

Report on Sectoral Impact

HIGHWAY RESCUE AND TRAUMA CARE

By Tata Institute of Social Sciences (TISS) – Axis Bank Foundation (ABF)



Progress on...



AXIS BANK FOUNDATION

REPORT ON SECTORAL IMPACT HIGHWAY RESCUE AND TRAUMA CARE

Abstract - Lifeline Foundation's endeavours to highway accident rescue have contributed to the transformation of the EMS scenario in the country. It has holistically looked at efficiently utilising existing healthcare infrastructure whilst networking and training emergency rescue departments and personnel.

LLF has been responsible to develop and implement a comprehensive highway rescue response model that was one of the models used as a template to design EMS services in India. Gujarat is the first and only state in the country to have successfully passed the Emergency Medical Services legislation in 2007 thanks to the catalytic role played by LLF.

EMS India journal, the first of its kind, has proved to be a unique platform for all EMS related experts to come together and showcase issues related to this field. Over the last 10 years of continued funding support by ABF the LLF has achieved largely what is set out to do, it is now essential for LLF to move towards showcasing the model, setting the ground for a national EMS framework and move towards a more advocacy and capacity building role in the sector.

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ACKNOWLEDGEMENT

The Social Impact Assessment study of the work done by Lifeline Foundation in constituting and providing Emergency Medical Services in India has been a uniquely intriguing, engaging and distinctly enriching experience for the CSR Knowledge Centre.

The study provided the opportunity to interact with multiple stakeholders, which led to realization enriching qualitative perspectives and opinions. We charter this instance to convey thanks to all stakeholders associated with this study, primarily the planning cum executive management, executive staff and associate partner agencies of Lifeline Foundation, Government and private Public Health Officials - responsible for extending existential support to the EMS services in the state of Gujarat. It has been our privilege to interview and document the feelings and impressions of the beneficiaries of the Highway Rescue Project which was the acute focus of the study.

The research team would like to take this opportunity to thank Axis Bank Foundation (ABF) who had the faith in us and commissioned this study. Gratitude needs to be conveyed to ABF team for playing facilitating roles at crucial junctures before and during course of the study.

A special vote of thanks to Dr Subroto Das and Ms Sushmita Das, Founding Trustees of the Lifeline Foundation for their valuable insights, enabling access to cardinal aspects, key stakeholders and all arrangements during our stay, which were requisite to the successful completion of the study. We would also like to extend our regards to Drs. Gauri Wagenaar, Advisory Board member LLF, Mr. M F Dastoor, CFO AFES, Dr. Ketan Patel, Head of Emergency Medicine - Apollo Hospitals Ahmedabad, Mr. Ajay Umat, Editor in Chief-TOI Gujarati and various other trustees/board members of LLF who despite of their busy schedule manage to grant us time and their insightful views on the foundations dedicated work in the realm of EMS and HRP over the last two decades.

An utmost thanks and regards to all the beneficiaries and participants such as patients, ambulance drivers, paramedic staff, Doctors, BLS trainers, nurses, and CMO's that set aside their valuable time for sharing their unreserved experiences, views, opinions, suggestions and their honest feedback about the Highway rescue project.

The study would not have been complete without the incessant support and backing of Prof. S Parasuraman, Director TISS, Mumbai and members of the CSR Knowledge Centre. This study has been a great learning experience for those involved directly and indirectly, and the research team would like to personally thank everyone who took part in it.

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LIST OF ABBREVIATIONS

AAEMI	American Academy for Emergency Medicine in India
AAFI	Ambulance Access Foundation India
AAPI	Association of American Physicians of Indian Origin
ACEP	American College of Emergency Physicians
ACLS	Advanced Cardiovascular Life Support
ACS	Acute Coronary Syndromes
ADB	Asian Development Bank
Addl. Chief Sec.	Additional Chief Secretary
AECM	Asian Conference for Emergency Medicine
AED	Automatic External Defibrillator
AEMTs	Advanced Emergency Medical Technicians
AHA	American Heart Association
AIDP	Acute Inflammatory Demyelinating Polyneuropathy
AIIMS	All India Institute of Medical Sciences
ALS	Advanced Life Support
AMA	Ahmedabad Management Association
BDLS	Basic Disaster Life Support
BLS	Basic Life Support
BOT	Build-Operate-Transfer
CATS	Centralised Accident & Trauma Services
CBRN	Chemical, Biological, Radiological and Nuclear disasters
CEMEX	Chennai Emergency Management Exercise
CHC	Community Health Centre
CME	Continuing Medical Education
COT	Committee on Trauma
CPR	Cardiopulmonary Resuscitation
CPSEs	Central Public Sector Enterprises
CRN	Clinical Research Network
CSR	Corporate Social Responsibility
DM	Disaster Management
EC	Expert Committee
ECC	Emergency Cardiovascular Care
ECG	Electrocardiogram
ED	Emergency Department
EM	Emergency Medicine
EMRI	Emergency Management Research Institute
EMS	Emergency Medical Services
EMTs	Emergency Medical Technicians
EPI	Emergency Physicians International
ER	Emergency Room
ERC	Emergency Response Centre
ET	Emergency Transportation
GAIL India	Gas Authority of India Limited
GMERS	Gujarat Medical Education and Research Society
GoG	Government of Gujarat
GSDMA	Gujarat State Disaster Management Authority
GSRDC	Gujarat State Road Development Corporation
GVK EMRI	GVK Emergency Management and Research Institute
HAZMAT	Hazardous Materials
HRP	Highway Rescue Project

ICE	In Case of Emergency
ICET	International Centre for Emergency Techniques
IDPL	Infrastructure Development Projects Limited
IEMS	Indian Institute of Emergency Medical Services
IOC	Indian Oil Corporation Ltd.
ITLS	International Trauma Life Support
JPNA	Jai Prakash Narayan Apex Trauma Centre
LHS	Left Hand Side
LLF	Lifeline Foundation
L & T	Larsen and Toubro
MAB	Medical Appliance Bank
MBA	Master of Business Administration
MCE	Mass Casualty Events
MCI	Mass Casualty Incident
MCI	Medical Council of India
MD	Doctor of Medicine
MEMEx	Mumbai Emergency Management Exercise
MIMS	Malabar Institute of Medical Sciences
MORTH	Ministry of Road Transport and Highways
MoU	Memorandum of Understanding
MOVACon	Motor Vehicle Accident Conference
MRI	Magnetic Resonance Imaging
NBSO	Netherlands Business Support Office
NCRB	National Crime Records Bureau
NCSR Hub	National Corporate Social Responsibility Hub
NDMA	National Disaster Management Authority
NGO	Non-Governmental Organization
NHAI	National Highway Authority of India
NRHM	National Rural Health Mission
NTMC	National Trauma Management Course
OHCA	Out-of-hospital cardiac arrest
PACE	Program on Advances in Critical Care
PAROS	Pan Asian Resuscitation Outcomes Study
PG	Post Graduation
PHC	Primary Health Centre
PHP	Pre Hospital Providers
PTS	Patient Transportation Services
RTA	Road Traffic Accident
SEMI	Society for Emergency Medicine India
TARN	Trauma Audit Research Network
UNDP	United Nations Development Fund

EXECUTIVE SUMMARY

Deaths due to motor vehicular accidents on highways have been documented to be one of the largest causes of untimely and unnatural mortality in the country. What compounds the issue is that the country lacks a unified emergency response system. Concepts such as the golden hour have largely remained theoretical with minimal will, infrastructure and trained manpower in the country to support the same. Unlike developed countries such as France and Germany, India's EMS approach lingers at nascent levels as pre hospital care is limited to "Scoop and Run" operations. Ambulances in India are severely under-capacitated; most ambulance personnel are untrained and unqualified to provide BLS and resuscitation services.

The primary research component of this study was extremely challenging as the tracking and recording of patient/accident victim's feedback was restricted by strict confidentiality clauses. The research team has however obtained written informed consent and has gone ahead to document some case studies from. By and large this feedback paints the EMS services offered by LLF in good light with a few constructive suggestions for improvement. While ABF has not commissioned third party assessment during the course of the HRP intervention the implementing partner has shared periodic monitoring reports. The monitoring framework of the project in general was mostly quantitative in nature and lacked qualitative details/ testimonies and understanding to allow for better documentation of impact.

The Highway Rescue Project, commonly known as HRP, is a community welfare project initiated and matured over time owing to the unique vision and efforts of Lifeline Foundation and its founders Dr Subroto Das and Ms Sushmita Das. The Foundation has primarily been responsible for creating Western India's largest Emergency Medical Services network. HRP began operations in the year 2002 and struggled initially for funding, primarily relying on activity based support from companies such as Indian Oil Corporation Limited (IOC) and Birla Tyres. The Axis Bank Foundation then called UTI Bank was the first long term funder for the project and the support continues to date.

LLF has covered a distance of 5029 Kilometres (cumulative) under HRP across 5 states between 2002 and Dec 2014. As of Dec 2014, 21087 accident victims were rescued. HRP and LFF were instrumental in introducing the concept of a universal access single help line number. LLF has been responsible to develop and implement a comprehensive highway rescue response model that was one of the models used as a template to design EMS services in India.

Uniqueness of the model includes the efficient mobilisation and networking of existing infrastructure and personnel thereby making the model cost effective and efficient. The capacity building of local resource personnel results in sustainability of the project and value addition to the existing healthcare setups. The model however that was scaled up to five other states later on was withdrawn from Kerala, West Bengal and Maharashtra as state govt. had taken over delivery of such services. An exercise such a mapping that is critical to helping locate an accident victim is fairly cumbersome, time consuming, resource intensive and is required to be done on continual basis. Replicating the model on a larger scale or a national level will require tremendous resources. There is also may be confusion in the mind of an accident victim due to the presence of multiple help line numbers put up by highway developers (e.g. L&T or IRB), the 108 EMRI service operational with city limits as well as the recently introduced central response number for emergencies on highways 1033.

Gujarat is the first and only state in the country to have successfully passed the Emergency Medical Services legislation in 2007, this Act is the first and one of a kind EMS legislation framework in a low income country. LLF has played a catalytic role in providing a pragmatic framework for the act and this can be considered as the single most important contribution of the Foundation. The Act provides for establishment and incorporation of City and District Emergency Medical Services Council. It articulates functions and regulatory responsibilities of city and district councils, lays down a cognizant framework for penalties and punishment for noncompliance or abuse by the EMS provider companies while granting authority and empowers City and District councils to formulate EMS bye-laws.

The Gujarat EMS Act 2007 still has underlying grey areas that it needs to address - E.g. Bye –laws for Registration/Licensing and de-licensing need to be articulated. Even as EMS Act clearly defines and demarcates authoritative roles and regulatory responsibilities of city and district councils, the legislation has still not been enforced in some districts.

Currently 18 Indian states have implemented emergency medical services acts. Maharashtra had actively implemented Maharashtra Emergency Medical Services (MEMS) fairly recently, with an objective of ensuring maximum reach of health services, it has reached out to over 50,000 people in a span of four months in 2014. There is no constitutionally recognised bill or act. A distinct need for a National Policy framework has been proposed by many individuals, health givers, and government officials to kick start an EMS revolution in India. LLF can crusade its existing model and use its bureaucratic influence to campaign for a legislative EMS policy framework in other states towards formulation of a National EMS Policy.

Identifying lack of awareness and availability of trained personnel, LLF has extensively organised sensitisation and EMS awareness campaigns on roads, highways and provided basic life support programmes to target groups like truck drivers, Village Task Force (VTFs), housewives, school children etc. The Foundation has also organised and hosted a number of conferences and workshops across the country including INTEM, EMCON and the 3rd Asian EMS conference in Goa. ABF has funded First Aid training for 7087 people from different backgrounds till November. Other sensitisation and awareness training and capacity building programs have trained 9089 people between the period of 2008 - 2014 which includes doctors, paramedics and conference delegates.

LLF is certified training provider for BLS, ACLS and ITLS trainings to various state and private entities. It has trained beneficiaries including Police, Doctors, HAZMAT Professionals, Industrial Workers, VTF's, and Toll Plaza Staff etc. Highway rescue services and industrial safety service provider to corporate companies.

EMSIndia journal, the first of its kind, has proved to be a unique platform for all EMS related experts to come together and showcase issues related to this field. This has eventually merged and evolved into a bigger journal catering to an international readership and addressing pan Asia EMS related issues. The topics brought into focus through the 20 journal issues over the span of 6 years, through the diverse medical as well as administrative experts who have contributed to it, reflects the changes in the Indian EMS fraternity and along with latest developments in the field. Approximately 8-10 articles featured in each issue during 2007-2012 with an increasing circulation trend with every issue clearly indicated the increase in awareness for EMS as an important subject making its stronghold in India. The total issue circulation for the journal stood at 62205 subscriptions between 2007 and 2012.

The continual and long standing association with the Axis Bank Foundation has also allowed for structural, procedural and policy level strengthening within LLF . This included the formation and dissemination of Vision & Mission statement with all stakeholders and the documentation of indicators to measure performance. LLF was also encouraged to form a statutory Governing Body that reviews and lays down targets, goals, policies and budgets. Over a period, there was greater transparency with regards to the Audited Balance Sheet of LLF with all funding agencies and corporates. The period saw LLF lay down policies for purchase, sale & disposal of assets, for investments, and for personnel.

It is very clear that LLF took up a cause that had remained out of the ambit of government sponsored interventions until very recently. They have in many ways experimented, demonstrated and championed the model that may have inspired the development of many other EMS projects across the country. The organisation as in many ways achieved a greater part of what it set out to, with its limited scale and access to resources. The future seems to be favouring a move to a more advocacy and capacity building role. Where the scope includes formulation and enforcement of a National EMS policy or legislation. Training needs to remain a continued focus area of operations but can evolve from generic lifesaving skills training to more specialised response trainings like HAZMAT or Industrial EMS Trainings etc. There is immense scope to further the reach and circulation of the EMS journal through its online version. One of the areas that has been constantly a challenge is establishing a credible and timely form of peer review that will need to be remedied in order to achieve the desired results.

CHAPTER 1

INTRODUCTION

The number of deaths by road accidents in 2012 recorded with the National Crime Bureau is 1, 39,091¹. This is like an air plane crashing every day. In case of air plane crashes, hi tech systems track the accident location and medical support is mobilised to be provided at site. However road accidents that happen on isolated highways, adjoining forests, at night often go unnoticed and worse unattended. Absence of communication services at regular intervals on the highways, ambulances specially for transferring road accident victims to hospitals within the golden hour is a major gap. Awareness of emergency medical practices like First aid, Basic Life Support (BLS) and Advanced Life Support (ALS) is not up to the mark.

Getting a critically injured patient admitted in a hospital is a difficult task due to fear of police cases and the likes. This deprives the patient of basic stabilization. However, in the case of Pt. Parmanand Katara v/s Union of India, The Honourable Supreme Court had observed in 20th August 1989 that preserving life of any such patient brought for medical treatment is the top priority. No provision under the Indian Penal Code, Criminal Procedure Code and Motor Vehicles Act prevents a doctor from promptly attending to seriously injured persons.

The Gujarat state government passed the GEMS Act in 2007 stipulating local to multi- speciality hospitals to have adequate resources to treat critically injured patients. Lifeline Foundation played an advocacy role in the passage of the Act.

Established on 9th April 2002, Lifeline Foundation initially aimed to attend to accident victims, provide pre-hospital trauma care inside the ambulance and ensure their admission to the nearest government hospital. Today the Foundation has gone beyond Gujarat and even India in its geographical reach.

Functionally, it has gone beyond accident evacuation to cover the entire gamut Emergency Medical Services, its advocacy and policy changes with various state and central governments. Today, it is a resource centre for knowledge dissemination and also looks into catalysing EMS across India and South Asia and even in Turkey.

Lifeline Foundation also is an important stakeholder in the academics of Emergency Medicine, hosting conferences and workshops and even hand holding MCI to create curriculum for EM in post-graduation.

The Foundation also has pioneered the concept of rehabilitative equipment banking.

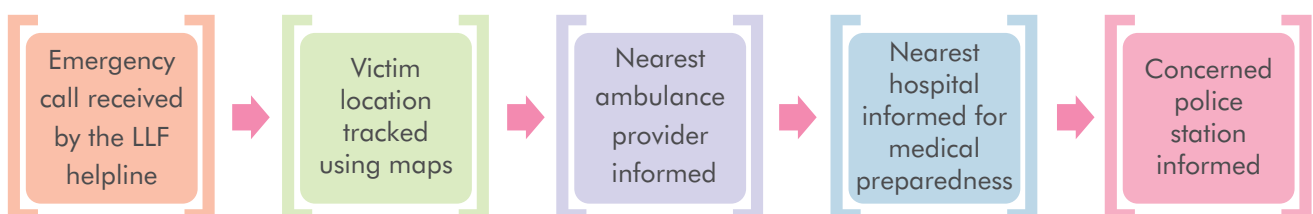
¹<http://www.thehindu.com/news/national/kerala/tamil-nadu-tops-in-road-accident-deaths/article4843433.ece>

About Lifeline Foundation :

Lifeline Foundation a non-profit organisation, pioneered emergency medical services in India after its founders Dr Subroto Das and his wife Ms Sushmita Das met with an accident on a highway and were stranded till morning without help. LLF began liaison with local hospitals and ambulance providers to be available during an emergency. The hospital would benefit with patients and the ambulance service would be paid by LLF. Favourably in Gujarat, institutions like temples, small clinics, majority of industries on NH8 owned ambulances. LLF utilised them to ferry accident victims to the care centres. The idea was to transfer the patient to the nearest accredited hospital as per laid down standards which meant a person who has met with an accident in Nadiad will not be brought to Baroda but will be admitted in Nadiad itself provided the hospital was capable of providing the required level of surgical or medical intervention.

In the case of Gujarat the emergency number set up was 9825026000 and once a call is received, next important task is to trace the injured person's location. Such an intervention model was similarly set up in the case of states of Maharashtra, Rajasthan, Kerala and West Bengal. For this purpose LLF has devised easy to follow maps. National and State highways were manually travelled to and identifiable locations such as toll nakas, hotels, dhabas, sign boards, petrol pumps, industries on highways, culverts, railway crossing, towns, villages, cold storages, religious institutions, all that could be used by a stranger travelling through an alien road, could be used to identify his or her location were mapped complete with distance in 1/10th of a kilometre between various landmarks.

The state/ National highways have systematic chainages. Chainages are 1km milestones marked on highways both on the LHS (Left Hand Side) and RHS(Right Hand Side). Eighteen manual maps are created marking districts, smaller towns, landmarks and most significantly chainages to arrive at the accident spot. Control room functions 24 × 7 and help line numbers are displayed at regular intervals on the highway. The entire staff at LLF including accountants and canteen boy is trained on how to attend to an emergency call and track the victim. Once the victim is tracked nearby ambulance service is informed. The ambulance's driver's number is noted to help him find his way to the location. Simultaneously the hospital where the victim would be admitted is informed for medical preparedness. The police stations are also informed about the accident. Every two months LLF visits hospitals, police stations to take feedback, address gaps and to keep the relationship going.



In case of an accident where crane services are required, they too are provided by LLF free of cost. Also in case if a victim is stuck inside a mangled car then metallic cutters are made available free of cost through networked resources.

LLF has effortlessly worked to establish, sensitise Central and State Governments to institutionalise EMS – its infrastructure, training and standardizing of paramedics, universal access number, ambulance standards and most significantly, EMS legislation. Assisted in instituting the 108 system in India and worked with its partners for the 110 system in Sri Lanka besides working with stakeholders in Turkey, Bangladesh and Bhutan. HRP was the first initiative for trauma care on Indian Highways. Saving close to 1000 victims every year the emphasis is to upgrade and optimise utilisation of locally owned rescue utilities, train manpower and pool resources to evacuate victims.

The Indian Oil Corporation assisted LLF first by granting them permission to train their petrol pump station staff in first aid. IOC's petrol pumps could be used by LLF to house first aid boxes, to put up their help line numbers etc. to LLF received steel and paint material from Tata Steel and Asian Paints respectively for their signage's and has not received any government funding as yet.

Data is compiled in a register detailing the following:

Caller's phone number, name, and accident site.	Ambulance response	Patient taken to Hospital	Accident Details	Police station informed	Victim's name age injuries & address
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LLF launched India's first emergency medicine Journal EMSINDIA in March 2007, a quarterly publication includes sections on emergency medicine in India, laws, ambulance up gradation and EMS systems from all over the world.

The Asian EMS Council at its meeting in Malaysia agreed to start the Asian Journal of EMS to further the cause of evidence based EMS in the continent. Asian EMS is one of the youngest in the world and has had a lop sided development with East Asian and South East Asian countries ahead of South Asian and Western Asian countries.

In Singapore in 2013, LLF was elected to be the Secretariat of the South Asian Chapter of the Asian EMS Council.

Training

Lifeline is the 1st non-profit in Gujarat to become a Regional Training Centre of American Heart Association (AHA), global leaders in life support training. LLF trained its first batch in 2007; certified courses of AHA's Advanced Cardiac Life Support (ACLS) and Basic Life Support (BLS) besides other courses are conducted. Doctors and paramedic from private sector corporate and public sector are trained by LLF. It trains industrial staff, university and school students with modules developed with help of UNDP.

LLF has developed first aid content in 7 languages and used in training students, industrial trainings and housewives.

Knowledge Dissemination of EMS :

MoVACon2008, 26th to 28th September 2008, IIM Ahmedabad and Ahmedabad Management Association (AMA) Convention Centre, Ahmedabad: The 1st National Conference on Motor Vehicle Accident hosted by Lifeline was partnered by the Ministry of Road Transport, Government of India and Ministry of Health, Government of Gujarat. 315 delegates participated in conference and 70 faculties delivered talks in 5 plenary and 5 parallel sessions. The conference was supported by Axis Bank

INTEM2010, 10th to 14th of November 2010, Ahmedabad Management Association (AMA) Convention Centre, Ahmedabad: The 12th International Conference of Emergency Medicine for the Society of Emergency Medicine, India (SEMI). 81 International and National faculties from 13 countries delivered talks in the conference which was attended by 500+ delegates. There were 5 pre-conference workshops, 12 parallel and 3 plenary sessions coupled with entertainment program, dinners and visit to Sabarmati Ashram. This also was supported by Axis Bank.

