A study of Emergency Response Services in Three Districts of Andhra Pradesh

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Abbreviations

ALS	Advance Life Support
AP	Andhra Pradesh
APL	Above Poverty Line
BLS	Basic Life Support
BOT	Build Operate Transfer
BPL	Below Poverty Line
Capex	Capital expenditure
CEO	Chief Executive Officer
EMRI	Emergency Management and Research Institute
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
ERS	Emergency Response Service
FW	Family Welfare
GDP	Gross Domestic Product
GIS	Geographic Information System
GoAP	Government of Andhra Pradesh
GoG	Government of Gujarat
GoI	Government of India
GoR	Government of Rajasthan
Govt.	Government
HMRI	Health Management and Research Institute
HR	Human Resources
ICU	Intensive Care Unit
IHS	Institute of Health Systems
IIT	Indian Institute of Technology
IIHMR	Indian Institute of Health Management and Research
IPHS	Indian Public Health Standard
IRM	Internal Review Meeting
JSY	Janani Suraksha Yojana
MoHF	Ministry of Health & Family Welfare
MOU	Memorandum of Understanding
NGO	Non-Government Organisation
NHSRC	National Health Systems Resource Centre
NRHM	National Rural Health Mission
Opex	Operating expenditure
PHC	Primary Health Centre
PIP	Programme Implementation Plan (annual state plans under NRHM)
PPP	Public Private Partnership
PSAP	Public Safety Answering Point
RFP	Request for Proposals
RSBY	Rashtriya Swasthya Bima Yojana
RTA	Road Traffic Accident
SHRC	State Health Resource Centre
SPMU	State Programme Management Unit (under NRHM)
UK	United Kingdom
USA	United States of America

Study of Emergency Response Service (EMRI Model) in Andhra Pradesh, India.

I. Introduction

Emergency Response Service (ERS) is generally associated with medical services, police emergency and fire service. This forms the core group of services to be provided. However, many other functions can be combined to form a broader 'package' of ERS including emergencies like mountain rescue, cave rescue, mine rescue etc. Other emergencies like disaster relief and famine relief form part of the civil emergency services.

Historically, Emergency Response Services (ERS) are in practice since 18th century (during the Napoleonic times) when a pre-hospital system was designed to triage and transport the injured from the field to aid stations. An emergency *call* service was first launched in 1937 in the UK known as the *999 emergency services*. The key lesson, as evident from the experiences of such ERS worldwide and historically, is that these are not short run investments. Even after 70 years of operation, *999* required an investment of £10 million (GBP) on infrastructure and training. This provides six kinds of services: police, ambulance, fire, coastguard, cave and mountain rescue. The European counterpart to this service is the *112* number that also runs in the UK today along with its *999* phone line. The United States of America (USA) introduced similar service with the number *911* in 1968. It has been designated as the *Universal Emergency Number* for citizens throughout the US to request for emergency assistance. Today, approximately 96% of continental USA is covered by *911*. It is intended as a nationwide telephone number and gives the public fast and easy access to a Public Safety Answering Point (PSAP).

In the Indian context, a much discussed and successful PPP model for ERS is the *108 Emergency Service* being managed and operationalised by EMRI (Emergency Management and Research Institute) in many states in India like Andhra Pradesh, Gujarat, Uttarakhand, Goa, Tamil Nadu, Karnataka, Assam, Meghalaya, Madhya Pradesh, Himachal Pradesh and Chhattisgarh with around 2858 ambulances running currently (as on July 2011). EMRI was set up as a registered society with 17 members and most of them were family members of Mr. Ramalinga Raju, the then CEO of Satyam Technologies. Initial funds came from the personal funds of Shri Raju with Satyam Technologies providing technical support. With the expansion of fleet and services set to spread across more states, EMRI projected reaching a goal of 10,000 ambulances covering over a billion population by 2011. The EMRI aims to build an ERS wherein the ambulance reaches the patients/sites within 15-20 minutes and that the patient is shifted to the nearest hospital within 20 minutes thereafter. EMRI operations in some of the states in India are listed in table 1-I below.

Presently nine states have already signed the MOU with EMRI for running the ERS in their states and there are other states who are considering the same. The value of the MOU also differs between the states, with Rajasthan having an MOU of Rs. 50 crores per year representing both capex and opex, AP has 114 crores a year representing only opex costs and Gujarat has 252 crores over 5 years (accounting for both capex and opex) . As per the projections of EMRI, they are expecting an annual MOU value of around Rs. 1500 crores per year from 2010 onwards.

Table I-1:EMRI in various states of India

State	Launching Date	Status
Andhra Pradesh	April 2, 2005	652 ambulances covering the entire state with 100% population coverage
Gujarat	August 29, 2007	402 ambulances throughout the state with 100% population coverage
Uttarakhand	May 15, 2008	90 ambulances covering entire state with 100% population coverage
Tamil Nadu	September 15, 2008	172 ambulances covering 18 of 32 districts , and 62% of the population
Rajasthan	September 20, 2008	100 ambulances covering all 33 districts but only 21% of the population- largely urban
Goa	September 5, 2008	18 ambulances covering 100% of the state
Karnataka	November 1st 2008	150 ambulances covering 17 of 29 districts and 72% of the population
Assam	November 6th 2008	83 ambulances covering 12 of 28 districts and 50% of the population
Meghalaya	February 2nd, 2009	15 ambulances covering 2 of 7 districts and 41% of the population.

Source: NHSRC - Study of Emergency reseponse service - EMRI Model 2009.

A. Context of the EMRI Appraisal Study

With the emerging significance of the EMRI model as a preferred option for providing ERS across most of the states in India, and its increasing support under the NRHM, the Ministry of Health & Family Welfare, Govt. of India, in November 2009, commissioned a review of EMRI scheme in selected states of Andhra Pradesh, Gujarat and Rajasthan, through the NHSRC. This appraisal would help the Ministry of Health & FW, Govt. of India, in suggesting replication and improvement of the programme, and also help build systemic linkages so as to maximise health outcomes from this scheme.

NHRC has conducted the study in 2009 in three of the nine states- Andhra Pradesh, Gujarat and Rajasthan. The reasons for this choice are given below:

The EMRI managed ERS in Andhra Pradesh has become a bench-mark for ERS in India and various other states are in the process of adopting the EMRI model. This necessitates a review of the original EMRI model of Andhra Pradesh to draw lessons for designing ERS in other states in India. Similarly, Gujarat, which has already implemented various successful PPP models in the health sector, has implemented ERS through EMRI in a big way. This also necessitates looking at the EMRI experience in Gujarat, as unlike AP, Gujarat is a green-field project for EMRI as it did not have any pre-existing fleet of ambulances and the whole EMRI project is almost completely supported by the Govt. of Gujarat financially (with support from the Govt. of India, under NRHM). Rajasthan has also launched the EMRI model in the year 2008 and has adopted the process followed by Gujarat,

including a similar business model and MOU. So, Rajasthan was also included in the appraisal of EMRI models in the country to get an understanding of the situation in the first year.

While assessing the EMRI model, the following issues were taken into consideration:

1. Number of ambulances required to provide an emergency response of quality.
2. Estimate case load each of these ambulances.
3. Unit cost of this service(for different volumes of utilisation and distances and years of functioning
   i. Per ambulance trip
   ii. per ambulance per year
4. Tieing up with hospitals.
5. Roles of the states in guaranteeing universal access to such a service.
6. Financing of this scheme for different levels of utilisation and the mechanisms of governance and accountability

The appraisal of the EMRI scheme was initiated in 2009. Within a few weeks of constituting and beginning the work and barely a few days of the first formal interview with the EMRI, the crisis occurred in Satyam which involved its owner and chief sponsor of EMRI (subsequently it was taken over by GVK group). Though this had few direct implications on the study, the problems of liquidity that EMRI encountered, the states which required to make more advances were keen to know the findings of this study. Also the states on the verge of entering into contracts also started awaiting these findings. One immediate implication of this was that the study initially planned as a six month work was converted into a two phase study- one based on review of documents and interviews leading to a first phase overview report to be followed by a sample study and validation of data and a final report. Though this first phase covers almost all aspects of the scheme, it is limited by the fact that it is entirely dependent on the secondary data taken from the EMRIs own reports. Though EMRI has been cooperative in sharing all the information we asked for, our information is limited to what is collected from them from their internal monitoring and analysis systems and there is no independent validation of this data or primary data collection.

The Objectives of this study could be stated as follows:

1. First Part:
   i. To examine the design aspect and the framework of the EMRI model, in the context of larger health systems issues and ERS requirements, including equity issues and institutional frameworks including governance and accountability issues.
   ii. To review the operational aspects of EMRI scheme in the sample states of Andhra Pradesh, Gujarat and Rajasthan. This would include operational efficiency of EMRI, financial management, and management of contractual obligations.
   iii. To examine and comment on patterns of utilisation of services in three sample states to understand present and potential demand for these services and the effectiveness of EMRI to respond to this

Second part:

To undertake a sample study, using a small number of research teams, across three states with the purpose of

1. Validating data presented by EMRI.
2. Understand further on patterns of use, and equity issues.
3. Examine HR issues related to service delivery.
4. Look at quality of service delivery

B. Methodology of the study:

Table: I - 2: Methodology of the study

First Part	Second Part
Overview Appraisal Interviews with EMRI: Collection of key documents and analysis of data presented by EMRI to understand and recommend on utilisation, requirements, effectiveness and efficiency of operations, financing arrangements and governance mechanisms and institutional frameworks	To undertake a sample study. To estimate the efficiency & effectiveness of ERS, patterns of use, quality of care, equity of access etc.

Note: Many of the questions that would be examined by the second part of this study would be raised by this first part.

The first part of the study was completed and the following recommendations and conclusions were made.

(a)Governance and Management:

1. Even as the appraisal of EMRI was being undertaken, the earlier chief promoter of EMRI M/s Satyam Computers, is under investigation for serious frauds. The Satyam crisis has affected EMRI's executive board structure, seriously affecting their corporate governance, credit worthiness and liquidity. Thus there is an urgent need to bring considerable transparency into board operations at EMRI Hyderabad. The most important reform in this direction we suggest that at the national level, EMRI board should be headed by a chairperson nominated by the Secretary, MOHFW or Mission Director, NRHM. Two state mission directors or principal secretaries by rotation taken from the states with over Rs.50 crores funding to the EMRI be also taken on the board.
2. The legal entity of the EMRI registered society be separated from the board operationalising ERS by creating a sector 25 company called the EMRI- ERS company, and the board described earlier be the company board. A total of 13 board members would be agreed upon by discussions between the current CEO of the company (or current EMRI board members), the NRHM represented by the secretary and the chairperson of the board, and the main states which have ongoing MOUs with EMRI. The current five members on the board may continue for its first term or may be changed depending on the discussions.
3. To enable transition, the registered society could be allowed to nominate two more names on the board while other board members would be decided by consensus between the chair person of the board and its member secretary who is the current CEO of this

company. Once the sector 25 company is formed and the board holds its first meeting the board can decide and renegotiate the relationship between the board and the registered society. If agreed upon by both, this relationship can be ended. The need and way to reconstitute the registered society is not gone into here as it is a private body which may take its own decision in this regard. However it would seek clarity and renegotiation of the relationship between the society and the board.

4. The central government would also provide this newly formed company with the funds to become solvent again, clear its dues and function as a management contract to administer and guide the formation of ERS in all the states.
5. If the national board is government led, then the state level sector 25 companies may not be needed at all and a state specific steering and monitoring committee with specified powers may be adequate. If on the other hand the government chooses to prefer separate state bodies, then at state levels there could also be sector 25 companies who are independent legal entities with the state secretary as chairperson and the board members nominated by the national board in consultation with the state secretary of health. Each state board would be a separate legal and financial entity with its own board and executive and CEO. Any interstate transfers of funds and transfer of funds to other institutions or taking loans and overdrafts would need approval by the reconstituted Governing Board. This is needed to totally ring fence EMRI from Satyam accounts and the accounts of Mr Raju and family. Individual State accounts should also be so ring-fenced.
6. The national and (if created) state EMRI boards should also have a vice chairpersons, who would be persons with business management experience and a good record of leading or playing a governance role in corporate social responsibility organizations whose name is agreed upon by consensus by the service-provider, the state secretary of health and the national mission director of NRHM. This vice chairperson should be able to provide some time to this work as expected, as independent director of a corporate board, and a person of integrity who can provide counsel to both the secretary and the CEO and the national mission director in case of problems, and help find space for facilitating desirable corporate practices. This would also ensure regularity of the quarterly meetings if the secretary is not able to make it for some meetings.
7. The nominee of the state secretary or mission director shall be considered a special invitee to all internal review processes of the EMRI at state level
8. A set of documents would be defined which would be used for recording and reporting data and soft copies of these would be regularly provided to the government. These records would be maintained by the EMRI and be available for routine mandatory sample monitoring checks by the contract management cell under the state health mission. These would include trip sheets of the ambulance, the details of call received and the ambulance dispatches. The exact details of this would be finalized after part II of the study is completed.
9. The cash books and ledger books would also be available for review on any day. The bank balance statement for each month would be filed with the contract management cell.
10. Each state would have a five member contract management cell who are full time and carry out the mandatory concurrent financial and physical evaluation on an agreed to

format and on a sample basis. The NRHM would pay for this. This could be built into the PPP management cell and located in SHRCs or directly in SPMUs.

11. The presentation of the utilisation certificate for the next instalment should be systematised, so that the exact number of trips made, kilometres covered and services delivered are also seen as well as component costs by category of expenditure. All procurement may be mandatorily by joint committees following government rules and the open tendering route where the value is above Rs 25 lakhs. Payments made for procurement may be done directly or routed through EMRI but should not be interchangeable with other heads of expenditure.
12. If EMRI is not made into a government led sector 25 company, then the exclusivity clause of EMRI should be removed.
13. There is space for states to consider alternate models, for example the call center is central but ambulance providers are different.
14. There is in particular no case for requiring 25 acres of land for this project. A certain minimum built up space on rent or purchased for its administration, call center operations and for its in house training may be all that is required.
15. No further state should offer contracts to EMRI- if it is a completely private agency - or any other ERS provider without a due tendering process. A clear guideline on this should be issued, along with tool kits including model RFPs to help in this process. Technical assistance for this should also be provided. Some provisions of this RFP and the ideal MOU would be considered mandatory to qualify for central funding.
16. This appraisal itself would continue into a second part which would examine the validity of data, and recommend on monitoring mechanisms. Further the second part of the study would examine HR, quality of care, and equity of access issues and opine on these also.
17. All the reports and conclusions of this study are now based on the data submitted by EMRI. In the atmosphere of doubt created by the crisis in trust of its chief sponsor, there is a need to undertake a basic sample study based validation of the basic data parameters, on which all these recommendations are made. This would be of use to EMRI also and its well wishers to argue the case for continued support and need not be perceived as contestation of their data. Further we also note that any PPP framework requires that there is in place an independent monitoring mechanism for cost, quality and access. For this reason also this study must lead onto its second part and this must be followed by putting in place reliable monitoring and accountability mechanisms.

(b) Financing:

1. The government of India has already indicated that the state would have to share in the operational costs. This is pitched initially at 40% and then would rise to 60% and subsequently 80%. Once the central and state governments are able to assure itself of adequate transparency in governance and efficiency in operation, and improved effectiveness by strengthening other aspects of EMS, there is a case for revisiting this guideline and instead arguing for a state contribution of 50%. The aim is to encourage states to go down this route to higher public expenditures in health and not shy away from this altogether.
2. If NRHM fund allocation matches the stated goal of reaching 3% of the GDP, and rises to about Rs 55,000 crores per year, the resources for a universal ERS can be found and

absorbed. However if NRHM allocations stagnate at the current Rs 12,000 crores the space for such expansion would not become available.

