

Interactions of Emergency Medical Services: Effective Communication for Quality Care

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Abstract

Patient and provider interaction has been studied many times in a clinical context, but little attention has been paid to the unique setting of emergency medicine. Five EMTs were interviewed and participant observation was conducted in order to examine the different communication strategies of EMTs for patients versus colleagues. The data was then coded using emergent theme analysis. The results of this study found that EMTs develop strategies through experience, and there is a need for communication training in EMT courses. Based on the findings implications, limitations and suggestions for future research are discussed.

Key Words: emergency medical services, health communication, patient and provider communication, provider and provider communication.

Interactions of Emergency Medical Services: Effective Communication for Quality Care

The interaction between a patient and a healthcare provider is an interesting topic of study due to the sensitive nature of the relationship. Although individuals often disclose highly personal information to their healthcare provider, it is the duty of the provider to keep this knowledge confidential (Wright et al., 2013). Though there have been many studies conducted on the patient provider interaction in a clinical context, little attention has been paid to the unique context of emergency medicine.

Emergency medical services (EMS) provide treatment and transport to individuals in crisis health situations that may also be life threatening (What is EMS: A Definition, 2011). This can include many situations such as car accidents, natural disasters, or illness. EMS is staffed by trained professionals known as emergency medical technicians (EMTs), who must go through extensive training in order to handle the unpredictable and taxing duties of the job. The training includes what to look for when approaching the scene and mastering medical techniques and use of devices. However, one aspect of EMT training that appears to be lacking is effective communication.

Past research has indicated that effective communication between both the EMTs and the patient lead to better treatment options and higher quality of care than those who lack communication skills. According to the Joint Commission on

Accreditation of Healthcare Organizations, failure to communicate effectively caused more than 70% of patients to be harmed and of those cases, 75% resulted in patient death (Greenwood & Henringer, 2010). Being able to elicit vital information from the patient is difficult due to the nature of emergency medical services, leading to a high risk of this information being misspoken or unheard, but is necessary for completing the patient evaluation (Greenwood & Henringer, 2010). The following will examine different aspects of interactions within emergency medical services including the nature of EMS work, provider and provider communication, and provider and patient communication. It will also detail an investigation into EMS interaction and communication as influenced by patients who withhold information. The findings of this investigation will be discussed and suggestions for future research are offered.

Literature Review

Nature of EMS Work

Emergency medical services agencies are essential components of local government. The treatment and potentially life saving interventions performed by EMTs are important for patients in both short and long term care. However, little is known about the interaction between the patient and emergency medical personnel (Henderson, 2013). The setting of the work environment makes it even more difficult to not only communicate effectively, but also perform basic duties due to the physical separation of crewmembers, noise, and stress related to the condition of

the patient (Greenwood & Henringer, 2010). When EMS arrives on the scene of the incident, there is very little time before they must make a decision to transport the patient to a local hospital. Within fifteen minutes of arrival, the patient must either be in transport to the hospital, or being treated for minor injuries at the scene. This high turnover rate of patients and pressure of the job leave EMTs with little time to obtain a lot of information about the patient. However, having less information leads to an increased risk of making mistakes (Bagnasco et al., 2013). The ability to effectively communicate is just one of many important skills that must be mastered in this profession that influences patient outcome and level of care provided (McCarthy, 2013).

Provider and Provider Communication

Part of the job description of being in EMS is being able to work in a team environment. There will always be at least two EMTs in a response team. On many occasions there will be multiple responders of various EMS levels that arrive on scene such as an ambulance and fire engine. EMTs must be able to communicate important information to their colleagues during all stages of the incident response. Failure to communicate effectively can lead to errors in patient diagnosis or treatment, and impact patient care (Rubin, 2009). The majority of patient safety issues have to do with the miscommunication between the providers (Bagnasco et al., 2013). Ways to prevent communication errors between the providers are to use structured forms of communication so that vital information is passed on (Greenwood & Henringer, 2010). An example of structured communication is the read-back tool. When an individual states information orally, the receiver of the information will repeat what the sender had said. The sender will then acknowledge that the information was correct, or make any changes to what the receiver "read-back". The process continues until there is a shared understanding (Greenwood & Henringer, 2010).