EMCON2011, 16th to 20th November 2011, Swabhumi, Kolkata: The 13th National Conference of Emergency Medicine of SEMI was co-presented by West Bengal Chapter of SEMI and Lifeline Foundation. 143 International and National faculties and 500 delegates from 10 countries took part in the conference spanning over 38 technical sessions including 3 plenary and 11 pre-conference workshops. Axis Bank Kolkata got 15 of its staff trained in BLS at this event.

MEMEx 2008, 3rd to 9th November 2008, Mumbai: The 1st Mumbai Emergency Management Exercise anchored by Life Supporters Institute of Health Sciences was partnered by Lifeline Foundation. There were 5 participating institutions and more than 2000 participants and beneficiaries of the exercise.

3rd Asian EMS Conference :

The foundation of the Asian EMS Council was laid in Busan, South Korea in 2009 during the ongoing Asian Conference on EM to institutionalize EMS methods for upgrading the quality of emergency care ultimately to save more lives. One of the primary goals of the 3rd ASIAN EMS Conference was to assist those who wish to bring EMS at the community level². This conference was organized by Lifeline Foundation from 16th to 19th October 2014 in Goa. The theme for this conference was "Learn, Unlearn and Relearn EMS". It brought together international EMS personnel like doctors, paramedics, faculty etc.

The number of registrations received at the conferences and workshops were 426 and 259 respectively³. Workshops on the following topics were conducted – ACLS, BLS, Basic Disaster Life Support, Dispatcher, Medical Director, International Trauma Life Support, Water Rescue and Wilderness EMS⁴. A total of 500 delegates, 120 foreign delegates from 26 nations, 87 national and international faculties, 81 lectures and afore mentioned 8 workshops were conducted⁵. The papers presented at the conference were broadly based on the 4 themes namely – Pre Hospital Emergency, Pre Hospital Trauma Care, Pre Hospital Cardiac Care and Emergency Medicine. The 4 daylong conferences had 18 symposiums⁶.

Awards and Recognitions instituted by LLF :

Lifeline AAEMI Awards :

Lifeline Foundation in association with AEMI (American Academy for Emergency Medicine in India) began giving awards to individuals and institutions that have been contributing to the field of Emergency Medicine and Emergency Medical Services in India. Since the year 2010, awards are given in 3 categories:

- Individual award for EM
- Individual award EMS
- Institutional award for EM/ EMS

On Similar lines the foundation has also instituted the Asian EMS Awards.

Disaster Management :

In the year 2005, LLF partnered with International Centre for Emergency Techniques (ICET) in the sector of Disaster Management and Mitigation. LLF was the Indian collaborator when ICET conducted the feasibility study of Gujarat State Disaster Management Authority's plan of creating Emergency Response Centres (ERC's) in Gujarat, a study funded by ADB. LLF has also worked with UNDP and GSDMA for building capacity of paramedics across Gujarat and upgrading Disaster Management capabilities of care centres all over the state.

About AXIS BANK FOUNDATION (ABF) :

Axis Bank Foundation (ABF) was setup as a Public Trust in 2006 to carry out the Corporate Social Responsibility initiatives of Axis Bank. ABF has partnered with several NGOs to provide equitable education to various underprivileged individuals across 13 states of India. In 2011, it ventured into the domain of providing sustainable livelihoods. These programmes aim at alleviating poverty and providing livelihood options for economically weak households.

Besides the philanthropic initiatives of ABF, a volunteering program has been set up encouraging the employees of the Bank to get involved and become socially responsible citizens. ABF is also actively involved in making steps towards reversing the effects of their ecological footprint, by implementing several Sustainability Initiatives.

About the NCSR Hub and the CSR Knowledge Centre :

TISS through its various faculty experts and departments has been engaging and advising on Social activities of various corporate for several years. However, a more formal and streamlined engagement with corporate started in 2011 after the Department of Public Enterprises (DPE) appointed TISS as a nodal agency for CSR consultancy for all Central Public Sector Enterprises (CPSEs) and the National CSR Hub (NCSR Hub) was thus established at the Mumbai campus.

²Souvenir – EMS ASIA, 3rd Asian EMS Conference

³<http://www.conference.emsasia.org/Asian-EMS-Council.html>

⁴<http://www.conference.emsasia.org/Workshop-Summary.html>

⁵<http://timesofindia.indiatimes.com/city/goa/Emergency-medical-services-conference/articleshow/44863715.cms>

⁶Souvenir – EMS ASIA, 3rd Asian EMS Conference

CSR Knowledge Centre- Private Sector Engagement :

The CSR knowledge centre, an extension of the NCSR Hub advises and engages with multiple private sector companies, in the strategic and technical areas, enabling companies to make socially relevant choices since 2013. The Centre is a think tank and not for profit consultancy that provides end to end solutions to the private corporations in the CSR sphere. This includes suggesting avenues for change management and CSR policy formulation within the organisation, conducting Needs Assessment and Baseline studies in target communities prior to initiating CSR activities. Structuring monitoring mechanisms and functioning as a think-tank are integral to the Centre's expertise domain. The Centre also conducts social and environmental impact assessment studies to document performance output and recommend course corrections thus ensuring long-term viability of CSR initiatives.

As the new regulations are set to transform the CSR landscape in India, especially in terms of the length and breadth of financial commitment directed in this area by Private Sector Enterprises (PSE), the CSR Knowledge Centre at TISS is committed towards creating an enabling environment for impactful social investments through the creation of a transparent, scientific and technology driven platforms.

Scheme of the report :

The ABF Lifeline Foundation Impact Assessment Study takes the reader through the following chapters. Chapter 1 introduces the state of response to road traffic accidents in the country and HRP run by the LLF. Chapter 2 describes the objectives, research design, study methodologies and tools employed for the study. Chapter 3 provides the background to the HRP, its progression and evolution over the years. It discusses the definitions and concepts of HRP concluded by glimpse of its impact in the state of Gujarat and the EMS environment as a whole. Chapter 4 details the impact that HRP has had in both quantitative and qualitative terms complete with data analysis and case studies. Chapter 5 gives an overview of LLF's other interventions in the health care sector including a primary focus on training and capacity building. Chapter 6 is an article wise content Summary of the EMS India journal published by the foundation. Chapter 7 entails overall impact generated, gaps observed and recommendations suggested by the research team.



Trainees being evaluated post first aid course

CHAPTER 2

STUDY DESIGN AND METHODS

The Social Impact Assessment Study of the activities of the Lifeline Foundation supported by Axis Bank Foundation adopts a mix of both Quantitative and Qualitative research methods. The study involved an analysis of both primary and secondary data sourced across a 2 to 2.5 month study period from Feb -April. The secondary performance indicators of the project are captured and documented through the records maintained by the Lifeline Foundation since the project inception.

Objectives :

The broad objective of the study is to ascertain the social impact that services provided through Highway Rescue Project has on the patient/ accident victims and other beneficiaries of the Lifeline Foundation interventions. Study tools were tailored to capture best practices and document the functional and operation model currently being employed by the Lifeline Foundation for facilitating highway rescue. Since the intervention has been run across different states any variances across the same were captured. The Study also attempted to capture the Systemic Impact that Lifeline Foundation had created in the EMS scenario in the country.

Sampling and respondents:

In order to gain a holistic understanding of the processes, a wide range of stakeholders will be involved in the study. These respondents will include the following:

- Senior management/ Trustees at the Lifeline Foundation Staff and Management of the organisation
- Accidents victims and or beneficiaries Family members / Guardians of the registered patient beneficiaries
- Axis Bank Senior management and CSR team
- Experts of EMS from across the world who had a stake in Indian EMS
- Health care providers from the DHS, CMO, Civil Surgeon, PHC doctors etc
- Govt. /Departmental officials that the foundation has been liaising with.
- Local panchayat / Secretaries/ Gram Panchayat Members

Sampling method:

The research team after a discussion with Lifeline Foundation Senior Management decided to the technique of Convenience sampling based on the contact details that can be retrieved and successfully tracked from the database. Additionally those patients/accident victims registered in the last 3 months preceding the study would be used in order to minimise recall bias, tracking issues and poor call conversion rates. Only those beneficiaries that provide consent to be included as a part of the study would be included into the sample.

Study tools:

The current study being of an exploratory kind involved primary collection of both qualitative and quantitative data across a cross section of stakeholders mentioned in the previous sub section. The specific tools tailored and used during the study are briefly described in the subsequent sections. The secondary data that has been submitted by Lifeline Foundation to Axis Bank Foundation over the last few years was additionally analysed to describe and present trends and variations.

A survey questionnaire and key informant interview guidelines were the main tools employed during the study. The tools designed for the respondents were as follows:

Questionnaire (telephonic or personal interview):

- Registered patient/Accident victims/ beneficiaries
- Family members / Guardians of the registered patients/ Accident Victims beneficiaries

Key informant interview schedule:

- Senior Management of the Lifeline Foundation
- Staff of Lifeline Foundation
- Axis Bank CSR team members
- Govt. and Private Health care providers
- Govt. Officials
- Community Representatives
- EMS experts

Snowball ball sampling is a non-probability sampling technique used in social sciences research when it is difficult to trace out the respondents. In this technique, the initial set of participants, patient beneficiaries in this case that could be traced telephonically, were requested to help identify more individuals/beneficiaries and accident victims that may have used the service and would be willing to share their testimonies .

Survey Questionnaire :

The questionnaire had a mix of closed and open ended questions that were organised in the following broad sections – patient demographic information and socio economic, HRP evacuation experience and feedback/suggestions section. The survey questionnaire was originally designed in English and later translated to vernacular languages (Gujarati) while being administered to facilitate conversations and better understanding by the respondents.

Registered accident victims/ beneficiaries were the primary respondents that were interviewed telephonically and in person using the customised survey questionnaire. Family members or guardians were the respondents in case of unavailability of the patient or when the beneficiary was a minor.

Key Informant Interview Schedules :

Social science research methods places a great deal of importance on collecting information from individuals who by virtue of their position, societal or official, are privy to specialised and technical information. The research team interacted with such persons or 'Key Informants' using semi structured guidelines that collected information about the nature of their involvement Highway rescue project and the other interventions of the lifeline foundation . The information gathered from these key informants was then validated across different stakeholders.

Informed Consent : All participants in the survey provided their written consent to sharing their views and testimonies. The names and other personnel details of the beneficiaries have been kept confidential to respect the privacy of the beneficiaries.

Data analysis :

The information collected through the closed ended questions from the questionnaire was coded, entered into and analysed using SPSS version 20. Basic descriptive statistics such as percentages and averages and trends have been employed to represent the findings of the patient surveys. Numerical data, frequencies and cross tabulation, are also presented using pictorial graphs.

In order to give the reader a visual representation of the reach and breadth of coverage of the Lifeline Foundations interventions including sites for various trainings, the research team has used Google maps in an attempt to spatially map the locality/area of residence of the registered beneficiaries.

The rich textual data captured through the open ended questions of the questionnaire and during the conversations with the Key Informants was analysed using the Content Analysis technique of qualitative research method. These observations across multiple stakeholders are presented as narratives in the findings chapter.

The study has also used the intensive case study approach of qualitative research methodology to capture and present accident victim beneficiary experiences. This method involves collecting in depth data among a selected set of respondents to define their experiences based on specific characteristics and settings in order to 'examine the intricacies and complexities of the situation'.

Demonstrations and Triages :

Since the process of evacuation of an accident victim has various sequential steps each having clearly laid down protocols. The study team examined the preparedness/training and response of the staff by giving them a scenario and examining the staff response. The demonstration also included enacting and staging of a case with a volunteer accident victim.

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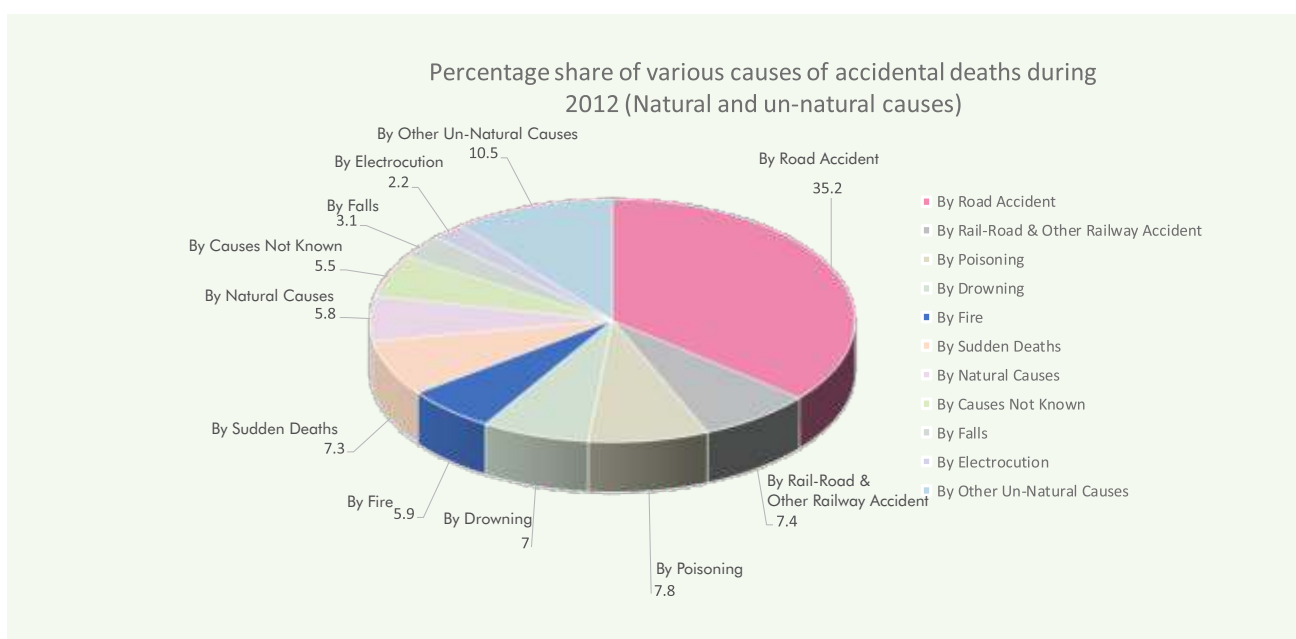


CHAPTER 3

HIGHWAY RESCUE PROJECT (HRP)

Background to Highway Rescue Project :

Human life is fragile. Human bodies are just like any another machine which are prone to injuries and mishaps leading to mortalities or morbidities. Each year several lives are lost on Indian roads and many more due to delays in providing immediate life support in time or due to sheer human negligence during transportation. According to 2012 statistics revealed by NCBR 35.2% of total accidental deaths were on account of road accidents. A total of 4,75,625 'Traffic accidents' were reported during the year comprising 4,43,001 'Road accidents'. Although it was observed that the rate of deaths per thousand vehicles has decreased from 1.4 in 2009 to 0.9 in 2013⁷, each life is lost has been a tragic reality.



Source: <http://ncrb.nic.in/CD-ADSI-2012/accidental-deaths-11.pdf>

With improved roads and higher speeds of highways, pre-hospital trauma care becomes even more vital. It has been observed universally that life-saving ambulance services locate themselves as pre-requisite services within the fabric of Emergency Medical Services (EMS). There is a common understanding among Health professionals, EMS practitioners and academia that EMS purports to minimize the physical and emotional impact of injuries. A broad classification of EMS looks at Pre-hospital care and Emergency Transportation (ET) along Patient Transportation Services (PTS).

⁷<http://ncrb.gov.in/adsi2013/ADSI-2013.pdf>

“The goal of Pre-Hospital Care is to minimize further systematic insult or injury and manage Life threatening conditions through a series of well-defined and appropriate interventions and to embrace the principles that ensure patient safety”

India's EMS approach lingers at nascent levels as pre hospital care is limited to “Scoop and Run” operations. Most ambulance personnel are untrained and unqualified to provide BLS and resuscitation services. Ambulances in India are severely under-capacitated. However in spite all constrictions EMS approach is slowly deepening roots within the country with the legislative passing of the EMS bill of 2007 by state Government of Gujarat.

The Highway Rescue Project or commonly known as HRP is a community welfare project initiated and matured over time owing to the unique vision and efforts of Lifeline Foundation – A Non-profit entity in started in Gujarat in 2002. The Foundation has been primarily responsible for creating Western India's largest Emergency Medical Services network. Over the period of less than two decades the Foundation has obtained pioneering expertise in the management of EMS Services particularly by developing the Highway response model in states like Gujarat, Maharashtra and Rajasthan etc.

Lifeline Foundation (LLF) :

Lifeline Foundation was born of a traumatic post-accident experience, Dr. Subroto Das (an Ashoka Fellow and Eisenhower Fellow) and his wife Sushmita Das, the founding trustees had to undergo back in 1999. Since then their singular focus (driven by the missionary thought - “we were lucky to be alive, others should not die on highways”), has been to ensure that lives are not lost on forlorn Indian highways unnecessarily; hence Lifeline Foundation and its Highway EMS journey began in 2002⁸. Lifeline Foundation which began with a noble, non-profit cause has since then sustained its operations through the benevolent contributions and aid of various organizations (ABF, IOCL, etc. we can include more names). It is also supported by many nationally and internationally renowned partner agencies.

Besides the Highway EMS, Lifeline works in areas of –

- Providing EMS to Corporate India
- Knowledge dissemination of EMS
- Policy advocacy at Government level
- Training in Pre-hospital care/first aid
- Recognizing path breaking EM/EMS achievers
- Medical support for the marginalised (Medical Appliances Bank)
- Medical preparedness and disaster risk reduction
- Good Governance for non-profits.

(Source - <http://www.emsindia.in/subsectioncontent.php?secid=70&subsecid=58>)

⁸<http://www.emsindia.in/subsectioncontent.php?secid=70&subsecid=58>

Two for Profit companies -Medicare Consultancies and Baroda Life Management Pvt Ltd., were started to render financial sustainability and a continuous line of financial support to the Foundation; these two companies provide solutions to private EMS operators all over the country. A portion of the profits from these for profits re projected towards awareness and sensitization efforts involving State and central government agencies. Over the years the focus of the Foundation has gradually shifted from provider of HRP services to address the gravid need for institutionalization of EMS Services in India.

Partners Worldwide -

- Association of American Physicians of Indian Origin (AAPI)
- Asian EMS Council, Singapore
- American Academy for Emergency Medicine in India (AAEMI)
- International Centre for Emergency Techniques (ICET), Holland
- Indian Institute of Emergency Medical Services (IIEMS), USA
- National Highways Authority of India (NHAI)
- Society for Emergency Medicine, India (SEMI)
- Ministry of Road Transport & Highways (MoRT&H), Government of India
- Medicare Consultancies, India
- Baroda Life Management

(Source - <http://www.emsindia.in/subsectioncontent.php?secid=70&subsecid=58>)

Lifeline has indefatigably pushed for EMS on multiple fronts such as enhancing the quality of EMS infrastructure by establishing ambulance standards, training and capacity building, credentialing paramedic personnel etc. It has played contributing role in legislating the Gujarat EMS Act of 2007. The Foundation is creditworthy of publishing Asia's only peer reviewed journal on EMS.

Lifeline Foundation Board :

The Board constitutes of a 17 member governing body including Dr. Das and an Advisory Board of panel advisors which also provided technical support to expanding HRP over the years. It is headed by Drs* Gauri Wagenaar.

Governing Body :

Names and Professional Standing of Members in Governing Body -

Dr Subroto Das : Disaster Medicine Consultant, Resource Person UNDP & ICET

Prabir Basu : IAS (Retd.): Ex-Addl. Chief Sec., Govt. of Gujarat (GoG)

A R Banerjee : IAS (Retd.): Ex-Addl. Chief Sec, Govt. of Gujarat (GoG)

Jolly Joseph : Deputy Representative, NBSO, Ahmedabad Office

Ms Sushmita Das : Director, Sushmita Holidays and Director, Medicare Consultancies, Vadodara

Dr Minoo Patel : Consultant Surgeon & HoD (Surgery), GMERS Medical College, Vadodara

* Doctorandus abbreviated Drs, is a Dutch academic title according to the pre-Bachelor–Master system.

