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Emergency Medical Services

by Jill D. Moore

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History

In 1973, Congress passed the Emergency Medical Services System Act,[1] with the goal of encouraging states to develop comprehensive emergency medical services (EMS) systems. The Act made grant funding available to states to plan, establish, or improve EMS systems. The same year, the General Assembly enacted North Carolina's Emergency Medical Services Act.[2] The law established a statewide EMS system within the state Department of Human Resources (now the Department of Health and Human Services, or DHHS). The purpose of the system was to support the provision of EMS throughout the state by regulating and assisting the service providers.

The framework for the EMS system was established in the 1973 law. At the state level, the Act designated DHHS as the agency eligible to receive federal assistance for developing EMS plans and programs, and directed DHHS to establish an EMS program, into which all of the state's EMS-related functions would be consolidated. DHHS responded by creating the Office of Emergency Medical Services (OEMS) and giving it responsibility for the statewide EMS program. The 1973 law also authorized the North Carolina Medical Care Commission to adopt rules for the program, and

1. Pub. L. No. 93-154.

2. S.L. 1973-208 (codified as Article 56 of Chapter 143 of the North Carolina General Statutes).

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it created an advisory council to advise the secretary of health and human services on EMS policy issues. At the local level, the EMS Act gave counties a critical role in the new system, by requiring them to ensure that emergency medical services are available to their residents. These basic components of the early EMS system continue to exist today.

An early challenge for North Carolina's EMS system was to identify which North Carolina hospitals have the equipment and medical professionals required to care for patients with serious injuries from motor vehicle accidents or other traumatic events. Thus, shortly after its creation, the OEMS began working with hospitals to develop a statewide trauma system, with criteria for designating hospitals as trauma centers and a process for assigning the designations. In the early 1990s, a task force was formed to study the development of a statewide trauma system, and it recommended legislation to support those efforts. The General Assembly responded with the Statewide Trauma System Act of 1993.[3] The new law directed the Department of Human Resources (now DHHS) to create a program to support the development of a statewide trauma system. It authorized the North Carolina Medical Care Commission to adopt rules for the system and directed OEMS to monitor the system's development and ensure compliance with the rules. In 1998, the Medical Care Commission adopted rules for designating hospitals as Level I, II, or III trauma centers[4] and creating regional advisory committees (RACs) to coordinate trauma care in regions encompassing all of North Carolina.[5] In 2003, the trauma system act was amended to create regional trauma peer review committees that are responsible for evaluating the quality of patient care and EMS system performance.[6] Today, North Carolina has eleven hospitals that have been designated Level I, II, or III trauma centers, and eight RACs.[7]

Following the terrorist acts of September 11, 2001, OEMS worked jointly with two other state agencies and a private nonprofit organization[8] to develop a plan for a coordinated medical response to a terrorist act or other disaster. The plan sets forth how EMS, hospitals, emergency management and public health agencies will work together in responding to a disaster. The plan did not add any new components to the EMS system, but rather described how the existing components will work with other entities in providing emergency medical assistance in disasters.

Thus, over the years, the EMS system has grown to encompass much more than the effort to assure that ambulances and qualified EMS personnel are available throughout the state. Although those purposes remain at the core of its services, the EMS system of today involves additional activities, such as maintaining and supporting EMS communications systems and statewide emergency data collection, and it includes a statewide trauma system. It is an integral part of the state's response to disasters as well.

State, Regional, and Local Responsibility for EMS

EMS at the State Level

The Office of Emergency Medical Services (OEMS) administers the state EMS program. It is located administratively in the Department of Health and Human Services, Division of Facility Services.

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3. S.L. 1993-336 (codified as Article 7A of Chapter 131E of the North Carolina General Statutes).

4. A designated trauma center is assigned a level based on the services it is able to provide, which in turn is based on the equipment and medical personnel available to the hospital. Level I is the highest level designation.

5. North Carolina Division of Facility Services, A History of the North Carolina Trauma System (August 2005). Available on the Internet at http://www.ncems.org/pdf/Trauma/History%20of%20the%20North%20Carolina%20Trauma%20System%20Aug05-1.pdf.

6. S.L. 2003-392, sec. 2.(c). The legislation amended G.S. 131E-162.

7. A map showing the RACs and the trauma centers is available on the Internet at http://www.ncems.org/pdf/Trauma/RAC%20Map%20for%20Hospitals%20March06.pdf.

8. The other state agencies were the Division of Public Health (within DHHS) and the Division of Emergency Management (within the Department of Crime Control and Public Safety). The nonprofit organization was the Winston-Salem–based Special Operations Response Team (SORT). SORT is a federally supported private entity that provides medical assistance in disasters that occur anywhere in the United States.