Other ways to prevent communication errors are to discuss treatment options rather than dictate treatment route. A shared responsibility by the providers and team approach can lead to better patient care (Rubin, 2009).

Provider and Patient Communication

Both the assessment of the patient and communication skills are important in determining the needs of the patient and the best course of treatment (Henderson, 2013). Patient-centric systems seek providers who are good communicators as well as

skillful. Providers must also be able to multitask such as communicating with the patient and family, while also providing care by performing necessary procedures (Rubin 2009). Research has found that patients can accurately perceive when they are being treated with respect. When they perceive a high level of respect, they are given more opportunities to ask questions and are more involved in the decision making process in regards to their care (McCarthy, 2013).

It can be hard to gather information about the patient and the incident because there are usually a lot of things going on, and cannot be easily observed (Henderson, 2013). In order to improve gathering information, it is important to examine cases in which attempts to gather information was difficult or failed. These interactions have serious and even fatal implications (Henderson, 2013). Patient-centric systems discourage "cookbook" medicine, but instead view the patients and families as individuals and can provide valuable information during the patient assessment and determining an appropriate diagnosis. The tone and body language of the EMT can reinforce empathy, patience, and their willingness to help (Rubin, 2009).

Research also indicated that it was helpful to alternate the wording of the question instead of changing the entire question when a patient was not able to communicate her chief complaint (Henderson, 2013). Another important aspect to communicating effectively is to have followed up questions in order to get the answers that are helpful, this will also indicate when answers are not adding up (Henderson, 2013). Often, the information that a patient provides, or even reactions that they have to the questioning can influence an EMT's approach to care (McCarthy, 2013).

Critique of the Literature

Due to the fast paced and crisis environment of EMS, there is little research on the communication skills of the EMTs. The research conducted by Rubin (2009) touched on nonverbal cues displayed by both the provider and the patient and the influence on communication skills, but does not go into detail on how they can be used toward mastering effective communication by the EMT.

Also, none of the literature touched on how to illicit responses from patients who are withholding information, or who are not telling the truth. Henderson et al., (2013) stated that asking follow up questions could clear up information that does not add up, but does not go into information that is not forthcoming.

Many of the research articles stated that having effective communication with your partner EMS personnel would lead to better patient outcome, and that good patient provider interaction would also lead to increased patient care. However, there was no mention as to the connection

between the two interactions leading to better patient outcomes.

Communication Privacy Management

Communication privacy management theory or CMP, is a grounded theory based on research to understand the way in which individuals regulate the disclosing and revealing of private information (Petronio, 1991). People believe that they are the owners of their private information and have the right to control who gains access to it (Baxter & Braithwaite, 2008). This theory is often used as a framework for understanding the strategies for managing tensions that can arise from communicating private and sensitive information, and how these rules for communication can shift depending on the context. In the provider-patient interaction, providers rely on specific information that is relayed by the patient to aid in the diagnosis (Wright et al., 2013). This is often a difficult task because patients can withhold relevant information that they feel uncomfortable talking about, and may even lack the ability to accurately disclose the information. For example, many patients do not want to disclose information on their eating, drinking, or smoking habits because they feel that they will be negatively judged. Other topics such as sex organs or bowel movements can be problematic because they violate social norms (Wright et al., 2013).

Nonverbal Communication

In order for providers to gain the information needed for a proper diagnosis, it is essential that they not only be trained in effective verbal communication cues, but in nonverbal communication as well (Rubin, 2009). Nonverbal communication cues are behaviors that are not linguistic (Hall, 2007). Visible cues include facial expressions, body movements, posture, eye gaze, and touching. Other cues include tone of voice, pitch, pauses, and also appearance such as hairstyle and clothing. It is important that providers are able to rely on nonverbal cues when assessing the patient. Previous research has shown that spoken words only account for 30-35% of the perceived meaning during an interaction (Sparks & Villagran, 2010). Nonverbal cues portray information about personality traits, intelligence, intentions, and mental and physical health (Hall, 2007). The provider can use positive nonverbal cues during his interaction such as nodding his head and making good eye contact (Rubin, 2009). These positive cues can make the patient feel more comfortable in his environment, and in turn the patient may be more inclined to disclose relevant information. It is important for the provider to give positive nonverbal cues, and to also watch for the cues being

given by the patient. Too often, the provider is looking down and taking notes while the patient is speaking. By doing this, the provider is missing out on vital information being revealed through the use of nonverbal cues.