3. As a general principle, user fees are not recommended, but above a particular level of consumption of this service and with monitoring mechanisms assuring equity of access, there may be a need to consider its introduction as a way of limiting wasteful consumption. Placing concurrent evaluation in place would help in planning this. But this is largely a problem of the future. At present the challenge is still of increasing utilization.
4. The impact of ERS by the EMRI route on the population level ratio of out-of-pocket expenditure to public health expenditure at the facility level of service provision also needs to be assessed.
5. ERS has to be perceived as an entitlement and service guarantee. There can be no going back on this. The National Health Bill if passed would also make this mandatory. The focus is really not on whether we need an ERS, but what form of operationalisation of ERS would be most efficient and most effective.

(c) Improving Efficiency:

1. A verifiable set of performance indicators that measure efficiency and effectiveness may be reported by EMRI on a routine (weekly/monthly basis) to the respective state governments, especially regarding the range and average of time taken to reach emergency, the area of coverage, the number of failed despatches, number of trips and distance travelled per day by all ambulances (separately), average up-time/down-time of ambulances and quality of care both in ERS and in the rest of EMS
2. Payments may be based on these performance indicators in addition to statements of expenditure. Indicators ranges should be specified as achievement norms and these would be related to density of ambulances deployed and optimum level of utilization at each stage of deployment aimed for.
3. If the leadership costs are to be borne by the government this should be rationalised on a negotiated basis, with some of it being borne by the center directly and the rest being shared with the states.
4. A national system of concurrent performance audit of EMRI operations in various states may be put in place by the MoHFW. This would supplement the five person contract management cell to be put in position in each state. The five person contract management cell would operationalise a system of validation of EMRI supplied data on a regular basis.

(d) Improving Effectiveness:

1. There needs to be independent monitoring of appropriate of response to the emergency call, the time in which patients were reached, the quality of stabilization care that was provided during transport. The current figures are provided by EMRI and they give the spirit of the There needs to be independent monitoring of appropriate of response to the emergency call, the time in which patients were reached, the quality of stabilization care that was provided during transport. enterprise but are more in the nature of promotional material. Quality data on these aspects needs to be assessed to provide some of the answers needed. This above dimension also needs to be viewed with the equity perspective, i.e. who are still not accessing this service and why. The second part of this study would attempt to address these issues. It would help arrive at estimating requirements for ERS and to plan for the future.

2. There is a need to strengthen the quality of the non ERS aspects of emergency medical care, namely care provided at the hospital. There is also a need to make it cashless at least for the poor and provide insurance cover or other mechanisms for the rest. The level of training of service providers and the equipment and infrastructure needed to provide emergency medical care needs to be enhanced at least commensurate with the investment being made into transport.
3. The protocols used for stabilisation care, for choice between facilities, for managing problems especially on payments at the facility level, for transfer of patients who are not accepted or who complete 24 hours without ability to pay or improvement in health, all need to be assessed.

Conclusion

EMRI is undoubtedly a historic landmark in the provision of health care in the nation. To its credit goes the achievement of bringing Emergency medical response on to the agenda of the nation. Though not part of the original NRHM design, its tremendous popular appeal along with the flexibility of the NRHM design made it possible for it to emerge as one of the leading innovations of the NRHM period. The first common review mission of the NRHM had noted this as one of the two successful public private partnerships worth replicating. However, even then the need for a closer look at the costing and the contractual arrangements and the need for independent monitoring had been recognized. The crisis of its promoter only hastened on a process of evaluation that was well underway. Today there is a situation that without central intervention into the governance of the EMRI, the whole system could collapse. Yet such intervention if poorly planned could create more problems than it would solve.

This evaluation seeks to build on the EMRI model of ERS, not replace it, and much less abandon it. The average cost of Rs 450 per ambulance trip, provided free to every emergency medical, police or fire needing help anywhere in the country, and that too within 20 to 40 minutes, is almost a dream, and it is a dream that is tantalizingly within our reach, not within a lifetime but within a plan period!! Rs 2000 crores to reach such a goal is steep but not impossible. It costs about as much as we spend on pulse polio today. The only danger in this stage is the danger of complacency and the abandonment of caution and basic systems of governance in a fit of populism and competitive promotion of what seems a certain winner. It is in this spirit of such caution mixed with a commitment to achieving universal ERS that these recommendations are made.

NHSRC has commissioned the Institute of Health Systems (IHS), India for conducting 2nd part of the study in Andhra Pradesh.

II. Objectives:

1. Validating data presented by EMRI (data presented in first part of the study)
2. Understand further on patterns of use, and equity issues.
3. Look at quality of service delivery

III. Materials and Methods:

Andhra Pradesh consists of 23 districts, spread over the three regions, namely Telengana, Andhra, and Rayalaseema. 3 districts were selected (by NHSRC) from within each of the three regions by simple random sampling.

Table III - 1: List of Hospitals and the number of interviews to be conducted				
District	**Category of the Hospital**	**Name of the Hospital with address**	**Public/ Private**	**No of Interviews to be conducted**
Anantapur	Public Health Instituion			
	Apex Referal Hospital	Govt General Hospital, Anatapur	Public	30
	First Referal Unit	CHC, Dharmavaram	Public	30
	First Referal Unit	Area Hospital, Kadiri	Public	
	First Referal Unit	CHC, Gooty	Public	
	Private Health Instituion			
	Private Hospital	RDT Hospital, Kalyandurg	Private	20
	Private Hospital	Snehalatha Nursing Home, Anatapur	Private	
	Maternity Hospital	Pavani Hospital, Anantapur (includes Maternity)	Private	20
	Maternity Hospital	Asha Hospital, Anatapur (includes Maternity)	Private	
Visakhapatnam	Public Health Instituion			
	Apex Referal Hospital	King George Hospital, Visakhapatnam	Public	30
	First Referal Unit	Area Hospital, Anakapalle	public	30
	First Referal Unit	CHC, K.Kotapadu	public	
	First Referal Unit	CHC, Nakkapalle	public	
	Private Health Instituion			
	Private Hospital	Care Hopsital, visakhapatnam	Private	20
	Private Hospital	Apollo Hospital, visakhapatnam	Private	
	Maternity Hospital	Sri Simhadri Women and Child Hosptal, visakhapatnam	Private	20
	Maternity Hospital	Sanjeevi Hospital and Maternity Center, Visakhapatnam	Private	
Warangal	Public Health Instituion			
	Apex Referal Hospital	MGM hospital, Warangal	public	30
	First Referal Unit	Area Hospital, Jangamon	public	30
	First Referal Unit	CHC, Parkal	public	
	First Referal Unit	CHC, Wardhannapet	public	
	Private Health Instituion			
	Private Hospital	Mamatha Nursing Home, Wardhaannapet	Private	20
	Private Hospital	Lifeline Hospital, Hanmakonda	Private	
	Maternity Hospital	CKM Maternity Hospital, Warangal	Private	20
	Maternity Hospital	Laxmi Maternity Surgical and General Nursing Home, Warangal	Private	

A. Sampling Plan & Selection of Respondents

The study covered the three districts of Andhra Pradesh, namely Anantapur, Visakapatnam and Warangal. The casualty cases to be interviewed were selected in the following manner:

In each district minimum100 interviews have to be done. The Apex government hospital, other government hospitals and private hospitals are three categories of hospitals that should be covered and interviewing their attendants. There should be minimum 30 interviews to be conducted at each category of hospitals, while remaining 10 interviews can be done at any of these category hospitals collectively or at different hospitals. The respondent may the attendant of the patient in the casualty/ward (for cases transferred to wards). Interviews were conducted over a 5-7-days duration, with the timing spread across morning (0900-1130 hrs), afternoon (1500-1730 hrs), evening (1900-2100 hrs) and late night (0100-0400 hrs).

The data of emergency cases transported through 108 ambulance to both the public and private hospitals in a period of one year was obtained from EMRI to have an idea of the number of cases reported for selecting the hospitals. Then we arrived at the monthly / daily average of cases in each of the hospital. Thus a total of 24 hospitals were purposively selected as shown in Table III - 1 initially based on the highest number of emergency cases reported in each category of the hospitals. Wherever the cases are not being reported after selection of the hospital, it was substituted by another potential hospital based on the enquiry with the local health institutions.

B. Data Collection Instruments:

Two data collection schedules were developed for the study which are summarised in Table III - 2. The data collection schedules were to be filled in by the investigators, on the basis of interviews with the patients or their attendants. The first schedule (Sch-1) was used to record the feedback given by the patient / attendant who were transported through 108 ambulance. The second schedule (Sch-2) was used to record the feed back given by the patent/attendant who were transported through other mode of transport like private vehicles, 102 ambulance, other hospital ambulances etc., The investigators also recorded the experiences of the respondents, their opinion, suggestions on the emergency services in addition to the their own observations, discussions with various people in and outside the hospital premises. Both the schedules are reproduced in Annex 1.

Table-III-2: Overview of data collection schedules for review of EMRI model of ERS

Id	Schedule Title	Description
Sch-1	Hospital (Casualty) Patient Interview Schedule 1	This will be canvassed for patients **using** the EMRI ambulance
Sch-2	Hospital (Casualty) Patient Interview Schedule 2	This will be canvassed for patients **not using** the EMRI ambulance

C. Method of Data Collection:

A draft field investigators guide was prepared, containing the data collection schedules, instructions regarding gathering of information from the selected health care institutions. Administrative support letters from the Commissioner, Andhra Pradesh Vaidhya

Vidhana Parishad was obtained, authorising the IHS teams to gather data from the sample health institutions and to interview the patients/attendents as needed. Four investigators, mostly masters in social sciences, with prior experience of personal interviewing and survey work were recruited for the field work. The field investigators were trained to familiarise with the data collection schedules. The investigators were then sent to Gandhi Hospital located in Hyderabad city which was purposively selected for pilot testing of the data collection schedules and practical training of the investigators. This Gandhi hospital was outside the list of study sample health institutions. Each round of pilot testing included structured debriefing of the investigators, to clarify their doubts, reconcile discrepancies and where required to revise the schedules. The feedback was then shared with NHSRC. After taking into consideration the feedback from the pilot phase and further discussions held on 13/06/2011 at the conference in Delhi, NHSRC has finalized the schedules.

The four investigators were organised into two teams, each consisting of two members. These two investigator teams started the data collection work form sample hospitals. During the course of the survey at warangal, it was found that the coverage of maternity cases were very low and hence selected another Govt maternity hospital "C K Hospital" at warangal in addition to the hospitals already selected. Further, it was observed in all the selected hospitals that, the number of emergency cases being reported at the hospitals spread across morning, after noon, evening and late night are not uniform and hence decided to cover all the cases reported at all times during the study period of the hospitals. And as a result, the coverage of the interviews are more than the sample size of 100 per district. A team of at least two field investigators visited each of the sample hospital in a two to three day period to gather information from the patients/respondents of the emergency cases reported at the causality of the hospitals.

Typically, the field investigators would first greet the Duty Medical Officer / Superintendent at the hospital, introduce themselves and explain the purpose of the study. The investigators would explain that the particular hospital was one among the eight randomly selected hospitals from their district. The MOs and casualty staff in each study hospital were assured that personal data gathered in course of the study will be held in confidence, tabulated and used for statistical purpose only. In case of narrative or case studies, personal identities will be appropriately masked by fictitious names and identities. Patient/attendant's permission was taken before starting the interview and their convenience in spending time in answering the questions is respected. Ideally the patients were approached in the casualty who had been attended by the DMO/emergency technician, is relatively stabilised and is waiting to be either shifted to a ward/referred to higher referral institution or discharged. The investigators would then ask each patient / attendant if it is OK to spend some time to share his experience and answer the questions on emergency response services. If, however, the patient/attendent is not willing to answer the questions, then he/she will be dropped from the study.

The investigators would then take the consent of the respondent and start filling in the schedule. The investigators were advised not to hurry up. Instead, the investigators would use the opportunity to get to know people, stabilized after initial treatment and connect with them, so that they will feel comfortable to share their experience and give reliable information.

One supervisor who got experience in similar surveys was recruited, trained on data collection and scrutiny of the schedules during pilot survey. He was kept full time for supervision during the survey. Initially, he met the head of the hospital, show the

authorizations, take the permissions, then introduce the team to the hospital authorities for conducting the survey. He stationed at the district and had close supervision, scrutinized the schedules, solved the field problems relating to respondents and hospital authorities on eliciting the information.

IV. Results:

The frequency tables generated question wise in both the schedules is enclosed in Annex 2. The cross tabulations were generated and analysis made is as follows.

A. Patient's Demography and Economic Status:

Totally 375 patients were covered who were brought to Emergency blocks/ICUs of the 25 hospitals selected in three districts of Andhra Pradesh state. The details are as in Table 1.

Table 1: Coverage of respondents

Sl	District	#Hospitals		#Respondents		
		Category	#	EMRI	Others	Total
1	Warangal	Govt Hospitals	5	39	42	81
		Private Hospitals	4	9	32	41
2	Visakhapatnam	Govt Hospitals	4	38	35	73
		Private Hospitals	4	2	38	40
3	Anantapur	Govt Hospitals	4	61	25	86
		Private Hospitals	4	14	40	54
Total			25	163	212	375

The cases covered which were reported to emergency block or ICU at different timing period are as follows (Table 1A).

Table 1A: Respondents covered by timing period.

Time period	# EMRI cases	# Other cases (non EMRI)	Total
Morning	32	84	116
After Noon	44	47	91
Evening	62	61	123
Late Night	25	20	45
Total	163	212	375

In Andhra Pradesh, the families which are above poverty line (APL) and below poverty line (BPL) were identified and issued the ration cards under public distribution system. The white cards were given to BPL families and pink cards were given to APL families. These cards are popular in Andhra Pradesh state for implementing any beneficiary oriented programmes according to State and Cental governments and also using as identity

cards. Same analogy was followed for classifying the respondents for categorizing the APL and BPL while administering the questionnaire. The socio economic status of respondents is given in Table 2. Majority of the SC/ST families have used EMRI (108) Ambulance for availing emergency services. Non EMRI facilities were used by almost all the APL families. Further, most of the EMRI cases are being preferred to go to public hospitals where as most of the Non EMRI cases have preferred to go to private hospitals. 73% of the respondents hails from rural areas and have used both EMRI and other emergency services. Surprisingly, it is found that, there were no respondents hailing from slum areas. This need to studied whether the slum population were aware of such emergency facilities or not capable of calling EMRI ambulances or their economic capabilities prevent them using public or private facilities or otherwise approaching local RMPs or quacks within their vicinity.

Table 2: Socio economic status of respondents

Residence Category	Social & Economic Category											
	SC			ST			Others			Grand Toal		
	BPL	APL	Total	BPL	APL	Total	BPL	APL	Total	BPL	APL	Total
Using EMRI Ambulance												
Urban	5	0	5	2	0	2	7	0	7	14	0	14
Peri-Urban	1	0	1	2	0	2	3	0	3	6	0	6
Slum	0	0	0	1	0	1	0	0	0	1	0	1
Rural	34	1	35	21	0	21	84	2	86	139	3	142
Not Known	0	0	0		0	0	0	0	0	0	0	0
Total	40	1	41	26	0	26	94	2	96	160	3	163
Using Others												
Urban	10	2	12	2	0	2	29	21	50	41	23	64
Peri-Urban	0	0	0	0	0	0	11	4	15	11	4	15
Slum	0	0	0	0	0	0	0	0	0	0	0	0
Rural	19	0	19	9	1	10	95	9	104	123	10	133
Not Known	0	0	0	0	0	0	0	0	0	0	0	0
Total	29	2	31	11	1	12	135	34	169	175	37	212

56% of the respondents who are residing within 20 kms from the hospitals have used the emergency facilities (Table 3). 25% of the respondents falls in 20-40 kms range of residential distance from the hospitals. Rest 19% resides beyond 40 kms from the hospitals who used emergency servicesin the hospitals. As seen in Table 4, 57% of the respondents are females and rest 43% are males. 27% of the female respondents have admitted in the emergency blocks/ICUs with maternity related emergencies. Among the cases reported at ICUs, it is found that maximum (22%) of the cases are in the age group of 20-24 years. Another intersting factor is that 73% of the cases which are in the age group of 20-24 are maternity cases. Similar is the case in the age group of 25-29. Hence, there is every need to focus on enhancing the facilities in respect of maternity related complications/emergencies.

