It has become increasingly evident over the last 15 years that properly trained emergency medical dispatchers (EMDs) are a crucial link in the EMS chain of patient care. Last year, the American Heart Association formally recognized the EMD as a "vital but often neglected part of the EMS system." Concurrently, the public's expectations of what happens when one calls 911 have been reshaped by emergency-related TV programs like Rescue 911." As a result, EMS and communications-center managers have become interested in providing dispatchers with tools and training to enhance their roles. But what

Protocols vs. Guidelines

Choosing a Medical-Dispatch Program
kind of tools and training to understand and master their jobs? Should the medical dispatcher's "scope of practice" be tightly defined or loosely structured?

Managers and medical directors must exercise diligence when evaluating and selecting a medical dispatch program. They must perform a detailed, line-by-line comparison of available medical-dispatching systems, including methodology for interrogation, telephone patient care and response-unit allocation. This evaluation should also include a review of associated training curricula.

Currently, only two divergent medical-dispatch philosophies have evolved. Their essential difference lies in whether dispatchers should follow "protocols" or "guidelines."

A guideline is defined as "a statement or other indication of policy or procedure by which to determine a course of action." In contrast, a protocol is "a precise and detailed plan for the study of a biomedical problem or for a regime or therapy."

This article will examine how these approaches differ.

In 1989, the National Association of EMS Physicians (NAEMSP) published a position paper on emergency medical dispatching. In 1990, the American Society for Testing and Materials (ASTM) set forth the "Standard Practice for Emergency Medical Dispatching" in the Annual Book of ASTM Standards. These documents have significantly contributed to developing standards of care and practice for EMDs and should be reviewed by EMS managers who are considering an EMD program. Each of these documents takes the position that EMDs should utilize medically appropriate "protocols" in the decision-making process.

The NAEMSP position paper defines its requirement for a medical-dispatch system as a "medically approved system used by a medical dispatch center to dispatch appropriate aid to medical emergencies, which includes: 1) systematized caller interrogation; 2) systematized pre-arrival instructions; and 3) protocols which match the dispatcher's evaluation of the illness or injury type and severity with vehicle response mode and configuration." The ASTM standards document states that "the emergency medical dispatch priority reference system directs the EMD to complete a full, programmed interrogation" (emphasis added by authors). The implication in each of these documents is that EMDs should follow a structured, predetermined interrogation process to activate preprogrammed response modes and provide medical instructions to callers prior to EMS arrival.

Proponents of the "guidelines" approach to medical dispatching believe dispatchers should basically listen rather than interrogate. The recently developed Criteria Based Dispatching Program (CBD) contains no structured questions that medical dispatchers are required to ask, other than basic complaint and determinations of consciousness and breathing. At the 1992 Emergency Cardiac Care Conference in Seattle, a develop...
are structured and prioritized—based on defined, medically approved protocols. With the refinement of modern EMS systems has come widespread appreciation of the need for medical quality assurance, and protocols vs. guidelines issues are fundamentally QA issues.

Not surprisingly, the key issues in retrospective review of EMTs’ performance is compliance with established prehospital-care protocols. Likewise, continuous review of an individual EMD’s performance is an essential part of the process to assure compliance with dispatch protocol. Review is also conducted to assess the effects of that compliance or non-compliance, including the accuracy of response selection and pre-arrival instructions.

But quality assurance of EMDs is impractical, if not objectively impossible, in a guidelines-oriented medical dispatch system. Simply stated, a protocol says “You shall,” while a guideline says “You may if you want.” Given the fact that protocols require compliance to a predefined set of behaviors (i.e., performance standards), it’s possible to determine precisely, after the fact, the extent of compliance with these behaviors. On the other hand, a guideline does not require compliance and allows for—or even sanctions—deviation at the individual dispatcher’s discretion.

Last year, Culley et al, referring to the CBD guidelines interrogation process, stated, “There are no structured questions which the dispatchers must ask.” Retrospective reviewers of dispatcher adherence to guidelines would therefore need to be prepared to examine an infinite number of reasons why the guideline may not have been followed. Consequently, every case review would involve evaluation of significant subjective judgments.

**Case in Point**

Unfortunately, experience has shown that in far too many legal dispatch cases, EMDs’ individual discretion in patient evaluation has been incorrect and medically injurious. At the very least, it’s inconsistent and, at times, dangerously arbitrary.