Information Manipulation Theory

Closely associated with nonverbal cues are deception cues. Information manipulation theory (IMT) is a theory that seeks to examine how people deceive, how people are deceived, and how the information is manipulated during an interpersonal interaction (Baxter & Braithwaite, 2008). Deception is considered to be strategic, because the individual engaging in the deceit is using various tactics in order to achieve his goals to be seen as credible and have his lies taken as truth (Baxter & Braithwaite, 2008). People manipulate messages to deceive by quantity, quality, relation, or manner violations. Quantity violations are defined as providing less information that is required of the question, quality violations include bold-faces lies, relation violations are messages that are irrelevant to the conversation, and manner violations are messages that are vague (Baxter & Braithwaite, 2008). In order to do accomplish this, the deceiver must not only manage his verbal behavior, but nonverbal cues as well. For example lying is associated with blinking, hesitations, and finger movements (Hall, 2007). Often in an emergency medical setting, the patient will try and deceive the EMT in order to obtain something she wants such as a ride to another location, prescription drugs, or a warm meal at the hospital. Even though it is the duty of the responder to take every call seriously, understanding this theory and use of deception cues can help assist in determining the nature of the call, so they can save time and be available for those patients who are actually in need.

Compliance-Gaining Strategies

Understanding these theories can help the provider to engage in compliance-gaining strategies, which are defined as influencing an individual to perform a desired behavior that the individual would normally not engage in (Anker & Feeley, 2011). Previous research has noted that up to 50% of all patients do not comply with the treatments prescribed to them (Wrench & Booth-Butterfield, 2003). The same study noted that patients are more likely to comply with the provider who supplies arguments for their treatments, than providers who try and enforce positive behaviors (Wrench & Booth-Butterfield, 2003). The use of these compliance-gaining strategies by an EMT can be useful in eliciting important information from the patient, and also having the patient follow orders that can lead to a quicker and better quality of care. These strategies include expectancy/consequence, which are messages that aim to manipulate by explaining the consequences of certain actions, relationship/identification uses the relationship of

the person to gain compliance, and values/obligations are messages that define the values or obligations of performing an action (Anker & Feeley, 2011).

Based on the above critique of the literature and theoretical framework, the following research question is posed:

RQ1: What are the different communication strategies of EMTs for patients versus colleagues?

Methods

Participants

The participants in this study were all employed EMS personnel. They were all licensed EMTs that have successfully completed an accredited course, and certified by the National Registry of Emergency Medical Technicians. This indicates that

they are at least 18 years old, and have completed the required number of clinical hours with both an ambulance company and in an emergency room. A snowball sampling was conducted by postings on Twitter, Facebook, and on EMS online social networks. All demographics were encouraged to participate, and all participants provided written informed consent to be interviewed and have their interviews recorded. Names were changed and any other identifying information was kept confidential.

There were a total of five participants in this study, three female and two male, and the ages ranged from 19 to 26. All of the EMTs were currently employed in the field, and had completed their accredited courses in the same areas that they were currently working. The employment timeline ranged from three months to 5 years.

Table 1 *Participants*

<i>Amanda - P01</i>	<i>Sophia - P02</i>	<i>Cass - P03</i>	<i>Sam - P04</i>	<i>Eric - P05</i>
25 year old Female	26 year old Female	19 year old Male	20 year old Female	25 year old Male
EMT for 5 years	EMT for 4 years	EMT for 3 months	EMT for 1.5 years	EMT for 3 years Paramedic 1 year
Some College	Some College	Some College	Some College	No College
Trained/Employed in Southern California	Trained/Employed in Northern California	Trained/Employed in Southern California	Trained/Employed in Hawaii	Trained/Employed in Hawaii

Procedure

Data was collected through semi-structured interviews. Interviews were conducted either in person, through video chat, or over the phone in order to reach a larger number of participants. Each interview lasted between 45 minutes to one hour. The participant was also given a survey in order to collect demographic information.