Table 3: Residentail Category and Distance to the hopsital

Distance: Residence-Hospital	Urban	Peri-Urban	Slum	Rural	Not Known	Total
Using EMRI Ambulance						
<= 20 kms	12	4	1	66	0	83
21 - 40 kms	2	1	0	48	0	51
41 - 60 kms	0	1	0	19	0	20
> 60kms	0	0	0	9	0	9
Total	14	6	1	142	0	163
Using Others						
<= 20 kms	48	10	0	70	0	128
21 - 40 kms	5	3	0	36	0	44
41 - 60 kms	3	0	0	9	0	12
> 60kms	8	2	0	18	0	28
Total	64	15	0	133	0	212

Table 4:Gender and Age Classification

Age	Using EMRI Ambulance			Using Others			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 1 year	1	2	3	6	6	12	7	8	15
1-4	1	1	2	2	2	4	3	3	6
5-9	0	1	1	2	0	2	2	1	3
10-14	0	1	1	4	3	7	4	4	8
15-19	5	13	18	3	11	14	8	24	32
20-24	7	34	41	7	36	43	14	70	84
25-29	7	8	15	13	24	37	20	32	52
30-34	3	8	11	11	7	18	14	15	29
35-39	6	5	11	5	2	7	11	7	18
40-44	5	4	9	5	1	6	10	5	15
45-49	4	4	8	6	8	14	10	12	22
50-54	3	4	7	3	2	5	6	6	12
55-59	5	1	6	4	4	8	9	5	14

Age	Using EMRI Ambulance			Using Others			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
60-64	4	4	8	12	2	14	16	6	22
65-69	6	3	9	7	2	9	13	5	18
70-74	7	1	8	3	3	6	10	4	14
75-79	3	0	3	0	2	2	3	2	5
80-84	1	0	1	0	1	1	1	1	2
85-89	0	0	0	1	1	2	1	1	2
90-94	0	1	1	1	0	1	1	1	2
95-99	0	0	0	0	0	0	0	0	0
100 and over	0	0	0	0	0	0	0	0	0
Total	68	95	163	95	117	212	163	212	375

B. Type of Emergencies:

Table 5 shows the number of patients covered by usage of EMRI ambulance and others and also emergency type as per the view of the respondent and as confirmed by the duty doctor at emergency block. The variation of emergency type between the respondent and the duty doctor is found mostly among the maternity cases and not in other cases. Only one patient who used EMRI Ambulance found to be really not an emergency case. However, in case of the patients who used other facilities, around 8 cases found to be normal which were reported as emergency. The diseases covered under emergency type " Others" in the last row of the table covers mostly snake bite, scorpion bite, alcoholic intoxication, diarrhea, poison & suicides, pneumonia, kidney problems, high BP and dehydration. The reporting of emergency cases is high in respect of injury / burn followed by maternity cases. If you see the pattern of using the EMRI ambulance for the emergency type, it is also for injury / burn and maternity related cases. In respect of pediatric emergency, mostly they used other facilities (non EMRI ambulance).

Table 6 gives the details of emergency type and the age of the patients who used EMRI ambulance services. The trauma / accident cases falls in the broad age group of 15 to 74 years. The maternity cases falls in the age group of 15-34. The patients under stroke cases falls mostly in the age group of 60-79 years.

Similarly Table 7 gives the details of emergency types and the age of the patients who used other emergency services (non EMRI). The pattern is almost same as that of the cases under EMRI.

Tables 8 & 9 gives the details of emergency type with the age of women patients who used EMRI ambulance and other services respectively.

Table 5: Type of Emergency and Usage of Ambulance by patients

Emergency Type	#Using EMRI Ambulance				#Others			
	As per Respondent		As per clinical Diagnosis		As per Respondent		As per clinical Diagnosis	
	#	%	#	%	#	%	#	%
Abdominal pain	5	3	5	3	6	3	6	3
Allergic reactions	2	1	1	1	2	1	3	1
Injury / burn	33	20	33	20	39	18	39	18
Cardiac / Cardio vascular	3	2	3	2	2	1	3	1
Diabetes	3	2	2	1	2	1	2	1
Disasters	0	0	0	0	0	0	0	0
Epilepsy	0	0	0	0	4	2	4	2
Fever (Infections)	9	6	9	6	17	8	17	8
Neonatal emergency (upto 1 month)	3	2	3	2	7	3	7	3
Paediatric emergency (upto 12 years)	3	2	3	2	10	5	10	5
Normal delivery	20	12	21	13	15	7	23	11
Obstetric emrgency	28	17	27	17	39	18	31	15
Respiratory	5	3	5	3	7	3	7	3
Stroke	9	6	9	6	9	4	9	4
Others	40	25	42	26	53	25	51	24
Total	163	100	163	100	212	100	212	100

Table 6: Type of Emergency (as per clinical diagnosis) and age of patients Using EMRI Ambulance

Emergency Type	Age																
	Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 and over	Total
Abdominal pain	0	0	1	0	2	1	0	0	0	1	0	0	0	0	0	0	5
Allergic reactions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Injury / burn	0	3	4	6	1	8	5	2	1	1	1		1				33
Cardiac / Cardio vascular	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	3
Diabetes	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
Disasters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Epilepsy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fever (Infections)	1	1	1		1	0		0	2	0	2	0	0	1	0	0	9
Neonatal emergency (upto 1 month)	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Paediatric emergency (upto 12 yrs)	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Normal delivery	0	2	15	3	1	0	0	0	0	0	0	0	0	0	0	0	21
Obstetric emrgency	0	4	17	4	2	0	0	0	0	0	0	0	0	0	0	0	27
Respiratory	0	0	0	0	1	0	1	0	1	0	0	0	2	0	0	0	5
Stroke	0	0	0	1	0	0	0	0	1	0	1	3	2	1	0	0	9
Others	3	4	3	1	3	2	3	5	2	4	4	5	1	1	1	0	42
Total	11	14	41	15	11	11	9	8	7	6	8	9	8	3	1	1	163

Table 7: Type of Emergency (as per clinical diagnosis) and age of patients Using other services (Non EMRI)

Emergency Type	Age																
	Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 and over	Total
Abdominal pain	1	0	1	0	2	0	0	0	0	0	1	1	0	0	0	0	6
Allergic reactions	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3
Injury / burn	3	0	4	5	2	3	3	5	2	3	4	3	1	0	1	0	39
Cardiac / Cardio vascular	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	3
Diabetes	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
Disasters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Epilepsy	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	4
Fever (Infections)	3	2	2	3	1	1	1	1	1	0	0	0	1	0	0	1	17
Neonatal emergency (upto 1 month)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Paediatric emergency (upto 12 yrs)	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Normal delivery	0	1	12	7	3	0	0	0	0	0	0	0	0	0	0	0	23
Obstetric emrgency	0	3	17	8	2	0	0	1	0	0	0	0	0	0	0	0	31
Respiratory	1	1	1	0	0	0	0	0	0	0	2	0	0	1	0	1	7
Stroke	0	0	0	1	0	1	0	0	0	1	4	2	0	0	0	0	9
Others	3	3	6	11	7	1	0	5	2	4	3	2	3	1	0	0	51
Total	28	11	43	37	18	7	6	14	5	8	14	9	6	2	1	3	212

Table 8: Type of Emergency (as per clinical diagnosis) and age of Women patients using EMRI Ambulance

Emergency Type	Age									
	Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50 and over	Total
Abdominal pain	0	0	0	0	2	1	0	0	0	3
Allergic reactions	0	0	0	0	0	0	0	0	1	1
Injury / burn	0	1	1	0	0	3	1	1	1	8
Cardiac / Cardio vascular	0	0	0	0	0	0	0	0	1	1
Diabetes	0	0	0	0	0	0	0	0	1	1
Disasters	0	0	0	0	0	0	0	0	0	0
Epilepsy	0	0	0	0	0	0	0	0	0	0
Fever (Infections)	0	1	0	0	0	0	0	0	2	3
Neonatal emergency (upto 1 month)	2	0	0	0	0	0	0	0	0	2
Paediatric emergency (upto 12 years)	2	0	0	0	0	0	0	0	0	2
Normal delivery	0	2	15	3	1	0	0	0	0	21
Obstetric emrgency	0	4	17	4	2	0	0	0	0	27
Respiratory	0	0	0	0	1	0	1	0	0	2
Stroke	0	0	0	0	0	0	0	0	2	2
Others	3	3	1	1	2	1	2	2	7	22
Total	7	11	34	8	8	5	4	3	15	95

Table 9: Type of Emergency (as per clinical diagnosis) and age of Women patients using other services

Emergency Type	Age									
	Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50 and over	Total
Abdominal pain	1	0	1	0	0	0	0	0	1	3
Allergic reactions	0	0	0	0	0	0	0	0	1	1
Injury / burn	0	0	1	0	0	1	0	2	5	9
Cardiac / Cardio vascular	0	0	0	0	0	0	0	1	0	1
Diabetes	0	0	0	0	0	0	1	1	0	2
Disasters	0	0	0	0	0	0	0	0	0	0
Epilepsy	0	0	0	1	0	1	0	0	0	2
Fever (Infections)	2	2	1	2	1	0	0	1	1	10
Neonatal emergency (upto 1 month)	1	0	0	0	0	0	0	0	0	1
Paediatric emergency (upto 12 years)	8	0	0	0	0	0	0	0	0	8
Normal delivery	0	1	12	7	3	0	0	0	0	23
Obstetric emrgency	0	3	17	8	2	0	0	1	0	31
Respiratory	0	1	0	0	0	0	0	0	2	3
Stroke	0	0	0	1	0	0	0	0	2	3
Others	1	2	4	5	1	0	0	2	5	20
Total	13	9	36	24	7	2	1	8	17	117

Table 10 shows the maternity cases and call patterns. In 19% of the cases who used EMRI ambulance, the trips are fixed in advance. In rest of the cases, it was an emergency call. Similarly, 30% of the cases who used other services, the trips were fixed earlier. Almost all the cases, the calls were made after the labor pains started. Table 11 gives the details of the place where emergency occurred. In 72% of the cases, the calls were made from Home. 16% of the cases, the calls were generated form the hospitals. 9% of the calls which are trauma / accident cases were generated on roads and others like bar shops, railway stations. Similarly Table 12 gives the details of places where emergency occurred which were used the emergency services other than the EMRI. In 69% of the cases, the calls were generated from Home followed by 18% from hospitals and 6% from the road spots.

Table 10: No of Maternity cases and call patterns

Type of emergency	Call category		Call reason		Call generated	
	Fixed earlier	Emergency call	High risk delivery case	Normal	After labor pains	During transportation
Using EMRI Ambulance						
Obstetric emergency	6	21	6	0	25	2
Normal delivery in labor	3	18	1	2	21	0
Total	9	39	7	2	46	2
Using Others						
Obstetric emergency	9	22	4	5	30	1
Normal delivery in labor	7	16	2	5	22	1
Total	16	38	6	10	52	2

Table 11:Type of Emergency and the Place where the emergency occurred who used EMRI ambulance services

Type of Emergency	Home	Work Place	Other Hospital /clinic	Road/in transport	Public place	Field	Others	Not Known	Total
Abdominal pain	5	0	0	0	0	0	0	0	5
Allergic reactions	1	0	0	0	0	0	0	0	1
Injury / burn	11	2	5	11	0	0	4	0	33
Cardiac / Cardio vascular	3	0	0	0	0	0	0	0	3
Diabetes	2	0	0	0	0	0	0	0	2
Disasters	0	0	0	0	0	0	0	0	0
Epilepsy	0	0	0	0	0	0	0	0	0
Fever (Infections)	6	0	2	0	1	0	0	0	9
Neonatal emergency (upto 1 month)	2	0	1	0	0	0	0	0	3
Paediatric emergency (upto 12 years)	3	0	0	0	0	0	0	0	3
Normal delivery	17	0	4	0	0	0	0	0	21
Obstetric emrgency	22	0	5	0	0	0	0	0	27
Respiratory	4	0	1	0	0	0	0	0	5
Stroke	8	0	1	0	0	0	0	0	9
Others	33	1	7	1	0	0	0	0	42
Total	117	3	26	12	1	0	4	0	163

Table 12:Type of Emergency and the Place where the emergency occurred - who used other services (NE 2.2 & 2.6)

Type of Emergency	Home	Work Place	Other Hospital /clinic	Road/in transport	Public place	Field	Others	Not Known	Total
Abdominal pain	6	0	0	0	0	0	0	0	6
Allergic reactions	3	0	0	0	0	0	0	0	3
Injury / burn	12	4	10	12	1		0	0	39
Cardiac / Cardio vascular	2	0	1	0	0	0	0	0	3
Diabetes	1	0	1	0	0	0	0	0	2
Disasters	0	0	0	0	0	0	0	0	0
Epilepsy	2	0	2	0	0	0	0	0	4
Fever (Infections)	13	0	2	0	0	0	2	0	17
Neonatal emergency (upto 1 month)	3	0	4	0	0	0	0	0	7
Paediatric emergency (upto 12 years)	9	0	1	0	0	0	0	0	10
Normal delivery	23	0	0	0	0	0	0	0	23
Obstetric emrgency	27	0	4	0	0	0	0	0	31
Respiratory	5	0	2	0	0	0	0	0	7
Stroke	7	0	1	0	1	0	0	0	9
Others	35	3	12	0	0	0	1	0	51
Total	148	7	40	12	2	0	3	0	212

Table 13 shows the details of the persons who made the calls for EMRI ambulance services. In 85% of the cases, the calls were made by the family members / friends / colleagues. In 8% of the cases, the doctor / paramedics called for the EMRI ambulance. In the rest of the cases i.e. 7% which are mostly trauma cases, the calls were made by others by others (like passerby, school teacher etc.). Similarly, if we see the table 14, who called for other services (non EMRI services), in 86% of the cases, the calls were made by family members / friends / colleagues. Rest were made by self, doctor and others (like pillion rider, school teacher). .