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The OEMS is responsible for credentialing EMS personnel, vehicles, educational institutions, and the entities that provide EMS services (G.S. 143-509). It also may deny, suspend, or revoke credentials (10A N.C.A.C. 13P.0701). An EMS disciplinary committee, composed of seven members appointed by the secretary of health and human services, reviews and makes recommendations regarding all disciplinary matters affecting credentialing (G.S. 143-519). The OEMS also is responsible for maintaining the statewide trauma system, the EMS communications system, and an information system known as PreMIS, for Prehospital Medical Information System.[9]

The OEMS accomplishes its work through a central office in Raleigh and three regional offices in the western, central, and eastern parts of the state. The central office is staffed by a director and specialists in a number of areas, including transportation, hospitals, EMS staff education and training, and communications. These staff members develop programs and provide expertise and assistance in their specialty areas. A physician serves as part-time medical advisor to the state EMS program.

Most of the regulatory authority for EMS is vested in the North Carolina Medical Care Commission. It adopts the rules that establish the standards and criteria for credentialing EMS agencies, trauma centers, EMS personnel, and EMS educational institutions. It also establishes standards for EMS vehicles and equipment, and for the statewide EMS communications system. Finally, it establishes standards and criteria for data collection for PreMIS [G.S. 143-508(d)]. The North Carolina Medical Board—the state agency that licenses physicians and physician extenders—also has a role in regulating EMS. It is responsible for determining the scope of practice for credentialed EMS personnel (G.S. 143-514).

The Emergency Medical Services Advisory Council advises the secretary of health and human services on policy issues relating to statewide EMS programs, including all rules that are proposed for adoption by the Medical Care Commission (G.S. 143-511). The twenty-five-member council consists of four members appointed by the General Assembly, plus twenty-one members appointed by the secretary of health and human services. The secretary's appointees must include physicians representing various specialties, including emergency medicine, pediatrics, surgery, and public health; as well as representatives of EMS providers, hospitals, local government officials, and members of the general public, among others (G.S. 143-510).

EMS at the Regional Level

The OEMS maintains three regional offices, located in Black Mountain, Raleigh, and Greenville. Each of the three regions is staffed by a regional supervisor and regional coordinators who work closely with local EMS providers. Regional coordinators inspect ambulances, administer certification examinations to EMS personnel, coordinate services in the area they serve, and provide technical assistance and advice to local EMS providers and the regional EMS council. Regional supervisors oversee the regional coordinators' work and are responsible for administrative matters.

Each region is further subdivided into multicounty planning regions, for a total of eighteen multicounty regions statewide. Each planning region has a regional EMS council (G.S. 143-513), composed of representatives of local government, EMS providers, hospitals, the medical community, and the general public. Among other things, the councils are responsible for identifying the region's EMS needs and prioritizing the use of EMS resources. Each regional council is affiliated with a lead regional organization (LRO) designated by the state secretary of administration. The LRO provides administrative support to the regional EMS council and is responsible for planning and administering regional programs.[10]

Neither the state nor the regional EMS offices are engaged in the actual delivery of emergency medical services in North Carolina. That responsibility is carried out by agencies and organizations at the local level.

EMS at the Local Level

County governments are the key players in assuring and overseeing EMS programs at the local level. Counties are required by law to establish EMS systems and ensure services for county residents (G.S. 143-517). A local EMS system may serve one or more counties.

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9. PreMIS is an electronic data collection system that collects prehospital information about EMS patients. For more information, see http://www.ncems.org/premis_faq.htm and http://www.premis.net/.

10. North Carolina Department of Health and Human Services, Division of Facility Services, *North Carolina EMS* (undated). Available on the Internet at http://www.ncems.org/bkgd_ref.htm.

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The North Carolina Medical Care Commission has established specifications for local EMS systems (10A N.C.A.C. 13P.0201). Among other things, a system must:

- have at least one licensed EMS provider
- ensure that services are available 24 hours a day
- identify the number of ambulances that will operate in the system's service area
- have a written plan describing how EMS providers will be dispatched and coordinated
- have a list of facilities that will provide medical direction for EMS providers

Counties must submit EMS system applications to OEMS, which reviews the applications for compliance with the regulations. If OEMS determines the application is satisfactory, it approves the local system for six years. Systems must apply for reapproval before the end of the six-year period.