Data Collection Procedures

In order to describe the communication strategies of EMTs for patients versus colleagues, I conducted a qualitative study by conducting semi-structured interviews with each of the five participants. I chose to conduct semi-structured interviews in order for the participant to have the freedom to lead the discussion, and allow for new ideas and experiences to be brought up, but I also had a series of questions prepared so that the conversation remained on task (Guest et al. 2013). I also conducted topical interviews as I was interested in the experiences of each participant and wanted to hear the sequence of events that occurred and how they communicated. One of the interviews was conducted in person, and the remaining interviews were conducted via Skype

due to distance, and I served as the interviewer. The interviews were recorded with the written consent of the participants, and lasted a total of four hours. After the interviews were conducted, the participants completed a demographic survey in order to collect data on their age, gender, highest level of schooling, and if they were currently employed as an EMT.

I also conducted participant observation. I worked with Amanda on an ambulance in order to further gain insight into EMT communication strategies. I decided to observe in order to see the communication in action, supplemental to the recounts of interaction from the interviews (Guest et al. 2013). I observed a total of two ten-hour shifts. In those shifts we had a total of three patients for a total observation time of patient-provider interaction for three and a half hours. Field notes were taken on site and later typed out. These notes include conceptual memos and researcher memos.

I also believe that it is important for the reader to know that I am a licensed and a currently employed EMT. As such, I have my own experiences, expectations and opinions, but I have made a conscious effort not to impose these beliefs and values onto the experiences of the participants. To enhance the trustworthiness of this study, I used a triangulation of methods by using both semi-structured interviews and participant observation in data

collection, and using a systematic method for managing the data.

Data Analysis Procedures

The data from the interviews was analyzed by first transcribing all of the conversations. Once the interviews were transcribed, the data was coded using emergent theme analysis. The transcriptions,

field notes and memos were all re-read and important concepts and information were pulled from each and labeled as codes. The codes were then put into different categories, and the category definition was created. It was from these categories that themes emerged and were then able to provide insight into the research question.

Table 2 Codebook

Category	Category Definition	Example
Experience	Communication with patients improves with experience	<i>It is something learned through experience - Sam</i>
Respect	The importance of showing respect to all patients	<i>It seemed as if she was taking care of her grandmother by the way she spoke to her and handled her physically.</i>
Lack of Communication Training	EMTs were not given any training on how to communicate during the training course	<i>I have yet to receive any training with either patients or other EMTs –Sam</i>
Medical Terminology/ Codes	The use of medical terms or designated codes to communicate with other EMTs	<i>Ya usually the codes work the best when the patient is present. - Sophia</i>
Patient Physical Appearance	Use of patient physical appearance to gather information	<i>If I suspected my patient wasn't giving me the whole truth, I can always look at their general appearance and vital signs, and physical exam. – Eric</i>

Findings and Discussion

Through this investigation, I was able to answer the research question by identifying different communication strategies of EMTs for patients versus colleagues. I also gained insight as to the communication training provided in EMT courses, and how EMTs learn their communication strategies.

Communication Training

Through the course of my conversations with the EMTs, there was a common theme that there is a lack of communication training in EMT courses. As I asked each participant about their training program, all five of them reported that they had not had any communication training in how to effectively communicate with patients or with fellow EMTs. When speaking with Sam, she disclosed the following:

What I learned while in the EMT program turned out to be completely different from what I was expected to do on the road as an EMT. In class I learned about anatomy, physiology, and pathophysiology of the body. In class we learned what information we needed and that it is important to be able to

communicate this information to our partner, but I don't think we were ever taught how to formally communicate with them or each other.