Table 13:Type of Emergency and the Person called the ambulance/vehicle who used EMRI Ambulance services

Type of Emergency	Self (Patient)	Family members / Friends / Colleagues	Police	Doctor /Paramedics	Others	Not Known	Total
Abdominal pain	0	5	0	0	0	0	5
Allergic reactions	0	1	0	0	0	0	1
Injury / burn	0	23	0	2	8	0	33
Cardiac / Cardio vascular	0	3	0	0	0	0	3
Diabetes	0	2	0	0	0	0	2
Disasters	0	0	0	0	0	0	0
Epilepsy	0	0	0	0	0	0	0
Fever (Infections)	0	8	0	1	0	0	9
Neonatal emergency (upto 1 month)	0	3	0	0	0	0	3
Paediatric emergency (upto 12 years)	0	3	0	0	0	0	3
Normal delivery	0	18	0	3	0	0	21
Obstetric emrgency	0	23	0	4	0	0	27
Respiratory	0	5	0	0	0	0	5
Stroke	0	9	0	0	0	0	9
Others	0	36	0	3	3	0	42
Total	0	139	0	13	11	0	163

Table 14:Type of Emergency and the Person called the ambulance/vehicle who used other services (non EMRI services)

Type of Emergency	Self (Patient)	Family members / Friends / Colleagues	Police	Doctor /Paramedics	Others	Not Known	Total
Abdominal pain	0	6	0	0	0	0	6
Allergic reactions	0	3	0	0	0	0	3
Injury / burn	3	33	0	2	1	0	39
Cardiac / Cardio vascular	0	2	0	1	0	0	3
Diabetes	0	2	0	0	0	0	2
Disasters	0	0	0	0	0	0	0
Epilepsy	0	4	0	0	0	0	4
Fever (Infections)	0	15	0	0	2	0	17
Neonatal emergency (upto 1 month)	0	5	0	2	0	0	7
Paediatric emergency (upto 12 years)	0	8	0	0	2	0	10
Normal delivery	0	22	0	0	1	0	23
Obstetric emrgency	0	30	0	1		0	31
Respiratory	1	4	0	2		0	7
Stroke	0	8	0	1		0	9
Others	3	42	1	1	4	0	51
Total	7	184	1	10	10	0	212

Table 15 shows the details of the reasons for which the calls were made to EMRI ambulance services. 76% of the cases were felt as medical emergency which needs immediate attention in the hospital. 14% were felt the need to call the EMRI ambulance due to maternity issues i.e. pregnant women in labor. Rest of the cases i.e. 10% of the cases were shifted from one hospital to another. Similarly in Table 16, 74% were felt to call other emergency facilities (non EMRI) due to medical emergency needing attention in the hospital. 10% of the calls were made as there is urgency to go to the emergency blocks due to pregnant women in labor. Rest of the cases i.e. 16% were felt to call other emergency services which needs to shift the patient form one hospital to another hospital. Table 17 shows the details of police cases. Out of 163 cases who used EMRI ambulance, only 24 cases were registered as Medico legal cases (MLC). In 4 cases, the police were still with the patient at the time of the survey. In 2 cases police accompanied the patient but left. In 18 cases, the police didn't accompany the patient. Similarly, 17 cases were registered as MLC out of 212 cases who used other emergency services. At the time of survey, in 3 cases the police were with the patient. In 4 cases the police accompanied the patient but left. In 10 cases the police didn't accompany the patient.

Table 15:Type of Emergency and the reason for which the call was made - Using EMRI Ambulance

Type of Emergency	Medical emergency needing attention in a hospital	Pregnat women in labor	Shift form one hospital to another	Non - emergency	Total
Abdominal pain	5	0	0	0	5
Allergic reactions	1	0	0	0	1
Injury / burn	30	0	3	0	33
Cardiac / Cardio vascular	3	0	0	0	3
Diabetes	2	0	0	0	2
Disasters	0	0	0	0	0
Epilepsy	0	0	0	0	0
Fever (Infections)	7	0	2	0	9
Neonatal emergency (upto 1 month)	3	0	0	0	3
Paediatric emergency (upto 12 years)	3	0	0	0	3
Normal delivery	11	8	2	0	21
Obstetric emrgency	9	15	3	0	27
Respiratory	5	0	0	0	5
Stroke	8	0	1	0	9
Others	37	0	5	0	42
Total	124	23	16	0	163

Table 16:Type of Emergency and the reason for which the call was made - who used other services (Non EMRI)

Type of Emergency	Medical emergency needing attention in a hospital	Pregnat women in labor	Shift form one hospital to another	Non - emergency	Not Known	Total
Abdominal pain	6	0	0	0	0	6
Allergic reactions	3	0	0	0	0	3
Injury / burn	35	3	1	0	0	39
Cardiac / Cardio vascular	3	0	0	0	0	3
Diabetes	2	0	0	0	0	2
Disasters	0	0	0	0	0	0
Epilepsy	2	2	0	0	0	4
Fever (Infections)	17	0	0	0	0	17
Neonatal emergency (upto 1 month)	5	2	0	0	0	7
Paediatric emergency (upto 12 years)	10	0	0	0	0	10
Normal delivery	10	2	11	0	0	23
Obstetric emrgency	6	3	22	0	0	31
Respiratory	6	1	0	0	0	7
Stroke	8	1	0	0	0	9
Others	44	7	0	0	0	51
Total	157	21	34	0	0	212

Table 17:Type of Emergency and the Police case (MLC) and their accompanyment

Type of Emergency	Police Case					
	Using EMRI Ambulance			Using Other services		
	Still with patient	Accompanied but left later	Did not accompany the patient	Still with patient	Accompanied but left later	Did not accompany the patient
Injury / burn	3	1	12	2	2	4
Others	1	1	6	1	2	6
Total	4	2	18	3	4	10

C. Quality of Care:

The time taken to reach the hospital from different points was given in Table 18. As soon as the emergency occurred, the calls were made for EMRI ambulance. In 41% of the cases, the EMRI ambulance reached the site of emergency within 20 minutes. In 67% of the cases, the EMRI ambulance reached the site of emergency in less than 30 minutes. In rest of the cases, it reached beyond 30 minutes. In 13% of the cases, the EMRI ambulance has reached beyond 50 minutes. However, to reach the hospital from the site of emergency, the EMRI ambulance took less than 20 minutes in 63% of the cases. It took less than 30 minutes in 90% of the cases. It took maximum 30 minutes for the patient to reach the site of emergency in most of the cases. In respect of using other emergency services (Non EMRI), mostly the patients engaged the vehicles or the available transport like, motor bikes, taxis, autos etc. and reached the hospital. In 46% of the cases the patients reached the hospital in less than 20 minutes with the available transport. In 96% of the cases, the vehicle reached the site of emergency within 20 minutes and in 100% of the cases they reached the site of emergency within 30 minute. In 66% of the cases, they reached the hospital with in 30 minutes. In about 26% of the cases they reached the hospital beyond 50 minutes.

As seen from table 19, in most of the cases both the family members / friends and the doctor / paramedics accompanied the patient during transportation in EMRI ambulance. In other cases, only family members accompanied the patient during transportation and only in 3% of the cases, the doctor accompanied the patient. The stabilization care was given in 77% of the cases by the family members and doctors during transportation of the patient in EMRI ambulance, where as it is 43% of the cases by the family members in other emergency services. 10 patients have incurred an expenditure less than Rs 50 to reach the pick up point from the site of emergency and 2 patients have incurred an amount less than Rs 150 (Table 21). As seen from table 22, in 93% of the cases, the patients were dropped at the casualty / emergency block by the EMRI ambulance. In respect of other vehicles, it is 77%, which were dropped at casualty and 14% at the general parking.

Table 18: Time taken for EMRI Ambulance to reach emergency site, pick up point and hospital

Time taken	Using EMRI Ambulance			Using Others	
	Emergency Site		Pick up Point	Emergency site	
	EMRI Ambulance to reach site of emergency	EMRI Ambulance to reach hospital from emergency site	Patient to reach pick up point	Ambulance/Vehicle to reach site of emergency	Ambulance/Vehicle to reach hospital from emergency site
Less than 10 mts	19	52	7	177	41
10 - 15 mts	26	35	0	22	33
16 - 20 mts	22	16	1	4	24
21 - 25 mts	10	4	0	1	15
26 - 30 mts	32	39	3	7	26
31 - 35 mts	6	1	0	0	3
36 - 40 mts	12	1	0	0	4
41 - 45 mts	9	5	1	0	6
46 - 50 mts	5	2	0	0	4
Above 50 mts	22	8	0	1	56
Total	163	163	12	212	212

Table 19: Patient accompanied during transportation

Emergency Model	Yes					No
	Family members / Friends / Colleagues	Police	Doctor /Paramedics	Others	Not Known	
EMRI	155	0	147	3	1	0
Others	205	1	7	0	3	5

Table 20: Stabilisation care during transportation

Emergency Model	Yes					No
	Family members / Friends / Colleagues	Police	Doctor /Paramedics	Others	Not Known	
EMRI	31	0	114	0	0	38
Others	80	0	7	2	0	121

Table 21: Amount spent to reach the pick up point	
Amount spent	# cases
Less than Rs 50	10
50 - 99	0
100 - 149	2
150-200	0
Above 200	0
Total	12

Table 22: Place of dropping the patient at the hospital by the emergency vehicle		
Place	No of patients	
	Using EMRI	Others
At the general parking	4	29
In the general OPD	6	15
In the casualty / Emergency	152	163
Others	1	5
Not known	0	
Total	163	212

As seen from table 23, in almost all the cases, it took less than 15 minutes to attend the patient after reaching the hospital irrespective whether he used EMRI ambulance or other emergency services.

Table 23: Time taken for the hospital staff to attend the patient after reaching the hospital		
Time taken	No of patients	
	Using EMRI	Others
0-15 mts	158	204
15-30 mts	4	6
30 mts to 1 hr	0	0
More than 1 hr	1	2
Not Known	0	0
Total	163	212

As on the time of survey, 77% of the patients were stabilized and in treatment and 21% of the patients were not stabilized , but under treatment who used EMRI ambulance as seen in table 24. Only 5 patients who are stabilized referred to other facility but by providing again EMRI ambulance only for 3 patients. In 2 cases, they are not stabilized, but referred to other hospital by providing EMRI ambulance for one patient. For another patient it was not provided. In respect of patients who used Non EMRI services, 79% of the patients were stabilized and in treatment and 18% of the patients were not stabilized but under treatment in

the same hospital. Three patients who are stabilized, but referred to other hospital without providing EMRI ambulance. In respect of the patients who are not stabilized, one patient was referred to other hospital with EMRI ambulance and other 2 patients were referred without providing the EMRI ambulance.

Table 24: Status of the patient - Stabilised or out of danger

Status	Using EMRI ambulance			Other services		
	# of patients	If refered to other hospital, whether EMRI trasportation offered		# of patients	If refered to other hospital, whether EMRI trasportation offered	
		Yes	No		Yes	No
Yes, Under treatment	121			167		
No, but under treatment	35			39		
Yes, but refered on to some other facility	5	3	2	3	0	3
No, refered on to some other facility	2	1	1	3	1	2
Total	163	4	3	212	1	5

The patients who used other emergency services have utilized the transport facilities as given in table 25. 67% of the patients have hired the private transport, 19% of the patients have used their own transport, 7% of the patients have availed the services of private ambulance, 4% of the patients have used bus, train and company ambulances and only one patient has used Govt ambulance.

In 97% of the cases who availed other emergency response services, the qualified medical personnel have attended the patient.

Table 25: Mode of transport for reaching the hospital (non EMRI)

Mode of transport by the patient to reaach hospital	# patients
Own / Employers' transport	42
Hired private transport / taxi / auto	142
Police vehicle	3
Govt run (102) ambulance	1
Private ambulance services	15
Others	9
Not Known	0
Total	212

D. Out of Pocket Expenditure:

2 patients who used EMRI ambulance have incurred an expenditure of less than Rs 100 and one patient has incurred between Rs 200 - 299 during transportation as seen from table 26. In respect of the patients who used other services, 162 patients have incurred expenditure during transportation. 92 patients incurred less than Rs 100, 20 patients have incurred from Rs100 - 199. 26 patients have incurred between Rs 200 - 499 and about 24 patients have incurred more than Rs 500. About 88% of expenditure made on the medical

consumable who used EMRI ambulance and about 99% have incurred to pay hiring charges of the taxi / vehicle who used other services as seen from the table 27.

Table 26: Expenditure incurred during trnsportation of the patient

Expenditure incurred	Using EMRI Ambulance		Others	
	Yes	No	Yes	No
Less than Rs 100	2	0	92	0
100 - 199	0	0	20	0
200 - 299	1	0	11	0
300 - 399	0	0	10	0
400 - 499	0	0	5	0
500 and more	0	0	24	0
Total	3	160	162	50

Table 27: Details of expenditure incurred while transporting the patient

Expenditure incurred on	Using EMRI Ambulance		Others	
	Amont	Percentage	Amont	Percentage
Transport / vehicle hiring	100	12.5	58,184	98.74
Medical consumables	700	87.5	600	1.02
Others	0	0	140	0.24
Total	800	100	58,924	100

33 patients who used EMRI ambulance have been asked to pay the amount by the hospital staff for starting the treatment. 2 out of 33 were asked to pay less than Rs 2000, 4 patients to pay Rs 2000 - 4000, 1 patient to pay Rs 8001 - 10000, and 2 patients were asked to pay Rs 10001 - 20000. In respect of the patients who used other services, 110 patients were asked to pay the amount. Out of which 51 patients to pay less than Rs 2000, 17 patients to pay Rs 2000 - 4000, 16 patients to pay Rs 4001- 6000, 8 patients to pay Rs 10001 - 20000 and 2 patients to pay more than Rs 20000.

Table 28: Amount asked by the hospital/staff for starting the treatment

Expenditure incurred	Using EMRI Ambulance		Others	
	Yes	No	Yes	No
Less than Rs 2000	26	0	51	0
2000 - 4000	4	0	17	0
4001 - 6000	0	0	16	0
6001 - 8000	0	0	2	0
8001 - 10000	1	0	6	0
10001 - 20000	2	0	8	0
20000 and more	0	0	2	0
Total	33	130	102	110

E. Awareness on 108 Ambulance and choice:

In respect of the patients who used other emergency services (non EMRI), 204 (96%) patients are aware about the EMRI ambulance facility. Only 8 patients (4%) are not aware of the facility. But only 21 (10%) out of 204 tried to call the EMRI ambulance. In one case, the call did not connected. In 10 cases out of 21, the call was connected, but the dispatch of ambulance was denied. In other 10 cases, the call connected and dispatch was assured, but the patients arranged alternate transport before the ambulance came.

When enquired about the availability of ambulance services in their areas, 209 out of 212 patients informed that they heard about the ambulance services. 208 patients knows about EMRI (108) ambulance, 4 knows about Govt run (102) ambulance and 25 knows about privately operated ambulance services. They rated EMRI (108) ambulance as very high and highest ranking was given for the "very quick service" and "free services". The details are given in the tables 29 & 30.

Table 29: Awareness of the ambulance service by the patients used other services

Yes (209)			No
EMRI (108) ambulance	Govt run (102) ambulance	Other privately operated ambulance service	
208	4	25	3

Table 30: Ambulance rating

Rating	EMRI (108) ambulance	Govt run (102) ambulance	Other privately operated ambulance service	Not Known
Very quick service	170	0	0	0
Well equipped ambulance	53	0	0	0
Ambulance staff friendly and competent	16	0	0	0
Good guidance by call center	16	0	0	0
Links with good hospitals	8	0	0	0
Service is free	170	0	0	0
Any other reason	0	0	0	0
Not known	2	0	0	0

F. Service Satisfaction levels:

44% of the patients were very much satisfied with the EMRI ambulance services as shown in Table 31. 52% were satisfied and only 7% of the patients are somewhat satisfied. In respect of other ambulance services, 8% are very much satisfied, 40% are satisfied, 36% are somewhat satisfied and only 2 cases (8%) are not very satisfied.

Table 31: Satisfaction on the ambulance services		
Satisfaction level	No of patients	
	Using EMRI Ambulance	Using other ambulance
Very Unhappy	0	0
Not very satisfied	0	2
Not satisfied	0	0
Can't say	1	2
Somewhat satisfied	6	9
Satisfied	85	10
Very satisfied	71	2
Total	163	25

G. Choice of Hospitals:

Mostly the family members made the choice of hospitals which are nearest to the site of emergency and either the treatment is free or low cost followed by the reference made by the treating doctor.