A local EMS system may apply to be designated a "model EMS system" (10A N.C.A.C. 13P.0202). To achieve this voluntary designation, the local system must satisfy all the basic criteria for EMS systems, plus additional criteria including enhanced communication systems, written plans for disasters and mass gatherings, affiliation with at least one trauma system regional advisory council, and enhanced written treatment protocols. By July 1, 2006, ten local EMS systems had been designated model systems.[11]

Counties, and sometimes cities, are authorized to adopt ordinances to franchise ambulance services. That authority is discussed in more detail in the following section.

Regulation of EMS Equipment and Personnel

Ambulances

Each EMS system in North Carolina must identify the ambulances[12] that will operate in the system's service area twenty-four hours a day (10A N.C.A.C. 13P.0201). The operation of ambulances is not limited to EMS systems, however. Other care providers may operate ambulances that serve special functions, such as convalescent ambulances that transport patients for nonemergency care only. All ambulances are subject to regulation at the state and local level.

G.S. 153A-250 authorizes counties to adopt ordinances franchising ambulance services provided in the county. A county ordinance may:

- grant franchises to ambulance operators on terms set by the commissioners
- make it unlawful to provide ambulance services or operate an ambulance in the county without a franchise
- limit the number of ambulances that may be operated within the county
- limit the number of ambulances that may be operated by each operator
- determine which areas of the county each franchised operator may serve
- establish rates, fees, and charges
- set minimum amounts of liability insurance for franchised operators
- establish other necessary regulations that are consistent with state statutes and regulations

Before adopting an ordinance, commissioners must hold a public hearing on the need for ambulance services. Notice of the hearing must be published once a week for two weeks. After the hearing, the board of commissioners may adopt an ordinance if it finds that an ordinance is necessary to assure adequate and continuing ambulance services in the county and to protect public health and safety [G.S. 153A-250(a)].

In lieu of or in addition to adopting an ordinance, a county may operate or contract for ambulance services in all or a portion of the county. A county may operate its ambulance services directly, or it may create an ambulance commission and authorize it to operate the services [G.S. 153A-250(b)].

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11. The following county systems were designated model systems: Burke, Cabarrus, Catawba, Davidson, Forsyth, Halifax, Nash, New Hanover, Surry, and Wake.

12. An "ambulance" is a vehicle that is designed to transport persons who are "sick, injured, wounded, or otherwise incapacitated or helpless" and may need medical care while being transported (G.S. 131E-55). The definition covers aircraft and watercraft as well as vehicles operated on streets or highways.

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A city may adopt an ambulance franchising ordinance, or may operate or contract for ambulance services, only in one of two circumstances: (1) the county in which the city is located has adopted a resolution authorizing the city to do so; or (2) the county has not provided for ambulance services within the city within 180 days after being requested by the city to do so. The county may subsequently preempt the city's authority to operate or franchise ambulance services after giving the city 180 days' notice of its intention to take action [G.S. 153A-250(c)]. Thus a city's exercise of authority must initially be approved (explicitly or implicitly) by a county, and the county may reclaim the authority for itself at its discretion.

Although local ordinances may control who is authorized to operate ambulances within a city or county, state law regulates the conditions of operation. A service provider that operates one or more ambulances must be licensed by the state (G.S. 131E-155.1), and each ambulance the provider operates must have a permit (G.S. 131E-156). The OEMS issues licenses and permits after determining the service provider and the vehicles are in compliance with state regulations (10A N.C.A.C. 13P.0211). The North Carolina Medical Care Commission has adopted rules specifying the requirements for different types of ambulances.[13]

To be licensed as an EMS provider, an entity must be affiliated with an EMS system, apply for permits for all vehicles to be operated as ambulances, have a written plan explaining how the provider will furnish credentialed EMS personnel, and have a written plan for maintaining records of vehicle inspections, maintenance, and repairs. In addition, a provider that wishes to operate in an area in which there is a franchise ordinance must either have a current franchise to operate or be able to document impending receipt of a franchise (10A N.C.A.C. 13P.0204). Operating as an EMS provider without a valid license is a Class 3 misdemeanor (G.S. 131E-155.1).

There is an exception to the ambulance permit requirement for the following vehicles that are not ordinarily used to transport patients for emergency care, but that could be used for that purpose in emergency circumstances: privately owned vehicles that are not in the business of transporting patients; vehicles serving as ambulances in disasters or catastrophes because insufficient permitted ambulances are available; ambulances based out of this state, unless they also receive and transport patients within the state; and rescue squad vehicles that are not regularly used to transport the sick or injured, except as part of rescue operations (G.S. 131E-160).

Finally, even if it is permitted and meets any local franchise ordinance requirements, an ambulance may not operate without credentialed EMS personnel (G.S. 131E-158).