Nilanjan Bhattacharya : Director- Invention, Mindshare, Mumbai
Dr C R Das : Director, Viking Ceramics, Vadodara and Consultant Glass Technologist
Rathin Mazumder : Director, M Mazumder & Co
Ms Maya Das : Housewife
Sushanto Mukherjee : CEO, Indo-Anushka, Vadodara
Nilanjan Bhowmick : Country Manager, Times of India Group, Singapore
S K Shah : General Manager, Crescent Chemicals Ltd., Vadodara
Drs Gauri Wagenaar : Proprietor, Danaë Consultancy, Ahmedabad
Dr Bharat Gadhavi : CEO & Medical Director, Medisurge Hospital, Ahmedabad
Dr Mrugank Merchant : Chairman, Shubhechha Hospital, Vadodara
Dr Ketan Patel : Chief of EM, Apollo Hospitals, Ahmedabad

Advisory Board

Drs Gauri Wagenaar : (Head) Proprietor, Danaë Consultancy, Ahmedabad
Dr S K Nanda, IAS : C&MD, GSFC, Vadodara
Keshav Kumar, IPS : HoZ, Interpol – India, CBI
Manish Bhardwaj, IAS : Municipal Commissioner, Vadodara
Sonal Mishra, IAS : Director, Employment and Training, GoG
Anshuman Gaekwad : Former Test Cricketer & National Selector, BCCI
Ajai Uppal : Head – Marketing, Mangalam Cement and President, Mangalam Timber Product, Kolkata
Mukund Patel : Trustee, Jalaram Trusts, Vadodara
Dr Atul Saxena : Professor, Emergency Medicine, Baroda Medical College
Sharat Meshram : Executive Director, Consumer Sales, IOC Ltd., Mumbai
J K Sinha : Former Chief General Manager, SBI, Mumbai

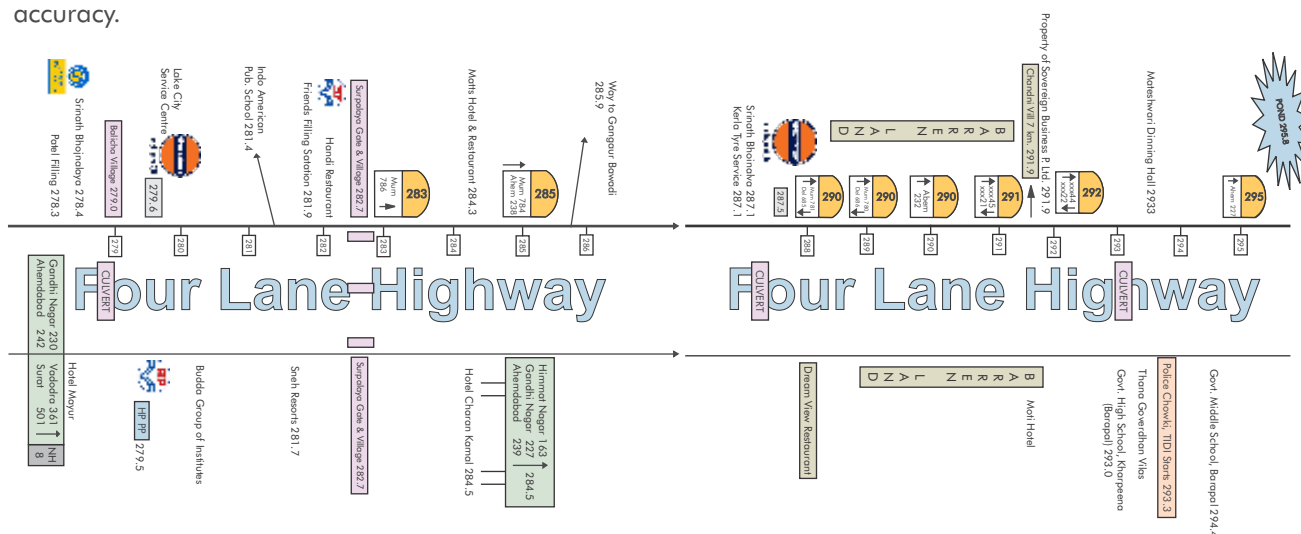
Highway Rescue Project :

A Highway Rescue Network was first launched in 2002 in Gujarat on the 263 Km Ahmedabad to Surat and gradually extended to other state and national highways of 4 states, viz. Maharashtra, Rajasthan, West Bengal and Kerala. The model has its greatest spread and impact in Gujarat where it now nearly covers 1812 kilometers. It is followed by Rajasthan and Maharashtra with combined road coverage of 1728 kilometers.

Lifeline has withdrawn its operations in West Bengal, Kerala and Maharashtra. However the EMS operations were notably circumscribed in the states of West Bengal and Kerala, due to political dissonance. Maharashtra has been discontinued because the state funded EMS in Maharashtra, partly championed by LLF covers the highways in the state and since LLF does not believe in duplicating efforts and wasting resources, the HRP has been withdrawn in Maharashtra. All over India LLF has covered more than 5029 kilometers.

Highway Mapping Exercise :

Highway Mapping requires intense manual work. Landmarks like restaurants and gas stations are plotted on charts and highway maps prepared by hand. Kilometer signs are also marked on the map at every 100 meter interval. A Scale of 1 inch of map represents 3 kilometers on the actual highway. Information about ambulances, equipment and hospitals is also stored for instant retrieval, while sign boards listing the helpline numbers are put up at a distance of every 5 km on the highways¹⁰. Other important landmark locations such as nearest Hospitals, Police Stations, toll plaza operators, Petrol Pumps, Hotel and Dhaba operators, culverts and railway crossings, etc. along the highways have been distinctly indicated on the maps. The maps are revised on a periodic basis to maintain their accuracy.



A joint branding exercise followed across Gujarat. However, soon Lifeline Foundation faced major issues with 1073 which led to connectivity outages and at times delayed respond to emergencies in the initial days of its operations on highways. 1073 could only be accessed through land lines and mobile phones users who were using BSNL network services.

The helpline numbers are displayed in huge hoardings along the 1,325km¹¹ of national highways in Gujarat and across other states covered.

The gradual developments in the field of Highway rescue and EMS has led the state government of Gujarat to pass and enforce the Gujarat EMS Act and set up the 108 service in the state. These are municipal operated numbers which is functional within city and municipal limits.

Other Ambulance service providers are rapidly emerging due to PPP engagements, in the form of Concessionaire such as L&T IDPL, MSK Project Pvt. Ltd. Baroda and many others. Such agencies are accorded contracts by NHAI on National Highways and the Gujarat State Road Development Corporation (GSRDC) on BOT (Built Operate and Transfer) basis on state highways and have a contractual obligation to provide Highway rescue services on specific stretches of road under their ambit. Toll locations have been identified and emergency ambulances are deputed 24 hours to respond to any accident emergencies.



Ambulance Personnel, Ambulances, Equipment's and Supplies (As documented through field visits of the Baroda Life ambulances)

The Emergency Ambulances are handled by two emergency personnel, mainly a paramedic respondent accompanied by the ambulance driver. The driver is responsible for assisting the paramedic staff during the rescue operations. The Ambulances need to be sanitized after each and every highway rescue or every 3 days when not in use. The medical supplies also need to be regularly replenished. Ambulances are cleanly maintained and ready to respond accident calls 24 hours. Ambulance staff works in shifts of 8 to 12 hours.

¹¹As of 2005 figures, 1325 kilometers were covered under HRP. Now the network has a significant spread refer to Quantitative analysis section.

Appropriate equipment and supplies at all levels is pre requisite to optimize pre hospital delivery care is one of the essential principles of EMS. Typically emergency equipment for basic life support within the emergency ambulances are, Ventilation and Airway equipment, bandages, Communication devices, and other miscellaneous devices. Additional equipment consists of Infection control and injury prevention equipment. The Committee On Trauma (COT) at the American College of



surgeons provides a list of standardized equipment's to be used in an ambulances. Ambulances vehicles used in the HRP are equipped with very basic equipment limited to lifting accident victims and transporting them to the hospital. Very few ambulances like private hospital ambulances actually had provision and build to carry lifesaving

equipment life oxygen cylinders, ECG monitoring equipment, Automated External Defibrillator (AED) etc.



Following is a list of equipment and consumables that exists in the Ambulances used by Lifeline Foundation as a part of the highway rescue project through the Baroda Life entity. It is not necessary that all ambulances mobilized for a rescue possess the same. Many private service providers may not have all of the below.

Medicine :

Tab- Avil (25mg), Combiflam, Disprin, Domperidone, Paracetamol (500mg), Sorbitrate (5mg)

Inj. - Distilled Water/Sterile Water, Normal Saline Bottle (500ml), Ringer Lactate (500ml)

Consumables :

Adhesive tape, Band aid wash proof, Betadine ointment(15g), Betadine solution(500ml), Cotton (500gr pack), Disposable gloves, Face mask, Gauge cloth pad, Gauze cloth rolls (5cm- 9mts.) Hydrogen peroxide(400ml), Medipad, Micropore 2" Plaster, Nasal oxygen pipe & mask, Naphthalene balls(100gm pack), Rubber gloves, Sanitary bags, Savlon (100ml), Soframycin tube, Spirit(500ml), Silverex ointment(250g).

Other - Medicines :

Ambubag, B P Instrument, First aid box (Band aid, Neosporin(15gm), Betadine solution(100ml), Burns tube, Betadine ointment(15gm), Savlon(100ml), Adhesive tape(5mt), Cotton(20gm), scissor), Forceps& artery forceps, Humidifier, Kidney tray, Medicine box, Oxygen cylinder, Oxygen regulator, Oxygen spanner, Scissor, Stethoscope, Auto loading stretcher, Thermometer, Suction machine.

Other – Equipment :

Fire extinguisher, Mobile phone instrument + charger, Plastic water tank with pipe (10 Ltr).

Other Infrastructure :

Battery(12 v), Blinker

s light with halogen, Electric Board, Fan, Inverter + Inverter Cable, Mirror, Light bar siren, Triangular reflector, Tube light/bulb, Digital clock.

For Cleanliness :

Broom, Bucket, Buff, Cleaning cloth, Dust bin, Insidur Solution, Soap in cakes, Raincoat, Uniform, Washing Powder.

Stationery :

Log book, Registers, Visitor's register.

Paper :

Insurance Paper, PUC, Registration (RTO) paper.

Sealed Medicine Box :

Inj. - Adrenaline, Atropin, Avil, Deriphyllin, Dexona, Dopacine, Emeset, Epsolin, Febrinil, Perinorm, Primacort, Rantac, Voveran, Xylocard.

Syringes- 2 ML, 5 ML, 10 ML, 50 ML,

Others ET tube 5.0, ET tube 8.5, Infusion set, Urine catheter 14, Urine catheter 16, Uro bag, Vein flow 18G, Vein flow 20G, Vein flow 22G, Airway (No.1), Airway (No.2), Airway (No.3).

It is noteworthy that since the function of the emergency helpline number is to mobilize the closest ambulance in the vicinity to the accident site. Many of the ambulances that belong to hospitals and standalone service providers would not have the above mentioned ideal number of trained staff or prescribed instrumentation and medicines. They however serve the purpose of evacuating the accident victim within the prescribed response time on account being closest to the accident site.

Trainings :

American Heart Association (AHA) has designed customised training courses to address the unique needs of emergency medical services market. Lifeline Foundation has been associated with AHA as its Regional Training Centre. Additionally Lifeline Foundation is recognised as a First Aid Training provider for, organisations, industries, DM professionals, government and non-governmental personnel. The Foundation has conducted over 9000 training with various stakeholders like PHC doctors, paramedic staff, Traffic police, industrial workers, bank unions etc. Since 2011, the Foundation has integrated the Disaster management constituent into their training repertoire. Basic Disaster Life Support (BDLS) training for doctors, paramedic and delegates was arranged during the 3rd Asian EMS Conference 2015, Goa. The course content for various forms of training including BLS, BLS- PHP and ACLS is outline in the annexure number 13.



International Trauma Life Support (ITLS) :

Lifeline Foundation partners with International Trauma Life Support (ITLS) - a global not-for-profit organization dedicated to preventing death and disability from trauma through education and emergency trauma care. ITLS is an internationally recognised pre-hospital trauma care training program which is endorsed by the American College of Emergency Physicians (ACEP). They provide a range of trainings like EMS, Paramedic and First respondent trainings in trauma situations.



Sensitisation :

Lifeline Foundation plays proactive role in sensitising school children, housewives, truck drivers and bystanders regarding 'Good Samaritan' responsibilities. Awareness modules emphasises on importance of first aid, road safety precautions and basic life support during accident situations.

Advocacy for universalisation of HRP and EMS Services – GSDMA :

Lifeline Foundation has played a pioneering role in bringing out policy level changes in Gujarat and Maharashtra. Gujarat has become the first state in the history of the country to enact pass a legislative law for enforcing EMS in Gujarat. 18 other states including Maharashtra is on similar path to pass a similar EMS Legislation. Some of the initial discussions towards advocating for a Maharashtra EMS was conducted through a workshop supported by Axis Bank in 2006 titled EMS- Maharashtra A Road Map. A summary of the workshop proceedings is presented in the annexure number 12.

The Axis Bank also commissioned a feasibility study to assess the Mumbai suburban railway system and the need for emergency medical services to cater to accidents on it. A summary of this study is presented in annexure number 11.

EMS Journal (EMSINDIA and Asian EMS Journal) :

Lifeline Foundation started EMSINDIA India's first and only EMS journal in the year 2007. IAS officers, Policy makers, Public health experts, Medical professionals, Academicians form nationally and internationally acclaimed agencies like SEMI, AAEMI, Max institute of Health etc. have held positions and actively contributed to the Journals since its inception. After 2011 the EMSINDIA journal was merged with the Asian EMS Journal. Asian EMS Journal has become Asia's first indexed journal related to Emergency medicine and Emergency Medical Services in Asia.



Internal Process of Lifeline Foundation :

Axis Bank supporting the Highway Rescue Project over the years has also resulted in a number of core organisation and process changes within the Foundation streamlining its operations, management and monitoring. This has also helped the organisation to source funding from other corporate partners and funders more readily and easily. A list of the updates best practices as provided by the Lifeline Foundation has been enclosed below

An update of best practices at LLF :

- a. Formation and dissemination of Vision & Mission statement with all stakeholders
- b. Documentation of indicators to measure performance
- c. Transparency with regards to the Audited Balance Sheet with all funding agencies and corporates.
- d. Tally based accounting practices
- e. Laid down policy for purchase, sale & disposal of assets
- f. Laid down policy for investment
- g. Formulated statutory governing body that reviews and lays down targets and goals and policies and budgets
- h. Practices a policy of twice a year board meeting with minutes of proceedings
- i. Personnel policy laid down. All employees are given appointment letters.
- j. Documentation and Registration: All relevant Govt. registrations complied with.
- k. Board members: 17 members governing board, to ensure that no more than 1/3 members are related by blood or marriage.



CHAPTER 4

IMPACT OF THE HIGHWAY RESCUE PROJECT

The Initial phase of the Highway Rescue Project is documented to be one filled with a lot of challenges. The concept of EMS was almost non-existent in the country. It was around the year 1999 when the NHAI was entrusted with the development of Highways and there was a renewed fervour with the onset of the golden quadrangle project launched by the then govt. Around 2002, Lifeline Foundation received permission to set up sign boards with the emergency number on these boards and later set out to map the highway stretches. The HRP began operations in the year 2002 and struggled for funding during this period primarily relying on small individual donors. Indian Oil Corporation, Times of India and Birla Tyres were the first major funders to the project; TATA Steel and Asian Paints provided immense initial support in kind.

UTI Bank joined the project supporting it for the first time in 2005 for its expansion in Maharashtra. The UTI Bank was one the first long term funder for the project.

The Highway Rescue Project initiated in the state of Gujarat and then gradually extended to cover various highway stretches in the state of West Bengal, Kerala, Maharashtra and Rajasthan. The stretches of Highway Road networks covered under the project have been detailed as below:

Year wise highways added in kilometres by HRP

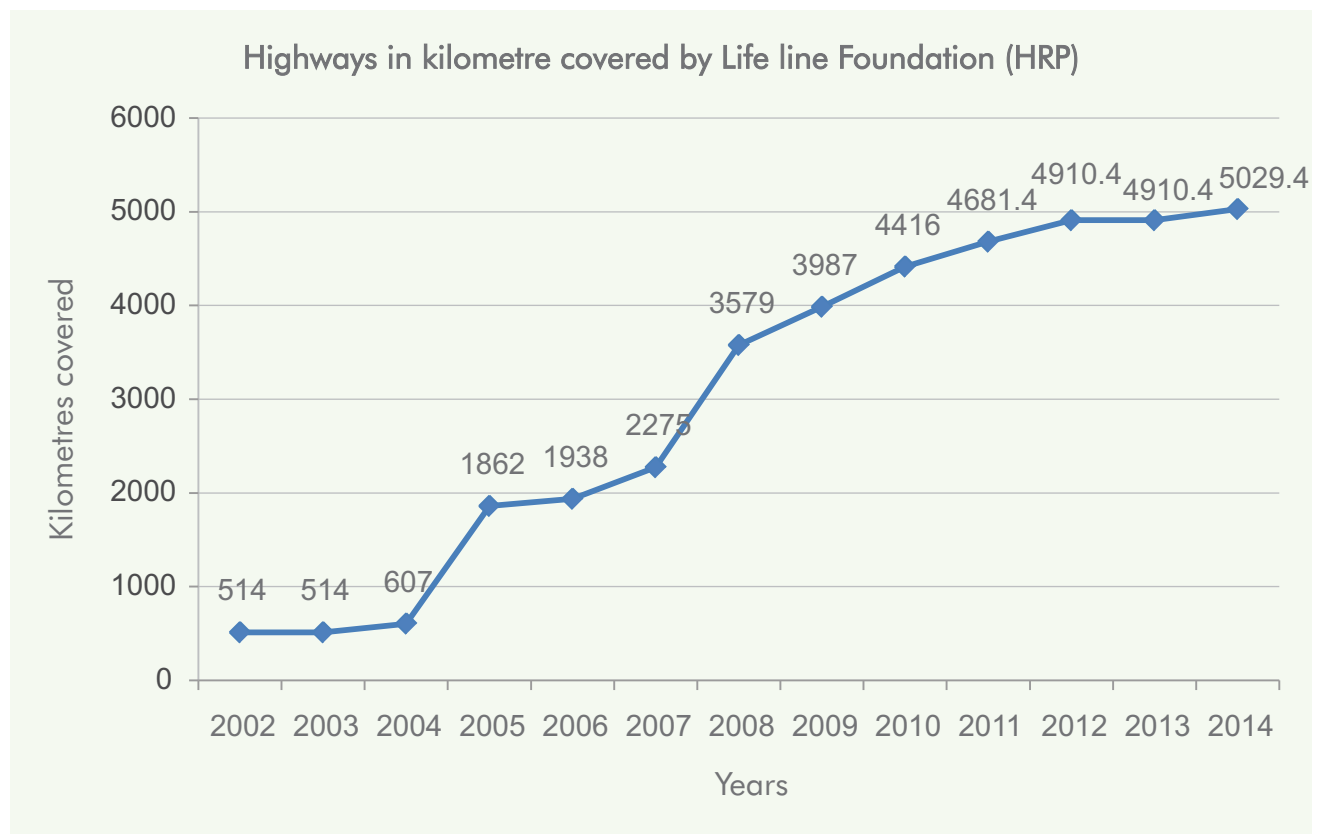
Year	State	Kilometres Covered
2002	Gujarat	514
2004	Gujarat	93
2005	Gujarat	718
	Maharashtra	537
2006	Gujarat	76
2007	Gujarat	123
	West Bengal	214
2008	Rajasthan	519
	Kerala	785
2009	Rajasthan	240
	West Bengal	168
2010	Rajasthan	107
	West Bengal	322
2011	Rajasthan	265.4
2012	Gujarat	169
	Maharashtra	60
2014	Gujarat	119
	Total Km	5029.4

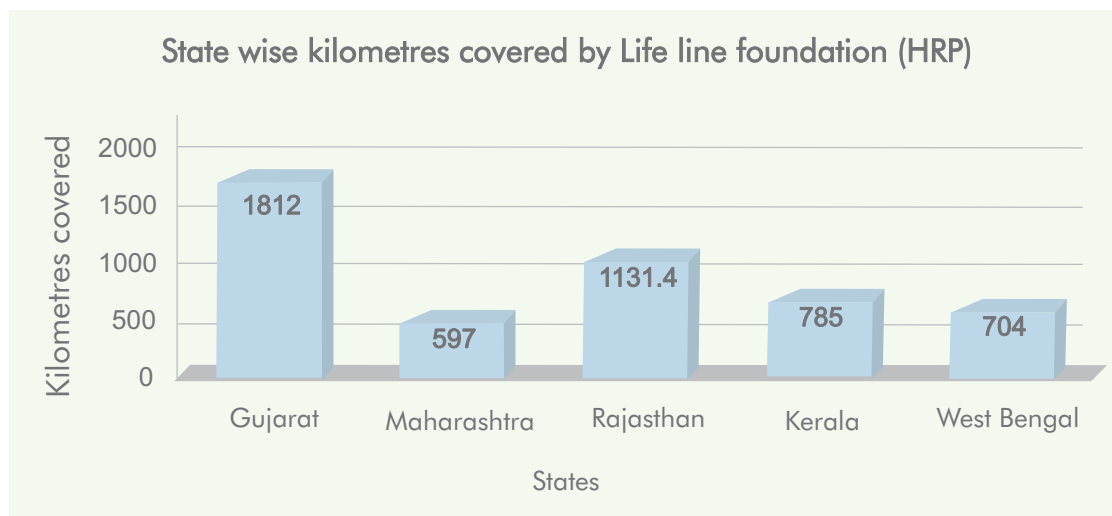
Year	Highway	Kms	Beginning-End Points
Gujarat (Rescue Number 9825026000)			
2002	NH-8	514	Kaijali – Ratanpur
2004	NE-1	93	Baroda-Ahmedabad
2005	NH-8C	53	Sarkhej-Chiloda-G.Nagar
	SH-87 & 5	76	Baroda-Halol-Godhra
	SH-41	126	A'bad-Mehsana-Palanpur
	NH-8A	463	Ahmedabad – Bhuj
2006	AUDA	76	S.P.Ring Road
2007	NH-228	75	Kim-Olpad-Sachin
	SH-6	48	Bharuch-Dahej
2012	SH- 5	122	Godhra – Shamlaji

	SH-17	47	Sarkhej – Viramgam
2014		67	Gandhidham-Mundra
		52	Bhuj–Mundra
	Total	1812	
Maharashtra – Discontinued from March 2014 (Rescue Number 9850026000)			
2005	NH-8	123	Kaijali – Ghodbunder
	SH-42	18	Ghodbunder – Panvel
	NH-4	371	Thane – Kagal
	Pune By-Pass	25	
2012	NH-3	60	Pimpalgaon -Nasik – Gonde
	Total	597	
Rajasthan (Rescue Number 9799926000)			
2008	NH-8	519	Ratanpur – Jaipur
2009	NH-8	131	Jaipur – Sahjahanpur
	NH-11	109	Jaipur- Mahua
2010	NH-76	107	Udaipur- Chittorgarh
2011	NH-76	160.7	Chittorgarh – Kota
	NH-76	104.7	Kota- Baran
	Total	1131.4	
Kerala – Discontinued from May 2013(rescue Number 1298)			
2008	NH-47	340	Thiruvananthapuram- Palakkad
	NH-17	278	Edapally- Kannur
	NH-220	167	Kollam - Kumili (Tamil Nadu border)
	Total	785	
West Bengal – Discontinued from May 2010 (Rescue Number 9330426000)			
2007	NH-2	214	Dankuni - Debudi check post
2009	NH-6	168	Vidhyasagar Toll plaza -
			Dulung bridge Belebara crossing
	NH-41	51	Haldia- Kolaghat
	Old GT Road	83	Dankuni – Palsit
2010	NH 60	132	Kharagpur to Balasore
	Expressway	56	Durgapur Expressway
	Total	704	

State	Police stations	Hospitals	Ambulance
Gujarat	159	87	215
Maharashtra	48	37	62
West Bengal	53	31	122
Kerala	56	145	138
Rajasthan	81	57	75

Through the course of the last 13 years the Highway Rescue Project has been able to cover some of the most accident prone and under served highway stretches across the country in 5 of the states which records some of the largest number of road accidents on state and national highways. The intervention model's uniqueness involves leveraging and utilising the existing infrastructure and resources and creating a network of responders, ambulances, cranes, emergency response vehicles, police stations and hospitals of health care facilities. In most of the states that the Highway Rescue Project panned its operations, it was able to create this network as well as map the highway stretches manually in order to help locate an accident victim.



