The Emotional Content and Cooperation Score in Emergency Medical Dispatching

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Abstract

Background. A common belief regarding scripted-protocol-driven emergency medical dispatch is that the caller is "too hysterical" or "too uncooperative" to allow a structured interrogation or to receive and act upon dispatch life support instructions. **Objectives.** To examine the emotional content and cooperation scores (ECCSs) of callers in more than 6,000 cases from two communication centers and to investigate the relationships between ECCS and caller party, incident nature, time of day, and geographical location. **Methods.** The ECCS has five levels: 5, uncontrollable, hysterical; 4, uncooperative, not listening, yelling; 3, moderately upset but cooperative; 2; anxious but cooperative; and 1, normal conversational speech. The authors tabulated the ECCS as recorded during case review for a random sample of each center's ongoing quality assurance programs. Statistical tests were used to identify the presence of relationships between ECCS and caller party, arrest/nonarrest situations, time of day, and geographical location. **Results.** Regardless of the caller party, the type of call, the time of day, or the geographical location, the mean ECCS of emergency callers is extremely low, indicating that most emergency callers are, in fact, very calm. The average ECCS computed from more than 3,000 cases from British Columbia was 1.05; the average score from almost 3,500 cases from New York State was 1.21. **Conclusion.** While relationships between ECCS and the different parameters were noted, the differences were so small as to be of little or no use as additional information to assist with complaint triage. The low overall ECCS shows that the typical caller who requests emergency medical assistance is calm enough to be interrogated in a scripted and structured fashion, and is cooperative enough to be responsive to dispatch life support instructions. **Key words:** emergency medicine; health services research; quality assurance, health care; caregivers; ambulances; emotional content; cooperation; dispatch; callers.

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It is a common belief in public safety that a formal and structured interrogation of a caller is impossible. Disbelief is based on the notion that emergency callers are often, if not always, hysterical or uncooperative.[1] Caller hysteria is also frequently offered as the reason for aborting a structured interrogation; this inevitably leads to failure to complete the question sequence (which frequently leads to an incorrect response) or to failure to provide dispatch life support instructions (which can lead to a less satisfactory outcome for the patient).[2]

Prehospital emergency care happens in several stages, usually beginning with an individual requesting assistance via telephone. Staffing the telephones in an emergency medical dispatch center will be a medical call taker: an emergency medical dispatcher (EMD; we define EMDs as individuals who have completed training in a nationally approved emergency medical dispatch protocol and who use it appropriately and correctly) or a dispatcher (an individual who handles emergency medical calls but who has no access to, or fails to use, approved tools, or who lacks appropriate training and management). The call taker will try to determine the nature of the caller's problem, will send a responding unit, and will (in some locations) provide life support instructions over the telephone when appropriate.

Emergency medical dispatch, as we define it, involves complying with a scripted protocol absolutely.[3] This means that a predetermined list of questions must be asked in the correct order and using the exact language specified by the protocol. Deviations from this precise script are not allowed, although additional questioning that enhances (clarifies but not replaces) the protocol is acceptable when the circumstances dictate. Following a precisely scripted protocol in this exact manner leads to several desirable phenomena: questioning and responses will be based on the experience and expertise of the (numerous) people who crafted the protocol, not on the experience and expertise of the individual dispatcher; questioning and responses will be consistent, as when presented with identical responses to the question sequence, the protocol will arrive at the same response; emergency medical dispatcher compliance and performance can be statistically monitored and additional training provided when necessary; and the protocol itself—not the individual dispatcher—becomes susceptible to scientific study.[3,4]

While hysteria has often been identified as an insurmountable hurdle to a structured dispatch interrogation, few objective data actually exist in the area of emergency caller hysteria. If callers who are requesting emergency medical assistance are indeed hysteri-

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cal or uncooperative, the EMD might not be able to effect a successful interrogation, and may therefore misinterpret the patient's needs and send an inappropriate response. Similarly, if callers are uncooperative, the EMD will be unable to provide effective dispatch life support instructions.

In 1986, Eisenberg et al. compared the emotional content of 516 callers who were reporting cardiac arrest with the emotional content of 146 callers who were reporting nonarrest situations.[5] Using a scoring system of 1 (normal conversational speech) to 5 (so emotionally distraught that information could be obtained only with great difficulty), they determined that the mean emotional level of the nonarrest callers was 1.4, while the mean emotional level of the callers who were reporting cardiac and arrests was only slightly higher at 2.1.

From an emergency medical dispatch perspective, it is not just the emotional level of the caller, but also the caller's willingness or ability to cooperate with the call taker that is important.[2,6] The National Academy of Emergency Medical Dispatch (NAEMD) therefore developed a score that was based in part on Eisenberg et al.'s methods for determining emotional content but that also takes into account the caller's willingness to cooperate. Called the emotional content and cooperation score (ECCS), it also has five levels: 5, uncontrollable, hysterical; 4, uncooperative, not listening, yelling; 3, moderately upset but cooperative; 2; anxious but cooperative; and 1, normal conversational speech. Audio examples of each ECCS level are available on the NAEMD's web site at http://www.naemd.org/researchpapers.html.

The likelihood that a caller who is requesting emergency medical assistance is hysterical is based on several things. The nature and seriousness of the patient's problem (or at least the caller's perception of the patient's problem) are clearly a factor; it might be expected that medical problems that are clearly serious (such as acute myocardial infarction, "heart attack") might lead to a much higher stress level in the caller, with a coordinate increased likelihood of hysteria. The relationship of the caller to the patient (the caller party) would also be expected to influence the caller's mental state; callers who are related to, or know, the patient might be expected to show more stress or more hysteria because they have more of a vested interest in the patient's comfort or survival. (We define a first-party caller as the patient him or her self, a second-party caller as a person who is directly involved with, or in close proximity to, the patient—often a friend or relative, a third-party caller is someone who is not directly involved with, or in close proximity to, the incident, and a fourth-party caller is someone from a public service agency (who often communicates with the dispatcher via another agency operator). Another factor that might affect the caller's emotional content is the demeanor of the emergency medical dispatcher.

In this study we set out to determine the emotional

TABLE 1. Cross-tabulations of British Columbia Caller Party vs Emotional Content and Cooperation Score (ECCS); Observed (Expected)

ECCS	First Party	Second Party	Third Party	Fourth Party	Total
			Caller Party vs ECCS		
1	272	1,852	503	290	2,917
2	4	44	4	0	52
3	1	35	3	0	39
4	0	10	1	0	11
5	0	0	0	0	0
Total	277	1,941	511	290	3,019
			Caller Party vs ECCS (Expected)		
1	267.6	1,875.4	4,93.7	2,80.2	2,916.9
2	4.8	33.4	8.8	5	52
3	3.6	25.1	6.6	3.7	39
4	1	7.1	1.9	1.1	11.1
5	0	0	0	0	0
Total	277	1,941	511	290	3,019
			Caller Party vs ECCS (Observed – Expected)		
1	4.4	–23.4	9.3	9.8	2,917
2	–0.8	10.6	–4.8	–5	52
3	–2.6	9.9	–3.6	–3.7	39
4	–1	2.9	–0.9	–1.1	11
5	0	0	0	0	0
Total	277	1,941	511	290	3,019