Street Smart: Understanding the Context of Emergency Medical Services Communication and Documentation

Save to myBoK

by **Mary Teslow** , MLIS, RHIA; **Susie T. Harris** , PhD, MBA, RHIA, CCS; and **Denise Wilfong** , MHS, NREMT-P

HIM professionals can expand their understanding of the healthcare continuum by becoming more familiar with hospital emergency care and documentation.

Emergency medical services (EMS) has evolved into an integral part of the healthcare system. The field is working to integrate itself even further into the care continuum. At the same time, the reach of HIM practice is expanding. HIM professionals will begin to encounter EMS operations and documentation more frequently.

HIM professionals are familiar with emergency department documentation and EMS reports in the patient record. EMS reports are valuable resources for coding and trauma registry, since they often contain specific details not found elsewhere in the record, including loss of consciousness, pathological versus traumatic fractures, and injury circumstances that support E-code selection. However, while HIM education includes content on emergency departments as part of the ambulatory care segment, little has been included on the role of prehospital EMS.

Now emerging trends in healthcare are requiring a better understanding of this piece of the care continuum. HIM's links to EMS professionals will grow as HIM professionals increase their involvement in regional health information organizations and health information exchanges, data sets and data standards, health research, and personal health records.

Becoming "street smart" about prehospital care will help HIM professionals enhance their systems thinking and their understanding of emergency care data and information. A better understanding of EMS will improve HIM's effectiveness as partners in improving healthcare quality through quality information.

An Overview of EMS History

Modern EMS began with three important landmarks in 1966. First, the National Research Council of the National Academy of Sciences published "Accidental Death and Disability: The Neglected Disease of Modern Society." Second, it convened a conference on cardiopulmonary resuscitation that led the American Heart Association to develop standardized training and performance standards. Third, the Highway Safety Act created the predecessor of the National Highway Traffic Safety Administration (NHTSA). In the following decades, attention to EMS has fluctuated dramatically, often increasing with disasters, only to decline as memories fade.

In addition to NHTSA's Office of EMS, each state has a lead EMS agency. Typically part of the state health department, the agency's responsibilities include planning, coordination, and regulation, as well as licensing or certifying EMS providers.[1]

EMS professionals are easily recognized by a blue uniform emblem known as the Star of Life. Based on the personal Medical Identification Symbol of the American Medical Association, each bar represents one of the six EMS functions: detection, reporting, response, on-scene care, care in transit, and transfer to definitive care.[2]

Education and Medical Direction

Emergency medical services are provided by committed professionals, both career and volunteer. EMS education, training, and scope of practice vary even more widely than other health professions. NHTSA led the way in establishing a foundation with the development of the National EMS Education Standards.[3] The National EMS Scope of Practice Model creates national consistency and proposes four new levels for EMS practice: emergency medical responder, emergency medical technician, advanced emergency medical technician, and paramedic.

The model defines each level and its related skills. Approval and implementation are pending.[4] Advanced practice includes potential roles in primary care for homebound individuals, with documentation to be incorporated into other health records. HIM may encounter more EMS professionals as these and other employment opportunities increase.

All EMS systems are required to have a medical director who is legally responsible for patient care, including development of clinical protocols, education and training, quality improvement, liaison with other agencies, and advocate within the community. All prehospital personnel provide care in the field under an extension of the physician's license. Medical direction can be provided off-line through protocols or online through a direct link to a physician or their designate.

Notes

1. Institute of Medicine, Committee on the Future of Emergency Care in the United States Health System. *Emergency Medical Services at the Crossroads.* Washington, DC: National Academies Press, 2006.
2. National Highway Traffic Safety Administration. "Emergency Medical Services: 24/7 Care—Everywhere." April 2007. Available online at www.nhtsa.dot.gov.
3. National Highway Traffic Safety Administration. "National EMS Education Standards." Final Draft 1.1. August 2008. Available online at www.nemsed.org.
4. National Highway Traffic Safety Administration. "National Scope of Practice Model." 2007. Available online at www.nasemsd.org/Projects/ScopeOfPractice/index.asp.

Defining EMS and Its Future

Advances in emergency medicine and trauma care are one of the great success stories of the US healthcare system. Recent decades have seen dramatic developments in the ability to provide lifesaving care within minutes and to reduce the disabilities caused by catastrophic injuries.

These accomplishments have occurred despite significant obstacles such as fragmentation and lack of coordination. The Institute of Medicine (IOM) recognized these challenges and convened a committee that examined the state of emergency medical care.