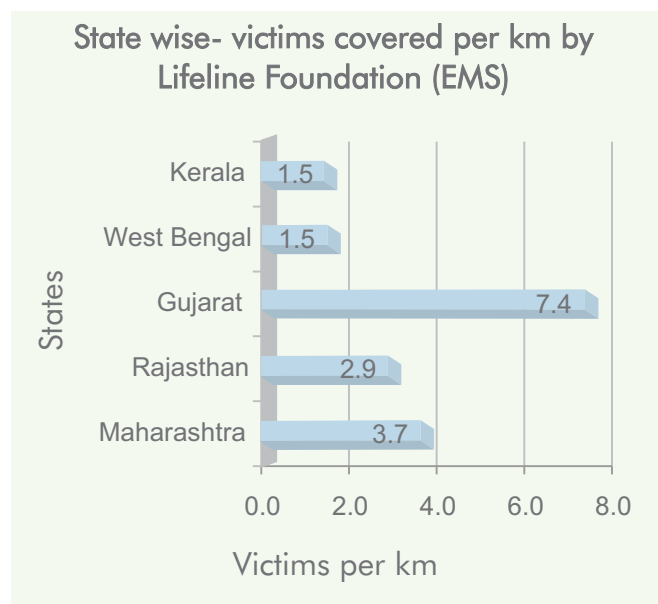
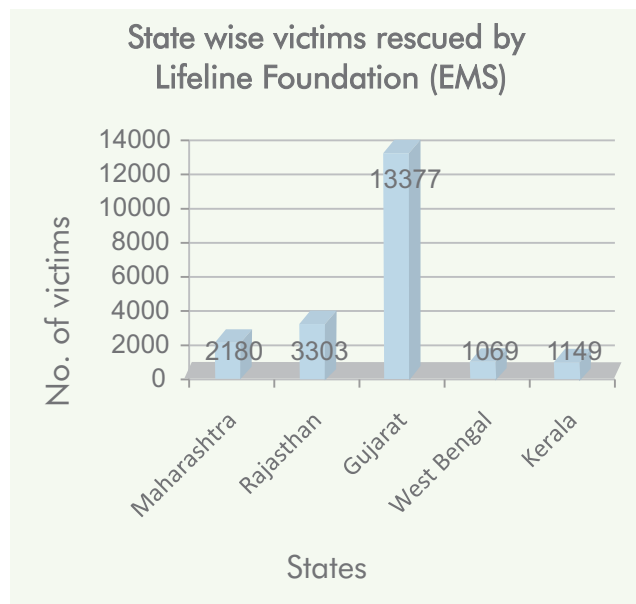


The state of Gujarat has remained the most strong in terms of coverage and operations for the Lifeline Foundation. Although the model was replicated in other states the project lifespan was restricted due to many factors beyond the organisations control. In states such as Maharashtra and Kerala the state govt. went on to adopt the model and tendered out the service to other service providers. In state such as West Bengal the project actually could not sustain operations for multiple reasons which include lack of sustained funding source and difficult socio political environment.

Year wise, state wise victims rescued by LLF						
	States					
Year	Maharashtra	Rajasthan	Gujarat	West Bengal	Kerala	Total
2002-2003			175			175
2003-2004			467			467
2004-2005			441			441
2005-2006	63		458			521
2006-2007	91		626			717
2007-2008	75		1213	168		1456
2008-2009	83	49	682	323		1137
2009-2010	321	417	1320	456		2514
2010-2011	374	736	1869	122	88	3189
2011-2012	335	548	1583		365	2831
2012-2013	388	783	1754		377	3302
2013-2014	450	501	1894		319	3164
2014-2015 (till Dec 2014)		269	895			1164
Total	2180	3303	13377	1069	1149	21078

Scaling down of operations from the states of Maharashtra, West Bengal and Kerala has resulted in a sharp dip in the year on year number of rescued victims. Currently, in the 2014-15 financial year highway stretches are being covered under the project in the state of Gujarat and Rajasthan. It is also noteworthy that the number of accident victims rescue calls would constitute less than 30% of the calls that are received by the helpline. Since the rescue number is prominently displayed across the covered highway network it becomes a preferred number for all sorts of queries that may range from enquiring about

directions, location of shops and garages to becoming a complaint registry for the bad state of roads.



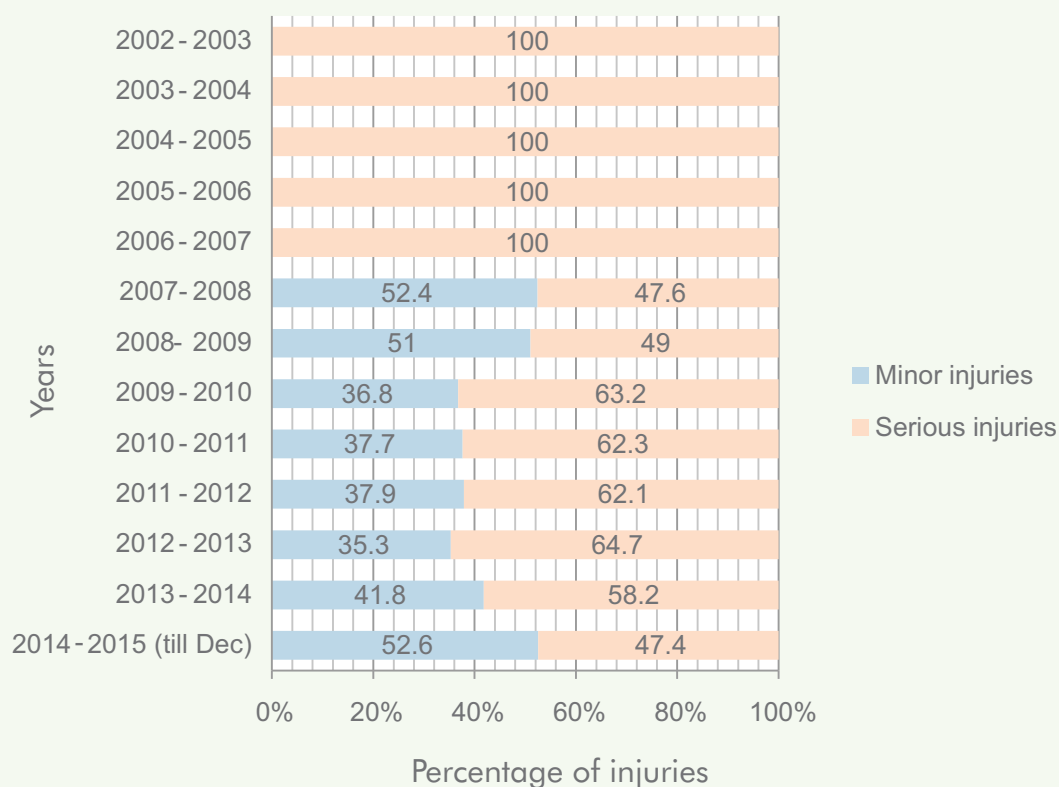
An analysis of the accident victims includes major and minor accident victims where the major accident victims would have been evacuated to a health care facility for further investigation and treatment following initial stabilisation while the minor accident victim would be provided first aid and allowed to carry on.

Classification of types of accidents (Minor & Serious) :

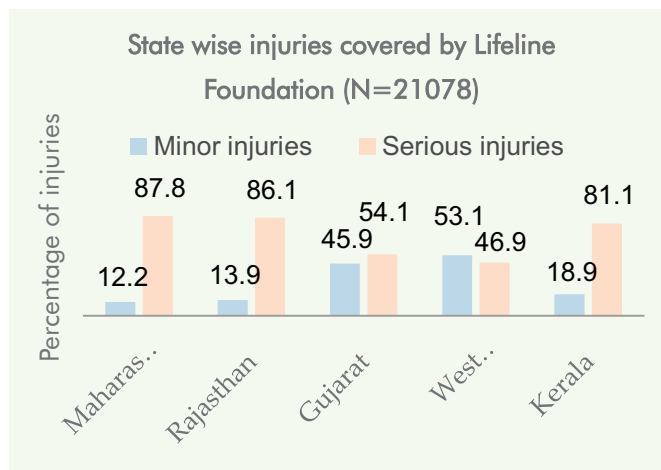
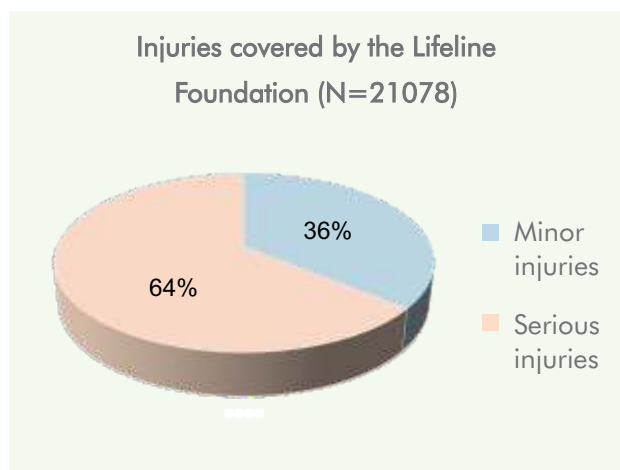
In the earlier years Lifeline Foundation did not maintain data on minor injury victims helped. This practice was thereafter begun since the year 2007. It was noticed that the in most states the percentage of major and minor accident victims were almost equal. Only in the states of Maharashtra and Kerala was it seen that the HRP responded to more serious accident as compared to minor ones.



Year wise injuries covered by Life line foundation (N=21078)



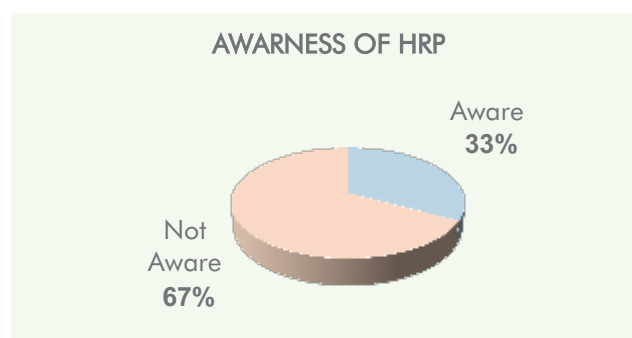
Note that from year 2002-2007, Lifeline Foundation did not classify accidents into major and minor accidents.



Voice of the Beneficiary :

The Research team interacted with a group of primary beneficiaries that had utilised the services of the Highway Rescue Project. This group of respondents were tracked through their dial in mobile number that is registered in the system. Only those respondents that consented to be part of the study were asked to fill out an interview schedule where they rated the service in terms of their awareness, the quality of the service, its personnel and their overall impression and rating. Following is the analysis of these results presented with brief narratives.

Part I . Informing the ambulance :



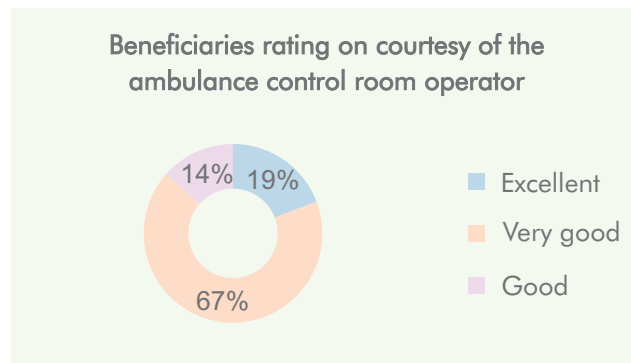
The people, who are aware of Accident Helpline number, came to know about the helpline number mostly by highway hoardings and friends acquaintances. Out of total beneficiaries interacted with only one of them was aware of the availability of such a services earlier.

It was reported that all the beneficiaries in the study called the accident helpline number only once during their incident. Almost all of them were immediately connected to the control room operator.

67% of beneficiaries said that they directly spoke to emergency advisor straight away whereas 33% of them spoke to them in less than 5 minutes. Almost all of them said that instructions (such as to how much time will the ambulance take to arrive) were not provided by the emergency telephone advisor. The emergency telephone attendant typically

asked the caller for the accident location and directions.

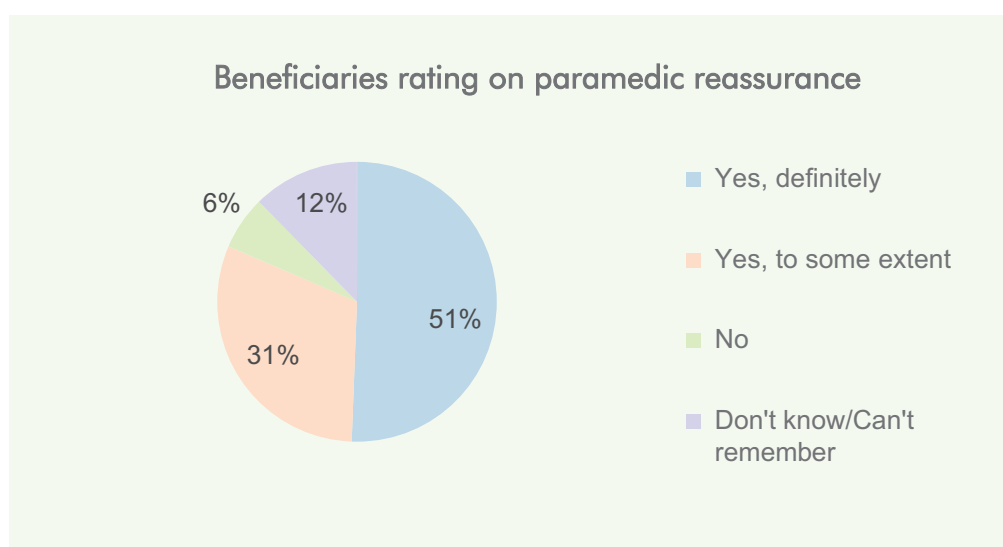
60% of beneficiaries considered informing other helpline numbers while 20% of them did not. The people who considered calling other helpline is the 108 helpline.



Part 2. Service of the ambulance personnel :

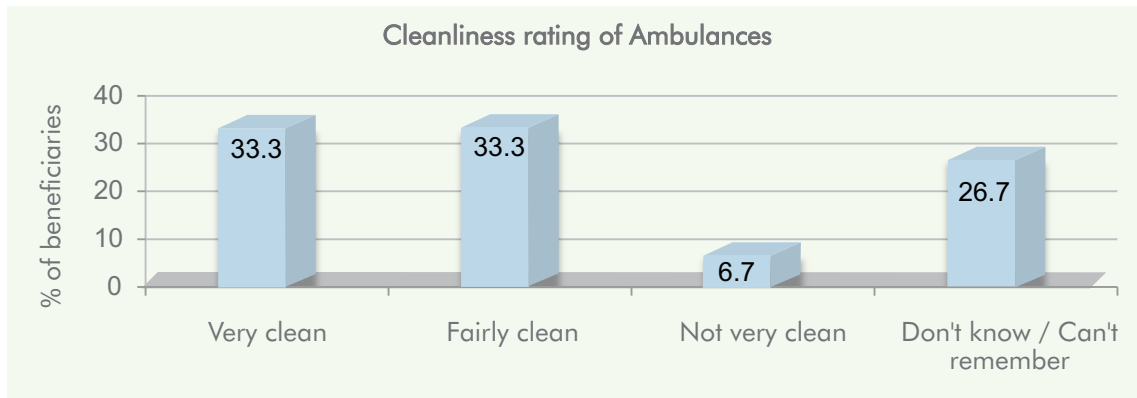
80% of beneficiaries said that someone from ambulance service assisted in carrying the victim into the ambulance. According to protocol a paramedic is accompanied by the ambulance driver to the accident site. The trained paramedic's standard protocol is to gauge the condition of the victim and 'scoop & run'. Since it is totally dependent on the state of the victim the paramedic decides whether the victim is to be laid on the stretcher or carried and what position he is to be picked up in.

Majority of them said that no one from the ambulance service informed them regarding how long would have to wait for the ambulance service to arrive.



Majority of beneficiaries reported that ambulance paramedic didn't provide any BLS to the patient. Patients who were unconscious do not remember whether they were provided with first aid or Basic Life Support (BLS).

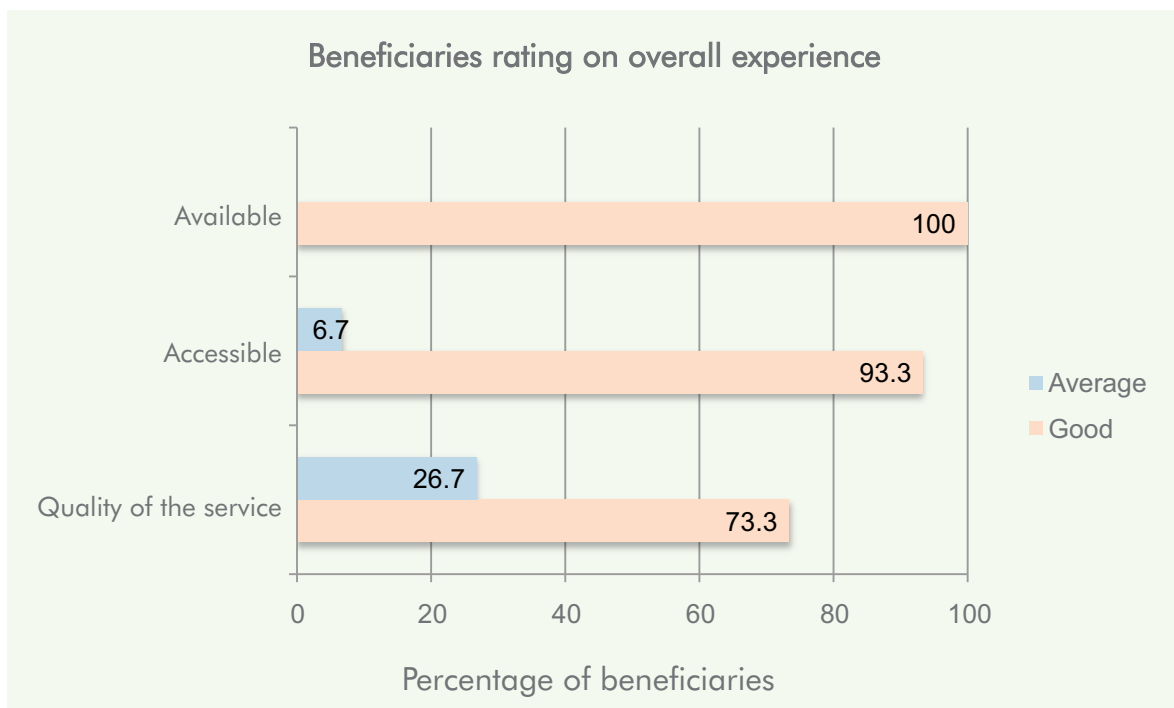
Part 3. Transport and other Facilities provided :



33% of beneficiaries said that the ambulance lacked some essential facilities such as first aid, oxygen, blood pressure controlling tablets and ventilator. While these may be expectations of the patients it is important to remember that these facilities may not be necessary in all cases. The study was not able to corroborate the same through the available data and narratives. 5 out of 15 respondents reported not being provided with first aid. 1 of them out of the 5 denied any first aid treatment.

Part 4. Overall experience :

All the beneficiaries in the study said that they did not have to pay for availing the ambulance services.



One interesting aspect here is none of the beneficiaries rated the overall experience of ambulance service as poor. This could be since an ambulance arriving well on time during such an emergency is itself considered exceptional.

All the beneficiaries said that they would like to recommend the ambulance service to their family, friends, and relatives in the future.

Analysis of feed back from health care providers about the Highway Rescue Project

The research team interacted with a number of public and private health care providers and understood their opinion of the Highway Rescue Project. The sample included a group of 26 health care professionals mainly belonging to publicly funded health care facilities such as PHC and CHC. The respondents also consisted of Doctors, Paramedics, Medical officers, Project officers, Accountants etc. The surveyed professionals are employees of Lifeline Foundation, Baroda Life, C.H.C Hospital and Medicare Consultancies. The average total service of respondents found to be 14 years. Most of the ambulance personnel were between the age group of 20 – 35.