This finding was particularly surprising given the fact that all five EMTs had gone through different training programs, in different cities. It appears that these training programs recognized the need for communication between patients and other EMTs, but failed to provide effective communication training. Instead, the focus of the course was on the medical training, which in Sam's opinion did not properly prepare her for the actual duties of the job.

A few of the participants, including Sam, did talk about receiving training on which questions needed to be answered by the patients by referring to SAMPLE which stands for signs and symptoms, allergies, medications currently taking, pain, last oral intake, and event. Two of the EMTs, Sophia and Eric, did mention that they had learned that they must approach the patient and first introduce themselves before placing their hands on the patient. Sophia shared:

Oh ya no ya they told us you have to introduce yourself first and say that you are an EMT and you are there to like to like help them and stuff. You need to do this then ask if you can touch them if they can respond.

I wonder if this was taught to them as a communication strategy, or merely for legal reasons. I was also surprised that Eric had not received any communication training in either his EMT or paramedic courses.

Provider and Patient Communication

Because there is an overall lack of communication training, patient communication skills are honed out in the field. EMTs learn communication strategies with patients through experience. Many of the EMTs interviewed credited experience with learning how to interact with patients. Cass stated:

Something like communicating only gets sharpened by repetition.

Similarly, Sam explained:

It is something learned through experience.

I think it is so common to learn these skills through experience because they are not being taught in the classroom. In this case, the only way to learn how to interact with patients is by being out in the field.

When it comes to eliciting important information, the EMT must know when to be stern and when to be sympathetic, but always be respectful to the patient. This is an important compliance-gaining strategy. Sophia described,

I had a patient that was a teenager. A teenaged boy that had apparently taken some prescription medication that wasn't his so that parents called us. When we showed up the patient didn't want to go to the hospital and so he became like hysterical and wouldn't let us take his vitals or answer any questions. Luckily, the parents could answer most of the questions but then kinda um kinda like with the homeless guy I just went up to the patient and talked super calm and like a person and told him that we wouldn't do anything he didn't want to do and we would make him comfortable. So again after he calmed down I was able to take some vitals and he definitely needed to go to the hospital so I just told him that again calmly and he did it. You kinda need to know when to be stern and when to be sympathetic.

Consistent with the literature findings, having

these communication skills is important for an EMT because you never know what kind of situation you could be placed in with a patient. Knowing how to handle difficult cases such as having to treat someone who is not compliant is vital when time is of the essence and minutes could mean the difference between life and death (McCarthy, 2013).

The same is true for patients who are not telling the truth. Eric describes a situation:

The most recent call was this 36 year old female who was complaining of supra pubic abdominal pain and denied any chance of pregnancy and related last menstrual period was uh about 2 months ago. She also denied any fluid discharge or bleeding. So we were about 2 minutes from emergency room and patient gave birth in the back of the ambulance. I didn't know she was lying because she didn't look pregnant and her vital signs were stable. I found out from the staff that she knew she was pregnant but she was also on crystal meth.

Not having all of the information can lead to costly medical mistakes and errors in treatment (Greenwood & Henringer 2010). There are many contraindications for the treatment of pregnant women, and not knowing this information could have put the patient and her child at risk. The fact that she was under the influence of drugs only further complicated the matter. Luckily, the patient and her child made it to the hospital, but if Eric had the proper training to know how to elicit vital information from this patient, it might have changed the course of treatment and him and his team would have been prepared for the birth.

Another strategy that Eric mentions is the use of nonverbal communication. EMTs often rely on the physical appearance of patients to determine the severity of the condition, as Sophia explains:

... um then scene safety, determine the number of patients, MOI, NOI, then get like a general impression of the scene. I always make eye contact with the patient and then I can usually get a general impression just by how they look like if they are big sick or little sick [laughter] you know?

It is important not to ignore nonverbal cues given by the patient, but cannot be the only source of communication. In Eric's situation, relying on the nonverbal cues caused him to miss valuable information related to the patient's nature of illness.

Provider and Provider Communication

When it comes to communicating with fellow EMTs or other healthcare providers, EMTs use codes or

medical terms.

As we leave the station, Amanda goes on the radio and says "24 1080" which lets dispatch know that 24, which is our ambulance number, is ready for our first call.

