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## Role of First Responder in Pre Hospital Ambulance Services

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### **Abstract:**

*This article is written with the purpose of highlighting the importance of first responder in pre hospital ambulance services. The role of first responder is influenced by the awareness levels about ambulance services in society.*

*The success of Supply chain of health care delivery system is largely influenced by the speed with which a call for help (the information) reaches a emergency response center (call center). The most important member in the chain is the first responder. The first responder could be a passerby, an escort, a family member or whoever is willing and capable to communicate.*

*In India pre- hospitalization services have not received enough attention. The aim of this article is to highlight this gap and urge fellow management researchers to work in this area.*

**Keywords:** First Responder; Ambulance service providers; Emergency management system; Health care delivery system; Pre-hospitalization services; GVK EMRI 108

### **1. Introduction**

Success or survival rate of victims in any accident or emergency health care depends on correct decision making. Incorrect decisions may happen because of lack of information, awareness and/or misguidance. The first one hour is golden. It can lead to making or breaking of a life.

Ambulance service is an integral part of pre-hospitalization. It involves preliminary care (first aid which happens on the spot), fastest possible transport and care during transit. The supply chain operation of an ambulance starts with calling an ambulance and finishes with transferring the victim into the safe hands of a doctor/health care centre system. The person who responds to the incident first, is called First responder. He might be the victim himself who calls for help, a passerby, a family member or anyone willing and capable of calling for help.

One of the most important factors in time sensitive medical eventuality is Ambulance response time. The response time of ambulance in India is far above the eight minute international standard. This may be due to time delay in:

1. Alertness of the first responder and his willingness to call for an ambulance
2. Communication between call centre executive and ambulance driver
3. Alertness of the ambulance driver
4. Ambulance reaching the spot fully equipped
5. Patient being transferred to hospital
6. Hospital taking over the responsibility of the victim

Delay in any one or more of the above situations may lead to increase in response time. Reduction in response time depends on the success of ambulance service system. This in turn depends on awareness, sensitive human interactions (which are worsened due to stress/ regional barriers / language barriers / in-difference or disownment towards victim), communication system, transportation and handling uncertainties in transit.

### **2. Quick Response of Ambulance Depends on**

First responder/ Victims end:

1. First responder calling the call centre
2. Call center receiving the call
3. Alerting the nearest ambulance
4. Ambulance reaching the correct spot
5. First aid/ preliminary check up
6. Transportation
7. Handing over the victim to the hospital

### 3. Ambulance Service Provider End

1. Receiving call
2. Satellite communication for mobile/ telephone communication, AVLTS
3. Check vehicle availability, condition of vehicle, service and maintenance
4. Train call centre executive, drivers, emergency management technicians

### 4. Operations Involved

1. Awareness in society- community empowerment
2. Call centre management
3. Training
4. Logistics
5. Fund management

### 5. Literature Review

Rajesh H Garg, in his article "Who killed Rambhor?: The state of emergency medical services in India", states that the pre-hospital care is a neglected issue in India. No formal pre-hospital care was offered in 85% of the trauma patients as reported in a South Indian study. There are no guidelines or regulations on the issue of pre-hospital care in most of the tertiary hospitals across the country. Problems are worse in rural areas where even the most basic emergency obstetric care has been found to be lacking. This shows that the rural and semi urban areas are worse affected due to negligence, delay and improper information flow.

Angeline N Radjou, Preetam Mahajan and Dillip K Baliga, in their article "Where do I go? A trauma victim's plea in an informal trauma system", have reported that as per a report of National Commission on Macroeconomics and Health, Ministry of Health and Family Welfare (MOHFW), Government of India (GOI), a villager has to travel an average distance of 2.2 km (kilometers) to reach the first health post for getting a paracetamol tablet, over 6 km for a blood test, and nearly 20 km for hospital care. It is the private health sector to whom people look forward. The middle class and rich people prefer the medical services from the private sector. According to National Family Health Survey – III, in India, the private medical sector remains the primary source of healthcare for the majority of households in both urban areas (70%) and rural areas (63%). Even the quality of private sector is also questionable. This high lights the dependence and faith of people in private medical sector.

