

CALS Implementation in Rural Hospital Emergency Departments

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After attending the Comprehensive Advanced Life Support (CALs) course in Minnesota, Dr. Alex Beuning was motivated enough to take all he had learned—such as techniques in rapid sequence intubation, optimal approaches to rural trauma care, and much else—back home to Eau Claire, Wisconsin.

During the Fall 2010 CALs Conference (in Minneapolis, Minnesota) entitled *Building Resources for Rural Emergency Care*, Dr. Beuning described CALs as the major catalyst for restructuring the emergency department (ED) model of care for the regional hospitals of Luther Midelfort, Mayo Health System, where he is Regional Emergency Services Medical Director. The Luther Midelfort Case Study, conducted since 2006, focused on redesigning three rural critical access hospital EDs (in Barron, Bloomer, and Osseo) in West Central Wisconsin.

Dr. Beuning commented, “The CALs concepts energized our multidisciplinary team, leading us to closely examine our structure so that we could ensure that quality improvements were not only the supplemental hard work of providers and nurses in their overloaded schedules, but also structural ED design improvements.”

The impetus for change grew out of lack of consistent clinical quality, failure to follow standardized system protocols, difficulty improving ED quality assurance, need for consistent staffing, decreased willingness of local family practitioners to staff the ED 24/7, and increased connection with the receiving ED. The model was built to develop clinical and service excellence as well as financial stability.

Redesigning the EDs involved voice-of-customer surveys obtained from patient, physician, physician extender (physician assistant/nurse practitioner), and Emergency Medical Services (EMS) focus groups. Findings were assimilated about staffing, service, and needs of local physicians, physician extenders, and ED nurses.

Improved clinical quality was demonstrated through (1) improved cooperation within the system leading to increased direct admission percentages from critical access hospitals in Bloomer, Barron, and Osseo to the receiving ED (Luther Midelfort in Eau Claire), (2) STEMI data in the critical access sites equivalent to Luther Midelfort Hospital, (3) improved utilization of standardized trauma team protocols, (4) active monthly peer review at all sites that allowed providers and nurses to practice and master skills taught in the CALs course, (5) outstanding Press-Ganey patient satisfaction data (>90% for all three sites), (6) improved staff and provider satisfaction, (7) fewer quality-of-care complaints, and (8) increased patient volume.

All three critical access hospitals received awards for Press-Ganey data over the past three years. All three also received Wisconsin Level 4 state trauma certification. Luther Midelfort Oakridge (in Osseo) and Luther Midelfort Chippewa Valley (in Bloomer) have become designated CALS Hospitals; Luther Midelfort Northland (in Barron) is in the process of earning certification. The CALS Hospital Program honors rural hospitals and their communities for their commitment to quality rural emergency medical care.

Teamwork in Action

During the CALS course, all participants are trained to be comfortable and willing to be assertive team members during an emergency in communicating to the team leader whatever may have been overlooked and may be done to improve the quality of patient care.

According to Joe Martinez, EMT-P and CALS instructor of 8 years, “Dr. Beuning’s case study took the cornerstone concept of teamwork from the CALS training and incorporated it into the day-to-day operations of three rural EDs so that all staff members were on the same page with regard to procedures and guidelines.” Part of the restructuring involved the implementation of sepsis, DKA, stroke, and other protocols so that treatment would be consistent.

Martinez remarked, “In the CALS method, all team members are an integral part of a team, and they’re trained to become comfortable providing input. Teamwork involves the willingness to speak up in order to avoid mistakes and missed opportunities for treatment. No one can know it all. The CALS approach utilizes the expertise of everyone on the team and provides the best opportunities for the best outcomes for patients.”

During the CALS course, physicians are trained to listen more effectively to those in the field and to take advantage of the information obtained about the patient through prehospital personnel. Physicians incorporate this information into patient care in the ED.

Implementing CALS in a rural hospital is also a team effort, according to Dr. Beuning, who commented, “Without the support and hard work of many administrators, physicians, nurses, and physician assistants in our initial design process, our current model of ED practice would not have been successful.”

Why Improve Rural EDs?

Shortly after taking his first CALS course, Dr. Beuning also became a CALS instructor. He remarked, “Being a CALS instructor focuses your mind on the need to improve care in rural EDs. Talking to CALS course participants about the resource limitations they experience is motivation to advocate for them with administrators and legislators.”

When asked about how rural EDs will compare to their urban counterparts in the future, Dr. Beuning concluded, “Rural EDs will probably never have the extensive staffing and equipment resources of urban

EDs. However, getting the resources to rural EDs and allowing them to effectively stabilize and transfer patients with skill and efficiency is a moral imperative if we feel rural US residents deserve adequate medical services. If we don't advocate for this locally, how can we expect people to want to live and raise their families in our rural communities?"

What is CALS?

The CALS Program began as a grassroots Minnesota organization of volunteer health care providers whose goal was to improve the quality of rural emergency care by creating a course designed particularly for medical systems lacking in the latest technology, equipment, and specialist availability.

The CALS course presents a unique single curriculum that covers information contained in many other advanced life support courses with additional training in advanced airway management. Conducted in a collaborative environment, the CALS curriculum consists of the following components: home review of the Course Manual, a two-day interactive classroom session (Provider Course), a three-hour Trauma Module, and a one-day, hands-on laboratory (Benchmark Skills Lab).

Given the enormous need for emergency care education, it's no surprise that over the past 16 years, the CALS Program has evolved into a nucleus national organization that has spun off programs in 3 additional states: Wisconsin, Missouri, and Texas. The CALS Program has also hosted comprehensive advanced life support courses in Oklahoma, California, and Canada. Global outreach extends through the US Department of State, for which the Program has presented 23 courses for 720 US embassy medical personnel over the past 7 years. Additional states, emergency medicine organizations, as well as developing countries have shown wide interest in the concept of CALS, and both interest and need are increasing rapidly.

The CALS Program is committed to (1) teaching a system of care using the CALS Universal Approach to handle undifferentiated emergencies, (2) emphasizing the importance of all members of the team and the teaching of teamwork for rural teams, (3) helping to standardize rural emergency care, (4) teaching the skills and knowledge needed for the stabilization of most critically ill/injured patients as well as proper use of equipment available in rural areas, and (5) using a system of care that emphasizes the needs of the patient.

Current goals include disseminating and sharing CALS as widely as need and interest demand, collaborating with other groups to help to serve as CALS training centers, expanding and modernizing the way emergency medical knowledge is taught (including development of electronic platforms), and creating a course for developing countries.

The CALS Program is interested in networking with other organizations and institutions, training new instructors, and obtaining public and/or private financial support to forward the CALS mission. For more information, please contact Kari Lappe, Program Manager, at 612-624-5901 or kdlappe@umn.edu.