Years of quality-assurance review of medical dispatch tapes reveals that unstructured interrogation may lead to irrelevant questions that ultimately fail to identify the basic problem in the dispatcher’s mind. Many years ago, a specific process of unstructured interrogation was identified, in which dispatchers applied their own questioning randomly until a “positive” answer was obtained. Upon making a “hit,” dispatchers, sensing they were “on the trail,” asked a series of related questions, as one case from a calm young caller demonstrates.

**Caller 1:** Um, hello, can I have you come over to my house?

**Dispatch:** What’s the address?

**Caller 1:** (address given by caller)

**Dispatch:** (address repeated to caller)

**Caller 1:** Yes.

**Dispatch:** What’s the problem?

**Caller 1:** She started throwing up in the night and then everybody tried to wake her up and she wouldn’t. She just kept snoring and

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just kept lying there and wouldn’t wake up.

**Dispatch:** OK, who is this? Is this your sister or something?

**Caller 1:** No, it’s my mom.

**Dispatch:** It’s your mom? How old is your mother?

**Caller 1:** Um, she’s 48.

**Dispatch:** And how old are you?

**Caller 1:** I’m 10.

**Dispatch:** OK, is this a house or an apartment?

**Caller 1:** House.

**Dispatch:** OK, do you know, she wasn’t throwing up blood, was she?

**Caller 1:** No, just throw-up.

**Dispatch:** OK, and you can’t...you can’t wake her up now, right?

**Caller 1:** Uh-uh.

**Dispatch:** Has she been drinking tonight, do you know?

**Caller 1:** Yeah.

**Dispatch:** She has?

**Caller 1:** Uh huh.

**Dispatch:** Does she get sick when she drinks very much?

**Caller 1:** Yeah.

**Dispatch:** OK, what’s your phone number?

**Caller 1:** (given by caller)

**Dispatch:** OK, we’ll have them right there, all right?

**Caller 1:** OK.

First call terminated.

**BLS ambulance (no paramedics) sent to the scene.**

**Caller 2:** Did you send paramedics to (address)?

**Dispatch:** They are on the way. How is your mother doing? Or is it your mother?

**Caller 2:** Well, uh, it’s my aunt and I don’t know. I ain’t there, but they said they haven’t been there yet.

**Dispatch:** Ah, well, um, apparently it sounds like she’s been drinking a lot and she’s passed out. Um, do you know any more information?

**Caller 2:** They said her lips are turning blue.

**Dispatch:** They are? OK, we’ll send them right...we’ll send...send...Excuse me. We’ll step them up. They’ll be there in about 1 minute, OK? Thank you. You’re not there then?

**Caller 2:** I’m over...(unintelligible answer)

**Dispatch:** It’s only been about 3 or 4 minutes. Thank you. Bye-bye.

Second call terminated.

**Dispatch:** Ambulance, dispatch.

**Ambulance:** Go ahead.

**Dispatch:** Ambulance, you are responding red-lights-and-siren?

**Ambulance:** 10-4.

**Dispatch:** ETA? Ambulance, dispatch.

**Ambulance:** Our ETA is 2 minutes.

**Dispatch:** 0227.

**Dispatch/ambulance transmission ter-**
911: Paramedics will be right with you.
Dispatch: This is (center’s name) dispatch. May I help you?
Caller 1: Um, I just called in for my mom.
Dispatch: Yes, you are at (address).
Caller 1: Yeah, have they left yet?
Dispatch: Oh, yes—they are on the way. Is she breathing now?
Caller 1: No, she’s turning purple.
Dispatch: OK, so she’s not breathing?
Caller 1: Here’s my dad.
Father: Is that ambulance on its way?
Dispatch: Oh, yes. It’s...a...She’s not breathing at this time?
Father: She’s not breathing now!
Dispatch: OK, make sure that your light is on, and go out and meet them. They’ll be there in about 30 seconds, OK?
Father: OK.
Dispatch: Thank you.
Father: Bye.

Third call terminated. Paramedic unit

This case represents a consistently observed, risky pattern in unstructured interrogation. One irrelevant question (“Has she been drinking?”) leads to a process known, in dispatch terminology, as “side-cycling,” or more formally known as “lateral interrogation.” This unfortunate dispatcher got off the main track and allowed a bias to creep into ultimate decision-making.

With a protocol-based EMD system, dispatchers are prompted—in a verifiable, reproducible manner—to ask for information they need to know, not what would merely be interesting to know. Protocols are designed to eliminate common errors, protecting the EMD from being swayed by personal bias, prejudice, intolerance and, not infrequently, unnecessary curiosity.