In an inquiry into practical solutions in the field of disaster rescue methods and prevention management, Shuo-Yan Chou, Dayjian Chen, in their article "Emergent disaster rescue methods and management", have focused on planning, real-time rescue, and emergency management. They claim that disaster rescue activities depend heavily on civilians and organizations. According to them a disaster rescue manager plays a key role, because he or she has received training in and has become familiar with emergent rescue operations. This shows that all civilians have to realize they are a part of emergency management team by default and their role as first responders is immense. Once the first responder finishes performing his duty, the responsibility shifts to the shoulders of a trained driver and the trained escort provided y the ambulance service provider.

### 6. Gap Analysis

The society is still not fully aware of the different services available for safely and quickly transporting a victim to a health centre. The communication may get misguided due to lack of information, distorted or delayed.

### 7. Conceptual Framework

A medical emergency can occur at home, on road, in work place or in a primary health care centre. In all the three cases the victim needs to be transported to the safer hands of a doctor.

Based on the observation and working of ambulance services the following flow was observed:

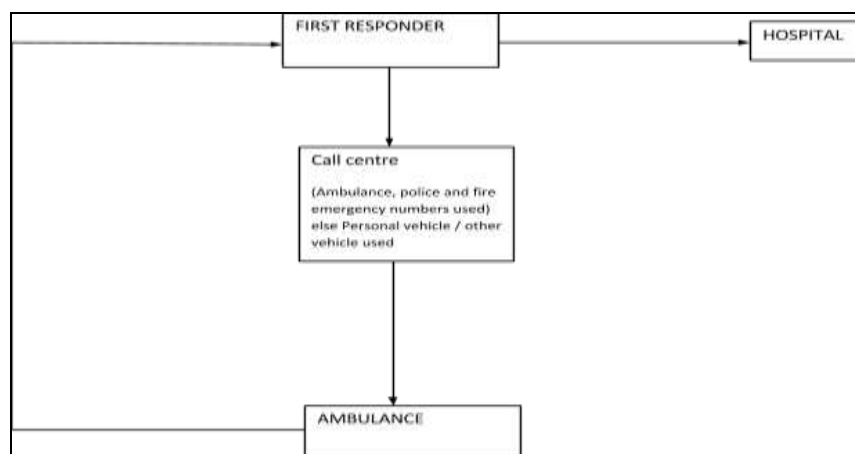


Figure 1: Transport from incident prone areas to hospitals

The first responder could be in an urban, rural or tribal place. He may use landline, mobile or manual method to communicate the emergency.

#### 7.1. In Case an Ambulance is called

The call centre responds by tracking an ambulance through GPS and the vehicle arrives in less than 20 minutes in urban, less than 25 minutes in rural and less than 30 minutes in tribal areas.

The vehicle is well equipped with emergency equipments, emergency management technician and medicines. The right patient is taken to the right hospital under medical supervision. After 48 hours feed back of the service is taken from the patient or attendant of the patient.

#### 7.2. In Case Personal Vehicle or Other Vehicles Like Auto Riksha or Cab Is Used

The first responder does not wait for the ambulance to come. Easily available option is given priority. Speed in transport of victim cannot be ignored but safety is not assured.