EMS Personnel

Each EMS system must have a medical director and credentialed EMS personnel. The medical director must be a licensed physician and meet requirements set forth in "North Carolina College of Emergency Physicians: Standards for Medical Oversight and Data Collection."[14] Medical directors for model EMS systems must meet additional criteria [10A N.C.A.C. 13P.0401(1)]. The medical director is responsible for ensuring that medical control is available twenty-four hours a day; establishing, approving, and annually updating treatment protocols; emergency medical dispatch programs; medical supervision of EMS personnel; and medical review of care provided to patients. The medical director also has other duties related to EMS personnel education and the equipment and supplies of ambulances.

For other EMS personnel, the OEMS issues credentials to applicants who satisfy requirements in rules adopted by the North Carolina Medical Care Commission. It may revoke or suspend credentials if it finds that the person has substantially failed to comply with the EMS statutes or regulations (G.S. 131E-159).

There are several different categories of EMS personnel that must be credentialed by OEMS. Each category requires different levels of training. A person's category also determines the person's scope of practice—that is, which treatments he or she is authorized to administer. Emergency medical dispatchers (EMDs) are trained in emergency telecommunications. Medical responders (MRs) are individuals with training in emergency medical care and first aid. There are three categories of emergency medical technicians (EMTs) that reflect different levels of training and different scopes of practice. In ascending order of training requirements, they are: emergency medical technician (EMT),

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13. There are rules for ground ambulances—vehicles that transport patients with emergency or nonemergency conditions (10A N.C.A.C. 13P.0207), convalescent ambulances—vehicles that transport patients on a scheduled basis for nonemergency care (10A N.C.A.C. 13P.0208), air ambulances (10A N.C.A.C. 13P.0209), and water ambulances (10A N.C.A.C. 13P.0210).

14. Available on the Internet at http://www.nccep.org/content/ems/standards/index.htm.

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emergency medical technician-intermediate (EMT-I), and emergency medical technician-paramedic (EMT-P). The OEMS also is responsible for credentialing the instructors and educational institutions that provide EMS training (10A N.C.A.C. 13P.0507-.0508, and 13P.0601-.0603).

An EMS system's personnel may also include licensed health care providers, such as nurses and physician's assistants. An emergency medical services-nurse practitioner (EMS-NP) is a nurse practitioner who has completed an EMS orientation program. An emergency medical services-physician assistant (EMS-PA) is a physician's assistant who has completed an EMS orientation program. Both EMS-NPs and EMS-PAs are authorized to issue instructions to other EMS personnel under the direction of the EMS medical director. A mobile intensive care nurse (MICN) is a registered nurse who has completed an EMS orientation program and been approved by the EMS medical director to issue instructions to other EMS personnel according to protocols developed by OEMS and the local EMS system.

Rescue Squads

The meaning of the term *rescue squad* has changed over time. In the past, the term usually referred to organizations that rescue people at the sites of accidents and disasters, but do not transport sick patients or provide medical treatment beyond first aid. Today, many organizations in North Carolina that are called "rescue squads" are actually EMS providers that operate ambulance services and are subject to the licensing and permitting requirements described above. There are still some rescue squads in North Carolina that do not operate ambulances and are not subject to those requirements. These squads may operate vehicles such as a truck with extrication equipment. So long as the vehicle does not regularly engage in the transportation and treatment of patients, it is not subject to the ambulance requirements [G.S. 131E-160(5)].

Financing of Emergency Medical Services

Emergency medical services in North Carolina are supported primarily by local funds. However, state and federal monies support the state offices and some of the work of the regions. The state OEMS uses some of the state and federal funds it receives to provide grants to regional EMS councils and the LROs with which they are affiliated. Local governments pay dues to support LROs, which also may receive state or federal grant funding.

The actual operation of local services is financed at the local level. If a county operates an ambulance service as a line department, it may establish rates, fees, and charges to be collected by the service, and it may appropriate county funds to the service (G.S. 153A-250). Cities that operate or contract for ambulance services also have these authorities. (However, a city may operate or contract for ambulance services only if the county has authorized the city to do so or the county has failed to provide for ambulance services in the city within 180 days of being asked to do so.) Counties or cities may also levy property taxes to support EMS, ambulance, and rescue squad services within the county [G.S. 153A-149(c)(5); G.S. 160A-209(c)(4)].

Local governments typically do not operate traditional rescue squads but they may support them financially. G.S. 160A-487 authorizes counties or cities to appropriate funds to rescue squads. Counties or cities may also lease, sell, or convey land to volunteer rescue squads to build or expand facilities (G.S. 153A-176 and 160A-277); and appropriate property to rescue squads providing services within the county (G.S. 153A-176 and 160A-279).

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