Origins, Mission & Methods

What is the NAEMD?

• Jeff J. Clawson, M.D.

Recently several agencies have asked me about the background and origin of the NAEMD and of its relationship to Medical Priority Consultants. Since its inception in December of 1998, the Academy’s registry of certifications has grown to nearly 7,000 individuals, representing approximately 2,000 progressive EMS agencies throughout the U.S. and Canada. With such incredible interest and growth, the origins, mission and methods of the NAEMD has become an important topic worth discussing in this newsletter. The Academy was initially funded with seed money provided by Medical Priority Consultants, Inc. (MPC), the EMS and EMD consulting firm which I co-founded in July of 1987. At the outset, the Academy’s purpose was to provide an EMD certification registry and international forum for discussing standards and issues relating to the future of Emergency Medical Dispatch.

Since its inception, the NAEMD has gone through the process of becoming a non-profit organization under the rules established by the Federal Government. Although legally separate from Medical Priority Consultants, the Academy still leases its part-time staff from MPC. Its primary funding comes from EMD certification and recertification fees. Academy membership today can be obtained in any one of five categories: Certified EMD, Executive, Instructor, Associate or Accredited.

After the release in 1990 of the 10th (or Advanced) edition of the Medical Priority Dispatch System (MPDS), I donated to the Academy, as a gift, the MPDS patents and copyrights and the rights to maintain and improve the MPDS protocols under a prescribed scientific methodology. It was felt by many, and I agreed, that a single physician should not be solely responsible for making decisions regarding the evolving science of emergency medical dispatch.

To address the scientific issues related to emergency medical dispatch and to be the official “stewards of the MPDS protocols,” the NAEMD established the College of Fellows, consisting of internationally recognized experts in EMS, EMD, and public safety telecommunications. The College of Fellows’ express purpose and mission statement is as follows: “To conduct an on-going review of the current standards of care and practice in Emergency Medical Dispatch and evaluate the tools and mechanisms used to meet or exceed those standards.”

The initial members of the College are currently serving a voluntary 5-year term. Just as the American Heart Association sets the standards of CPR, BLS and ACLS, the NAEMD’s College of Fellows maintains the standards and integrity of the Advanced Medical Priority Dispatch System, the NAEMD certification curriculum, and all aspects of Dispatch Life Support (DLS).

The MPDS protocols, with telephone instructions for CPR, airway obstruction relief, and childbirth assistance have afforded NAEMD-certified dispatchers the opportunity to help hundreds of thousands of people in their moment of crisis. It is essential that they be maintained in a state-of-the-art condition. EMDS have been recognized as an important link in what the American Heart Association has termed the “Chain of Survival.”

What started out as a “shaky idea” in Salt Lake City has withstood the test of time and scrutiny. It is my goal as President of the Academy, that the science of EMD, through the efforts of the Academy and its membership, be maintained at the cutting-edge of effective and efficient pre-hospital patient care.

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Robert L. Martin — Editor
From the President's Desk:

- Jeff J. Clawson, M.D.
  President, NAEMD

Patient Care vs. Caring for Patients

A n astute member of the Academy’s College of Fellows recently raised the question of why the Post-Dispatch Instruction statement “Call back if patient’s condition worsens” is printed on certain protocol cards and not others. This question has important implications. Originally, sufficient space was a problem in the PDI section on some cards and this statement seemed initially less important on cards such as Assault/Rape or Burns/Explosion where the mechanism of injury has most likely passed. In retrospect, I believe this call ending phrase is a good universal way to say goodbye to any caller and/or patient.

“IT IS ‘CARING’ TO ROUTINELY USE THE STATEMENT ‘CALL ME BACK IF THE PATIENT’S CONDITION WORSENS’

A very important but subjective concept to remember is that the caller is really a patient of sorts. Caring for the patient by making the caller feel “cared for” is an attribute of an excellent EMD. Probably less well known is the fact that in emergency medicine, one of the most common causes of medical malpractice is failure to provide adequate follow-up instructions to discharged patients.

One version of the above dispatch follow-up phrase that I particularly like is, “Call me back for further instructions if the patient’s condition worsens” said with polite firmness. This leaves me with a positive feeling, somewhat similar to hearing Superman say, “Don’t worry!”