Medical Office Por CHC

1. About the service :

All healthcare professionals in the study were aware of the EMS/Lifeline Foundation and its services. Majority of them were associated with the organisation.

2. Perception about the services :

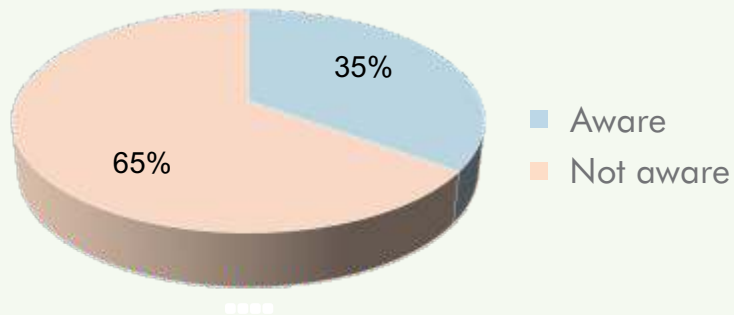
All respondents in the study rated awareness, method, availability, affordability and quality of the Accident Helpline services as good. 70% of respondents said that the geographic accessibility of the service as good while, 30% of them said that it is medium.

All healthcare professionals feel that there is a need for such Emergency Services in Gujarat, whereas they also mentioned that the service provided by the Lifeline Foundation is been utilised well. The ambulance personnel said that they were working with the helpline because they believed in serving people. Thus “sevabhav” as mentioned by two of the paramedics was their chief source of motivation. It literally means service to another without expecting the favour to be returned.



Medical officer Sunshine Global Hospital

Awareness about ABF as a funding partner of EMS



Maloy Sarkar ONGC Medical officer

Qualitative feedback of the beneficiaries of the highway rescue project :

The researchers in order to understand the qualitative impact of Highway Rescue Project spoke to its direct beneficiaries. Below mentioned are the 15 detailed case studies of the recipients. Victims' real names have not been used to maintain respondent confidentiality.

Case Study 1



Name : Ranjanben Patel

Location : Vadodara

Age : 58

Socio-Economic Background

Ranjanben's family consists of her husband and her son. They belong to an upper middle class family. Ranjanben's husband has his own cement business.

Lifeline Foundation Intervention :

Ranjanben Patel was travelling in a car with her husband to Halol from Vadodara. The incident took place in June 2014 at about 10 pm. A car which was coming from behind, hit their car slightly on the left side and sped off. Ranjanben hit her face on the dashboard. She suffered from trauma between her nose & lips. Her husband did not get injured at all. He stopped his car on the left side of the highway and started looking for help. Looking at the accident a bystander called up the Accident Helpline number and within 15 minutes their ambulance reached the spot.

Outcome and Impact :

Ranjanben was taken to the Kalol Civil Hospital since it was closer to the accident site. Ranjanben's husband and one of their family friends accompanied her to the hospital. They did not pay any money for the ambulance services. When asked about the ambulance, her husband replied that the van was well kept. He said that a first aid box and oxygen facility should be available in an ambulance plying on the highways. Also they were not given first aid in the ambulance although a paramedic did accompany them. In his opinion the ambulance service is very useful. Further he added, *"Jahan tollnaka nahi hain, jahan 50-80 km ka raasta hain vahan bhi ambulance honi chahiye."* *"First aid box hona chahiye, treatment karein aisa aadmi hona chahiye, prathmik suvidha ambulance mein honi hee chahiye"* He says that at highways where there are no toll nakas, where there are long roads of 50 – 80 kms without any facilities of any kind, ambulances must be placed. Also he says ambulances should be equipped with first aid kits, a paramedic should be present, such primary care provisions should be made.

Case Study 2

Name : Yusuf Mohammad

Location : Jambusar Cross Road

Age : 19

Socio-Economic Background: Yusuf is a young boy in his late teen years. His family consists of his 2 brothers and his parents making it 5 people. Yusuf comes across as a no nonsense boy who was curious about Accident Helpline & why they insist on admitting the patient to a government hospital. Educated till the 10th standard Yusuf gave up his studies because he wanted to pursue his family business. His father has a small shop which supplies plywood for construction. They also provide canting services to construction projects.

Lifeline Foundation intervention :

About 8 – 10 months back Yusuf was travelling from Mumbai to Baroda. He was sitting next to the driver. They were crossing Por village at around 6 in the evening. The car's door where Yusuf was sitting was left open. At one point Yusuf got thrown out of the running car. Fortunately the car was not moving at a fast speed. Also there was no vehicle approaching from behind. Yusuf hurt both his wrists. He also had a bruise under his right eye on his right cheek. The driver informed the Accident Helpline and within 10 – 15 minutes the ambulance arrived. Yusuf's father was informed; he accompanied them in the ambulance. Yusuf was not fully conscious. The paramedic came out and laid him on the stretcher. He followed the typical protocol of 'scoop and run'. Inside the ambulance first aid was administered to Yusuf. He was laid on the stretcher till the time he was admitted to SSG Hospital. As Yusuf's family could afford a private hospital, he was shifted there.

Outcome and Impact :

Yusuf asked, *"mujhe private hospital kyun nahi le gaye jab bataya tha, government hospital kyun le gaye"*. Yusuf asked, *"Why was he admitted to a government hospital when his uncle had insisted on a private hospital?"* To which LLF personnel replied that, *"When a person is unconscious, he is first taken to a government hospital because usually they do not refuse patients."* Yusuf's father was extremely grateful to LLF for promptly transporting Yusuf to a hospital.

Case Study 3

Further he added that first aid given to him inside the ambulance was really helpful in stabilising him.

Name : Shailesh Sukhadiya

Location : Varnama

Age : 36

Socio-Economic Background :

Shailesh is a 36 year old married man with a 4 year old son. He lives with his parents and wife. He also has 2 sisters who are married. He is educated up till the 12th Standard, Arts. Also agriculture is his family occupation. His father also helps him with it. His farm is about 25 acres where he grows Bajra and Castor. Presently he also works at dairy in Panchmahal in their artificial insemination (AI) unit. For one AI he is paid 60 R. In a month his duty is to carry out 5-6 of such AIs. Thus monthly he earns around 300-360 Rs. Also he works at the NDDB (National Dairy Development Board) part time for which he is paid Rs. 15,000 for every three months. At NDDB also Shailesh works in the AI unit.



Before his own accident in July 2014, he had utilised the emergency service. He met a family friend near the Godhra highway, who seemed to be getting sick. The woman was carrying and already into her 5th month. He immediately informed the Accident Helpline service, which came within 10 – 15 minutes. This action saved the woman's life but sadly the foetus could not be saved. On the 10th of July 2014 nature decided to return the favour. Shailesh was driving his motorcycle on the Dehlor highway, when a Maruti van from the rear collided with him and he immediately fell unconscious. The accident occurred at around 3 in the afternoon.

Lifeline Foundation Intervention:

Nirav Patel, the Sarpanch of a nearby village called Ramnath was passing by. He immediately informed Accident Helpline and Shailesh was admitted to Sanjeevani Hospital at Kalol. His left leg got 50-55 stitches above and below the knee. Also around his right eye there were bruises. His left shoulder and collarbone suffered from fractures. He regained consciousness at 7 pm. He was admitted in the hospital for 5-6 days while his entire treatment lasted for 3-4 months. He had an insurance which paid Rs. 30,000 while he himself paid Rs. 15,000. He resumed work from the 11th of Dec 2014. He goes to the dairy however according to his mother he is unable to work in the fields now. His big toe of the left leg has lost sensation too.

Outcome and Impact :

Shailesh feels Accident Helpline is reliable as they sent help on time. “Ghar se bhi jyada saaf thi ambulance”. He also says that the service is extremely efficient. Also their phone service always connects on time. Their phone numbers are displayed on highways which is very beneficial for the public. In the nearby villages too locals are aware of such emergency services operating in the area.

Case Study 4

Name : Chunilal Jataria

Location : Kisanwadi

Age : 35

Socio-Economic Background:

Chunilal is a painter by profession. Naturally his nature of job is contractual and gets work as and when there is a requirement. One painting job per day would earn him around



Rs.350. Chunilal's wife Saritaben (33) worked as a catering sub-contractor. She would recruit girls under her, who would fetch her commission of Rs. 30 per person. During the wedding season her earnings doubled or tripled and was earning much more than Chunilal himself. Roughly during the wedding season per day she would earn somewhere between Rs. 500-600 which came to Rs. 15,000 per month. Chunilal had recently moved in with his in-laws. Both his mother and father in law along with their servant this made a family of 5. Chunilal's neighbourhood also houses some of his close friends. On the 20th of June 2014 Chunilal was travelling with Saritaben on the Jambusara Bridge. Near the popular hotel Kismat Kathiawadi, an over speeding car from the rear hit their tempo. Chunilal suffered from head injuries though not too severe while his wife not only suffered head injuries but her entire body was injured due to the accident.

Lifeline Foundation intervention:

The tempo driver escaped unhurt who informed the Accident Helpline, and ambulance arrived within 15 – 20 minutes at the accident spot. Inside the ambulance Chunilal kept asking for first aid which was not available. Since his wife was a Blood Pressure patient, post the accident she lost a lot of blood also her blood pressure dropped to dangerous levels. According to Chunilal the ambulance did not have medication to bring her blood pressure under control. Chunilal had requested them to take them to a nearby hospital however they were admitted to SSG which was around 20 minutes from the accident location. According to Chunilal this time that was wasted led to Saritaben's death. She was declared dead on arrival at the SSG.

Outcome and Impact:

Chunilal was not very happy with the services. He complained about the lack of first aid, oxygen and blood pressure control tablets. Also he was upset the ambulance staff did not admit his wife to a hospital situated closer to their house. He was not happy with the ambulance personnel who he feels did not do enough to stabilize his wife.

Case Study 5

Name : Rajesh Tadvi

Location : Vadodara

Age : 19

Socio-Economic Background :

Rajesh Tadvi is preparing for his 10th class board exams. His father works as driver while his mother is a housewife. His father drives the *chhakda* (local term for an auto rickshaw, also has a second seating area or is the size of a mini tempo). A *chhakda* is used for ferrying both people and goods. He also works as a driver for the Delhi Public School in Baroda. Rajesh lives in a slum, with no tiling, bricks strewn around, and a makeshift house with only 2 concrete walls. His house has an old cot, a Godrej cupboard, a television and a few utensils. Rajesh comes across as a happy-go-lucky teenager and gladly cooperated with the researchers. It was his vacation time last summer when he was transporting mangoes from Varnama to Baroda. It was evening time when he lost control of the vehicle and it turned turtle. Rajesh has a lean frame due to which he managed to crawl out of the vehicle unhurt. There were only minor bruises on both his hands.



Lifeline Foundation intervention :

A nearby tempo driver who witnessed the accident quickly informed the Accident Helpline. Within 10-15 minutes they arrived on the spot and transported Rajesh to SSG hospital. In the ambulance Rajesh denied first aid and kept telling the paramedics that he is not hurt enough to be admitted to a hospital. However he was taken to the hospital from where he returned home since he had no major injuries

Outcome and Impact :

Rajesh feels that drinking water should be available for accident victims since that helps them to calm down. When asked about the ambulance service he says it is essential and doing a very noble job.

Case Study 6

Name : Seetaben Patel

Location : Varnama

Age : 40

Socio-Economic Background :

Seetaben lives with her son his wife and their 4 year old daughter. He is educated till the 10th grade and works as a company grinder man. Her granddaughter has just begun schooling. They have agricultural land in the Sehna Taluka where they cultivate maize and wheat twice a year. Seetaben oversees the cultivation does not directly participate in it. She is present during harvesting. Her son along with their extended family looks into it. Seetaben lost her husband a few years back to sickness.

About 1.5 months back she was travelling with her son and her granddaughter on a motorcycle from Halol to Kalol. A bike from the side crashed into theirs. She suffered from a fractured hip and an injury to her left forehead. Her granddaughter suffered from a minor face injury. Her son's left leg was badly fractured.

Lifeline Foundation Intervention: A bystander informed the Accident Helpline, and ambulance came to the accident location within 10 – 15 minutes. In the ambulance they were not provided with first aid. The ambulance interiors were clean. They were admitted to the Kalol CHC. Here they were given primary treatment. From there they shifted to a private hospital. The total treatment cost came up to Rs.65-70,000. Her son was advised rest for a month after which he joined work recently.

Output and Impact:

Seetaben's hip still pains and she does not walk too comfortably. Her son has recently resumed work. *"Highway upar aatla ochha time ma atla jaldi seva mali, ae sari vaat chhe, pan prathamik saarvar pan malvi joiye.."* Meaning, on the highway, we received such a prompt service is really appreciable, however they should make some provisions of first aid too.

Case Study 7

Name: Mark

Location: Vadodara

Age: 46

Socio-Economic background:

Mark is a Marketing Manager working in a corporate firm in Ahmedabad. He lives in a nuclear family with his wife and son. On the 25th of August in 2002 he was travelling with his driver from Anand to Ahmedabad on NH - 8. Another car dashed them from the right side in which the driver was badly injured while Mark suffered from minor injuries in his right hand and chest.

Lifeline Foundation intervention:

A bystander and Mark both informed the Accident Helpline. Within 30 minutes the ambulance reached the highway all this while Mark was fully conscious. He accompanied his driver to the hospital where he was treated well. He does not remember too many details about it since it has been a long time since the accident.

Output and Impact :

Mark feels that an ambulance which comes on time alone can be of any help. It is necessary to have such services state wise

Case Study 8

Name : Ruksanaben

Location : Varnama

Age : 29

Socio-Economic Background :

Ruksanaben lives in a slum dwelling in the Varnama area of Vadodara. Her husband (32) is a driver and owns the Chhota Hathi Mahindra tempo. In the month of January she was walking with the other women in her neighbourhood carrying firewood on her head. When she was about to take a right turn a biker turned left without honking and dashed into her. She instantly fell unconscious there.



Lifeline Foundation intervention :

One of the women informed the Accident Helpline with the help of the biker's phone. Her left leg an entire pound of flesh had come out. Also her left hand was injured more so because of the broken bangles that pierced in her hand. She was admitted to Por CHC for treatment. She laid unconscious for almost 2 hours after which dressing continued regularly for 3 days. She had 9 stitches on her left leg.

Output and Impact:

"Mara gharwala karta pehla ambulance pohonchi gayi " Although her husband is a driver and owns a vehicle himself the ambulance reached faster than him. She said that she was not given any first aid in the ambulance which she thought should have been given.

Case Study 9

Name : Surajbhai Patel

Location : Varnama

Age : 35

Socio-Economic Background: Surajbhai lives in a joint family with his brother his wife and his mother. He also has a 14 year old son studying in the 7th grade. Surajbhai is mute since birth but can hear fairly well. He owns 9 acre of farm land where he grows toor dal once a year which fetches him 1 - 1.5 lakh. On the 3rd August 2014 he was travelling with his wife Kaveriben on the highway when an over speeding car from the rear side hit them and zipped away. He suffered from a head injury, a chest injury and fractures in right hand and right leg.

Lifeline Foundation intervention: Their driver informed the Accident Helpline immediately. The ambulance reached the spot within 20 minutes of time. His family members were also informed who also rushed the spot and accompanied Surajbhai and Kaveriben in the ambulance. She was declared dead in the ambulance itself. He was admitted in the Global hospital on the family members' insistence for around 3-4 months post which the treatment carried on for 6 -7 months. The family has spent around 4 - 5 lakhs for his treatment.

Output and Impact: The family says that oxygen, first aid should be available in the ambulance. They have still not recovered from the loss. Surajbhai has further drawn into a shell following the death of his wife. The family thanks the ambulance for saving Surajbhai's life however is still gloomy when this topic is discussed.

Case Study 10

Name : Qureshi Sarfaraz Nasir

Location : Surat

Age : 52

Socio-Economic Background:

Sarfaraz Qureshi owns a mutton shop in a narrow lane in Surat. He lives with his wife and his son. He comes across as a soft, talkative person and readily complied to speak to the researchers about his experience of utilizing the ambulance service. In the month of November, 2014 Sarfaraz was riding pillion with his friend on the Baroda highway. A speed breaker which his friend did not notice jerked Sarfaraz up in the air and he fell to his right. He suffered from a head injury and a leg injury. His friend was unhurt.



Lifeline Foundation Intervention :

He informed the Accident Helpline and ambulance, reached after 15 – 20 minutes. Sarfaraz was partially conscious but alert about the background activities. A paramedic rushed out of the ambulance and carefully helped Sarfaraz get into the ambulance. Here he was given first aid, his injuries were cleaned. Since he was feeling dizzy he laid down on the stretcher. He remembers the driver of the van driving the vehicle safely. Also he further adds that the paramedic was reassuring. He was admitted to a nearby government hospital. He got 70 stitches on his head and 20 on his leg.

Outcome and Impact :

Sarfaraz took about two months to fully recover. He thanks the ambulance service wholeheartedly for serving an injured person. He feels ambulances should be available at important checkpoints and such services should be popularised.

Case Study 11

Name : Manilal

Location : Godhra

Age : 35

Socio-Economic Background :

Manilal lives in a tribal hamlet away from the urban noise in Godhra which is situated in the Panchmahal district. Panchmahal is situated to the North and East of the Vadodara district. Manilal is a short statured thin man. He is married with three children. With two daughters aged 13, 10 his youngest son is 9 year old. He has two brothers who live separately and two married sisters. Manilal practises subsistence agriculture. He grows castor, chana and wheat.

Crop season happens twice once in the rainy and in the winter season. He owns 1.5 acre land. Additionally he also works part time as a driver of a luxury bus which ply's on the Jhadeshwar - Dahej route. This fetches him Rs. 10,000 per month.



Lifeline Foundation intervention :

In November 2014 he was returning from Bharuch at 11:30 am and had reached Dehlol when a Silver Maruti Frontie car took a wrong U turn from the left and without giving any warning dashed him from the front and sped off. This accident occurred in front of Dehlol high school. A bystander from the gathered crowd informed the Accident Helpline number. The ambulance arrived in about 20 minutes. The paramedic inside the van made him comfortable asked him to lie down. He had injuries in his right leg, his forehead. He had 11 stitches on his forehead. One of them still pains as he says the stitches were not done properly. He made 7 rounds to the hospital to get his dressing done. His right leg has recovered but neck still pains, moving it to the right is still uncomfortable. He spent a total of Rs. 35,000 on his treatment. He has been asked to rest till March. The company where he works did not provide him with any financial support but gave him leave.

Outcome and Impact :

"Aa ambulance 108 karta saari chhe. Eni andar dava jaldi aapi, saari reete vaat kari, patto pan saro bandhyo"
Manilal adds that, LLF is better than 108, and they quickly administered first aid. The paramedic spoke well and knew how to put band aid.

Case Study 12

Name : Vishal Senapati

Location : Vadodara

Age : 23

Socio-Economic Background :

Vishal Senapati is a 23 year old motor mechanic from Vadodara. He stays with his parents and older brother in the city and frequently travels to nearby towns and villages for repair works. He specialises in trucks, tempos and heavy vehicle repairs. His father owns a private garage which repairs motorbikes, scooters and cars and his elder brother assists his father in managing the garage. Vishal however chooses to freelance his services repairing heavy transport vehicles.

Lifeline Foundation Intervention :

A year back almost, a day that Vishal does not want to remember, he met with an accident while riding his Activa on the Vadodara highway, at about 1 pm when his tyre burst and he collapsed on the road. The accident occurred near Por village. Vishal laid unconsciousness and a bystander informed Accident Helpline. It took about 10-15 minutes for the ambulance to arrive at the spot. As per the EMS protocol the paramedic and the driver take the accident victim to the nearest hospital, hence Vishal was taken to Sir Sayajirao General Hospital for treatment. There he regained consciousness and was told about how he was transported to the hospital by bystanders and the paramedic who had rescued him. Luckily he received only 2 stitches on his head. He had to spend around 4000 rupees for his treatment which included a MRI Scan.

Outcome and Impact :

He and his family are thankful to ambulance service for arriving on time and transporting him to the nearest hospital where he received early lifesaving succour.

Case Study 13

Name : Ankur Upadhyay

Location : Nareshwar Road

Age : 41

Socio-Economic Background :

Ankur Upadhyay is a farmer living at Nareshwar road near Samapura situated near Vadodara. He grows cotton and sugarcane in his farm. His family consists of his wife (38) and two children – girl aged 12 and a younger boy aged 3.

Lifeline Foundation Intervention :

On the morning of 11th January 2015 he was travelling to Vadodara to meet a family friend. He had crossed the Karjan Toll Naka at 09:15 am when his bike slipped. He fell straight ahead. Ankur suffered from a head injury and a fracture in his right hand.

A toll naka personnel called up the Accident Helpline and an ambulance reached the accident spot within 10-15 minutes and transported him to the Karjan CHC. Ankur spent Rs. 2,00,000 for his entire treatment. The paramedic in the ambulance cleaned his head injury, dressed the wound temporarily. He was admitted in the hospital for about 1 month.

Outcome & Impact :

When asked about his experience with the ambulance service he said that he *"Seva bauj saari chhe ane ambulance ni andar aapva aaveli prathamik sarvar pan sari hati"* Ankur added that the ambulance service is very helpful and the first aid given was worth appreciating. He says that the interiors of the van were clean and well maintained. The paramedic inside the van was reassuring. Ankur said that this primary care given in the ambulance reduced his anxiety to a great extent. He was in praise of the service mainly because it arrived on time.

Case Study 14

Name : Dhaval Dhabalia

Location : Vadodara

Age : 47

Socio-Economic Background :

An architect by profession, Dhaval stays in Vadodara with his wife and two children, his daughter is in the 9th grade and son is in junior kindergarten.

Lifeline Foundation Intervention :

Eight months back in June 2014 Dhaval was driving on the L & T highway stretch on his way to Atladra when his car's left tyre burst and his car rammed onto the divider. A truck coming from behind damaged the car's left body. A shocked Dhaval managed to get his car onto the left side of the highway. Dhaval pulled out his phone from the car and called up his car mechanic to come to his rescue. His mechanic had just been operated upon but still managed to come to the location in around 20 minutes.