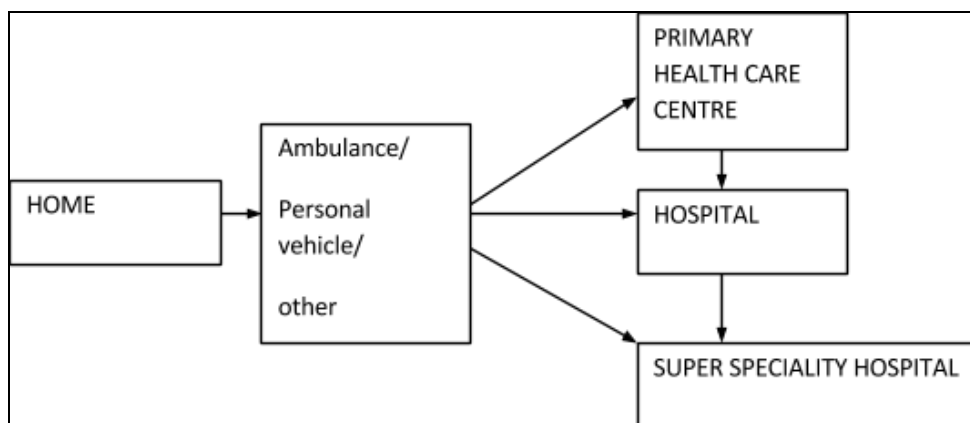


Figure 2: Transport from home to hospital

As per protocol of EMRI 108 ambulances service provider, patient are to be shifted to government hospitals. But in case of an accident they are shifted to the nearest healthcare unit. The patient, attendant of the patient and availability of a bed in the hospital govern the shifting of the patient to the “right hospital”.

It was observed that EMRI 108 service at times compromises with its protocol too in the interest of mankind. It shifts the patient not only to Government but also to Private hospitals (if patient condition demands).

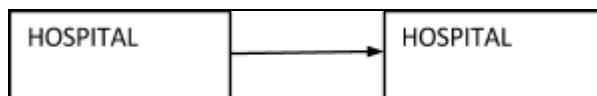


Figure 3: Transport from one hospital to another called Interfacility transfer

Generally when a victim is already in the presence of a doctor, it may not be treated as an emergency. However this service needs more focus because most of the rural and semi urban populations still depend on super speciality hospitals in the cities. Though this is an equal emergency it may be given a separate status. Special vehicles need to be deployed to handle such transfers.

In a nut shell the entire activity of pre-hospital, hospital and rehabilitation needs to be integrated for better survival rates. The entire activity starts with transporting a victim as early as possible. The success of this activity depends on Speed, Reliability, Safety in transit and Better communication systems on the part of Ambulance services and Awareness levels of the **first responder**.

### 8. Relevance of This Study

Emergency management system which works primarily on Pre hospitalization, Treatment and Rehabilitation is fragmented. As a result commitment to the cause is reduced. As a first step towards integration, excellence in internal operation is desirable.

Pre hospitalization starts with transporting the victim to a receiving hospital as quickly and safely as possible. One of the methods of reducing the response time of ambulance is through creating awareness for the service, identifying and reducing the gaps in communication and transportation. Every individual should be made aware of **their importance as first responders**. They should be made aware that they are already a part of emergency management system at large.

### 9. Importance

As the population increases, need for emergency management in health care increases. Problems are worse in rural areas where even the most basic emergency obstetric care has been found to be lacking. A delay may adversely affect ones destiny. Within the first one

hour of an occurrence there is lack of direction, lack of knowledge, unnecessary movement leading to further delay, anxiety and financial crunch. As a result valuable pre-hospitalization time is lost.

Added to this the process through which a patient is shifted to a hospital may be or become unsafe. For instance the patient may be mishandled, the mode of transport may be ill equipped, vehicle may be ill maintained or the route chosen may be longer. This shows that communication technology, manpower, equipment and drugs need to be lined up.

Also there may be reluctance on the part of doctors in handling medical emergencies and sharing the responsibility especially if the victim's identity is not known. There is an instinct to evade the inconvenience associated with subsequent lengthy and tiresome legal proceedings. The ambulance services have a tie up with receiving hospitals to reduce this time waste.

#### 10. Anticipated Outcomes

It is anticipated that the society need more awareness regarding ambulance services. The ambulance services and be strengthened if the first responder is better informed and is made to realize his role and responsibility towards the society.

Any flaw in speed ambulance service will be highlighted. A comparative study can be made and a better mode of transport can be suggested to the society.

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