In June 2006 IOM released "The Future of Emergency Care," a series of three reports. *Emergency Medical Services at the Crossroads* describes the development of EMS from the mid-1960s to the fragmented healthcare system of today, provides recommendations, and offers a vision for its future in the twenty-first century.[1] In the report IOM differentiates emergency medical care and emergency medical services:

> *Emergency care* is broader than EMS and encompasses the full continuum of services …, including EMS, hospital-based ED and trauma care, specialty care, bystander care, and injury prevention. *Emergency care system* refers to the organized delivery system for emergency care within a specified geographic area.[2]

IOM describes EMS as working at the intersection of healthcare, public health, and public safety.

The committee considered the "evolving role of EMS as an integral component of the overall health care system, including dispatch, medical direction, and integration with trauma systems, pediatric EMS, public health, prevention, and emergency department overcrowding."[3]

EMS Documentation and Databases

EMS documentation is formally titled a prehospital care report (PCR) and known informally as a run report. PCRs are typical legal health records used by a wide variety of individuals, requiring good documentation and similar policies and procedures. They differ in the high intensity, high speed, and context of most EMS calls, which result in several unique documentation features.

PCRs identify the location and the responding agency and crew. Crews are usually two individuals. Preliminary notes are typically taken by one individual, perhaps even on a piece of medical tape on a pant leg. Some equipment can identify and time stamp treatments and medication administration.

As in other settings, electronic documentation is increasing. Laptops, personal digital assistants (PDAs), and other mobile devices allow enhanced data collection and exchange. Digital cameras may be used to photograph the accident scene. EKGs are sent to a cardiologist's PDA for immediate interpretation and medical direction.

Notes continue throughout the call and transport, typically ending at the emergency department. The crew then transfers care using a verbal report and transfer sheet. The more extensive PCR is then completed and signed by each team member, filed with the agency, and provided to the receiving facility as appropriate.

In the report "EMS Agenda for the Future" the National Highway Traffic Safety Administration (NHTSA) advocates a systems approach to EMS in collaboration with multiple federal partners such as the Centers for Disease Control and Prevention. The agenda identifies three goals: implement an electronic EMS documentation system, an EMS information system in each state, and a national EMS database.

Achieving these goals will help create a geographically integrated communication system to coordinate both routine and large-scale responses.[4] NHTSA has initiated the National Emergency Medical Services Information Systems (NEMSIS).

In response to NHTSA's agenda, the University of North Carolina at Chapel Hill developed the Prehospital Medical Information System (see www.emspic.org). The system, in use by more than 800 EMS agencies, provides standardized documentation and reporting for the evaluation of EMS patient care. It assists with additional functions such as hospital outcome data, billing data, and links to databases outside EMS.

As HIM professionals engage in the development and implementation of health information exchange networks, it is important they be aware of an increasing range of data sets and standards. The Data Elements for Emergency Department Systems from the Centers for Disease Control and Prevention's National Center for Injury Prevention and Control complement NEMSIS. Standards organization ASTM has published "Standard Practice for View of Emergency Medical Care in the Electronic Health Record."[5]

A voluntary database project currently in development would link vehicle identification numbers to owner's medical and emergency contact information. This would dramatically reduce the time needed to identify accident victims and notify their emergency contacts.[6] The Vial of Life project encourages individuals to post their vital medical information visibly in their homes and automobiles for use by emergency responders (see sidebar at right).

Communication and 9-1-1

EMS communication involves industry-standard "codes," technology, and networks. Challenges include crossing jurisdictions, geography, equipment, radio frequencies, funding, and technology limitations. Within this context, EMS communication is a unified, team endeavor.

The universal emergency number, 9-1-1, began in 1968 and is a key component of the EMS response system. An estimated 240 million 9-1-1 calls are made annually.[1] Basic 9-1-1 service is available for 99 percent of the population. Enhanced 9-1-1 (E9-1-1) includes improved call routing as well as databases that display the caller's number and address along with other basic household and medical information provided by citizens; it is available for nearly 93 percent of the population.

EMS response begins with a call to 9-1-1 and follows standard procedures. The following sequence is typical:

Calls received from 9-1-1: From landlines, highway and public call boxes, radios, and increasingly from cell phones and Voice over Internet Protocol (computer-based phone services).

Public safety answering point (PSAP) and telecommunicator: Telecommunicators, often called dispatchers, receive all emergency calls such as police, fire, poison control, or disaster. They dispatch appropriate resources, provide pre-arrival instructions, and operate a computer-aided dispatching system connected to local databases. PSAPs can access language translation services, equipment for the deaf and hearing impaired, as well as global positioning systems and programs to locate cell phones. Records are kept for all calls, including response times.

Emergency medical dispatcher: The EMD takes calls and gathers standardized incident data. Instructions may be given to the caller from prepared scripts on conditions and procedures, such as choking, bleeding, or CPR.

Dispatch: The EMD manages response resources and tracks each step of transfer ("dispatched," "arrived," "transporting," and "back in service"). In smaller communities the PSAP and EMD roles may be combined.

