Community Paramedic: A New Expanded EMS Model

BY GARY WINGROVE AND SUSAN LAINE

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Introduction

The state rural health offices of Minnesota and Nebraska funded a new initiative using federal Medicare Rural Hospital Flexibility Grant funds from the Health Resources and Services Administration (HRSA) to fill gaps in healthcare in rural and remote areas of the US. The development team is the Community Healthcare and Emergency Cooperative (CHEC), operating under the auspices of the North Central EMS Institute. CHEC is comprised of an international advisory board with representatives from Mayo Clinic Medical Transport in Minnesota and Western Wisconsin; the Nebraska and Minnesota state rural health offices; Hennepin Technical College and the Health Education-Industry Partnership and the Community Health Worker Program of Minnesota; Creighton University EMS Education, the University of Nebraska Medical Center and the Life Support Program at Offutt Air Force Base of Nebraska; Dalhousie University and The Rural Centre of Nova Scotia; and, the Australian Centre for Prehospital Research in Queensland. (text box with principals and their professional affiliations listed.)

Filling an Unmet Need with Untapped Resources

With a quarter of the U.S. population, or 75 million people living in rural and remote regions and only 10 percent of the country's physicians practicing in those remote locations, limited access to health services is a serious challenge. Compounding the problem are widespread hospital and clinic closures, aging populations, a broadening of cultural and ethnic diversity, and the fact that people living in rural and remote regions are generally economically disadvantaged and often less healthier than their urban counterparts. (Rural Health Assoc. Chart)

"As the need for medical services grow in rural and remote areas, it makes sense to tap those folks already living and working in the community to augment services," says Gary Wingrove, Director of Strategic Affairs Director for Mayo Clinic Medical Transport (MCMT)and CHEC project director. "Paramedics and EMTs are among the logical choices for extending health care services because they are already trained in the fundamentals of patient assessment and medical treatments and they are already integral members of the communities, resources, and existing health services, most especially, the people living in the communities."

The Community Paramedic model is not new. There are similar programs operating throughout the world, including notable successful models in Nova Scotia, Mexico, Australia, and Alaska. While some programs in the US, e.g., Alaska's Community Health Aide/Practitioner (CHA/P), have been successful over several decades, others did not survive. A well-known example of the latter was the Red River Project in Taos County, New Mexico. The Red River Project was in operation from 1995 to 2000 (TAOS County Health Outreach Program, Red River, New Mexico, Healthy People 2010 Objective: 1-11) When the project began, Red River was unable to support the

services of a full-time physician and clinic and the nearest hospital was about an hour away by ground transportation. The population of Red River, about 400 permanent residents, swelled to 10,000 in peak ski and fishing seasons, however. (Hauswald, Raynovich & Brainard. Expanded emergency medical services: the failure of an experimental community health program, PEC, 19:23, February 2005.)

Five paramedics began the training to become Community Health Specialists in Taos County. The University of New Mexico led the development of the curriculum and the clinical training was provided by the Taos County professional medical community at the regional hospital in Taos. The training involved 380 didactic hours and 600 clinical training hours beyond the standard paramedic training. The curriculum included suturing, otoscopy, and treatment of upper respiratory tract infections with antibiotics. (Table of skills and treatments) More than 15 years later, the project is still noteworthy for its successes and is still being examined carefully for the reasons it did not thrive. An evaluation of the project that was conducted in 1999 by the University of New Mexico noted several findings (Hauswald, Brainard & Raynovich, 2005. Expanded Emergency Medical Services The Failure of a Community Health Model. PEC, Vol. 9, No. 2).

Making a Difference: The usual ambulance transports to the nearest accepting hospital in Taos (sometimes involving more than two hours, especially in the winter months) were reduced from 78 to 11 percent of call volume. During the first eight months of services, the project recorded two-thirds of all calls for the Community Health Specialist and only one-third for traditional 9-1-1 EMS. This project filled a recognized gap in the community's health care services. As in many rural communities, the majority of EMS calls in Red River were for minor or preventive intervention such as wound care, immunization and routine follow-up assessments.

Challenges and Solutions: There was initial concern regarding the expansion of paramedic licensure, though the state's 1993 EMS Act, which allowed for special skills, provided the needed avenue for expanded scope of the practice. While Community Health Specialist paramedics are allowed to make many of their own decisions, the project relies on protocols that lean toward physician involvement, where appropriate. A significant feature of the project was that it built upon an expanded relationship among EMS, primary care, and public health officials - a vision that the Rural Paramedic Project has for the future.

A 2002 editorial review of the project was published in the Alameda County EMS newsletter:

- Other health care providers (a physician's assistant and nurse) began practicing in Red River after the project was operational.
- The Community Health Specialist/paramedics had an attrition rate to only one actual practicing CHS provider by the completion of the training program.
- Many citizens in the community were unaware of the level of services provided by local paramedics.