In conclusion, it is my professional opinion that it is “caring” to routinely use the statement “Call me back if the patient’s condition worsens,” whether or not the statement is formally written on each protocol card or included on the ProQA screen.

NAEMD U.K.

D uring the week of Nov. 1-7, 1992 the Royal London Hospital hosted the first-ever NAEMD-sponsored dispatch training course in the United Kingdom. Dr. Clawson also presented a special one-day Executive Certification Course to over thirty EMS physicians and managers. Scott Hauert and Fred Hurtado, EMD Senior Instructors and members of the NAEMD’s College of Fellows, were the instructors for the basic course, which was attended by a large group of EMS administrators and communications center supervisors from throughout Europe.

Another highlight of the week was a formal Panel Discussion on the current status of EMD in the United Kingdom. Panel members included emergency physicians, ambulance service managers, and a representative from Scotland Yard. A subsequent reception was hosted by Physio-Control and International Medical Systems, Ltd.

Recent EMD Research

- Chris K. Bigelow
  NAEMD Staff Writer

T he EMS journal Prehospital and Disaster Medicine recently published two formal studies that assess the current effectiveness of Emergency Medical Dispatching. One study reviews the accuracy and cost effectiveness of telephone triage by dispatchers, and the other calculates the cost-effectiveness of providing dispatcher CPR instruction over the phone.

- Telephone Triage:

Focussing on the Long Beach, CA EMS System, the first study evaluates “the ability of medically trained and controlled emergency medical dispatchers to use telephone triage techniques to direct the appropriate prehospital unit to an emergency scene.” The study finds that the key to “acceptable accuracy” is a multi-tiered priority dispatch system

“[EMDs] were able to provide medical triage … with minimal error for under-triage of ALS runs and high selectivity for non-emergency situations”

that allows rapid telephone assessment. Prior to this study, Long Beach was using a simple two-option dispatch response system that either sent full ALS responses or referred non-emergency cases to non-EMS resources. Prior to this study, the operation received training in the Advanced Medical Priority Dispatch System, and following the guidelines in Dr. Clawson’s EMD Training Program, their response categories were customized to correspond with four levels: ALS/CLS Immediate, Nearest BLS Rapid, Next Available BLS, and Routine Ambulance.

Of the 1,045 calls evaluated, the study found that 74.4% were sorted as needing ALS units on scene when only 65.3% actually needed them, resulting...
in a 9.1% over-triage rate. Conversely, the study found that 3.4% of the runs that dispatchers sorted into the non-ALS response groups actually required ALS intervention, a small percentage which reflects such unusual circumstances as intoxicated, non-English-speaking or misinformed callers. For example, one caller reported a patient as experiencing “abdominal pain all day”, which led to a non-urgent response, but when crews arrived they found a woman pregnant and in labor. To minimize under-triage, the Long Beach dispatchers were trained to dispatch at the higher tier of response when in doubt, hence erring in the direction of patient safety.

“18% of these runs could have been managed by BLS units only, could have saved the system approximately $853,000 annually”

The clinical question asked by this study is “Does the level of response that the dispatcher decide to send on an EMS call correlate with the level of response judged necessary by the EMS personnel who actually arrived to care for the patient?” Upon examination, the study concludes by saying that “emergency medical dispatchers, medically controlled and trained in a nationally recognized dispatcher triage system, were able to provide medical triage to incoming emergency medical 9-1-1 calls with minimal error for under-triage of ALS runs and high selectivity for non-emergency situations.”

In evaluating the cost-effectiveness of such a system, the study estimated that an average ALS “lights-and-siren” response costs the City approximately $145 more than a routine BLS response. Long Beach responded to 32,669 EMS calls during the year in which the study was conducted and considering results of this study, “18% of these runs could have been managed by BLS units only, could have saved the system approximately $853,000 annually. Furthermore, these BLS responses did not require a lights-and-siren response which would provide safer delivery of EMS services.” (Prehospital and Disaster Medicine, July-Sept. 1992, Vol. 7, No. 3, pp. 263-269)

(continued on page 4)
Recent EMD Research, cont.