Table 32: Reasons for choosing the hospital		
Reason	**Using EMRI Ambulance**	**Others**
Refered by treating doctor in other hospital / clinic	0	40
The vehicle / ambulance operator brought us here	12	0
Police brought us here	0	1
Guided by the call center of the ambulance operator	1	0
This was nearest hospital from the site of emergency	72	77
Treatment is free / low cost, in this hospital	75	43
This hospital / hospital staff was known to us	20	39
Any other reason	39	51
Not known	1	4

Table 33: Choice of Hospital	
Choice by	#
I or my family members	181
Ambulance driver named it	0
Paramedic named it	1
Call center named it	0
Refering doctor / clinic named it	40
Police named it	2

V. Suggestions received from the respondents:

The following are the suggestions made from few of the respondents who used emergency response services which needs to be underlined.

A. Suggestions from the patients who used EMRI (108) ambulance:

1. Only one 108 ambulance service is available in my mandal. If at a time, two emergencies occurs, at that time we face lot of problems as 108 staff can provide service only for one case and not covering the other case. So, two ambulances should be provided for better services for the people in our mandal.
2. 108 staff should respond only for emergency cases and not for the unnecessary small problems.
3. 108 service are very good as when we call, it will come to our homes to pick up. In 108 ambulance, Doctor or nurse should be available and stay with patient during transportation because when we are coming in ambulance, the paramedic staff sat besides driver without attending the patient..
4. For my village, even bus services are not available but at any time if emergency occurs 108 ambulance will come and provides very good service.
5. In 108 ambulance, there is need for one senior doctor for giving treatment.
6. In 108 ambulance paramedical staff did not give any treatment during transportation of our patient as experienced by us.
7. Available 108 services are less, oxygen not available, sufficient equipment are also not there.
8. In 108 ambulance, the driver should know well the area in which he is operating, because they takes more time for searching for address. My village is 1 km from my mandal, when we call them they asks number of times about the address details.
9. For my village Chinnapanayanapeta, Chikayyapalli mandal in Anantapur district, 108 ambulance services are refusing to come though the village roads are good. When we call for the service, call center staff told us to come to Chikaypalli CHC and avail this service. Then we came to CHC Chikayapalle and from there we came to Govt General Hospital at Anatapaur for the treatment.
10. For delivery cases, it is very useful but need equipment related to delivery in the ambulance because some times some deliveries are occurring during transportation.
11. 108 services are well and should be continued. Government should create awareness for the people through TVs and News papers.
12. 108 ambulance services should also to be provided for long distance and in that case doctor should be available in the ambulance.
13. Earlier these 108 services are well, but now the services are not well. The services are to be improved, increase the number of ambulances for benefit of the people.
14. 108 services are very well and good, increase paramedical staff and keep continuing EMRI 108 services.

15. In 108 ambulance, some equipment are not available. When we came in ambulance, at that time, fan and stretcher facilities are not available.
16. All of my family (father, mother and brother) lives saved through the 108 ambulance services. In time it provides good service. So now we are very happy. Dr.YS.Rajashekar Reddy kept these services, so keep continuing.
17. Staff behavior is not well. There is no use of equipment to the patients during transportation, that's why we are not happy.
18. Services are good, Earlier, once we called to 108 ambulance, but that time they did not give good services. But now the team gives good stabilization care during the transportation, now we feel very happy.
19. 108 services are well but need 108 ambulance vehicle for every 10 km stretch to reduce delay.
20. 108 services are well but 108 staff comes only for emergency cases. Poor people like me for any health problem, will not get free transportation.
21. They respond very well, in time they came, they observed patient condition and gave injection only. But patient condition needs better treatment during transportation. If doctor is made available, it will be very good.
22. People are using these services both for emergency and non emergencies, so government should create more awareness among the people about utilization of 108 services.

B. Suggestions from the patients who used other emergency services (non EMRI):

1. 108 services are well but when we called 108 services, they told that ambulance went to receive some other case, hence, we can not send immediately to receive you. As we couldn't wait, we engaged other vehicle. We suggest to increase the number of ambulances for better and quality services.
2. 108 services are well. People should use only for emergencies, not use for normal and routine problems. In my village, people are using 108 services for small problems also.
3. 108 services are well. We came from Anatapur, but we don't know that this much distance, the ambulance will come, that's why we did not call 108.
4. The size of the vehicle 108 ambulance should be modified to the size of 104 vehicle, so it will accommodate some essential equipment.
5. Emergency cases are occurring more, that is the reason 108 ambulance comes late for receiving another case.
6. What we know that the services are available only for short distance. Further we don't know how to utilize the services that's why we did not call to 108 ambulance and came in bus.
7. 108 services should be provided for long distances also if the patient condition is critical.
8. Majority of the people feels that these services should be used only for Road Traffic Accidents. Hence, we did not use these services. Awareness should be created among the people on the usage of these services judiciously. Some poison cases (like suicides) do not call to this service because it will become police (MLC) case.

9. We are aware of the ambulance services, but we do not know the ambulance number, so government has to create awareness to the people about these services.
10. There is need to do some changes in the system. When people call to 108 services, that call goes to Hyderabad, the staff can not understand the type of emergency, address and place. So, advised to arrange call centers in their cities and towns, because they (local staff) knows very well that places / address, so immediately the ambulance staff respond to that case to save the lives in time.
11. When we called 108 services, the response is very bad. Twice we called from the Tagarapuvalasa which is 32 km from the city but we did not get the service. Earlier the services are well but now services are not well.
12. when we called to 108 ambulance they told us just we will drop at Vijayanagaram but we do not send the ambulance to Visakhapatnam, though going and taking treatment at Visakhapatnam is our choice.
13. Once I called 108 ambulance to pick up RTA case on road, nearly 6 times, but after 40 minutes it came and received that patient.
14. We called 108 services but they told us that due to diesel shortage they can not come, that's why we hired another vehicle.
15. 108 services are well, but when we joined in the hospital, the security guards and nurses demands money (bribe) for giving the service. Earlier, I utilised 108 services and the service extended was very good, but some of their staff behavior is not well.
16. When I am calling 108 ambulance, my village people told me that 108 ambulance will not come for old people, that's why I called to auto and came to hospital.
17. I heard about the 108 Ambulance number of times. But I don't know that the number 108 is a toll free number.
18. 108 services are well but need some changes like writing on the ambulance as "FREE SERVICES"
19. We don't know the utilization of 108 ambulance for the pregnant woman. So government should create awareness among the people.
20. There is some rumor that 108 services will ask to pay money, so create awareness among the people that all the 108 services are free.

VI. Short Case Studies:

The investigators recorded certain interesting stories when they interacted with the respondents. The cases studies are as follows.

A. EMRI Services - Short Case Studies:

1. Mr.Venkataramana going on his personal work to the Kusumarapalli village. On the way one lorry came fast, suddenly dashed him, then immediately he fell down and his legs were severely fractured. The passerby who saw this incident, called 108 ambulance immediately. The 108 ambulance came and picked up the patient and also another person from the public, then came to this hospital. After some time his family members came and shifted to private hospital for better treatment.

2. Sammakka wife of B.Saalu belongs to Sodasapalli of Darmasagar mandal in Warangal district. They have some family disputes, that's why on 23/06/2011 at morning 10:15 she (Sammakka) took poison. Then some of their family members observed her condition and immediately called 108 ambulance services. 108 staff told them that they are sending ambulance. Their family members without waiting took the auto and went opposite to 108 ambulance. When they traveled about 10 km, the 108 ambulance came picked up the patient and shifted to the Life Line hospital with in 20 minutes. After that, the hospital staff received well and kept in ICU and provided good services and told the patient family that they can tell the patient condition after 24 hours. They paid Rs 20,000 for the treatment.
3. Ch.Ramaiah belongs to Chinna nagarm village, Nellikudhuru mandal in Warangal district. On 22/06/2011, due to his family disputes he took poison at 1:40 pm. His family members observed the condition and immediately took auto and went to Torrur - Yadagiri hospital but the doctor couldn't handle this case. Then Ramaiah's brother's son Mr.Raghu called 108 ambulance and with in 10 minutes, the ambulance came and picked up the patient and admitted in Mamatha Nursing Home with in 20 minutes. The hospital staff immediately received that patient and kept in ICU and provided good services. Now the condition is out of danger. Mr. Raghu (Patient brother son) told us that 108 services are well but some facilities are not available for emergency treatment during transportation. In this hospital, they paid Rs 10,000 for starting treatment.
4. Ramaswamy was going by train from Tamilanadu to Bihar. On the way at Warangal he met with train accident as he sat near the train door and fell down. Immediately one of the person from public Mr.Dileep called 108 ambulance, then 108 ambulance came and picked up him. Mr. Dileep took the responsibility to accompany and admitted him in the hospital and care was given to him in time and saved his life.
5. Mr. Srinivas belong to Visakhapatnam who is working in Warangal company. On 17/06/2011 Srinivas was coming from office to home and met with motor cycle accident at Mulugu, Ganapur X Road. Srinivas and his friend were injured, but Srinivas leg was severely fractured. The people were gathered, some one called 108 ambulance and within 10 minutes ambulance came and picked up the two patients and brought to CHC parkal. No body accompanied the patients. During the transportation 108 staff provided treatment to the patient and admitted in parkal CHC. There the doctor immediately attended the patients and their condition is stabilized. After some time, Srinivas colleagues came to this hospital and took him to the MGM hospital for the better treatment. They told us that, 108 ambulance services are well as at the time of emergency, though no body was there, but the ambulance staff responded very well, and appreciated their services.

B. Other Services (Non EMRI) - Short Case Studies:

1. When the taxi was in reverse direction, an accident was occurred to me. Immediately taxivala took auto and sent to Abbhaya Hospital, but in that hospital Arogyasri scheme is not in implementation, hence, the doctor referred to Snehalatha multi specialty hospital. Taxivala did not call 108 ambulance because they will ask all the details for the accident and it may become a police case. Now we are admitted in the hospital and total money was spent by the taxiwala.
2. Sri Rammurthy is suffering with the fever for the past few days. He belongs to Marepalli village, Devarapalli mandal in Visakhapatnam District. Gradually his health condition was deteriorated and became very serious. At that time, family members called 108

ambulance. Within 15 minutes 108 ambulance came, picked up the patient and went to Chodavaram Government Hospital, left him at the hospital and went away. In that hospital Medical Officer examined, gave initial treatment and found his condition as really serious with his liver system damaged and affected pneumonia also, that's why doctor refered them to Visakhapatnam hospital. Then Sriramamurty family went to their home from the hospital, after that again called 108 ambulance, with in 10 minutes 108 ambulance came, and they requested them to take to Visakhapatnam hospital. Then 108 staff checked and told them that the patient health condition is normal and we do not provide services to Visakhapatnam. At that time, lot of argument was taken place between 108 staff and patient family. After that 108 staff picked up the patient and left at CHC K.Kotapadu and gone. Then patient's family members came to hospital and found the patient condition through the doctor. This doctor also referred to Visakhapatnam. Then again patient family called 108 ambulance services. Same 108 ambulance came which dropped them at CHC K.Koatapadu. The 108 staff refused to take the patient to Visakhapatnam stating that this is the normal case and unnecessarily using the 108 ambulance. Then the family shown all the documents from the hospital and reference of the doctor. Then the 108 staff agreed and took the patient and then dropped at Visakhapatnam NRI hospital and gone. In NRI hospital staff admitted, examined and told them that, the patient is in very serious condition and they have to pay more money for starting the treatment. Then patient family told them that they cannot pay that much money for treatment. Then they further referred to Bharathi Hospital. Hence, we came from NRI hospital to Bharathi hospital in auto. Bharathi hospital staff immediately received and kept in ICU and gave the treatment to the patient. They told us now patient condition is so serious. Patient family members told us that, with the negligence of 108 ambulance staff and services this patient condition became serious, and they were put to lot of difficulties. So we will suggest that every 108 services should provide services up to cities with reference of doctor.

3. T.Sithukulamma belongs to Gangavary village, Poyapalli gram panchayat, Peddapalli mandal in Visakhapatnam district. She was preparing rice on fire wood stove, at that time she was trying to drip the starch, than suddenly hot starch was fell down on her stomach, causing severe burns nearly 40 percent. Then loudly she shouted, after that her son came and saw the condition covered the blanket on her mother, cleaned with water, called 108 ambulance. The 108 staff forwarded the call to 108 ambulance driver. The driver told us that, one of the person should go to place where he is staying with 108 vehicle for showing the emergency site, so that he will get the ambulance. Sensing that, he is not cooperating, they went to the nearest center, took the jeep and came to hospital.
4. A.Devaiah belongs to Kamalapur village, Bhopalpalli mandal in Warangal district. He was going to home from Warangal on bike. Before 2 km of Kamalapur he met with the accident with the auto. Immediately, one of the public called to his family members to come. After the family members came to the emergency site, they called 108 ambulance. 108 staff told them that, the ambulance has gone to cover another call and hence asked them to wait so that they can verify with other ambulance in other mandal and send it. Without depending on the ambulance to come, as it may take more time, they called private vehicle Tata Sumo immediately which reached in no time and the patient was taken to Life line hospital. The distance from emergency site to the hospital is 74 km and took 90 minutes time to reach the hospital. When they reached to hospital, the hospital staff received the patient and kept in ICU. Then the patient condition is out of danger. For

the transportation they took Rs 2,000 and patient family paid Rs 5030 for the treatment as fee.

5. K.Kethamma w/o K.Sammaiah belongs to Ramachandrapuram village in Warangal district. On 20/06/2011 morning at 7:30 am Kethamma took poison due to family disputes. Then they called 108 ambulance, but 108 call center staff told them that they are not able to contact 108 ambulance driver number. Hence, they took auto, came to the private hospital as the required equipment may or may not available for treatment in the Government hospital though it is very nearer. There the hospital staff provided good service. we paid Rs 600 for auto, Rs 3,000 for the treatment and Rs 2,000 for medicine.
6. First we joined in Mulkanoor hospital, from that hospital through 108 ambulance services went to Aditya hospital. Then Aditya Hospital staff also referred to MGM hospital. At that time, still 108 ambulance is available at the hospital which brought us here. We contacted them and told the condition and showed the reference of the doctor to go to MGM hospital ad requested them to take to MGM hospital. There, 108 staff told us that, already they sent a message to call center, hence they cannot come. Hence, we took auto and came to this hospital.

VII.Investigator's Observations:

1. Most of the people are utilizing 108 ambulance services for motions, fever, vomiting, headache, dog bite etc., which are not so serious.
2. Hospital staff are not maintaining any register of the cases whether they brought the patient through EMRI ambulance or not. Hence, collecting the statistics for the last one month or so is difficult. Estimation and analysis cannot be done on EMRI cases.
3. Some of the hospitals are referring the cases to other hospitals which are really emergency without giving primary treatment.
4. Hospital staff (ward boys) who receives the patient from the ambulance usually takes the money (bribe) from the patient respondent.
5. In Care hospital RMO told us that, when 108 ambulances comes to this hospital, that ambulance staff left the cases at out side the gate and goes. Some times, their behavior is also not good with the patient. RMO also told us that 108 services are well but the people are using 108 ambulances for small problems also and suggested to extend the services for life threatening cases only.
6. For the emergency cases most of the hospitals are not maintaining a separate register. This is happening in most of the govt hospitals at taluk level.
7. There is no equipment for the head injury and neurosurgeon in 108 ambulance and should be taken directly to the district level hospitals for saving their lives.
8. In most of the CHCs, there is no separate emergency or ICU block. The general and emergency cases are being treated in general ward itself.
9. Some times the hospital staff gives primary treatment for the emergency cases but the case details not being entered in the register.
10. Generally EMRI ambulance takes the cases to the hospital, drop the patient, then leaves immediately. The Medical Officers in general felt that the ambulance driver should wait for few minutes till the completion of doctor diagnosis, because in case it is critical emergency, immediately they may send / refer to another hospital or district hospital.