We must count on citizens of the world to say that the presently designed health care models have huge gaps and are not working. This is an initial attempt at developing a comprehensive gap-filling rural healthcare services model program designed to meet under-served populations. It is international, flexible and multiple entry portals. It is based on a cooperative assessment of community needs, and must remain so. We must be careful to preserve the focus on this community health model to avoid the pitfalls of some earlier expanded healthcare provider models that got mired in hierarchical quagmires and subsumed by inherent design weaknesses.

Dennis Berens
Advisory Council, Community Healthcare and Emergency Cooperative (CHEC)
Director, Office of Rural Health, State of Nebraska

The best practices and lessons learned from the IRCP have been harvested and incorporated into a three-phase standardized curriculum.

Today's Community Health Model

"All of the same issues and risks are on the table today," says Dennis Berens, Director, Office of Rural Health in Nebraska, and one believer in a zealous group of rural health experts who believe in a worldwide gap-filler model specifically targeted to rural and remote regions. "Even today we ask ourselves, 'Is this the right model for right now?' Our answer is, 'We won't know unless we get it out there.'"

In 2005, Berens and Wingrove and others, set out to learn how and where the community health model was working. Partners from the United States, Canada, Australia and Scotland formed *The International Roundtable on Community Paramedicine* (IRCP) with goals of surveying and evaluating existing programs. They shared data, funding experiences and curricula with their counterparts around the world. News of the existence of the IRCP traveled quickly and the group gathered members to become a driving force for a new healthcare paradigm.

IRCP found a wide range of successful international models and accessible resources. One notable example was the experience that occurred in a remote community in Nova Scotia. The 1,240 residents of Long and Brier Islands, with half of their population 65 or older, were about two hours and two ferry rides away from the nearest hospital. Nova Scotia developed a Community Paramedic program with expanded roles that thrives today. "They have impressive outcomes data," says Wingrove. "They show a 40 percent reduction in ER visits and a 28 percent reduction in clinic visits." This is after five years of using the expanded role paramedics in a variety of programs tailored precisely to the needs of the community, including conducting home health assessments, staffing health clinics and visiting residents with chronic conditions, 'shut-ins' through its Adopt-a-Patient program.

Making the Program a Reality

Today, CHEC has fast-tracked Community Paramedic program. The best practices and lessons learned from the IRCP have been harvested and incorporated into a three-phase standardized curriculum that will be made available to accredited colleges and universities internationally, yet intended for modification in whatever community, state or nation it is used. "This is a program driven by local needs and resources," says Wingrove. "The initiative to start such a program could come from a private or volunteer EMS service working closely with a medical director and college or university."

The CHEC has developed a formal curriculum and is piloting a training project, and is establishing standards and practices, including entry criteria and a registry of participants. Those who successfully complete the training will receive a certificate through the accredited Hennepin Technical College. Once Community Paramedic graduates register with NCEMSI, they will have access to job openings and continuing education opportunities. Adaptation of the curriculum for a Master's-level program is being investigated by the international partners, as well. CHEC is the support agency for colleges and universities who wish to establish a community health model program.

Pilot Programs Projected and in Progress

Bob McCarthy, EMS Education Director at Hennepin Technical College in Eden Prairie, Minnesota, is feeling very energized these days. McCarthy has been involved with EMS for almost as long as EMS has been evolving in the U.S. and now he is launching a pilot program, Prior Lake, Minnesota, that is intended to provide new career opportunities for paramedics and meet a critical need in the community. The program at HTC was designed specifically to meet the needs in rural and remote Minnesota, the home of many Native Americans. In addition to serving the Mdwanketon Sioux tribal nation, the goal and mission of the project includes sending a mobile clinic staffed with the newly trained Community Paramedics on the road to help the more remote Native Americans neighbors who have only limited access to health and medical services.

This fall, ten paramedics begin the training to become Community Paramedics at Hennepin Technical College (HTC) in a program that will broaden the traditional paramedic roles by incorporating the pilot curriculum that was developed by the CHEC.

Tribal leaders are embracing and financially supporting the pilot project. Michael Wilcox, MD, medical director for both the tribal ambulance service, Scott County's public health department and the HTC EMS program, will oversee the clinical and field training. The first cohort of students consists of 10 veteran paramedics who have been working for 10 to 20 years and are ready to take on more.

Dr. Wilcox will oversee the clinical and field training. He is emphatic about the hands on training he will provide. "Our paramedics are skilled care providers in a pre-hospital setting; they can do just as well in a home or community setting," he said.

Wilcox will provide training in suturing simple lacerations; screening and preliminary care for chronic disease processes such as hypertension, adult-onset diabetes mellitus, chemical dependency issues, and the students will learn to focus on other public health issues identified within the community served.

McCarthy stresses the importance of community collaboration in this pioneering effort, "We are fortunate to have champions who are willing and committed partners, including community leaders, medical professionals and academics with the College."

Leaders in other areas of the US have also begun exploring the possibilities for implementing a program. Tim Zagorski, Executive Director of Region II EMS, Las Cruces, New Mexico, is seeking funding to implement the program. He's stated that "It is not a matter of choice, as the Region has vast expanses of underserved communities and is the only available medical care in many of the communities are volunteer paramedics." He says the general response from physicians and nurses and the general public to expanded EMS models in the region are always positive and Region II EMS has a strong connection to New Mexico State University. He is certain that the University will embrace the new program and curriculum.