Pre-arrival information and protocols: EMDs provide and update pre-arrival information from the caller and E9-1-1. Ambulances may have direct access.

Patient transport and transfer: Agency-specific off-line protocols are combined with online medical direction. In many areas, EMS personnel can transmit EKG telemetry and other patient data. Once at the destination, EMS personnel transfer the care of the patient using both oral and written reports, then notify the EMD that they are back in service.

In addition to formal 9-1-1 communication, EMS professionals must communicate with the patient's family, friends, and bystanders who may not understand the nature or extent of the injuries and treatments. They may coordinate with other responding agencies, including police, fire, and other ambulance services, all with varying priorities.

Other calls may involve staff from physician's offices, nursing homes, and other healthcare facilities. Each of these situations present unique challenges regarding privacy, confidentiality, and security.

Note

1. National Emergency Number Association. "9-1-1 Fast Facts." Available online at www.nena.org/pages/Content.asp?CID=144&CTID=22.

Vial of Life

Vial of Life is a nationwide program encouraging seniors and others to summarize their important medical information and post it in a visible place for use by emergency personnel (www.vialoflife.com). Many EMS personnel are trained to look for the Vial of Life packet on home refrigerators. Packets can also be kept in a vehicle glove box, with decals on the glove-box and driver-side window.

HIM professionals active in helping consumers manage their personal health records can also promote the Vial of Life program. The Vial of Life form is a type of brief and specialized personal health record.

Successful programs require cooperation between public agencies, such as firefighters and EMS, and the public. Public and private organizations often offer free kits, either through the mail or from a Web site. While local programs vary, participants follow the same basic steps.

Participants complete the medical form and place it in a sealable plastic bag or large medicine bottle. Information typically includes demographics, conditions, medications, allergies, provider names and numbers, and insurance information. Additional helpful items include "do not resuscitate" information, a living will, a recent photo, and copy of a recent EKG. The information should be up-to-date.

Participants then place Vial of Life decals on the bag or bottle and attach the bag securely to the refrigerator door or place inside the refrigerator or freezer in a visible location. Another decal should be placed on the front door of the house to alert anyone responding to an emergency.

New Opportunities for Partnership

The future vision for EMS includes a community-based model where emergency medical services are fully integrated within the overall healthcare delivery system. There is the potential to both improve community and public health and to more effectively allocate scarce healthcare resources.

HIM professionals have a number of opportunities to partner with the EMS community to promote quality information for quality care. Career opportunities, both as staff and as consultants, are available in EMS and public health agencies. Work on health information exchanges should include the full range of emergency medical care and its data sets, which will move the continuity of care record closer to reality.

HIM education should include EMS as part of ambulatory care studies. Research focused on the intersection of health information and emergency medical care will benefit both professions. Presentations on the personal health record can encourage the public to file information with E9-1-1 and participate in the Vial of Life project. In addition to its importance in practice, HIM professionals and their families can benefit from understanding the EMS services in their communities and being advocates for EMS programs.

Notes

1. Institute of Medicine, Committee on the Future of Emergency Care in the United States Health System. *Emergency Medical Services at the Crossroads.* Washington, DC: National Academies Press, 2006.
2. Ibid., 25.
3. Ibid., 26.
4. National Highway Traffic Safety Administration. "Emergency Medical Services: Agenda for the Future." Available online at www.nhtsa.dot.gov/people/injury/ems/agenda.
5. ASTM International. Standard CE 1744, 2004, "Standard Practice for View of Emergency Medical Care in the Electronic Health Record." Available online at www.astm.org.
6. Sweet, David. "Expediting Emergency Contact for Car Accidents: Database Will Link Emergency Contact Information with Vehicle ID Number." *Journal of AHIMA* 79, no. 6 (June 2008): 54–55.

Resource

Bledsoe Bryan E., Robert S. Porter, and Richard A. Cherry. *Paramedic Care: Principles and Practice.* Volume 1: *Introduction to Advanced Prehospital Care,* volume 2: *Patient Assessment,* 2nd edition. Upper Saddle River, NJ: Brady, Prentice Hall, 2006.

Mary Teslow (mteslow@email.wcu.edu) is assistant professor of health information administration in the College of Health and Human Sciences at Western Carolina University. **Susie T. Harris** is assistant professor of health services and information management in the College of Allied Health Sciences at East Carolina University. **Denise Wilfong** is assistant professor in the emergency medical care program, College of Health and Human Sciences, at Western Carolina University.

Article citation:
Teslow, Mary; Harris, Susie T.; Wilfong, Denise. "Street Smart: Understanding the Context of

Emergency Medical Services Communication and Documentation" *Journal of AHIMA* 80, no.3
(March 2009): 46-49.

Driving the Power of Knowledge