11. Feedback from some of the Govt hospital staff that, some Govt. hospital doctors refer the cases to the private hospitals because the private hospital doctors are giving percentages.
12. Some of the ward boys told us that, when emergency case comes, the hospital staff goes with stretcher, but when ambulance door was opened the patient gets down normally and walks to the strtcher or to the emergency block..
13. Another feedback from some of the hospital staff that, some of the doctors has got contacts with the 108 ambulance driver, who takes the cases to that hospital where they gives them percentage. In this way some of the private doctors using this services for the business.
14. Some of the hospital staff told us that the 108 emergency services should be used to RTA, poison, deliveries, pediatric cases only.
15. The experience of one of the hospital doctor is that, his hospital do not have equipment of respiratory, but this matter is known to 108 staff. Inspite of this, the 108 staff gets respiratory cases to this hospital. Again, I have to refer them from here to another hospital. Unnecessarily, the time is wasted and there will be delay in giving the treatment to the patient. This feedback should be taken care by the EMRI while receiving and dispatching the ambulance.
16. In some of the 108 ambulances, there are no medicine to give primary treatment to the patients during transportation

VIII.Findings:

1. The rural respondents have felt the need of two ambulance services for each mandal, also which should cover long distance of atleast 70 kms from emergency site to the hospital.
2. It is found that, there were no respondents hailing from slum areas from out of the total of 375 respondents surveyed whether they used EMRI ambulance or other services. A study needs to be taken up whether the slum population are aware of such emergency facilities or not capable of calling EMRI ambulances or their economic capabilities prevent them using public or private facilities or compromising to approach the local RMPs or quacks within their vicinity.
3. Most of the BPL families have used emergency services.
4. Emergeny services are being used by all irrespective of gender and age
5. The usage of EMRI ambulance services is 30% for maternity related cases and 20% for trauma cases.
6. It took an average time of 33 minutes for the EMRI ambulance to reach the site of emergency and 21 minutes to reach the hospital from the emergency site / pick up point (In 41% of the cases, the ambulance reached the site of emergency in less than 20 minutes and in 67% of the cases, it is less than 30 minutes). Similarly, it took an average of 8 minutes to reach the site of emergency by other vehicles (non EMRI) and 41 minutes to reach the hospital from the site of emergency.
7. 21 respondents who used other services (non EMRI) have called for EMRI ambulance and in 10 cases the call was connected, but the dispatch was denied. In another 10 calls, the call was connected and dispatch was assured, but the patients have arranged alternate transport before the ambulance came.

8. In 62% of the cases, the stabilisation care was provided during the tranportation in EMRI ambulance. In 79% of the cases, the paramedics gave the stabilisation care and in rest of the cases, the family members / friends gave the stabilisation care.
9. In almost all the cases who used EMRI ambulance, the hospital staff attended the patient in less than 15 minutes and 77% of the patients were stabilised and under treatment at the time of survey. Similarly, almost all the patients have got attention of the hospital staff in less than 15 minutes those who used non EMRI services and 79% of the patients were stabilised at the time of survey.
10. 20% of the patients who used EMRI ambulance were asked to pay some amount before starting the treatment, whereas in the case of others, 48% of the patients were asked to pay the money before starting the treatment. For any emergency service, irrespective of whether the patient brought by EMRI (108) ambulance or other mode of transport, the hospitals should admit the patient, give stabilisation care, then leave it to the choice of patient whether he will continue to take treatment in the same hospital or shift to another hopital. Atleast this should be followed for BPL families. An agreement to this effect should be entered with the hospitals by the govt in this regard with an arrangement of reasonable compensation or insurance.
11. 209 out of 212 patients / attendants which constitutes 99% knows about the EMRI (108) ambulance services. They rated EMRI as very high (88%) and the reasons given as “very qucik service” and “free”.
12. 44% of the patients / attendants were very much satisfied with the EMRI ambulance services, 52% were satisfied and only 7% of the patients are somewhat satisfied. In respect of other ambulance services, 8% are very much satisfied, 40% are satisfied, 36% are somewhat satisfied.
13. Mostly the family members made the choice of hospitals which are nearest to the site of emergency due to the reasons that the treatment is free or low cost followed by the reference made by the treating doctor.
14. In some of the cases, it was noticed / observed that, the paramedics are not attending the patient during transportation and the patients are expecting that one qualified and senior doctor should be present in the ambulance for better treatment and stabilisation during transportation.
15. Ambulance staff needs further orientation, training and attitude change to treat the patient in a friendly way during the transportation and to drop the patient at the hospital of his choice in case of critical condition.
16. Suggestions from the public is that, the words “Free services” should be written on the EMRI (108) ambulance to create awareness among the public.

IX. References:

1. Study of Emergency response Service - EMRI Model - Phase I Study

Annexure - 1

Schedule Identification Code ☐☐☐☐☐

Review of EMRI Model of Emergency Response Service (ERS)

by

National Health Systems Resource Centre

(Technical support agency under NRHM, Ministry of Health & FW, Govt. of India)

Hospital (Casualty) Patient Interview Schedule

(For patients using the EMRI ambulance)

Date of Interview: ___ ___ / ___ ___ / 2011 Investigators' name: _____

Name and location of Hospital: _____

1. Background Characteristics of the Patient

1.1 Age of the Patient (in completed years)

☐☐ years

1.2 Sex of the Patient

Male 1
Female 2

1.3 Place of Residence of the patient

Urban 1
Peri-urban 2
Slum 3
Rural 4
Information not available 9

1.4 Residential Address of the patient

_____
_____
_____

1.5 How far is the place of residence of the patient from this hospital? (rounded off to nearest km)

☐☐☐ Km

1.6 Social category of the patient

SC 1
ST 2
Others .....3 *(Specify_____)*

1.7 Economic category of the patient

BPL 1
APL 2

2. Type of Emergency

2.1 What is the type of emergency the patient is facing? *(as per the respondent)*

Abdominal pain 01
Allergic reactions..... 02
Injury/burn 03
Cardiac/cardio vascular 04
Diabetes 05
Disasters 06
Epilepsy 07
Fever (infections) 08
Neonatal emergency (upto 1 month) ... 09
Paediatric emergency (upto 12 years)... 10
Normal delivery 11
Obstetric emergency 12
Respiratory 13
Stroke 14
Others ..... 88 → *(Specify: _____)*

2.2 What is the clinical diagnosis of the type of emergency the patient is facing? *(as per the hospital records...check with the attending doctor/paramedic)*

Abdominal pain ..... 01 →***Skip to question2.6***
Allergic reactions..... 02 →***Skip to question2.6***
Injury/burn ..... 03 →***Skip to question2.6***
Cardiac/cardio vascular ..... 04 →***Skip to question2.6***
Diabetes ..... 05 →***Skip to question2.6***
Disasters ..... 06 →***Skip to question2.6***
Epilepsy ..... 07 →***Skip to question2.6***
Fever (infections) ..... 08 →***Skip to question2.6***
Neonatal emergency (upto 1 month) ... 09 →***Skip to question2.6***
Paediatric emergency (upto 12 years)... 10 →***Skip to question2.6***
Normal delivery in labour..... 11
Obstetric emergency 12
Respiratory ..... 13 →***Skip to question2.6***
Stroke ..... 14 →***Skip to question2.6***
Others ..... 88 →*(Specify: _____)*

2.3 Whether the trip was fixed earlier or it was an emergency call.

Fixed earlier 1
It was an emergency call.....2 →***Skip to question2.5***

2.4 What was the reason for fixing up the call?

Because the lady was an identified high risk delivery case (for example twins) 1
It was just a normal booked case at full term.....2

2.5 Was the call made for complication developed after the labour pains had started or the complications developed during transportation?

After the labour pains had started.....1
During transportation.....2

2.6 Where was the patient when the call was made?

Home	1		Address: _____
Workplace	2		_____
Other Hospital/Clinic	3		_____
Road/in transport	4		_____
Public place	5		_____
Field	6		
Others	8	→	*(Specify: _____)*
*Information not available.....	*9*		

2.7 Who decided to call ambulance/vehicle?

Self (patient)	1		
Family members/friends/colleagues ...	2		
Police	3		
Doctor/paramedical personnel	4		
Others	8	→	*(Specify: _____)*
*Information not available.....	*9*		

2.8 What was the reason for which the call was made?

Medical emergency needing attention in a hospital....1
Pregnant woman in labour 2
Shift from one hospital to another 3
Non-emergency 4

2.9 Is this a Police case?

Yes	1		
No	2	→	***skip to question 3.1***

2.10 Is the Police accompanying the patient to the hospital? (Check Records)

Yes, they are still with the patient	1
Police had accompanied but left later	2
No, they did not accompany the patient	3

3. Mode of Transport

3.1 Was there anyone accompanying the patient during transportation?

Yes	1		
No	2	→	***skip to question 3.5***

3.2 Who was accompanying the patient during transportation?

Family members/friends/colleagues ...	a		
Police	b		
Medical/paramedical personnel	c		
Others	d	→	*(Specify: _____)*
*Information not available.....	*9*		

3.3 Was the patient given stabilisation care during transportation?

Yes	1		
No	2	→	***skip to question3.5***

3.4 Who provided the stabilisation care to the patient during transportation?

Family members/friends/colleagues ... a
Police ..... b
Medical/paramedical personnel c
Others ..... d → *(Specify: _____)*
Information not available..... 9

3.5 Did ambulance come to

Site of emergency ..... a → ***skip to question 3.9***
Or pick up point ..... b

3.6 What was the time taken by you to reach the pickup point?

☐☐☐ Minutes

3.7 How did you reach the pickup point? (Mode of transport) _____

3.8 How much money did you spend on reaching from the point of emergency to the pickup point?

Rs.☐☐☐☐

3.9 What was the time taken for the ambulance to reach the site of emergency after calling?

☐☐☐ Minutes

3.10 What was the time taken for the ambulance to reach the hospital from the site of the emergency / Pick-up Point?

☐☐☐ Minutes

3.11 Where did the vehicle drop the patient in this hospital?

At the general parking 1
In the general OPD 2
In the Casualty/Emergency 3
Others ..... 8 → *(Specify: _____)*
Information not available 9

3.12 After the patient reached the hospital, within how much time did the medical/paramedical staff of the hospital attend to the patient?

0-15 minutes..... 1
15-30 minutes 2
30 minutes to 1 hour 4
More than 1 hour 5
Information not available..... 9

3.13 Whether the patient stabilized is out of danger?

Yes, under treatment .....1 → ***skip to question 3.15***
No but under treatment .....*2* → ***skip to question 3.15***
Yes, but referred on to some other facility.....3
No, referred on to some other facility.....4

3.14 Was EMRI transportation offered?

Yes 1
No 2

3.15 How satisfied are you with the ambulance service that the patient availed for reaching this hospital?

-3	-2	-1	0	1	2	3
Very unhappy	Not satisfied		can't say	somewhat satisfied		Very satisfied

4. Out-of-Pocket Expenditure

4.1 Was any expenditure incurred while transporting the patient to the hospital?

Yes 1
No ..... 2 → ***skip to question 4.4***
Information not available..... 9 → ***skip to question 4.4***

4.2 What was the total amount of expenditure incurred while transporting the patient to the hospital?

Total expenditure incurred: Rs. ☐☐☐☐☐

4.3 What was the expenditure incurred on while transporting the patient to the hospital?

a. Transport/vehicle hiring: Rs. ☐☐☐☐☐
b. Medical consumables: Rs. ☐☐☐☐☐
c. Others: Rs. ☐☐☐☐☐ → *(Specify: _____)*

4.4 Did this hospital/hospital staff ask for payments for starting the treatment of the patient?

Yes 1
No ..... 2 → ***skip to question 5.1***
Information not available..... 9 → ***skip to question 5.1***

4.5 How much amount did the hospital/hospital staff ask for payments (as advance) for starting the treatment of the patient?

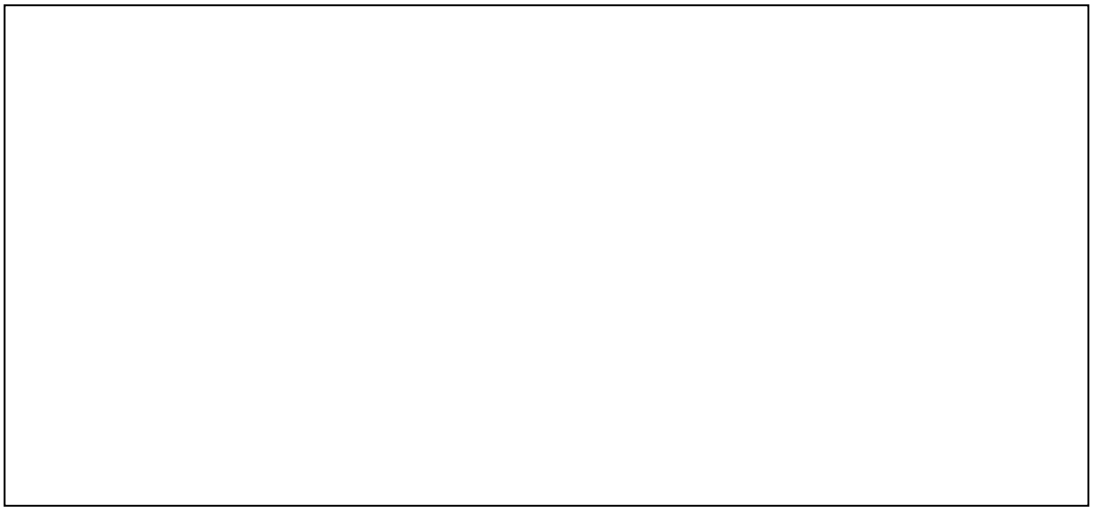
Rs. ☐☐☐☐☐☐☐

5. Choice of Hospital

5.1 Why was the patient brought to this hospital?

The vehicle/ambulance operator brought us here ..... a
Police brought us here ..... b
Guided by the call centre of the ambulance operator ... c
This was nearest hospital from the site of emergency ... d
Treatment is free/low cost, in this hospital ..... e
This hospital/hospital staff was known to us ..... f
Any other reason ..... g → *(Specify: _____)*
Information not available..... 9

6.3 Any suggestions for better and responsive ambulance service:



End the interview thanking the respondent

***

Schedule Identification Code ☐☐☐☐☐

Review of EMRI Model of Emergency Response Service (ERS)

by

National Health Systems Resource Centre

(Technical support agency under NRHM, Ministry of Health & FW, Govt. of India)

Hospital (Casualty) Patient Interview Schedule

(For patients not using the EMRI ambulance)

Date of Interview: ___ ___ / ___ ___ / 2011 Investigators' name: _____

Name and location of Hospital: _____

1. Background Characteristics of the Patient

1.1 Age of the Patient (in completed years)

☐☐ years

1.2 Sex of the Patient

Male 1
Female 2

1.3 Place of Residence of the patient

Urban 1
Peri-urban 2
Slum 3
Rural 4
Information not available 9

1.4 Residential Address of the patient

1.5 How far is the place of residence of the patient from this hospital? (rounded off to nearest km)

☐☐☐ Km

1.6 Social category of the patient

SC 1
ST 2
Others .....3 *(Specify_____)*

1.7 Economic category of the patient

BPL 1
APL 2

2. Type of Emergency

2.1 What is the type of emergency the patient is facing? *(as per the respondent)*

Abdominal pain	01	
Allergic reactions.....	02	
Injury/burn	03	
Cardiac/cardio vascular	04	
Diabetes	05	
Disasters	06	
Epilepsy	07	
Fever (infections)	08	
Neonatal emergency (upto 1 month) ...	09	
Paediatric emergency (upto 12 years)...	10	
Normal delivery	11	
Obstetric emergency	12	
Respiratory	13	
Stroke	14	
Others	88	→ *(Specify: _____)*

2.2 What is the clinical diagnosis of the type of emergency the patient is facing? *(as per the hospital records...check with the attending doctor/paramedic)*

Abdominal pain	01	→***Skip to question2.6***
Allergic reactions.....	02	→***Skip to question2.6***
Injury/burn	03	→***Skip to question2.6***
Cardiac/cardio vascular	04	→***Skip to question2.6***
Diabetes	05	→***Skip to question2.6***
Disasters	06	→***Skip to question2.6***
Epilepsy	07	→***Skip to question2.6***
Fever (infections)	08	→***Skip to question2.6***
Neonatal emergency (upto 1 month) ...	09	→***Skip to question2.6***
Paediatric emergency (upto 12 years)...	10	→***Skip to question2.6***
Normal delivery in labour.....	11	
Obstetric emergency	12	
Respiratory	13	→***Skip to question2.6***
Stroke	14	→***Skip to question2.6***
Others	88	→*(Specify: _____)*

2.3 Whether the trip was fixed earlier or it was an emergency call.

Fixed earlier 1

It was an emergency call.....2 →***Skip to question2.5***

2.4 What was the reason for fixing up the call?

Because the lady was an identified high risk delivery case (for example twins) 1

It was just a normal booked case at full term.....2

2.5 Was the call made for complication developed after the labour pains had started or the complications developed during transportation?