Dhaval was standing at a distance from his mechanic when another accident took place a few metres behind him. A tempo, a Maruti Suzuki and a truck collided. The truck which was over speeding hit Dhaval and he was thrown 15-20 feet high and 30-40 feet away. This accident severely injured Dhaval's limbs and head. Meanwhile his mechanic had informed the Accident Helpline and their ambulance had arrived. From the time of call the ambulance took close to 10-12 minutes to reach. He was transported to a private hospital for treatment. The entire treatment cost him 4-5 lakhs.

Outcome and Impact :

It has been 8 months now and Dhaval has resumed work just a month back. Today he wholeheartedly thanks LLF for sending the ambulance on time. He says if it was not for the timing then the service is of no use. He has resumed work now after a long hiatus. He feels that such an ambulance service can prove to be life giving seva at crucial times. It should be popularised and must be made mandatory on all roads and highways.

Case Study 15

Name : Manoj Shirke

Location : Vadodara

Age : 32

Socio- Economic Background :

Manoj Shirke has a MBA degree in Marketing. He is a government banker by profession. Manoj is married and has one son. His family also consists of his mother, his brother and his wife.

Lifeline Foundation Intervention :

On the 3rd of September 2014 Manoj and his father aged 64 were driving on the Baroda Ahmedabad expressway. His father was in the driver's seat and Manoj on the left side. At about afternoon their car met with an accident. Two of their tyres burst on the driver's side his father lost control of the car. His father He himself had a head injury however his father suffered from grievous head and neck injuries. His father fell unconscious too.

Manoj's first response was to call up the 108 helpline. 108 is emergency response helpline already functioning in the state. When 108 declined to reach the spot, Manoj called up the Accident Helpline. By the time ambulance arrived it was already 45 minutes post the accident and Manoj's father had suffered from a lot of blood loss. Manoj was provided with first aid. Post the accident his father also started suffering from internal bleeding. The ambulance was not equipped to stop internal bleeding as well. They were both transported to the Metro Hospital. However Manoj says that since ventilator facilities were not available his father succumbed to his injuries.

Outcome and Impact :

The paramedic and the driver treated them well. Also he says that the ambulance was not all that clean. Manoj was not fully satisfied with the ambulance services. According to him an ambulance must have ventilator, oxygen facilities. He says that after paying road tax he expects fully equipped emergency facilities on highways.

Mr Tandon Testimony ex ADG Police :

When we analysed accident data we realised that highway accidents were a major contributor to it. We then decided that we needed to train our own and position traffic aide post strategically on the highway. We identified some of the core issues and areas of concerns were lack of trained manpower such as drivers and paramedics, no coordination with the hospital, lack of well-equipped ambulances and no network with crane operators. We came across Lifeline Foundation through one of the sign boards and were impressed with the passion of Dr Subroto Das and the positive intent of the organisation to bridge the lacunas on the field with regards to the Highway Rescue Project. Together with support of some



willing secretaries and other bureaucrats were able to successfully implement to a great extent. Lifeline Foundation in coordination with the police department and traffic cell were able to sensitise school children, create awareness in the public. We conducted workshops for Gujarat State Road Transport bus drivers and informed them about fatigue, drunken driving and got all the buses to install reflectors.

We were also able to initiate some poster campaigns to create awareness. Together with the Foundation we were able to train a number of doctors/ paramedics / Police force and NGO where the focus was to tackle post-accident trauma management, relief and rescue. Was able to pioneer a model where a grid wise demarcation of hospitals, highway ambulances, cranes, fire stations and police stations was created to reduce response time. Lifeline Foundation was an organisation that was proactive, practices were duty bound and the practitioners were always ready to brainstorm this resulted in various pioneering ideas being developed.

CHAPTER 5

IMPACT OF OTHER LIFELINE FOUNDATIONS INTERVENTIONS



The Foundation also focussed on the process of building the capacities of various stakeholders in the community that would come in contact with an accident victim and therefore would either need to be sensitised or taught certain specific skills. This included a range of individuals that covered police, fire brigade staff and doctors. Training covered an entire gamut of professionals including paramedics, highway personnel, toll plaza employees and ambulance drivers. The nature of training differed for various groups and sets of individuals and was customised to suit the needs of each stakeholder. Lifeline Foundation in many cases pioneered the training process and started a trend that other agencies and organisation later followed and converted into business models. A detailed description of the different types of training and the methodology with the course structure and content is outlined in the chapter 3. The stakeholders covered through the trainings are also represented info graphically in the image below.

While training and capacity building may not seem directly related to the functioning of the Highway Rescue Project it has indirectly greatly contributed to the success of the same. Training and sensitisation of the average villager or chance passer-by helps in early reporting of accident cases. The sensitisation of the police has resulted in easy reporting and better handling of legal procedures for accident victims and witnesses. The presence of trained drivers and paramedics with highway rescue staff has resulted in smooth and efficient rescue of accident victims while Doctors and paramedics and First Responders now have set guidelines and procedures to follow besides being trained and knowledge being updated through the course of multiple trainings.

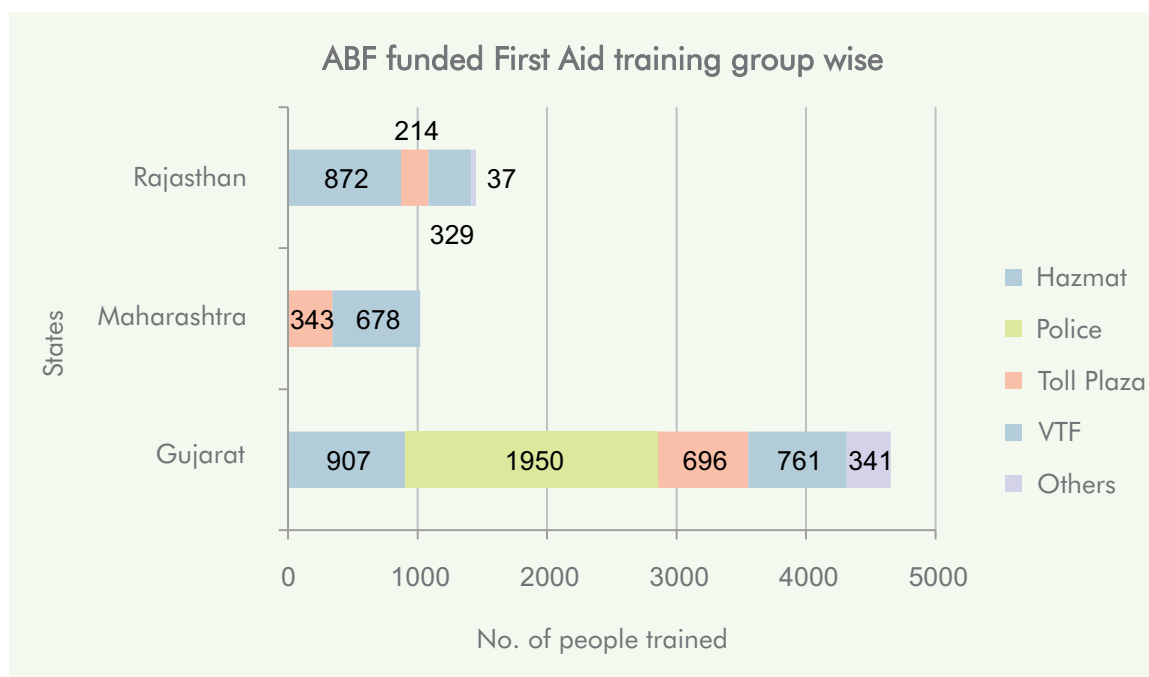
Stakeholders covered through the trainings :

Ambulance	<ul style="list-style-type: none"> • LLF Staff and Ambulance Staff • Paramedics • Ambulance Drivers • Ambulance Personnel
Medical persons	<ul style="list-style-type: none"> • Doctors • Army doctors of Panagargh Army Base • Emergency Dept Doctors & Nurses • ER Staff, Civil and Teaching Hospitals • Emergency Room Staff, Unity • Surgeons, Orthopedics & Anesthesiologist • Teaching & Civil Hospital doctors • PHC Doctors • PHC Paramedics
Highway	<ul style="list-style-type: none"> • Highway Attendants • NHAI staff, Ex-Way Toll Plaza • Truck drivers and petrol pump attendants, • NH8, NH4 & NH2 • Toll Plaza Staff
Govt agencies	<ul style="list-style-type: none"> • Government Officials • Police
Others	<ul style="list-style-type: none"> • Bank Staff • Conference Delegates • Industrial Personnel • School Children • School Principals of Baroda • Students & Teachers of University of Baroda • Villagers • Housewives

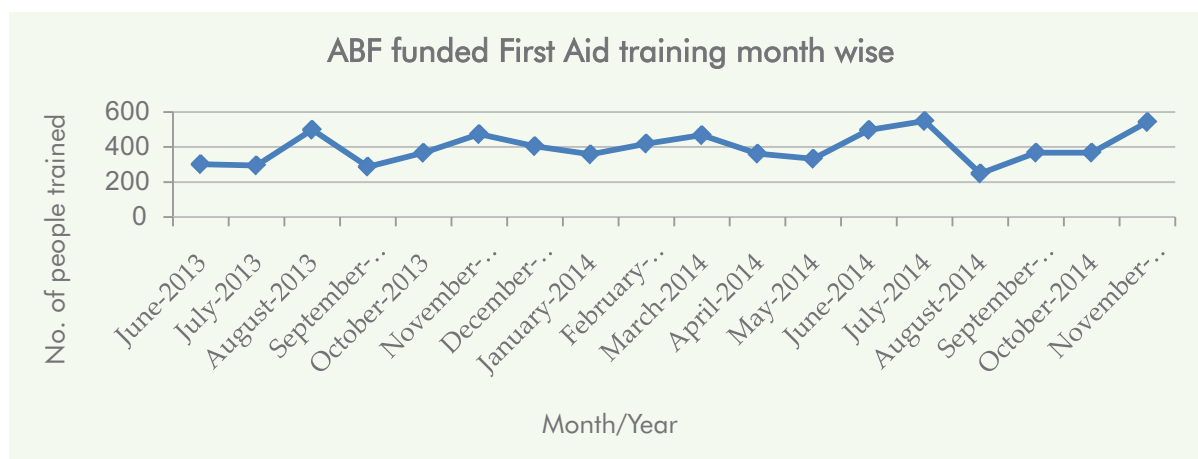
Quantum of training imparted :

First Aid Trainings :

The Lifeline Foundation has been able to, over the years, train a number of individuals across 3 states. The maximum focus like, in the case of HRP itself, has remained to be in the state of Gujarat. The tables below list the trainings conducted by LLF, sponsored by ABF. The trend analysis of the training conducted by the Lifeline Foundations indicates that they have been able to train 4655 in Gujarat, 1452 in Rajasthan and 1021 in Maharashtra across various categories of professionals.



Most training by LLF is conducted for the police force. Since police personnel are more likely to be on highways roads they could usually be the first line of response. Toll plaza attendants also would be closer to accident victims and therefore are also trained in good numbers.



Types of training conducted by lifeline foundation :

As mentioned earlier there are a number of types of capacity building exercises and trainings that have been conducted by the Foundation over the years and for different stakeholders depending on the specific need and requirement. These can range from basic awareness exercises conducted for villagers and truckers where the focus is on sensitisation and awareness creation to advanced cardiac life support where the focus is on upgrading trauma response protocols in specialised health care providers

List of all Programs/ Trainings	
Advanced Cardiac Life Support (ACLS)	162
Airway Management	45
Awareness	316
Basic Disaster Life Support (BDLS)	27
Basic Life Support (BLS)	297
Basics Trauma & Medical Res.	52
Cardio Pulmonary Resuscitation	40
Critical Care and Toxicology	52
Disaster Management	45
Dispatcher	22
EM Ultrasound	45
Emergency Response Centre (ERC) workshop	316
Emergency Trauma Care	44
Emergency/ Pediatrics	91
Emergency/ Ultrasound	42
First Aid	4876
Hemodynamic/ Monitoring	41
International Trauma Life Support (ITLS)	40
Inter-state conference on Trauma	45
Mechanical Ventilation	47
Medical Director Trainings	31
Medical Mass Casualty Container Training	38
MEMEx - Mumbai Emergency Management Exercise	1176
National Trauma Management Course (NTMC)	136
Paediatric Emergencies	62
Pre-Hospital Care	48
Road Traffic Accident workshop	25
Toxicology	39
Training for Motor Vehicle Accident Rescue	320
Transportation of Accident Victims and CPR	46
Trauma care	110
Trauma care & ED	50
Vascular Access	58
Water Rescue	14
Wilderness EMS	32
Workshop Mode of Trainings	259
Total	9089

CASE STUDY OF BASIC LIFE SUPPORT TRAINING :



Anita M. Rajane (35) and Bharti N. Nageshwar (37) are nurses by profession. Both of them have been working for a decade at the Shubhechha Hospital in Baroda in the intensive care unit and OT. The hospital trustee and Director selected Anita and Bharti to receive ACLS (Advanced Cardiovascular Life Support) training. One of the eligibilities to undergo ACLS training is to complete a BLS (Basic Life Support) course. Although both Anita and Bharti had undergone BLS training in 2005-6. Since 2 years had elapsed after they completed their BLS training they had to undergo BLS once again before they could undergo ACLS training.

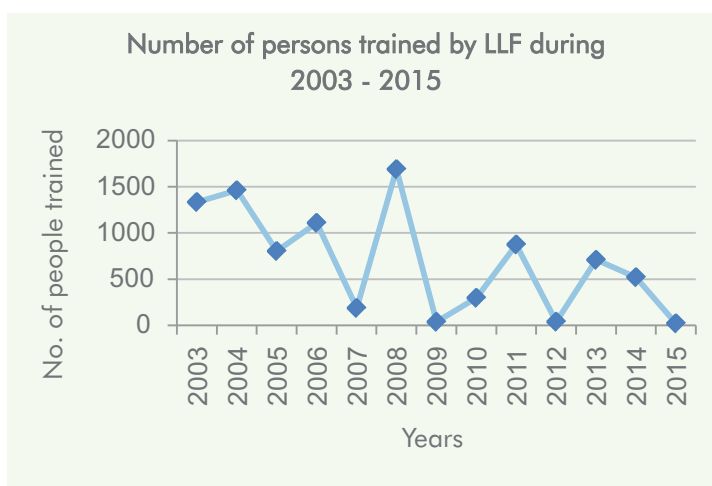
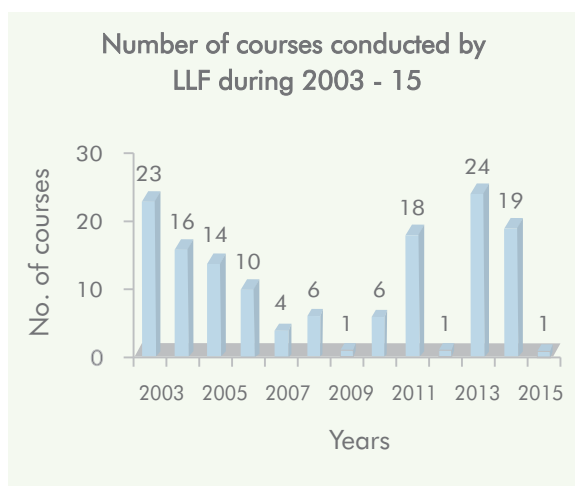
This training was part of the 3rd Asian EMS Conference held in Goa in 2014. The conference was spread over 4 days wherein one day was allotted to the training. There were close to thirty to forty trainees present. Among them eight – ten participants were doctors. Participants from Kerala, Hyderabad, Goa and Baroda had participated. The session included lectures, slide presentations and was participatory in nature including hands on practical training involving dummies.

BLS components such as resuscitation and CPR (Cardiopulmonary Resuscitation) were taught in detail and emergency response techniques like intubation in case of choking were well demonstrated. At the end of the day an assessment was done comprising of 50 objective questions. Around 70 – 80% passed yet one – two participants failed the exam. The training cost each of them Rs. 3000 – 3500 which was borne by the hospital.

This refresher course equipped Bharti and Anita with revised guidelines of how to apply Resuscitation techniques. Originally emphasis was laid on maintain ABC meaning Airway Breathing Circulation in that prioritised order while protocols have recently shifted to maintain CAB meaning Circulation Airway Breathing in that specified order.

Other Trainings by Lifeline Foundation :

The Lifeline Foundation has also been conducting other training sessions for various sections of the society and professionals from different walks of life to sensitize and build their capacities to tackle accidents and trauma. These types of trainings includes



CASE STUDY OF ITLS TRAINING :

Dr Tejal Shah MBBS AFIH



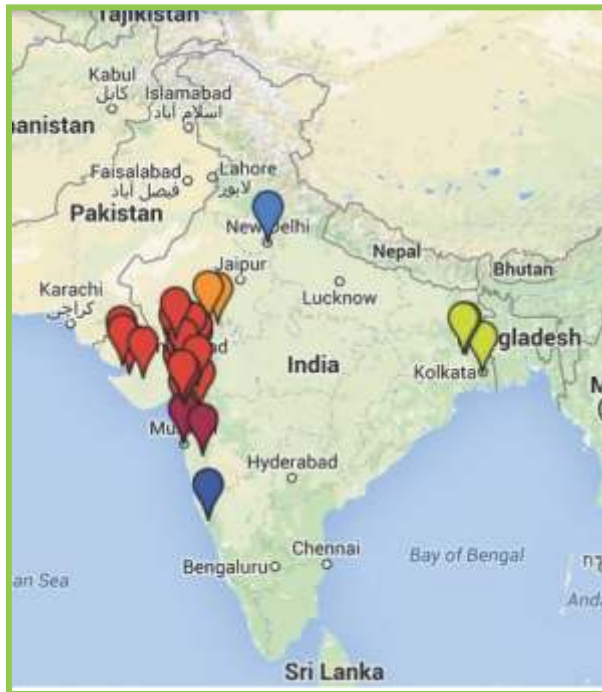
She is Manager (Medical Services) since the last 12 years of the Gujarat State Fertilisers and Chemicals Limited. She got introduced to Lifeline Foundation about 4 years ago. Dr Shah works in the industrial EMS sector with hazardous chemicals and required to have updated information about industrial medicine practices. She had undergone BLS training earlier through the Ahmedabad Academy of Traumatology. She went on to get trained in ACLS through the

AFI- CLI Mumbai (Central labour institute). She was one of the trainees at the Goa conference organised by the Lifeline Foundation to undergo ITLS Training. She was of the opinion that the faculty was very good and came from experienced backgrounds.

The methodology of the training was also very impressive. The assessment, although very tough but was a thorough process. Dr Shah was of the opinion that *"All industrial doctors need to be trained and their skill sets updated and certified from time to time. Since the areas around the factory has many hazardous material factories these all need to pool resources and personnel in the case of a disaster. Although there are a number of training institutes in Baroda and in the state there are very few experienced training personnel. An organisation such as lifeline can help bridge this gap and create a great impact in this regards"*.

Location	No. of Courses	Location	No. of Courses
Ahmedabad	12	L&T HSTL	1
Anand	2	Lunawada	1
Baroda	39	Maharashtra (Location Not Specified)	1
Bharuch	2	Mehsana	3
Bhuj	3	Modasa	1
Chittorgarh	15	Mumbai	1
Dahej	1	Mundra	6
Dang	1	Nadiad	1
Dariba	2	Narmada	1
Delhi	1	Navsari	1
Dhuvaran	1	Palanpur	2
Gandhinagar	1	Panagargh, West Bengal.	1
Goa	8	Pune	2
Godhra	4	Rajbadh, WestBengal.	1
Himmatnagar	2	Rajkot	1
Jamnagar	2	Surat	2
Karjan	1	Vadodara	1
Kolkata	15	Vapi	1
Total- 140 (One hundred and forty training locations covered across 5 states)			

Following is a mapped locations across the country of trainings conducted by LLF and sponsored by LLF.