**Dispatcher CPR:**

This retrospective study considers the cost-effectiveness of dispatcher CPR instruction via telephone to bystanders as opposed to prehospital EMT/Paramedic treatment alone, keeping in mind that the time lapse between the initial collapse of a patient and the commencement of CPR is what’s crucial to the patient’s survival. A total of 118 adult patients in Tucson, Arizona with out-of-hospital, witnessed ventricular fibrillation were studied using hospital records, monitor-defibrillator recordings, paramedic reports, dispatching records and telephone interviews with bystanders.

Of the 53 patients who received bystander CPR, 14 survived to hospital discharge (26%) versus only 4 out of 65 (6%) for patients lacking bystander CPR. The time factor is the key element in this difference: patients receiving bystander CPR could be treated to 1.8 minutes after collapse on average, versus 7.1 minutes for patients without bystander CPR. Had all patients in the study received bystander CPR and survived at the above-stated 26% rate, 13 additional patients may have lived to hospital discharge.

The study says that to minimize time lapse, bystanders of ventricular fibrillation cases need either to have previously learned CPR or to be immediately instructed on-site in its use. For this study in Tucson, it was decided to estimate the cost-effectiveness of dispatcher CPR instruction and the authors found that such instruction “has the potential to reduce the cost per year-of-life saved...by 40%.” They also mention that the amount of money required...is small relative to the budgets of fire departments in mid-sized cities such as Tucson, Arizona.

This study concludes that implementing and operating a program of dispatcher telephone CPR instruction is more effective and less costly and time-consuming than community-wide programs to teach CPR techniques to an unselected lay population. Tucson’s theoretical cost of operating a program of dispatcher telephone CPR instruction was calculated to be $176,499. If the study’s proposed 13 additional lives had been saved at the 26% bystander CPR rate, the cost per year-of-life saved would have been reduced from $4,881 (cost per year-of-life saved with Tucson’s EMS-only system) to $2,834. The cost per projected additional year-of-life saved by dispatcher telephone CPR instruction would have been $560. This quantitatively indicates that “CPR instruction via telephone to individuals reporting witnessed cardiac arrests would be an extremely cost-effective addition.”

*(Prehospital and Disaster Medicine, July-Sept. 1992, Vol. 7, No. 3, pp. 229-234)*

Reprints of the entire text from either of the above studies can be obtained by contacting the NAEMD.

**MPDS Q&A, cont.**

instructions for CPR, Heimlich Maneuver and emergency childbirth assistance.

Consider the following scenario. The caller says the patient has “collapsed.” The answers at Case Entry are as follows: Is he conscious? No! Is he breathing? No! The EMD then says, “Stay on the line, I’m going to send help now and then I’ll come back and tell you exactly what to do next.” A maximal response is immediately generated.

The EMD would then go to Protocol #9 to verify the need for telephone instructed CPR. The EMD asks, “Tell me what happened” and then, if it is a witnessed arrest, the EMD asks, “Did he choke on anything first?” In the upper right corner of this particular verification protocol you will find the following: a. “Assure caller that help is on the way” followed by the words, “The paramedics (ambulance) have (has) left the station. They’re on their way to help you now.” As you can see, what you suggested is actually built into the protocols.

We would like to hear from any NAEMD-certified dispatcher regarding how the MPDS has had an impact on dispatch operations at your agency.

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**National NAEMD-Sponsored Certification Courses ~ 1993**

The NAEMD regularly sponsors Certification Courses at various sites across the country. These courses can be sponsored on-site by your individual agency and offer 24 hours of professional EMD training, recognized with an official NAEMD Diploma and Certificate (upon completion of the examination and initial application).

**FEBRUARY:**

1-3  N. Charleston, SC  
     (Lowcountry Regional EMS)

5-7  Blountville, TN  
     (Sullivan County 911)

6-16* Green Bay, WI  
     (N.E. WI Technical College)  
     *Three consecutive courses

19-21 Fort Worth, TX  
     (LEIG, Inc.)

**MARCH:**

9-11  Sequoia Park, CA  
     (National Park Service)

17-19  Harrisburg, PA  
     (HACC-PSI)

19-21  Andover, MA  
     (Frontline Ambulance)

22-25  Forsythe, GA  
     (Georgia Fire Acad.)