After the labour pains had started.....1

During transportation.....2

2.6 Where did the emergency occur? Give address of the place. (Mention village, block, district or ward)

Home	1		Address: _____
Workplace	2		_____
Other Hospital/Clinic	3		_____
Road/in transport	4		_____
Public place	5		_____
Field	6		
Others	8	→	*(Specify: _____)*
*Information not available.....	*9*		

2.7 Who decided to call ambulance/vehicle?

Self (patient)	1		
Family members/friends/colleagues ...	2		
Police	3		
Doctor/paramedical personnel	4		
Others	8	→	*(Specify: _____)*
*Information not available.....	*9*		

2.8 What was the reason for which the call was made?

Medical emergency needing attention in a hospital.... 1
Shift from one hospital to another..... 2
For delivery..... 3
Non-emergency..... 4

2.9 Is this a Police case?

Yes 1
No ..... 2 → ***skip to question 3.1***

2.10 Is the Police accompanying the patient to the hospital? (Check Records)

Yes, they are still with the patient 1
Police had accompanied but left later 2
No, they did not accompany the patient 3

3. Mode of Transport

3.1 How did the patient come to the hospital?

Own/employer's transport	1		
Hired private transport/taxi/auto	2		
Police vehicle	3		
Government run (102) ambulance	4		
Private Ambulance Services 5			
Others	8	→	*(Specify: _____)*
*Information not available.....	*9*		

3.2 Have you heard of EMRI (108) Ambulance service?

Yes 1
No ..... 2 → ***skip to question 3.6***

3.3 Did you try calling EMRI (108) Ambulance service for transporting the patient to this hospital?

Yes 1

No ..... 2 → ***skip to question 3.6***

3.4 When you tried to call EMRI, what happened?

Call did not connect.....1 → ***skip to question 3.6***

Call connected but could not complete the call.....2 → ***skip to question 3.6***

Call connected but dispatch of ambulance was denied.....3 → ***skip to question 3.6***

Call connected and dispatch was assured..... 4

3.5 If ambulance dispatch was promised on call, what happened?

Arranged an alternative transport before the Ambulance came ..... a

Ambulance came but refused to take the patient ..... b

Ambulance wanted to take the patient to some other hospital c

Ambulance asked for money ..... d

Other reason ..... e

Specify (_____)

3.6 Was there anyone accompanying the patient during transportation?

Yes 1

No ..... 2 → ***skip to question 3.10***

3.7 Who was accompanying the patient during transportation?

Family members/friends/colleagues ... a

Police ..... b

Medical/paramedical personnel c

Others ..... d → *(Specify: _____)*

Information not available..... 9

3.8 Was the patient given stabilisation care during transportation?

Yes 1

No ..... 2 → ***skip to question 3.10***

3.9 Who provided the stabilisation care to the patient during transportation?

Family members/friends/colleagues ... a

Police ..... b

Medical/paramedical personnel c

Others ..... d → *(Specify: _____)*

Information not available..... 9

3.10 Whether the patient stabilized is out of danger?

Yes, under treatment .....1 → ***skip to question 3.12***

No but under treatment .....2 → ***skip to question* 3.12**

Yes, but referred on to some other facility.....3

No, referred on to some other facility.....4

3.11 Was EMRI transportation offered?

Yes 1

No 2

3.12 What was the time taken for the ambulance/vehicle to reach the site of emergency after calling?

☐☐☐ Minutes

3.13 What was the time taken for the ambulance/vehicle to reach the hospital from the site of the emergency?

☐☐☐ Minutes

3.14 Where did the vehicle drop the patient in this hospital?

At the general parking 1
In the general OPD 2
In the Casualty/Emergency 3
Others ..... 8 → *(Specify: _____)*
Information not available 9

3.15 After the patient reached the hospital, within how much time did the medical/paramedical staff of the hospital attend to the patient?

0-15 minutes..... 1
15-30 minutes 2
30 minutes to 1 hour 4
More than 1 hour 5
Information not available..... 9

3.16 Has the patient been attended to by qualified personnel in this hospital?
(Observe and Check with the attending doctor/paramedical staff)

Yes 1
No 2
Information not available..... 9

In case the patient has come to this hospital by an Ambulance

3.17 How satisfied are you with the ambulance service that the patient availed for reaching this hospital?

-3	-2	-1	0	1	2	3
Very unhappy	Not satisfied		can't say	somewhat satisfied		Very satisfied

4. Out-of-Pocket Expenditure

4.1 Was any expenditure incurred while transporting the patient to the hospital?

Yes 1
No ..... 2 → ***skip to question 4.4***
Information not available..... 9 → ***skip to question 4.4***

4.2 What was the total amount of expenditure incurred while transporting the patient to the hospital?

Total expenditure incurred: Rs. ☐☐☐☐☐

4.3 What was the expenditure incurred on while transporting the patient to the hospital?

a. Transport/vehicle hiring: Rs. ☐☐☐☐☐

b. Medical consumables: Rs. ☐☐☐☐☐

c. Others: Rs. ☐☐☐☐☐ → *(Specify: _____)*

4.4 Did this hospital/hospital staff ask for payments for starting the treatment of the patient?

Yes 1

No ..... 2 → ***skip to question 5.1***

Information not available..... 9 → ***skip to question 5.1***

4.5 How much amount did the hospital/hospital staff ask for payments (as advance) for starting the treatment of the patient?

Rs. ☐☐☐☐☐☐☐

5. Choice of Ambulance service (Only to the individuals where such a service exists)

5.1 Have you heard of any ambulance service in your state/city?

Yes 1

No ..... 2 → ***skip to question 6.1***

5.2 What ambulance services you have heard of?

EMRI (108) ambulance ..... a

Government run (102) ambulance ..... b

Other privately operated ambulance service ... c → *(Specify: _____)*

5.3 Of the above mentioned ambulance service, which one would you rate as the best?

EMRI (108) ambulance 1

Government run (102) ambulance 2

Other privately operated ambulance service ... 3 → *(Specify: _____)*

Information not available..... 9 → ***skip to question 6.1***

5.4 Why did you rate the above ambulance service as the best?

Very quick service ..... a

Well equipped ambulance ..... b

Ambulance staff friendly and competent c

Good guidance by Call Centre ..... d

Links with good hospitals ..... e

Service is free ..... f

Any other reason ..... g → *(Specify: _____)*

Information not available..... 9

6. Choice of Hospital

6.1 Who made the choice?

I or my family members ..... a

Ambulance driver named it ..... b

Paramedic named it c

Call centre named it ..... d

Referring doctor / clinic named it ..... e

Police named it ..... f

6.2 Why was the patient brought to this hospital?

Referred by treating doctor in other hospital/clinic	a
The vehicle/ambulance operator brought us here	b
Police brought us here	c
Guided by the call centre of the ambulance operator ...	d
This was nearest hospital from the site of emergency ...	e
Treatment is free/low cost, in this hospital	f
This hospital/hospital staff was known to us	g
Any other reason	h → *(Specify: _____)*
Information not available.....	*9*

6.3 Any suggestions for better and responsive ambulance service:

End the interview thanking the respondent

***

Annexure - 2

Frequency Tables
Emergency Response services using EMRI Ambulance

Q1.1		
Age of the Patient (in completed years)	Frequency	Percent
Under 1 year	3	1.840491
1 - 4	2	1.226994
5 - 9	1	0.613497
10 - 14	1	0.613497
15 - 19	18	11.04294
20 - 24	41	25.15337
25 - 29	15	9.202454
30 - 34	11	6.748466
35 - 39	11	6.748466
40 - 44	9	5.521472
45 - 49	8	4.907975
55 -59	7	4.294479
55 - 59	6	3.680982
60 - 64	8	4.907975
65 - 69	9	5.521472
70 -74	8	4.907975
75 - 79	3	1.840491
80 - 84	1	0.613497
90 - 94	1	0.613497
Total	163	100

Q1.2		
Sex of the Patient	Codes	Frequency
Male	1	68
Female	2	95
	Total	163

Q1.3		
Place of Residence of the patient	Codes	Frequency
Urban	1	14
Peri - Urban	2	6
Slum	3	1
Rural	4	142
Total	9	163

Q1.5		
How far is the place of residence of the patient from this hospital? (rounded off to nearest km)	Frequency	Percent
<=20 kms	83	50.92025
21 - 40 kms	51	31.28834
41 - 60 kms	20	12.26994
>60 kms	9	5.521472
Total	163	100

Q1.6			
Social category of the patient	Codes	Frequency	Percent
SC	1	41	25.2
ST	2	26	16
Others	3	96	58.9
Total		163	100

Q1.7			
Economic category of the patient	Codes	Frequency	Percent
BPL	1	160	98.2
APL	2	3	1.8
Total		163	100

Q2.1			
What is the type of emergency the patient is facing? *(as per the respondent)*	Code	Frequency	Percent
Abdominal Pain	1	5	3.1
Allergic reactions	2	2	1.2
Injury/burn	3	33	20.2
Cardiac / Cardio vascular	4	3	1.8
Diabetes	5	3	1.8
Fever (Infections)	8	9	5.5
Neonatal emergency (upto 1 month)	9	3	1.8
Paediatric emergecny (upto 12 years)	10	3	1.8
Normal delivery	11	20	12.3
Obstetric emergency	12	28	17.2
Respiratory	13	5	3.1
Stroke	14	9	5.5
Others	88	40	24.5
Total		163	100

Q2.2			
What is the clinical diagnosis of the type of emergency the patient is facing? *(as per the hospital records...check with the attending doctor/paramedic)*	Code	Frequency	Percent
Abdominal Pain	1	5	3.1
Allergic reactions	2	1	0.6
Injury/burn	3	33	20.2
Cardiac / Cardio vascular	4	3	1.8
Diabetes	5	2	1.2
Fever (Infections)	8	9	5.5
Neonatal emergency (upto 1 month)	9	3	1.8
Paediatric emergecny (upto 12 years)	10	3	1.8
Normal delivery	11	21	12.9
Obstetric emergency	12	27	16.6
Respiratory	13	5	3.1
Stroke	14	9	5.5
Others	88	42	25.8
Total		163	100

Q2.3			
Whether the trip was fixed earlier or it was an emergency call.	Codes	Frequency	Percent
Fixed earlier	1	9	18.8
It was an emergency call	2	39	81.2
Total		48	100

Q2.4			
What was the reason for fixing up the call?	Code	Frequency	Percent
Identified as high risk delivery case	1	7	77.8
Normal booked case at full term	2	2	22.2
	Total	9	100

Q2.5			
Was the call made for complication developed after the labour pains had started or the complications developed during transportation?	Code	Frequency	Percent
After the labor pain started	1	46	95.8
During transportation	2	2	4.2
	Total	48	100

Q2.6			
6 Where was the patient when the call was made?	Code	Frequency	Percent
Home	1	117	71.8
Work Place	2	3	1.8
Other Hospital / Clinic	3	26	16
Road/Transport	4	12	7.4
Public Place	5	1	0.6
Others	8	4	2.5
Total		163	100

Q2.7			
Who decided to call ambulance/vehicle?	Code	Frequency	Percent
Family Member/Friends/Colleagues	2	139	85.3
Doctor/Par.Medical/Personnel	4	13	8
Others	8	11	6.7
Total		163	100

Q2.8			
What was the reason for which the call was made?	Code	Frequency	Percent
Medical emergency needing attention in a hospital	1	124	76.1
Pregnant women in labor	2	23	14.1
Shift from one hospital to another	3	16	9.8
	Total	163	100

Q2.9			
Is this a Police case?	Code	Frequency	Percent
Yes	1	24	14.7
No	2	139	85.3
Total		163	100

Q2.10			
Is the Police accompanying the patient to the hospital?	Code	Frequency	Percent
Yes, they are still with patient	1	4	16.7
Police had accompanied but left later	2	2	8.3
No, they did not accompnay the patient	3	18	75
	Total	24	100

Q3.1			
Was there anyone accompanying the patient during transportation?	Code	Frequency	Percent
Yes	1	163	100

Q3.2		
Who was accompanying the patient during transportation?	Code	Frequency
Family members/Friends/colleagues	a	155
Medical/paramedical personnel	c	147
Others	d	3
Information not available	9	1

Q3.3			
Was the patient given stabilisation care during transportation?	Code	Frequency	Percent
Yes	1	125	76.7
No	2	38	23.3
Total		163	100

Q3.4		
Who provided the stabilisation care to the patient during transportation? Family members/friends/colleagues	Code	Frequency
Family members/Friends/colleagues	a	31
Medical/paramedical personnel	c	114

Q3.5			
Did ambulance come to	Code	Frequency	Percent
Site of emergency	1	151	92.6
Pick up point	2	12	7.4
	Total	163	100

Q3.6		
What was the time taken by you to reach the pickup point?	Frequency	Percent
4	1	8.3
5	3	25
10	3	25
20	1	8.3
30	3	25
45	1	8.3
Total	12	100

Q3.8		
How much money did you spend on reaching from the point of emergency to the pickup point?	Frequency	Percent
Less than Rs 50	9	81.81818
100 - 149	2	18.18182
Total	11	100

Q3.9		
What was the time taken for the ambulance to reach the site of emergency after calling?	Frequency	Percent
Less than 10 mts	19	11.65644
10 - 15 mts	26	15.95092
16 - 20 mts	22	13.49693
21 - 25 mts	10	6.134969
26 - 30 mts	32	19.6319
36 - 40 mts	6	3.680982
41 - 45 mts	12	7.361963
46 - 50 mts	9	5.521472
Above 50 mts	5	3.067485
10	22	13.49693
Total	163	100

Q3.10		
What was the time taken for the ambulance to reach the hospital from the site of the emergency / Pick-up Point?	Frequency	Percent
Less than 10 mts	52	31.90184
10 - 15 mts	35	21.47239
16 - 20 mts	16	9.815951
21 - 25 mts	4	2.453988
26 - 30 mts	39	23.92638
36 - 40 mts	1	0.613497
41 - 45 mts	1	0.613497
46 - 50 mts	5	3.067485
Above 50 mts	2	1.226994
10	8	4.907975
Total	163	100

Q3.11			
Where did the vehicle drop the patient in this hospital?	Code	Frequency	Percent
At the general parking	1	4	2.5
In the general OPD	2	6	3.7
In the casualty/Emergency	3	152	93.3
Others	8	1	0.6
	Total	163	100

Q3.12			
After the patient reached the hospital, within how much time did the medical/paramedical staff of the hospital attend to the patient?	Code	Frequency	Percent
0-15 minutes	1	158	96.9
15-30 minutes	2	4	2.5
30 minutes to 1 hour	4	1	0.6
	Total	163	100