RESOURCES

1. IRCP Web site http://www.ircp.info
2. Community Paramedic website www.community-paramedic.org
4. Rural Health Chart — see below
5. URLs to some of programs mentioned —

   Provincial Ambulance Service, Nova Scotia http://www.gov.ns.ca/health/ehs/

   Alaska's Community Health Aide/Practitioner (CHA/P) http://www.akchap.org/
6. Contact information for Bob McCarthy's pilot program at Hennepin bob.mccarthy@hennepintech.edu Phone: (952) 995-1313

"Filling an unmet need is an important issue," says Debra Cason, Program Director of the EMS Education Program at University of Texas Southwestern Medical Center and Project Director for the National EMS Education Standards. "The EMS community is in the middle of an education agenda process to revise and redefine the levels of providers and their roles." Cason noted that there is a great deal of interest from the EMS community to be able to meet the needs in rural areas that are underserved with

The views of Cason and Zagorski are representative of the greater EMS community's thinking about the development of the program, where experts have noted that EMS will have to make a paradigm shift to reflect a philosophy of EMS providing extended, non-emergent care, and transporting patients electively to a wide variety of destinations, such as general clinics, behavioral health or counseling services, and others.

Challenges around the Community Paramedic project abound. How the programs will achieve and maintain funding after they are established? Will there be discomfort with this model? Will the Community Paramedic be welcomed as helpers and assistants to community physicians, nurses, home health aides and other health care professionals, or will the Community Paramedic filling this new role be viewed as a threat even though their professions are not adequately serving the remote areas? Will the public accept Community Paramedics as allied health personnel? Proponents say these challenges can and will be overcome. Most agree that the opportunities for EMS educators are exciting. Success with the internationally standardized CHEC model will provide career opportunities for Community Paramedics seeking a pioneering experiences in a new community health care frontier.

Key Players and Agencies

Agencies	Key Members
Dalhousie University	Ronald Stewart, MD
Australian Centre for Prehospital Research	Vivienne Tippet
Minnesota EMS Regulatory Board	Michael Wilcox, MD
Nebraska State Office of Rural Health	Dennis Berens
Minnesota State Office of Rural Health	Judith Bergh
Health Education-Industry Partnership	Anne Willaert
The Rural Centre	Katherine Harman
Creighton EMS Education	Bill Raynovich
Offut Air Force – Life Support Program	Gary "Trent" Ragsdale
University of Nebraska Medical Center	Deb Von Seggern Lois Colburn Michelle Mason Kyle Meyer Greg Karst Richard A. Walker, MD
Nebraska State EMS Office	Garry Steele
Hennepin Technical College	Bob McCarthy
North Central EMS Institute/MCMT	Gary Wingrove

Red River Protocols (78)

Acute Low Back Pain
Animal Bites
Snake Bites
1° Thermal Burns
2° & 3° Burns
Digit Dislocation
Patellar Dislocation
Subluxation of the Radial Head in the Child
Shoulder Dislocations
Other Foreign Body in Ear
Infection in the Ear
Black Eye
Contact Lens Problems
Corneal Abrasions
Small Foreign Body in the Eye
Eye: Sun/welding Burns
Sensation of Something in the Eye with a Normal Eye Exam
Subconjunctival Hemorrhage
Fishhook Removal
Minor Head Injuries
Black Widow Spider Bites
Hymenoptera Stings
Nosebleed
Foreign Body in the Nose
Nasal Fracture
Splinter Removal
Severe Sprain/Strain, Possible Extremity Fracture
Toothache/Infection
Avulsed Tooth
Post Dental Extraction Pain, Dry Socket
Wound Management/Closure
Acute Illnesses
Abdominal Pain as CC
Alcohol Withdrawal
Allergic Reaction
Angina
Bronchitis/Possible Pneumonia
Bronchospasm/Wheezing
Cellulitis
Chicken Pox
Common Cold
Croup
Dizziness
Otitis Externa
Acute Otitis Media
Earwax
Conjunctivitis
Hordbolum (Sty)
Feeling Faint or Fainting
Headache
Heartburn or Indigestion, Nausea
Influenza
Joint Pain (non-traumatic)
Skin Problems (lice)
Mental Health Emergency: anxiety
Mental Health Problems - Bipolar Disorder
Mental Health Emergency: Depression
Mental Health Problem - Schizophrenia
Mental Health Problem - Suicidal Patient
Mental Health Problem - Violent Patient
General Care for Most Mouth Sores
Numbness
Skin Problems - Scabies
Known Seizure Patient
Sinus Infection
Skin Problems: Fungus
General Plan for Most Skin Problems
Sore Throat
Urinary Tract Infection
General Plan for Most Vomiting & Diarrhea
Chronic Health Surveillance
Alcoholism: Long Term Care
Diabetes: Long Term Care
Family Planning Counseling
Hypertension: Long Term Care
Immunizations
Patient Medication Administration
Patient on TB Meds: Follow up Care