Biases can cause a dispatcher who isn’t following a set structure to “lead” a caller along inappropriate information-gathering pathways. For the same reason, lawyers are overruled when “leading” a witness, dispatchers should not be allowed to introduce significant personal bias by concocting questions as they go; there must be a reason for each question. Otherwise, the process defeats the very basic philosophies of medical control, quality assurance and nonarbitrary medical appropriateness.

EMT-Trained Dispatchers?

Proponents of the guidelines approach advocate using field-experienced EMTs and paramedics to perform dispatching, thereby allowing them to apply their interrogation and BLS treatment skills. This notion, however, fails to take into account the nonvisual nature of medical dispatching. Most EMTs and paramedics easily recognize this errant logic when they describe physicians who appear at a prehospital scene and function inadequately, despite a greater level of training and knowledge, because they’re “out of context.”

EMT/paramedic training is based on having a patient in front of you and being able to “look, listen and feel.” Dis-

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Dispatch is different. EMDs cannot look or feel. They only can’t see the patient, but they’re frequently talking to callers who are “representing” the patient (i.e., a bystander or relative) over the telephone. This dictates the need for a specific tool to help them overcome the limitations in assessing and “treatment” patients over the telephone. Medical dispatch protocols are that tool.

In 1993, Sheila Quilter Wheeler, a well-known expert in nurse telephone triage, stated: “Telephone triage is both art and science, a synthesis of human intuition and artificial intelligence. Artificial intelligence parallels the thought processes, logical steps, rules and intuition used in problem-solving. The same process is used in computer diagnostics” to help physicians think through diagnostic and treatment decisions. Like computer diagnostic systems, protocols help analyze and classify symptoms and perform several functions:

- **Problem solving.** Protocols are expert systems on paper or computers that guide nurses through the processes of interview, assessment and decision-making, comparable to having an expert at one’s side.
- **Structure.** Protocols organize vast amounts of information for consideration by the decision maker. They determine what constitutes significant information.
- **Risk management safeguard.** Protocols show the interrelationship of various data, forcing consideration of all possible decision choices and safeguarding against stereotyping.
- **Reconstructive.** In some institutions, especially gatekeeper systems, nurses must defend their dispositions. Protocols can help to reconstruct the decision-making process.**

Wheeler added: “Protocols must be well designed, comprehensive, standardized and actively used by staff—very few sets achieve this standard. Thus, high-quality comprehensive sets of protocols are in great demand.”

Aristotle made a statement more than 2,000 years ago that also applies to this discussion: “We are what we repeatedly do. Excellence, then, is not an act, but a habit.” If we have learned anything in the last 20 years of medical dispatch research and development, it is that the science of medical dispatching requires protocols and nondiscretionary initial compliance with them. This is analogous to asking physicians to follow the ACLS protocol for cardiac arrest until there is time and room in the process to make some decisions based on judgment and experience.

Similarly, a protocol system makes room for intelligent EMDs to think inde-
pendently and use their good judgment. They must follow all protocols per se, avoiding free-lance questioning or information unless it enhances, not replaces, the written protocol questions and scripts.

Recent international interest in emergency medical dispatch led to a July 1993 article in the Journal of the British Association for Immediate Care, outlining the inherent benefits of implementing a protocol-based dispatch system in the United Kingdom. And, in May 1993, the British Medical Journal recommended that the London Ambulance Service implement “a medical priority dispatch system, which differs from criteria-based dispatch systems by using algorithms rather than prompts.” Such systems have been used for 15 years in metropolitan areas in the United States and have the benefits of being more structured, requiring little training, being easy to audit and minimizing the stress to the controller. A key function of the system is to prioritize the allocation of ambulance resources to 999 [111] calls for which the response time is crucial to the patient’s survival.EMS managers and medical directors are ultimately responsible and accountable for dispatchers’ actions. Wheeler recently quoted nursing quality-assurance expert Carolyn Smith-Marker in regard to the nature of telephone triage protocols. She unequivocally stated that “nurses can function (triage) according to defined purposeful expectations or by intuition. A nursing (triage) system can operate in a designated manner or haphazardly. Patient care can be delivered by design or by impulse and habit. Standards either exist or they do not. If they exist, they must be detailed, consistent and comprehensive or they will be shallow, irrelevant and worthless.”

**References**


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