Q3.13			
Whether the patient stabilized is out of danger?	Code	Frequency	Percent
Yes, under treatment	1	121	74.2
No, but under treatment	2	35	21.5
Yes. But refeed on to some other facility	3	5	3.1
No, refered on to some other facility	4	2	1.2
	Total	163	100

Q3.14			
Was EMRI transportation offered?	Code	Frequency	Percent
Yes	1	4	57.1
No	2	3	42.9
Total		7	100

Q3.15			
How satisfied are you with the ambulance service that the patient availed for reaching this hospital?	Code	Frequency	Percent
Can't say	0	1	0.6
Some what satisfied	1	6	3.7
Satisfied	2	85	52.1
Very satisfied	3	71	43.6
	Total	163	100

Q4.1			
Was any expenditure incurred while transporting the patient to the hospital?	Code	Frequency	Percent
Yes	1	3	1.8
No	2	160	98.2
Total		163	100

Q4.2		
What was the total amount of expenditure incurred while transporting the patient to the hospital?	Frequency	Percent
Less than Rs 100	2	66.66667
200 - 299	1	33.33333
Total	3	100

Q4.3			
What was the expenditure incurred on while transporting the patient to the hospital?		Amount	Percent
a	Transport/Vehicle hiring	100	12.5
b	Medical Consumables	700	87.5
c	Others	0	0
Total		800	100

Q4.4			
Did this hospital/hospital staff ask for payments for starting the treatment of the patient?	Code	Frequency	Percent
Yes	1	33	20.2
No	2	130	79.8
Total		163	100

Q4.5		
How much amount did the hospital/hospital staff ask for payments (as advance) for starting the treatment of the patient?	Frequency	Percent
Less than Rs 2000	26	78.78787879
2000 - 4000	4	12.12121212
8001 - 10000	1	3.03030303
10001 - 20000	2	6.060606061
Total	33	100

5.1 Why was the patient brought to this hospital?	Code	Frequency	Percent
The vehicle/ambulance operator brought us here	a	12	5.454545
Police brought us here	b	0	0
Guided by the call centre of the ambulance operator	c	1	0.454545
This was nearest hospital from the site of emergency	d	72	32.72727
Treatment is free/low cost, in this hospital	e	75	34.09091
This hospital/hospital staff was known to us	f	20	9.090909
Any other reason (Big hospital, referred by the treating doctor, treatment is well in this hospital, regular visit to this hospital, good hospital)	g *(Specify:)*	39	17.72727
Information not available	9	1	0.454545
Total			100

Frequency Tables

Emergency Response Services – Using other services (Non EMRI)

Q1.1		
Age of the Patient (in completed years)	Frequency	Percent
Under 1 year	12	5.660377
1 - 4	4	1.886792
5 - 9	2	0.943396
10 - 14	7	3.301887
15 - 19	14	6.603774
20 - 24	43	20.28302
25 - 29	37	17.45283
30 - 34	18	8.490566
35 - 39	7	3.301887
40 - 44	6	2.830189
45 - 49	14	6.603774
55 -59	5	2.358491
55 - 59	8	3.773585
60 - 64	14	6.603774
65 - 69	9	4.245283
70 -74	6	2.830189
75 - 79	2	0.943396
80 - 84	1	0.471698
85 - 89	2	0.943396
90 - 94	1	0.471698
Total	212	100

Q1.2			
Sex of the Patient	Codes	Frequency	Percent
Male	1	95	44.8
Female	2	117	55.2
Total		212	100

Q1.3			
Place of Residence of the patient	Codes	Frequency	Percent
Urban	1	64	30.188679
Peri - Urban	2	15	7.0754717
Slum	3	0	0
Rural	4	133	62.735849
Information Not Avilable	9	0	0
Total		212	100

Q1.5		
How far is the place of residence of the patient from this hospital? (rounded off to nearest km)	Frequency	Percent
<=20 kms	128	60.37736
21 - 40 kms	44	20.75472
41 - 60 kms	12	5.660377
>60 kms	28	13.20755
Total	212	100

Q1.6				
Social category of the patient	Codes	Frequency	Percent	Valid Percent
SC	1	31	14.6	14.6
ST	2	12	5.7	5.7
Others	3	169	79.7	79.7
Total		212	100	100

Q2.1			
What is the type of emergency the patient is facing? *(as per the respondent)*	Codes	Frequency	Percent
Abdominal pain	01	6	2.83018868
Paediatric emergency (upto 12 years)	10	10	4.71698113
Normal delivery	11	15	7.0754717
Obstetric emergency	12	39	18.3962264
Respiratory	13	7	3.30188679
Stroke	14	9	4.24528302
Allergic reactions	02	2	0.94339623
Injury/burn	03	39	18.3962264
Cardiac/cardio vascular	04	2	0.94339623
Diabetes	05	2	0.94339623
Epilepsy	07	4	1.88679245
Fever (infections)	08	17	8.01886792
Others	88	53	25
Neonatal emergency (upto 1 month)	09	7	3.30188679
Disasters	06	0	0
Total		212	100

Q2.2			
What is the clinical diagnosis of the type of emergency the patient is facing? *(as per the hospital records...check with the attending doctor/paramedic)*	Codes	Frequency	Percent
Abdominal pain	01	6	2.830189
Allergic reactions	02	3	1.415094
Injury/burn	03	39	18.39623
Cardiac/cardio vascular	04	3	1.415094
Diabetes	05	2	0.943396
Disasters	06	0	0
Epilepsy	07	4	1.886792
Fever (infections)	08	17	8.018868
Neonatal emergency (upto 1 month)	09	7	3.301887
Paediatric emergency (upto 12 years)	10	10	4.716981
Normal delivery in labour	11	23	10.84906
Obstetric emergency	12	31	14.62264
Respiratory	13	7	3.301887
Stroke	14	9	4.245283
Others	88	51	24.0566
Total		212	100

Q2.3			
Whether the trip was fixed earlier or it was an emergency call.	Codes	Frequency	Percent
Fixed earlier	1	16	29.62963
It was an emergency call	2	38	70.37037
Total		54	100

Q2.4			
What was the reason for fixing up the call?	Codes	Frequency	Percent
Because the lady was an identified high risk delivery case (for example twins)	1	6	37.5
It was just a normal booked case at full term	2	10	62.5
Total		16	100

Q2.5			
Was the call made for complication developed after the labour pains had started or the complications developed during transportation?	Codes	Frequency	Percent
After the labour pains had started	1	52	96.2963
During transportation	2	2	3.703704
Total		54	100

Q2.6			
Where did the emergency occur? Give address of the place. (Mention village, block, district or ward)	Codes	Frequency	Percent
Home	1	148	69.81132
WorkPlace	2	7	3.301887
Other Hospital / Clinic	3	40	18.86792
Road / in Transport	4	12	5.660377
Public Place	5	2	0.943396
Field	6	0	0
Others	8	3	1.415094
Information not Available	9	0	0
Total		212	100

Q2.7			
Who decided to call ambulance/vehicle?	Codes	Frequency	Percent
Self	1	7	3.301887
Family Members/ Friends / Colleagues	2	184	86.79245
Police	3	1	0.471698
Doctor / Par.Medical / Personnel	4	10	4.716981
Others	8	10	4.716981
Information Not Available	9	0	0
Total		212	100

Q2.8			
What was the reason for which the call was made?	Codes	Frequency	Percent
Medical emergency needing attention in a hospital	1	157	74.0566
Shift from one hospital to another	2	21	9.90566
For delivery	3	34	16.03774
Non Emergency	4	0	0
Total		212	100

Q2.9			
Is this a Police case?	Codes	Frequency	Percent
Yes	1	17	8.018868
No	2	195	91.98113
Total		212	100

Q2.10			
Is the Police accompanying the patient to the hospital?	Codes	Frequency	Percent
Yes, they are still with the patient	1	3	17.64706
Police had accompanied but left later	2	4	23.52941
No, they did not accompany the patient	3	10	58.82353
Total		17	100

Q3.1			
How did the patient come to the hospital?	Codes	Frequency	Percent
Own/employers transport	1	42	19.81132
Hired private transport/taxi/auto	2	142	66.98113
Police vehicle	3	3	1.415094
Government run (102) ambulance	4	1	0.471698
Private Ambulance Services	5	15	7.075472
Others	8	9	4.245283
Infomration not available	9	0	0
Total		212	100

Q3.2			
Have you heard of EMRI (108) Ambulance service?	Codes	Frequency	Percent
Yes	1	204	96.22642
No	2	8	3.773585
Total		212	100

Q3.3			
Did you try calling EMRI (108) Ambulance service for transporting the patient to this hospital?	Codes	Frequency	Percent
Yes	1	21	10.29412
No	2	183	89.70588
Total		204	100

Q3.4			
	Codes	Frequency	Percent
Call did not connect	1	1	4.761905
Call connected but could not complete the call	2	0	0
Call connected but dispatch of ambulance was denied	3	10	47.61905
Call connected and dispatch was assured	4	10	47.61905
Total		21	100

Q3.5		
	Codes	Frequency
Arranged an alternative transport before the Ambulance came	a	10
Ambulance came but refused to take the patient	b	0
Ambulance wanted to take the patient to some other hospita	c	0
Ambulance asked for money	d	0
Other reason	e	0
Total		10

Q3.6			
Was there anyone accompanying the patient during transportation?	Codes	Frequency	Percent
Yes	1	207	97.64151
No	2	5	2.358491
Total		212	100

Q3.7		
Who was accompanying the patient during transportation?	Codes	Frequency
Family members/friends/colleagues	a	205
Police	b	1
Medical/paramedical personnel	c	7
Others	d	0
Information not available	9	3

Q3.8			
Was the patient given stabilisation care during transportation?	Codes	Frequency	Valid Percent
Yes	1	86	41.54589
No	2	121	58.45411
Total		207	100

Q3.9		
Who provided the stabilisation care to the patient during transportation?	Codes	Frequency
Family members/friends/colleagues	a	80
Police	b	0
Medical/paramedical personnel	c	7
Others	d	2
Information not available	*9*	0

Q3.10			
Whether the patient stabilized is out of danger?	Codes	Frequency	Percent
Yes, under treatment	1	167	78.77358
No but under treatment	2	39	18.39623
Yes, but referred on to some other facility	3	3	1.415094
No, referred on to some other facility	4	3	1.415094
Total		212	100

Q3.11				
Was EMRI transportation offered?	Codes	Frequency	Percent	Valid Percent
Yes	1	1	0.471698	16.66667
No	2	5	2.358491	83.33333
Total		6	2.830189	100

Q3.12			
What was the time taken for the ambulance/vehicle to reach the site of emergency after calling?	Time in Minutes	Frequency	Valid Percent
	Less than 10 mts	177	83.49057
	10 - 15 mts	22	10.37736
	16 - 20 mts	4	1.886792
	21 - 25 mts	1	0.471698
	26 - 30 mts	7	3.301887
	Above 50 mts	1	0.471698
Total		212	100

Q3.13			
What was the time taken for the ambulance/vehicle to reach the hospital from the site of the emergency?	Time in Minutes	Frequency	Percent
	Less than 10 mts	41	19.33962
	10 - 15 mts	33	15.56604
	16 - 20 mts	24	11.32075
	21 - 25 mts	15	7.075472
	26 - 30 mts	26	12.26415
	31 - 35 mts	3	1.415094
	41 - 45 mts	4	1.886792
	46 - 50 mts	6	2.830189
	Above 50 mts	4	1.886792
	10	56	26.41509
Total		212	100

Q3.14			
Where did the vehicle drop the patient in this hospital?	Codes	Frequency	Percent
At the general parking	1	29	13.67925
In the general OPD	2	15	7.075472
In the Casualty/Emergency	3	163	76.88679
Others	8	5	2.358491
Information not available	9	0	0
Total		212	100

Q3.15			
After the patient reached the hospital, within how much time did the medical/paramedical staff of the hospital attend to the patient?	Codes	Frequency	Percent
0-15 minutes	1	204	96.22642
15-30 minutes	2	6	2.830189
30 minutes to 1 hour	4	0	0
More than 1 hour	5	2	0.943396
Information not available	9	0	0
Total		212	100

Q3.16			
Has the patient been attended to by qualified personnel in this hospital?	Codes	Frequency	Percent
Yes	1	206	97.16981
No	2	6	2.830189
Total		212	100

Q3.17			
How satisfied are you with the ambulance service that the patient availed for reaching this hospital?	Codes	Frequency	Percent
Very unhappy	-3	0	0
Not very satisfied	-2	2	0.943396
Not satisfied	-1	0	0
can't say	0	2	0.943396
some what satisfied	1	9	4.245283
satisfied	2	10	4.716981
Very satisfied	3	2	0.943396
	Total	25	100

Q4.1			
Was any expenditure incurred while transporting the patient to the hospital?	Codes	Frequency	Percent
Yes	1	162	76.41509
No	2	50	23.58491
Total		212	100

Q4.2			
What was the total amount of expenditure incurred while transporting the patient to the hospital?	Amount (Rs.)	Frequency	Percent
	Less than Rs 100	92	56.79012
	100 - 199	20	12.34568
	200 - 299	11	6.790123
	300 - 399	10	6.17284
	400 - 499	5	3.08642
	500 and more	24	14.81481
	Total	162	100

Q4.3			
What was the expenditure incurred on while transporting the patient to the hospital?		Amount	Percent
a	Transport/Vehicle hiring	58,184	98.74
b	Medical Consumables	600	1.02
c	Others	140	0.24
Total		58,924	100

Q4.4			
Did this hospital/hospital staff ask for payments for starting the treatment of the patient?	Codes	Frequency	Percent
Yes	1	102	48.113208
No	2	110	51.886792
Total		212	100

Q4.5			
How much amount did the hospital/hospital staff ask for payments (as advance) for starting the treatment of the patient?	Amount (Rs.)	Frequency	Percent
	Less than Rs 2000	51	50
	2000 - 4000	17	16.66667
	4001 - 6000	16	15.68627
	6001 - 8000	2	1.960784
	8001 - 10000	6	5.882353
	10001 - 20000	8	7.843137
	20000 and more	2	1.960784
Total		102	100

Q5.1			
Have you heard of any ambulance service in your state/city?	Codes	Frequency	Percent
Yes	1	209	98.58491
No	2	3	1.415094
Total		212	100

Q5.2			
What ambulance services you have heard of?	Codes	Frequency	Percent
EMRI (108) ambulance	a	208	98.11321
Government run (102) ambulance	b	4	1.886792
Other privately operated ambulance service	c	25	11.79245
Total		212	100

Q5.3	
Of the above mentioned ambulance service, which one would you rate as the best?	Frequency
EMRI (108) ambulance	208

Q5.4		
Why did you rate the above ambulance service as the best?	Codes	Frequency
Very quick service	a	170
Well equipped ambulance	b	53
Ambulance staff friendly and competent	c	16
Good guidance by Call Centre	d	16
Links with good hospitals	e	8
Service is free	f	170
Any other reason	g	0
Information not avilable	9	2

Q6.1			
Choice of Hospital	Codes	Frequency	Percent
I or my family members	a	181	85.37736
Ambulance driver named it	b	0	0
Paramedic named it	c	1	0.471698
Call centre named it	d	0	0
Referring doctor / clinic named it	e	40	18.86792
Police named it	f	2	0.943396

Q6.2		
Why was the patient brought to this hospital?	Codes	Frequency
Referred by treating doctor in other hospital/clinic	a	40
The vehicle/ambulance operator brought us here	b	0
Police brought us here	c	1
Guided by the call centre of the ambulance operator	d	0
This was nearest hospital from the site of emergency	e	77
Treatment is free/low cost, in this hospital	f	43

This hospital/hospital staff was known to us	g	39
Any other reason	h	51
Information not available	9	4