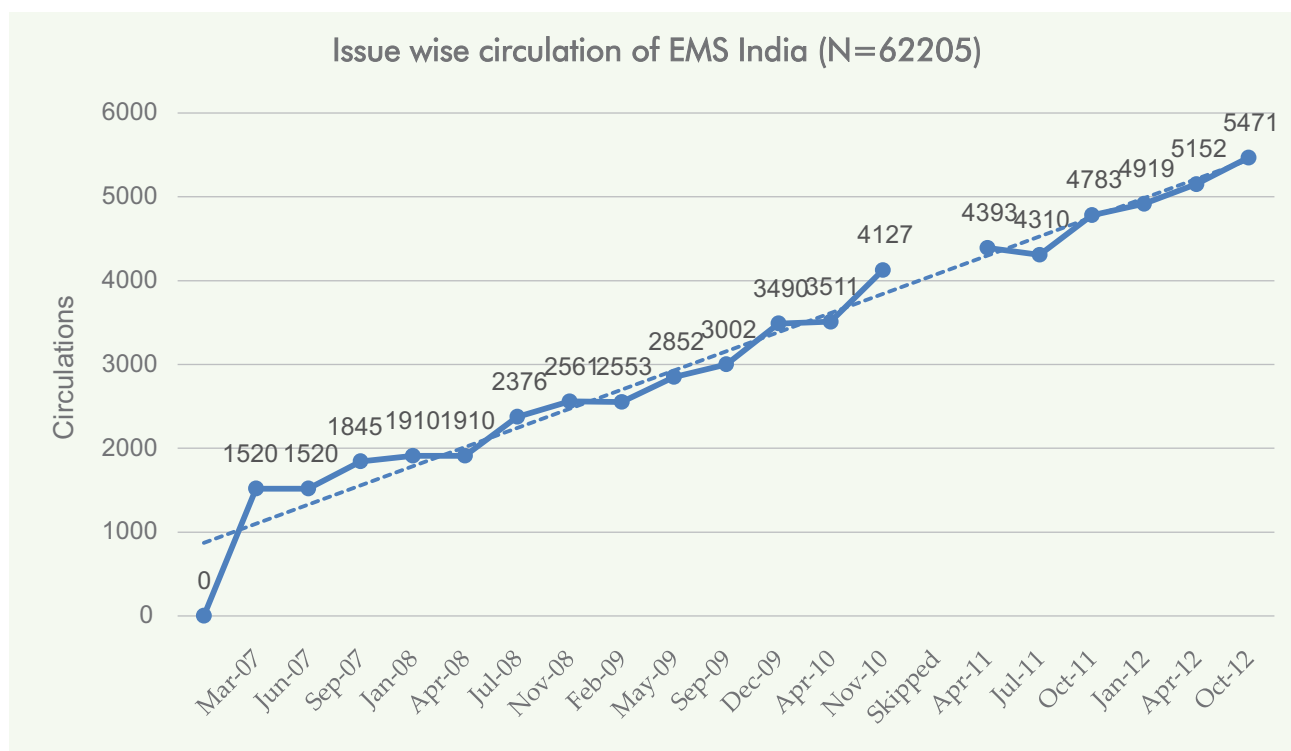
CHAPTER 6

EMS JOURNAL CONTENT ANALYSIS

In this chapter, an in-depth year wise content analysis of the EMSIndia journal has been done, majorly mapping out a trend in the type of articles published from when it started first in the year 2007 along with the kind of changes that were observed as the journal progressed and evolved till the end in the year 2012. We have highlighted the themes followed and the variety of topics discussed and brought into focus through the journal over the years, along with the diverse medical as well as administrative experts who have contributed to it; which kind of reflects the changes that took place in the EMS fraternity and the arenas which affected EMS related issues in India along with latest developments in the field.

We have also traced out the journey of the EMSIndia journal which was first of its kind and eventually merged and evolved into a bigger and better journal catering to an international readership and addressing issues related to EMS pan Asia.

In total, EMSIndia had published 20 issues with approximately 8-10 articles each issue during the time frame of 2007-2012 with a circulation trend that shows a constant increase in circulation with almost every issue as depicted in the below graph clearly indicating the increase in awareness for EMS as an important subject making its stronghold in India.



Circulation Trend (EMSIndia Journal)

Year wise Summary of Content in the EMS Journal

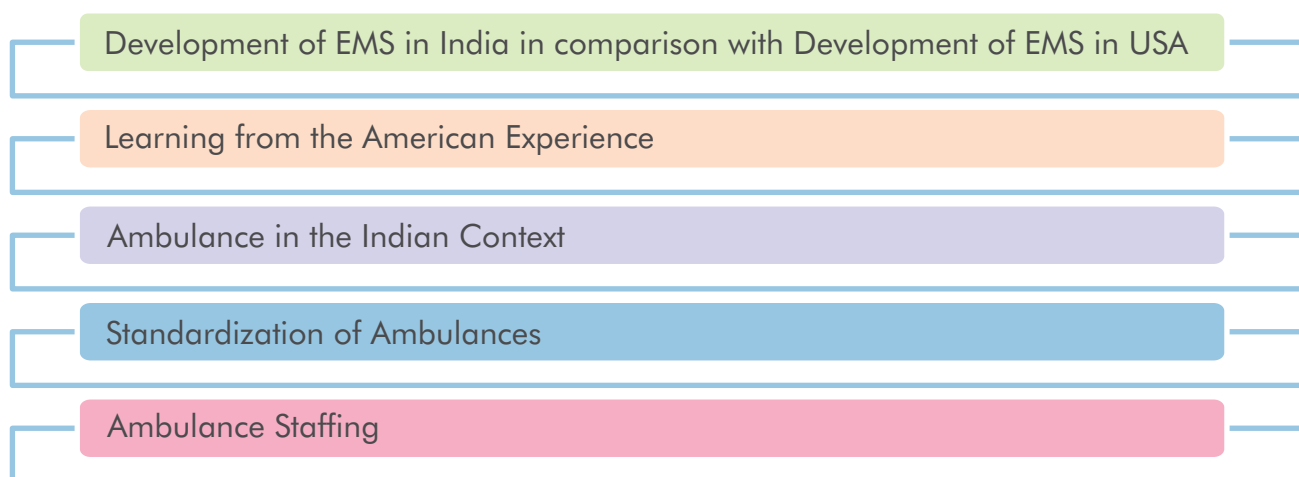
2007-

1st issue-

The inaugural issue basically covers the historical emergence of EMS in India in comparison with how the current situation in our country is similar to that of the emergence and state of EMS services in USA in the era of 1960's, further delving upon Ambulances in the Indian context in terms of their standardization, staffing etc., and how India's EMS should be developed along the same lines with learnings from the American experience. The issue specifically points out that in Indian context of EMS it is extremely important that the Ambulance service in an EMS system becomes available universally, to anyone who calls in a medical emergency. This is the biggest challenge EMS systems across the world face. Highly sophisticated EMS systems can be put in place as can be found in North America and Western Europe; however India faces serious budgetary / financial constraints at the federal, state and local level. In this context it becomes very critical that EMS systems in India are set up to be operationally independent with revenue streams from user fee charges and other revenue streams. At the same time, the system has to have a variable fee structure, affordable to all sections of the society; available to anyone needing the service irrespective of the person's ability to pay for the service.

The articles in this issue also touch upon the subject of EMS and Consumer Protection Act of 1986 by linking the two, stating that ambulance services in future will form a part of the Consumer Protection Act of 1986, particularly in States where EMS legislation is enacted and where post stabilization stage of recovery involves payment of money, to form a continuous link with pre- stabilization phase, which involves critical care component.

Themes of the articles :



2nd Issue-

The second issue takes a look at the much awaited and significant Gujarat EMS Act and its salient features and how it came into being. Gujarat being the first state in India to pass EMS Legislation, it also looks at the aspect of what went into making it so, as this will also prove to have great implications for the other states as well, like Maharashtra, which is working towards tabling its own bill in the assembly.

Another main feature of this issue covers the contribution of Philadelphia convention of AAPI (American Association of Physicians of Indian origin) that had a session on EMS in India and also provides impetus and direction to stakeholders in India. The close and active involvement of AAPI and its members eventually led to an ambulance based EMS in Mumbai which has since been popular by the number 1298, besides its other contributions in developing a strong EM education as well as services base in India.

This issue also looks at the involvement of ICET (International Centre for Emergency Techniques, based in Netherlands) with the Indian EMS in stressing the need and advantages of EMS as a component of Emergency Response Centre (ERC), which asserts that ERC is an important instrument within an integrated emergency response system, which also includes EMS to produce swift and appropriate counter actions to an ongoing flow of adverse events to quickly facilitate restoration of normalcy. In Gujarat, ICET was commissioned to help develop a concept that would fit the current state of emergency preparedness and response.

Besides the above, this issue points out the dire need of a common EMS Helpline number as a basic consumer right of every citizen that needs to be ensured on an immediate basis, irrespective of the purchasing power of the victim, mapping out the effective emergency numbers around the world, another article focusing on the history and most effective mechanism of the US and Canada based helpline number 9-1-1. Along with this, Indo-US partnership for EMS base in India in form of a fruitful collaboration between Ronald Regan Institute of Emergency Medicine (RRIEM) and Indian institute of Emergency Medical Services (IIEMS) for 2 year PG Fellowship Program in Emergency medicine, is also detailed, with another partnership between EMS and UTI Bank Foundation, which is the first Corporate-NGO partnership in the country for EMS as the Bank's CSR initiative for Highway Trauma Care (EMS).

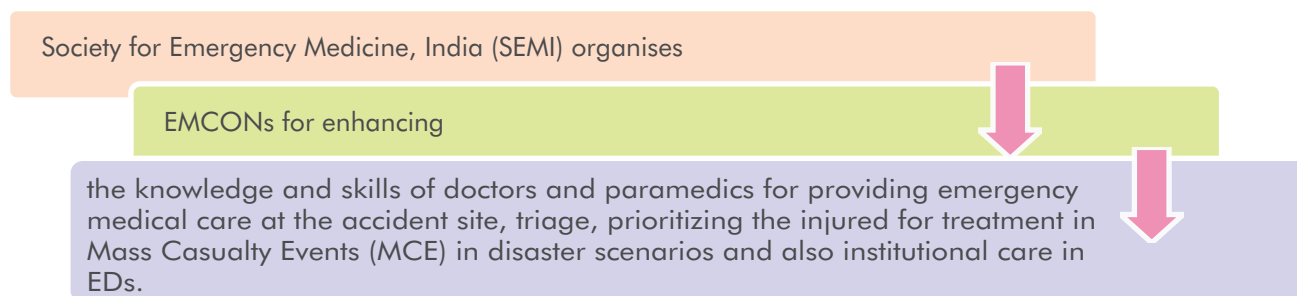
3rd Issue-

The 3rd issue of EMSIndia focuses on the account of super-efficient and innovative EMS developed in Sri Lanka, and its unique aspects with 110 as its Emergency Helpline number dealt by Columbo Fire Brigade. It stresses the emergence as well importance of developing such a system which has come out in a country like Sri Lanka that got even more strengthened after dealing with the after-effects of Tsunami, whereas in India we haven't yet reached even halfway. The issue focuses on how EMS in India could benefit by learning from such examples and also developing incorporating simple ideas like ICE (in case of emergency) numbers in the mobiles of the citizens which would help identify any victim easily.

Further into the issue, current status of EMS in cities like Pune and Kolkata have been described showing the stark difference with Pune EMS emerging successfully and Kolkata needing a strong support.

Annual EMCON conferences, conducted by SEMI (The Society for Emergency Medicine in India) that was formed in 1999, has been covered in the issue with special focus on EMCON 2007 to be conducted later in the year.

The issue also covers EMCONs are organized by the Society for Emergency Medicine, India (SEMI)



2008-

4th Issue-

This issue focuses on various themes with one exploring the idea of Auto-rickshaws as National First Responder of India for EMS.

With the objective of designing a pre-hospital health care plan, the Department of Emergency Medicine, Apollo Health City, Hyderabad, thought of using Auto rickshaws for EMS due to its cost effectiveness and easy availability on the roads of India. Based on their survey a plan was proposed which includes Basic training to be provided to the auto drivers. This would include simple assessment of vital signs, essential elements of Basic Life Support and Basic Trauma Life Support, triaging and basics of disaster management.

Apollo Hospital, Hyderabad have already made plans to undertake a nationwide survey. Preliminary curriculum has been proposed. Simulation exercises to position the patients in the confined space of the autos are being carried out¹³.

Another focus was EMCON 2007 Report- With national and international faculties presenting their viewpoints and deliberating on topics ranging from Radiology in Emergency Medicine to Pediatric Emergency Medicine, from Pre-hospital Care to Disaster Management. The four workshops provided great hands-on experience to those present including the uninitiated in EM¹⁴.

With the EMCON abstracts being-

MASS CASUALTY INCIDENT (MCI) focusing on the need to plan customized protocols, which can be operational and efficient; models that can be easily adapted for use in many different incidents, and taking stock of our needs and resources.

DEVELOPMENT OF EMERGENCY MEDICINE IN NORTH INDIA

highlighting the authors' and their associates' effort for development of EM in north east India, which in itself is a new challenge due to lack of infrastructure, pre-hospital care and trained personnel lead to high morbidity and mortality of severely injured and critically ill patients.

QUALITY MANAGEMENT (QM) IN THE EMERGENCY DEPARTMENT

This issue also talks about new rules and regulations notified by the government of New Delhi for governing ambulances. It categorizes “ambulances” into three: Advanced Life Support, Basic Life Support and Patient Transport Ambulances.

Another important feature of the issue being, The National Disaster Management Authority (NDMA), that formulated guidelines for medical preparedness and mass Causality Management. The guidelines provide important baseline information to various planners and implementers regarding different specialized facilities and methodologies required for effective management of natural and manmade disasters including Chemical, Biological, Radiological and Nuclear (CBRN) disasters. All hospitals in the government, private or charitable sector are to use these guidelines to create their own Medical Preparedness plans¹⁵.

5th Issue-

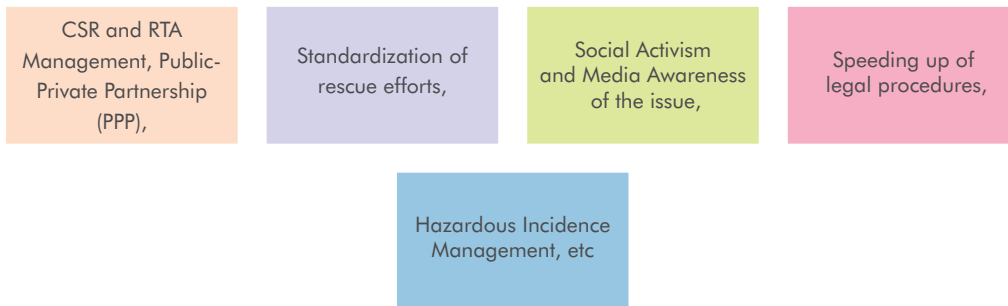
The issue reported the 1st Motor Vehicle Accident Conference - 1st Announcement. Lifeline Foundation, in 2002 pioneered the idea of a unified Highway Accident Helpline number in each state; independent of government, pooling resources of existing stakeholders to build a unique system of local ownership driven rescue efforts long before recently developed systems working with government funding had even thought of such an initiative.

It aimed to get 300 stakeholder-delegates to attend MoVACon; experts from Asia, Europe, Africa and North America will address them. The focus was on unaddressed issues such as

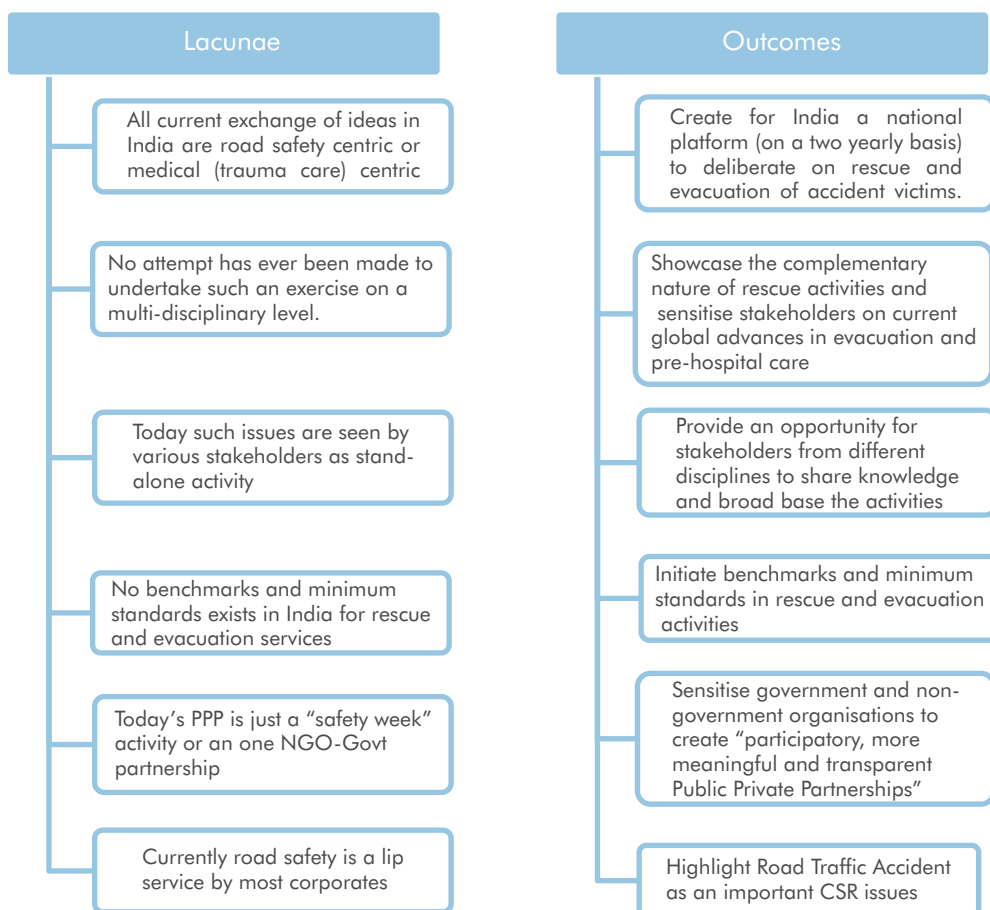
¹³A National first Responder of India (2008 4st Issue)

¹⁴EMCON 2007 report (2008 4rdIssue)

¹⁵Medical Preparedness and Mass Causality Management (2008 4th Issue)



The issue addressed the Probable Outcomes Addressing the Lacunae in this sector



Eventually, this issue talks about the shortcomings of the ambulances and how it is not adequate in the Indian context. It mentions the need for Trauma care and Trauma Centers run by well trained professionals also emphasizing on Long term strategy for introducing first aid skills in schools (as done for disaster management) and trauma care for nursing and allied health providers.

6th Issue-

The 6th issue focuses on



Along with the greater and broader topics especially those related to the Management of Motor Vehicle Accident were addressed, dealing with the 1st National Motor Vehicle Accident Management Conference to be held at Ahmedabad in September 2008 that talks about address various issues related to evacuation, transportation and pre-hospital care.

7th Issue-

The 7th issue reported EMCON 2008, the 10th Annual International Conference of SEMI in association with AAEMI (American Academy for Emergency Medicine in India). The conference offered a wide spectrum of scientific sessions covering Pre-hospital care, Critical care and Emergency Medicine with workshops, lectures, poster and verbal presentations. Though the theme of this conference was 'Spreading wings beyond ER', number of other sessions also dealt with topics like Education and Ethics of EM and Critical Care, Research Ethics and Methodology.

There were multiple sessions covering the following topics :



This issue also quoted and reported an article of Times of India- 'Rs 5,600 cr scam in ambulance services', that alleged that Health minister Anbumani Ramadoss's ambitious project -- to start 108 ambulance services in various cities across India in collaboration with Satyam Computer's Emergency Management Research Institute (EMRI) has run into trouble with a PIL in the Supreme Court alleging that it smelled a gigantic scam to the tune of Rs 5,600 crore.

The PIL by two NGOs-Ambulance Access Foundation India (AAFI) and Transparency in Contracts (TIC) claimed that EMRI had signed Memorandum of Understanding (MoU) with 10 states to provide ambulance and emergency response services without any call of tender. It said the funds for the operation of ambulance services and emergency response services, to be operationalized by EMRI, would be provided by the states from the central grants they receive under National Rural Health Mission (NRHM).

2009-

8th Issue -

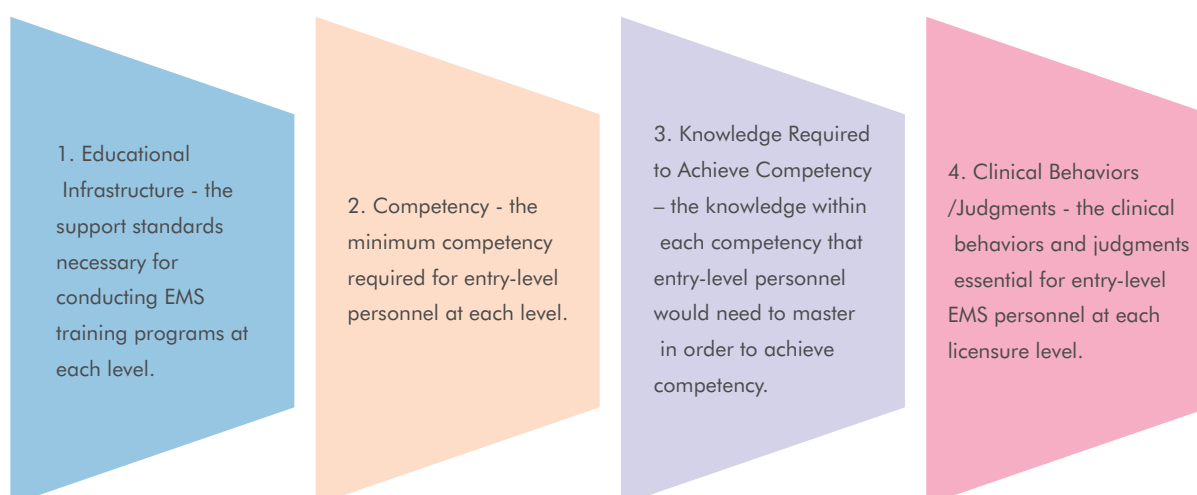
This issue covered a service popularly known as “Dial 1298 for Ambulance” which was launched on the 21st of May, 2005 by the Honourable Chief Minister of the State of Maharashtra, India, Shri Vilasrao Deshmukh. The uniqueness of the service business model is its self sustainability (from its own revenues) and universal access (provision of service irrespective of the ability / capability to pay using cross subsidized pricing regime). The service runs 51 ambulances in Mumbai and 30 Ambulances in Kerala (7 Districts) and provides highway accident rescue coverage through networked ambulances in association with Lifeline Foundation

It also looked into the events that made the issue of EMS front page news one being the Mumbai terror strikes that propelled “Dial 1298 for Ambulance” into big time handling of emergencies, rescuing the terror attack victims.

The issue also pointed out the alleged lack of transparency in the functioning of the PPPs handling EMS in India.

