

Remote Response

Nevada's Humboldt General Hospital EMS offers progressive prehospital care literally in the middle of nowhere

The high desert of northern Nevada has been compared to an ocean of sagebrush washing up against islands of short, steep mountain ranges. Interstate 80, stretching from San Francisco to New York City, follows the original California emigrant trail and first transcontinental railroad through this area. Only half a dozen towns lie along the 500 miles between Reno, NV, and Salt Lake City.

As you would expect, most of the EMS agencies here are volunteer, and they face the same challenges today as other volunteer units around the country. But the story is different in the town of Winnemucca, NV, about 150 miles east of Reno. Here, Humboldt General Hospital (HGH) has developed an EMS system that rivals many in cities 10 times as large.

Humboldt County covers 10,000 square miles with a population of only about 16,000. EMS began with a group of volunteers in the 1950s. About five years ago, it became part of the hospital, a volunteer EMT-I service. One of the goals of this was to go ALS, something that would have been difficult as a stand-alone volunteer agency. Some volunteers put themselves through paramedic school and were



Photos by Barry Smith

hired by the hospital as full-time employees. A paramedic was on duty 24/7, and volunteers would respond to the ambulance station when a call was received. But the hospital wanted something better.

“We wanted to improve the EMS unit,” says HGH CEO Jim Parrish. “We are in one of the most remote areas of the lower 48 states. We felt we had to have excellent prehospital care. We needed to have the ability to move people from the Winnemucca area to more definitive care facilities without having to use helicopters and planes.”

GROWING A SYSTEM

Pat Songer was hired as director of EMS in September 2005. Then, “it was still mostly volunteers with a few paid paramedics,” Songer says. “We have evolved into a system of mostly paid crews with some volunteers. The focus of the hospital was to expand and develop the program. I was given a fairly substantial budget to update the service with new ambulances and equipment. We have a fleet of four new ambulances and have developed a critical care paramedic program, completed a training center, developed an extensive QA and QI program, and expanded our auto extrication program.”

Another goal was to recruit and retain more volunteers and classify them as “casual call” employees. This let the hospital increase their benefits by paying them for training and calls. The hospital then developed a competency and training program that provides all its recurrent training and a lot of new education.

“We do all our quarterly skill competencies with our human patient simulators,” says Songer. “I think this helps with retention by keeping people involved and providing the latest education.

“One of the best things for retention is our rescue extrication program. The volunteers get fully trained on all the equipment, and we have no problem getting them to come in for rescue callouts. I don’t have a high turnover rate. As a matter of fact, the number of

HGHEMS does all the rescue work in Humboldt County. The rescue extrication program has proven to be a key tool for recruiting volunteers.



volunteers is growing.”

HGHEMS does all the rescue work in Humboldt County. This began with the original volunteers back in the 1950s. Each ambulance carries hydraulic spreaders and other basic rescue tools. The service also has a fully equipped medium-duty rescue truck. Crews have responded as far as 130 miles for rescue and medical mutual aid calls.

Current staffing is a crew of two (either two medics or a medic and an Intermediate), 24/7. There are nine full-time medics and three full-time Intermediates with 15 casual-call volunteers. Staffing is heavy during weekdays, with office personnel available, and three ambulances can often be in service within a matter of minutes. Everyone carries pagers, and when a call comes in that’s outside the city, off-duty crews are paged, and people come in to staff another ambulance. The same is true for transfers.

“We like to run with a crew of three—two full-timers and one volunteer,” Songer explains. “We are able to do this about 50% of the time. We hope to increase that to about 90% by the middle of this summer. Now that we have a full-time training/education coordinator, we’re offering more EMT-Basic and Intermediate classes and getting an increasing interest in volunteering.”

The local volunteer fire department does not respond to medical calls. HGHEMS uses local police officers and sheriff’s deputies as first responders for all potentially life-threatening calls. They have AEDs in their patrol vehicles and are trained in first aid and AED use.

“This is especially important in our outlying areas, where they can be on scene much faster than we can,” Songer says. “The city police have had

a couple of AED saves. We have a very good relationship with law enforcement. They will drive the ambulance to the hospital if we only have a two-man crew so our crew both can work on the patient. They have a great attitude and are a tremendous asset for us.”

EXPANDED OPPORTUNITIES

Because the call volume is not high (about 1,700 a year), HGHEMS has developed an extensive recurrent training program for its employees. Every paramedic is required to do 16 intubations per quarter, either real or on the Laerdal SimMan human patient simulator. A minimum number of IVs and IOs must be performed. In addition, competency evaluations are done every quarter.

“All our paramedics and Intermediates must have PALS, ACLS and AMLS,” says Ken Whittaker, HGHEMS’ education and training coordinator. “Every two years the medics go to the two-day Advanced Trauma Life Support course. Because we are so rural, we can do chest tubes and central lines with online medical direction. In addition, all paramedics go through an advanced airway course every two years. We go to different courses around the country to see what new technology is available and get new ideas on how to deal with difficult airways.”

