:273). One successful model, the Comprehensive Advanced Life Support (CALS) program, offers a comprehensive, single-curriculum approach for training rural providers, and is being implemented in Minnesota and other states.

The CALS program, initiated in 1993 by grassroots volunteers, provides advanced education for physicians and midlevel providers such as physician assistants, nurse practitioners, nurses, nurse anesthetists, and paramedics who work in rural or remote settings. The CALS training, developed to address the limitations inherent in these settings, utilizes a unique team approach to help health care providers become adept at treating the wide range of undifferentiated emergencies that present to EDs and to work cooperatively with one another to employ available expertise and resources quickly and efficiently.

The CALS curriculum is conducted in a collaborative environment, and consists of home review of the comprehensive CALS course manual, a two-day interactive classroom session (CALS Provider Course), and a one-day, hands-on laboratory (CALS Benchmark Skills Lab). The curriculum covers information contained in many of the currently offered advanced life support courses as well as additional training in universal approach, teamwork, and advanced airway management. The curriculum is flexible, and other topics such as emergency preparedness, blast injuries, tropical medicine, and farming, can be included when appropriate.

CALS’ Reach Intensifying

Since 1996, more than 194 provider courses and 500 skills labs have been taught throughout Minnesota with some 4,150 health care providers participating. Four other states — Wisconsin,
Missouri, Texas, and California — have jumped on board, developing and implementing the CALS program as well. Although CALS has not been actively promoted internationally, the first CALS Provider Course was delivered in June 2009 in British Columbia, Canada, and a modified CALS course for developing countries (called Afri-CALS) is being developed in Kenya.

Perhaps the strongest acknowledgement of the value of CALS comes from the U.S. Department of State: CALS has become the preferred advanced life support course for training U.S. embassy medical personnel who staff American embassies throughout the world. Since 2004, 15 courses have been taught to more than 660 embassy medical personnel. Additional training courses for the U.S. embassy personnel are scheduled to be conducted in Asia and Europe this coming winter.

Appropriate Rural Training
At the outset, the CALS training was perceived as supplemental. But as its positive impact became apparent, more rural and even suburban and metropolitan hospitals in Minnesota added CALS training for their providers, especially for ED personnel. A number of rural Minnesota hospitals, particularly critical access hospitals, have adopted CALS training as an alternative to Advanced Cardiac Life Support (ACLS) and Advanced Trauma Life Support (ATLS) course requirements for their medical staffs. In Minnesota, CALS training may be substituted for ATLS training requirements for physicians or physician extenders working in Level III and IV trauma centers. Nursing educational requirements for trauma centers also may be met by attending a CALS Provider Course. In Wisconsin, CALS training may be used by Level IV trauma center providers to meet their required training.

In addition to providing emergency patient care with a rural focus, the CALS program gives much needed guidance to rural hospitals to understand their limitations. The CALS philosophy is not that rural hospitals will be able to take care of all clinical situations on their own, but that rural hospitals should be able to determine patients’ critical needs, to stabilize patients rapidly, and to transfer them quickly to appropriate care. The CALS program also seeks to work in collaboration with other national organizations and programs to improve rural emergency and critical care.

While there have been no controlled outcomes studies on the effects of CALS training on emergency care, a number of informal CALS surveys and studies indicate improvement in skills and the quality and management of serious (especially airway) emergencies. Some observations from these include:

- Increased comfort levels of rural emergency personnel through effective training in procedures rarely encountered on the job, including development of confidence, reduced anxiety, and greater organization while caring for critically ill or injured patients.
- Improvement in the success rates for performing endotracheal intubation, rapid sequence intubation, and other advanced airway techniques by primary care providers in rural hospitals (a significant change from a decade ago).
- Improved anticipation and preparation for patients’ needs prior to arrival as well as improved speed and efficiency of treatment, leading to better patient outcomes.
Improved care of time-sensitive conditions, such as acute stroke, trauma, and critical airway management.

Improved speed and efficiency of transferring critically ill and injured patients who need higher levels of care.

Establishment of a rural-based standard for assessing the emergency medical equipment needs of small hospitals and clinics.

Given the current climate of health care reform, ED staffing shortages, and increasing numbers of patients, more change is anticipated. Adequate preparation, knowledge, skills, and teamwork development are some of the essential components needed to train rural emergency health care providers to manage the broad range of medical emergencies they encounter. The CALS program, now an independent organization, has been successful in improving rural emergency care, and is one well-adapted model to help rural providers and hospitals. Further development of the CALS Program is also on the horizon.

Additional information about the CALS Program may be obtained from the CALS web site, www.calsprogram.org. A link to a video explaining the value of CALS is located at www.calsprogram.org/provider_course_video.aspx.

Dr. Carter is an emergency physician in Granite Falls, MN, and is a leading force behind CALS. He was the keynote speaker at Monday’s Rural Emergency Medicine Section meeting during the ACEP Scientific Assembly. The program was originally supported by the Minnesota Academy of Family Physicians and the Minnesota Chapter of ACEP. CALS continues to receive support in Minnesota through a state legislative grant and nationally through the FLEX Program.