As discussed within previous literature, communicating in this manner is more efficient as you can communicate a lot of information in a short amount of words and time, and there is also less room for errors in communication, as long as everyone involved knows the codes or terms and their meanings.

Communicating through codes and medical terms can be especially important when the patient is present and you do not want to talk in front of them, especially something negative about his or her condition. Often, this can have negative implications on the health and stability of the patient. All of the EMTs interviewed mentioned the use of codes in communicating in the field with other EMTs. Sophia revealed the following:

Ya usually the codes work the best when the patient is present. For example if we are transporting and we need to upgrade to lights and sirens the person in the back will just say like code 3 so the driver knows what to do, but then I usually tell the patient that we are doing that cuz there's lots of traffic instead of saying like your dying you need to be at the hospital like now.

It also came up in the interviews to use the patient in order to communicate with your partner or fellow EMTs. Eric explained:

I usually communicate with my partner through my patient. For example, if a patient is complaining of chest pain. I'll tell my patient that we will be putting you on oxygen, performing a 12-lead EKG, starting an IV, and administering medications as well. Then my partner will listen and do those tasks without me speaking directly to my partner.

I thought that this was an especially effective method of communicating directions and dividing up the responsibilities between the EMTs without having to take the time to communicate directly to one another. Using this method, one EMT takes the lead on the treatment plan and the other follows.

A similar situation occurred during my observation, and there was also use of nonverbal communication between Amanda and myself.

When we did communicate it was mostly through nonverbal and codes. When it was time to lift the patient onto the gurney, when she counted for the patient that was also for me to know when to lift. When we lifted the gurney up together we each naturally grabbed the side we were closer to, and we made eye contact and nodded, which indicated that it was time to lift.

Using nonverbal communication can save time and be more efficient during the treatment of a patient, but again this can only work if both partners are in agreement of what the signs mean, so that there is no miscommunication that could affect the safety of both the EMTs and the patient, and also affect the quality of patient care.

Implications

This study provided insight into the communication strategies that EMTs use when communicating with patients, and with colleagues. I was surprised to see that the responses were very similar across multiple EMT schools and employment experiences, and overall the data was consistent with previous literature reviewed. Even though EMS services are nationally regulated, each county generally has its own subset of rules and protocols for EMTs to follow.

When it comes to communication with colleagues, this study revealed that EMTs often rely on medical terminology and codes to relay information, as this leads to less miscommunication, and you can also communicate a lot of information within a shorter amount of words, and time. In communicating with both colleagues and patients, EMTs used nonverbal communication. Nonverbal cues can often display information as to physical health, which is useful when communicating with patients, especially if the EMT suspects that the patient has been lying or withholding important information. The EMTs also employed the strategy of knowing when to be sympathetic and when to be stern when trying to elicit information from difficult patients as a method for compliance-gaining.

This study also shows the necessity for having communication training for EMTs within EMT courses. None of EMTs interviewed received any kind of training on how to effectively communicate with their colleagues or with patients. Instead, they learned different communication strategies out in the field through experience. Especially when dealing with difficult patients that are either lying or withholding vital information necessary for treatment, EMTs need to be equipped to communicate effectively before they come in contact with these situations. By incorporating communication courses into EMT training, we can hopefully decrease the number of patient deaths due to errors in communication and increase the quality of care and treatment options.

Limitations and Directions for Future Research

Overall, this study provided great insight into the nature of EMT communication including training, provider-patient communication, and provider-provider communication. However, his study is not without its limitations. There were only five EMTs interviewed in this study. The EMTs were also very close in age and it would benefit future research to have a larger demographic of participants in order to see if this changes the responses in any way. Also, more

participant observation of various ambulance companies could have added more insight into real time examples of communication strategies between EMS teams and their patients. This study provides a great starting point for investigating how we can improve the communication strategies of our EMTs and identifies a need for communication training in EMT classes. Future studies can investigate further into different strategies used for communication, and even conduct experiments as to which strategies are most effective for EMS personnel to use when interacting with colleagues and with patients.

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