Winnemucca is 2½ hours from the nearest trauma and tertiary-care centers in Reno. It can be difficult to get aircraft if the weather is bad. Even for helicopters, it’s almost a three-hour mission to come from Reno, load a patient and return. The hospital initially contracted with a fixed-wing air ambulance company to station an aircraft in Winnemucca, but it lacked

“We are in one of the most remote areas of the lower 48 states.”

Winnemucca is 2½ hours from the nearest trauma and tertiary-care centers in Reno.



the ability to staff it consistently. The hospital board of directors directed HGHEMS to establish a critical care ground transport capability, and it is intended for all paramedics to go through the University of Maryland, Baltimore County's critical care paramedic program.

"We bought two ambulances for the program," Songer says. "One has a four-door cab so we can transport family members. It also allows the returning crews to all be facing forward on crashworthy seats. So, the big cab is a safety consideration for us. We also have a DVD player in it for patients and have it stocked with food and drinks for family. We've had good success with kids who are in pain going on these long transfers by putting on movies. Their pain seems to diminish."

HGHEMS personnel have been integrated into hospital services as well. The hospital wanted to start a cardiac rehabilitation program so local patients wouldn't have to go all the way to Reno.

"Since we have such limited resources," explains Parrish, "we did some thinking and said, 'Why don't we have the paramedics run the program?' It would have been difficult for the hospital to hire a part-time cardiac rehab nurse or technician. So we trained our paramedics in cardiac rehab skills and have them assist the physical therapist during the sessions. It was a way to get the paramedics involved in a different aspect of medicine. It's a win-win situation for the hospital. We maximize use of the paramedics and offer a program that probably wouldn't be feasible without them. The medics get to expand their knowledge and skills. We are also beginning a program where off-duty paramedics will become cardiac stress test technicians and administer stress tests."

Adds Songer: "We're considered a department of the hospital, and I think that gives us strength. It lets us expand our services into other areas of the hospital. It also helps to justify the costs of the EMS service when we can help the hospital offer other services.

Money is becoming tighter, so we have to maximize how resources are used. We see our EMS personnel becoming even more integrated into the hospital in the future."

HGHEMS is also heavily involved in community education programs. One of its greatest successes has been its public-access defibrillation program. Around 200 AEDs are now in the field throughout Humboldt County. All law enforcement vehicles, schools, community centers, senior centers, the local convention center, some rest stops and gas stations, and fire departments have been equipped. Several local businesses also participate. Four saves have walked out of the hospital due to the program. A full-time person coordinates community programs such as PAD, CPR training and a child car seat inspection program.

FUNDING INNOVATION

How does a rural hospital pay for all this? Humboldt General is a public entity supported by a hospital tax district. It has also been designated as a federal rural critical access hospital, which allows a higher reimbursement rate from Medicare/Medicaid. Overall, the reimbursement rate for the hospital (and EMS) is 92%.

"Gold mining is a huge business in this area," notes Parrish. "They pay their employees well and have good insurance benefits. But gold mining is a boom-or-bust industry. We've been cross-training EMS people to work in cardiac rehab, and they can also assist in the ED. We try to integrate EMS into the hospital as much as possible, as well as getting our existing personnel integrated into EMS. We would like to see people like our phlebotomists and ward clerks become EMTs so they can help out. If and when mining goes down, we will have a much more flexible staff in the hospital that can do several things."

"I think EMS will become very important for community health programs in the future," Songer says. "We are looking at creating a community paramedicine program. We don't know exactly what it will look like yet, but it is coming. Things like flu shots, wellness checks and injury-prevention programs for seniors will be involved—anything we can do to reduce the number of hospital stays and promote the health of the community. I think this will become an important function for rural paramedics.

"I don't think, just because we're rural, we shouldn't have the same survival chances as in urban areas for cardiac arrests and strokes, and have PAD programs and programs to keep our kids safe. Having these things in your community shouldn't depend on where you live," Songer adds. "You have to be able to think outside the box to develop programs that fit rural areas. We have to figure out how to use new technologies to improve outcomes. For instance, we're going to start using a portable blood analyzer to obtain lab values in the field and do a trial on a portable ultrasound machine to detect internal bleeding. We want to be able to shorten the time it takes to get a patient to definitive care without needlessly calling a helicopter from 150 miles away simply because a patient met a mechanism-of-injury criteria. We should be able to offer the same level of care and outcomes for our citizens that is available to people in larger cities."

For more information on Humboldt General Hospital's EMS operations, contact Songer at PSonger@hghospital.ws. ■

Barry D. Smith is ground CQI coordinator for the Regional Emergency Medical Services Authority (REMSA) in Reno, NV. He has been involved in EMS for over 30 years, 29 as a paramedic, and has written five books and more than 200 magazine articles. Contact him at bsmith@remsa-cf.com.

“We should be able to offer the same level of care for our citizens that is available to people in larger cities.”