Along with the Comparative History of EM Training and EMS in USA in detail and touches upon the subject of National EMS Education Standards for USA – and its Lessons for India

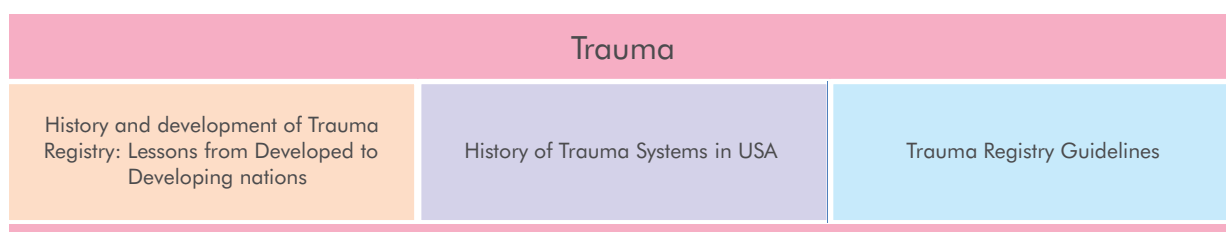
The National EMS Education Standards of USA comprise of four components.



9th Issue -

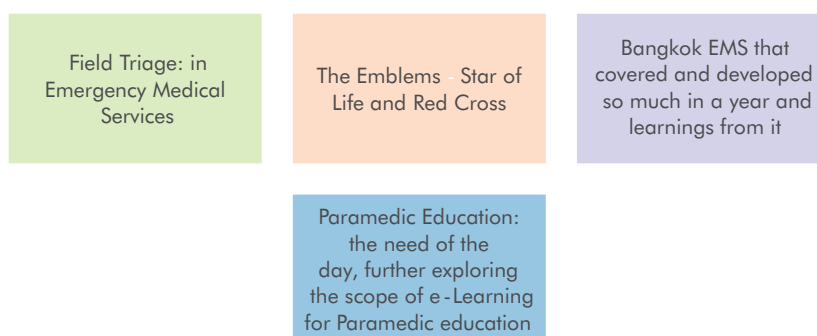
This issue broached of the concept of e-learning for EMS in India in detail, by pointing it out as the need of the hour. The article shows that estimates suggest that our country would need more than 60,000 trained EM personnel by the year 2020. The lack of teaching facilities to deliver such courses is a huge limitation in India and the way forward could be initiating EM training through e-learning. It explores the history and process of e-learning and its benefits for EMS by depicting the current scenario of e-learning for EMS in global context with examples from other countries; and covers the implementation and its implications in India.

Aside from that, the issue majorly covers the important subject of Trauma and its various aspects in EMS, looking in to the following as mentioned below.



10th Issue -

The issue covers a broad range of subjects in depth that are-



In the article, Triage: in Emergency Medical Services it defines that in Emergency Medical Services (EMS), triage is a decision making process; health conditions of patients or victims are evaluated to decide the priority in treatment or transportation to appropriate health care facility based on assessment of severity of injury.

In the article the Emblems- Star of Life and Red Cross, it explores the dichotomy and controversy of this issue. The author justly points out “No laws in the country to regulate EMS” is now an oft heard remark. Equally common is it to hear the refrain, “Why cannot the country put in laws at the initial stage of any developing enterprise? Further questions why is it that India waits so long to put rules and regulations into place, so long that by the time they come into force, those accustomed to prosper without such regulations start opposing them. In the end pointing out that

the misuse of the Red Cross emblem in India and the government's failure to take action against the "medical fraternity" is a case worth noting.

11th Issue -

This issue covers the conferences of 'Trauma 2009' (The International Congress CME cum live workshop) jointly organized by Jai Prakash Narayan Apex Trauma Center and AIIMS; and the EMCON 2009 along with exploring the idea of a 'Consortium of EMS Stakeholders'. It also covers the scope of E-Learning as an enabler of EMS along with discussing its design and implementation issues.

It also covers the subject of essential Patient Transfer in Emergency Medical Services System in terms of importance and need for to assert its sensitivity as the 1st step towards ensuring and securing the patient's life.

This issue is also important as for the first time it explores the concept of a national day dedicating to EMS by proposing 21st June as National EMS Day for the country, as this was the historical day when MCI (Medical council of India) consented to recognize EM as a specialty.

2010 -

12th Issue -

This issue deals with a diverse range of topics with the 1st article on Conference, workshops & Hands on training on-



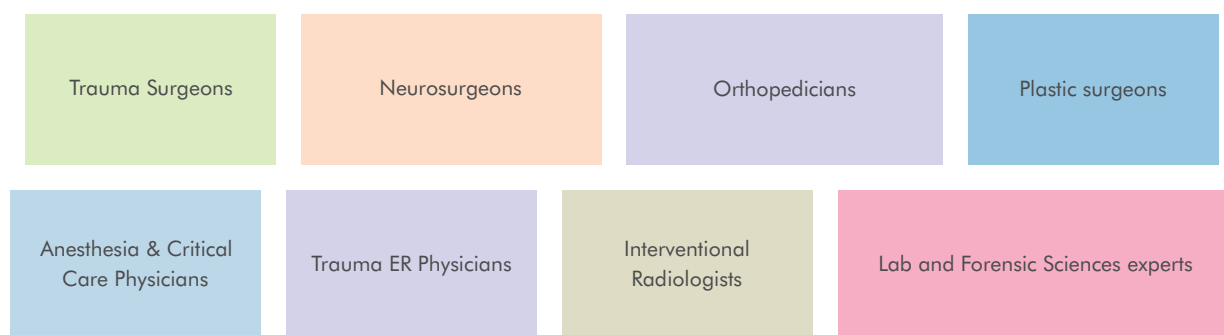
Emergency and Trauma Care specialists from various parts of India and those working abroad shared their experience with these professionals. Five pre-conference workshops (Pre- Hospital Care, Emergency Airway Management, Disaster Management, Emergency Sonography and Advance Trauma Care Workshops) were also conducted for doctors and paramedics; these were supplemented with live demonstrations.

This workshop provided core training in immediate assessment and primary management including resuscitation of trauma victims. Exclusive hands on training on surgical criothyrodotomy, chest tube placement and pericardiocentesis were also included. This workshop was organised in the MIMS auditorium under the direction of Dr. V P Chandrasekaran, Head of Department of Accident, Emergency and Critical Care, Vinayaka Mission Hospital, Salem.

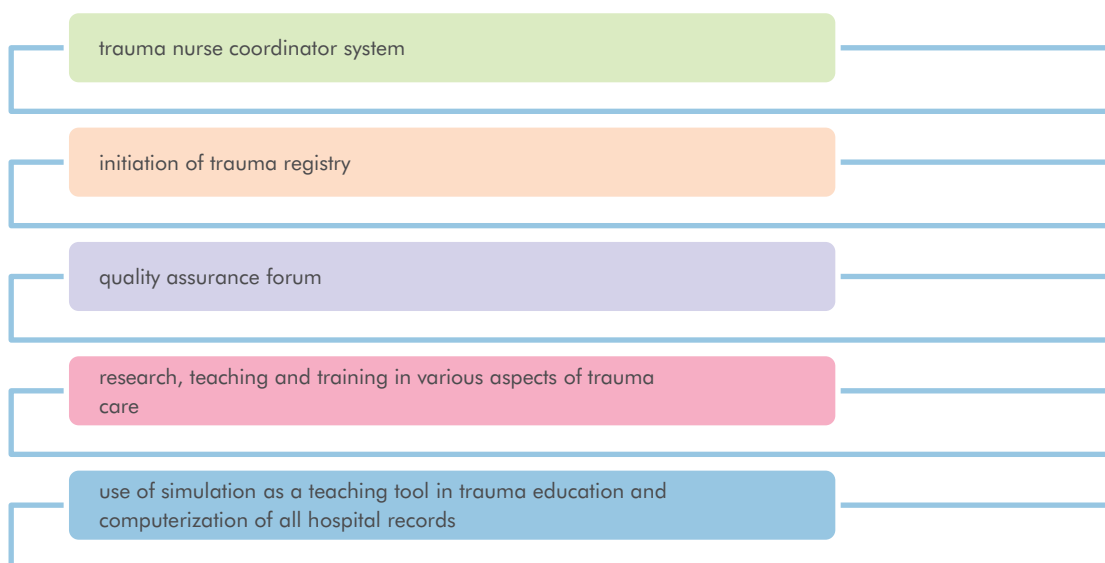
Another major and most significant development showcased in this article was that The Medical Council of India conferred the first rights to initiate MD in EM in India on two colleges in Ahmedabad. This issue also covered the need for EMS for The Commonwealth Games which was completely overlooked and ignored forgoing the ongoing measures.

It then talked about the Jai Prakash Narayan Apex Trauma Centre (JPNA) which is designated as the Apex Trauma Center, handling not only treatment of acute trauma but also providing facilities for trauma research, education and designing systems. It is developed as a role model for rest of the country to start regional and state level trauma care centers.

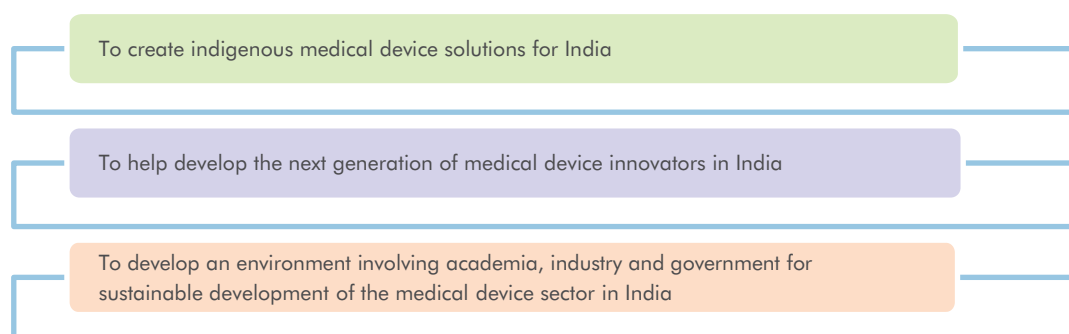
The center has a dedicated team of trauma specialists including:



It boasts of starting new initiatives like,



Centre in India whose Bio Design Process is to Identify-Invent-Implement-Manufacture SIB Objectives -



13th Issue -

This issue discusses the need for Trauma Audit Research Network through which Audits can be run at a national level. Trauma Audit Research Network (TARN) is a national programme designed to measure the quality of delivery of care to trauma patients in the U.K whose benefits could be motivating for India as well.



It then talks about the 6th Asian Conference on Emergency Medicine in Bangkok, Thailand which is shown as a moment for seeking the answer to how we can deal with the growing need from dynamic environment and the future. There are growing numbers of emergency medicine related meetings all over the world but the problems faced by Asians and the solutions tailored to meet the demands of Asians are far from enough. It explores insights to such problems and challenging discussions to solutions.

The segment goes into further analyzing the status of ER Trauma Care in Private Hospitals in India, emphasizing it as the need of the Hour, and then looking into the issue of Road Accidents and our country's condition with it fast becoming the Death Capital of World.

It talks about existing Scenario of ER in Private Hospitals - Providing effective trauma care needs basic infrastructure, qualified manpower, protocols and back and front end integration with pre-hospital care service providers to render effective services. Based on the editor's experience of private setups, the existing scenario needs considerable improvement in terms of-

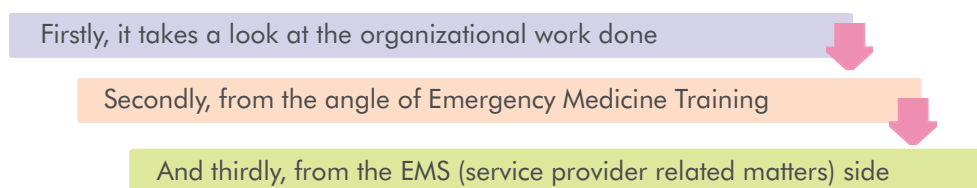
- ⇒ Basic infrastructure
- ⇒ Basic Equipment and Medicine
- ⇒ ER design and location: Diagnostics Facilities and Operation Theatre

It also categorizes the need for a national trauma care apex body for the below mentioned purposes, implying that only then, India will be able to combat the menace of ever increasing deaths by trauma before it becomes epidemic.



This issue also showed a Comparative History of EM Training and EMS in USA which covered a chronological way of looking at the development of EMS worldwide and comparing the same with India.

The chronological development traces the development from three angles.

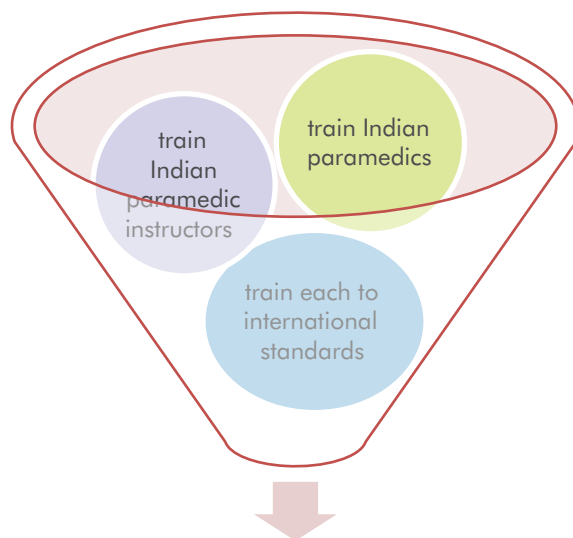


2011 -

The issues in the year 2011 cover a vast range of topics through a variety of in-depth qualitative as well as medically technical articles. One of the issues covers the Curriculum developed by The Society for Emergency Medicine, India (SEMI) in 2009 that presented an approach paper to the Medical Council of India (MCI) to standardize curriculum for MD in Emergency Medicine based on suggestions and recommendations of various institutes practicing EM in South India. The article was a synopsis of SEMI's recommendations to MCI drawn up by the Expert Committee (EC) formed to write a curriculum for EM in India.

Furthermore it explores the Curriculum's topic which is Development of a Self-sustaining Paramedic Educational Program in India; a result of The Stanford-EMRI Partnership. On the 9 of May 2007, Stanford University School of Medicine Dean, Philip Pizzo and Emergency Management and Research Institute (now GVK EMRI) CEO, Venkat Changavalli, signed a Memorandum of Understanding to develop India's first collaborative 2 year paramedic program, to be taught at EMRI's campus in Hyderabad, Andhra Pradesh.

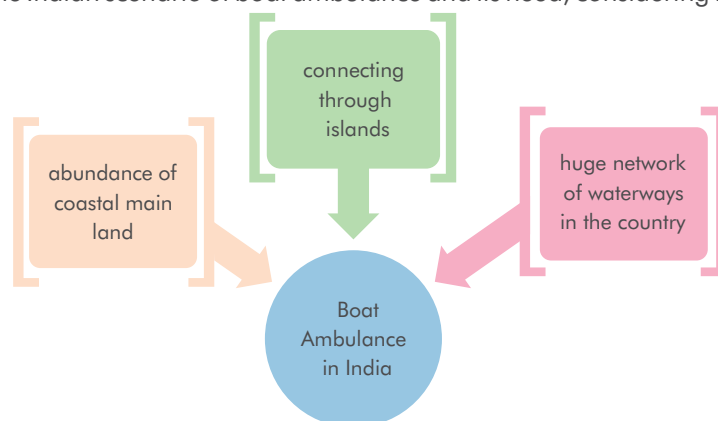
The goals of the program were four-fold :



develop a world-class Indian training facility

The year also covered issues with articles like Blast Injuries under EMS explaining the mechanism of blast and how it has advanced over the time through the use of solid/liquid high order explosive in making of it that causes a huge volume of devastation. The article also discusses the type of physical injuries based on the extent of the damaged caused to the victim in the blast. It further emphasis on need of blast injuries management who would be responsible for careful considerations in admission, treatment and discharge of affected people. The author is a consultant surgeon with Colombo South Teaching Hospital, Sri Lanka.

An article also discusses the concept of Boat ambulance as EMS and its presence in countries like USA, UK and Sri Lanka. It further explores the Indian scenario of boat ambulance and its need, considering the below possibilities.



The current status resembles that despite the necessity of a boat ambulance, its concept in India is in a very nascent stage and further development is required from government and private sector. The article mentions case of two states i.e. Assam and West Bengal where boat ambulance service is available in some form. The neighboring countries like Bangladesh and Pakistan also have boat ambulance service.

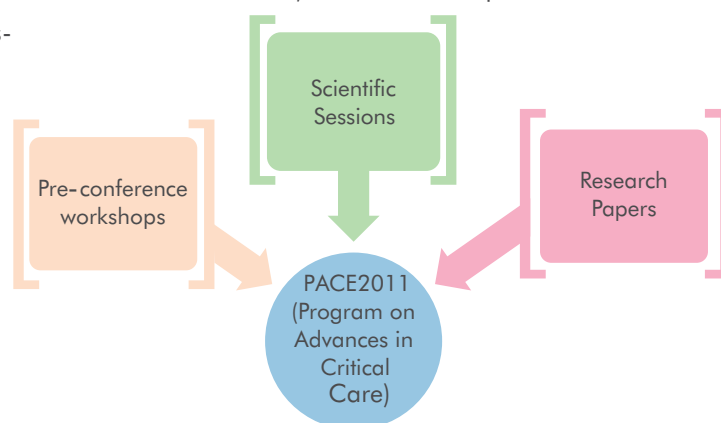
The issue in this year also focuses on the concept of disaster nursing medical emergencies that could arise due to accidents, natural calamities or simple due to ill health. The case of an accident and a disaster differs as the former is manageable by local resources whereas the latter would result in mass destruction and loss of lives is huge and hence local available resource wouldn't be adequate in managing them. It is needed to be upgraded to regional, state or national level. The article further classifies the disaster of 2 types i.e. natural and manmade disaster.

One of the issues of EMSIndia in this year also discusses the importance of emergency medicine in health care in Asia. It covers the 6th Asian Conference for Emergency Medicine (AECM2011) hosted by the Thai Association of Emergency Medicine at the Centara Grand, Bangkok. The conference was focused on *taking stock of the EM scenario in Asia, compare it with other continents and plan future strategies accordingly*.

Other issues in this year covered topics from the range of Evidence Based Approach on Snake bites to explaining the CPR Guidelines of 2010 to reporting the PAROS: Pan Asian Resuscitation Outcomes Study by the CRN (Clinical Research Network), addressing the issue of Out-of-hospital cardiac arrest (OHCA), which is a global health concern. It explains how Asia-Pacific's (Continental Asia and Australasia) population is still increasing and is expected to age progressively in the next 10 to 15 years. Emergency medical conditions in the elderly, including OHCA, are anticipated to increase and many Emergency Medical Service (EMS) systems in Asia are experiencing strain because of increase in workload and limited resources. PAROS CRN endeavours to answer important questions for the development and revisions of pre-hospital and emergency care policies. Research pursued under the auspices of PAROS CRN aims to improve outcomes and treatment capabilities across the Asia-Pacific region.

Another important event covered was, CEMEx 2011 (Chennai Emergency Management Exercise), which was a result of a multi-institutional public-private partnership designed to harness the strengths and capabilities of regional emergency responders, educational institutions, hospitals, humanitarian agencies and state agencies as they prepare to confront urban catastrophes, focused on humanitarian and medical response.

PACE2011 (Program on Advances in Critical Care) was also a major event covered during this year which was conducted in three phases-



2012 -

The issues in this year *show a shift in the trend of the type of articles* showcased in comparison to the articles of previous years. With them becoming more technical in terms of purely medical abstracts by field experts, detailed with heavy terminologies and medical concepts. The first issue covers a breadth of topics ranging from exploring and discussing the current status and scope of Public Private Partnerships for scaling up of Emergency Medical Services (EMS) across India, to an article profiling the EM Education in India showcasing it as the way forward in this field and underlining its importance as well as putting it across as an emergency for our country by highlighting its need.

The articles in the issues of 2012 explore diverge and wide-ranging topics like Early goal directed therapy in the emergency department, a synopsis on Society Consensus Guidelines for Resuscitation India, August 2011, a field report on the Great East Japan Earthquake/Tsunami Relief International Congress on Emergency Medical Service System (EMS2012), and a survey on the up-gradation of skills after completion of BLS and ACLS Provider Workshop, in detail.

Along with that the issues in this year also showcased and covered these various events, highlighting their excerpts and proceedings with their objectives as well as outcomes:



This year the range of medically technical articles was quite broad, indicating the change in trend, covering the below topics and their connection with EMS in some way-

Optic Nerve Sheath Diameter and Intracranial Pressure

A Sonographic Correlation in Head Injury Patient

Gloriosa Superba Poisoning: A Case Report

Is Transthoracic Ultrasound Helpful in detecting Pneumothorax

Suprarenal Abdominal Aortic Aneurysm: An Uncommon Presentation

Tranxemic Acid for Control of Haemorrhage in Major Trauma A Literature Review

A Rare Case of AIDP or GBS with Association to H1N1 Influenza Infection in Malaysia

Diagnostic Radiographic Imaging in Trauma A Prospective Observational Study

Detecting Methods of Endotracheal Tube Position

Comparison of Propofol with Fentanyl and Ketamine with Midazolam for Procedural Sedation and Analgesia in ED

There were some really major developments for Lifeline Foundation and EMSIndia Journal during this year. The Asian Executive Council of EMS decided to have an Asian Award for EMS, instituted, with Lifeline Foundation being the secretariat of the Awards.

Another achievement was that Lifeline Foundation was given the responsibility to create the Editorial Secretariat for the Asian EMS Journal, the official journal of the Asian EMS Council; an international journal to be published from India with its Peer Review and Edit Boards to be graced by the likes of T V Ramakrishnan, Imron Subhan, Tamarish Kole and Srihari Cattamanchi. This was a great step towards bringing Indian EMS to a pan-Asian platform.

The coming year, once the Asian EMS Journal became the country's 1st published journal (related to EM/EMS) for an international audience, EMSINDIA was merged with it. The void left by EMSINDIA was filled in by the recently launched National Journal of Emergency Medicine. Thus the year 2012 was formally the last year of EMSIndia Magazine/Journal.

The Journey of the journal 'EMSIndia' :

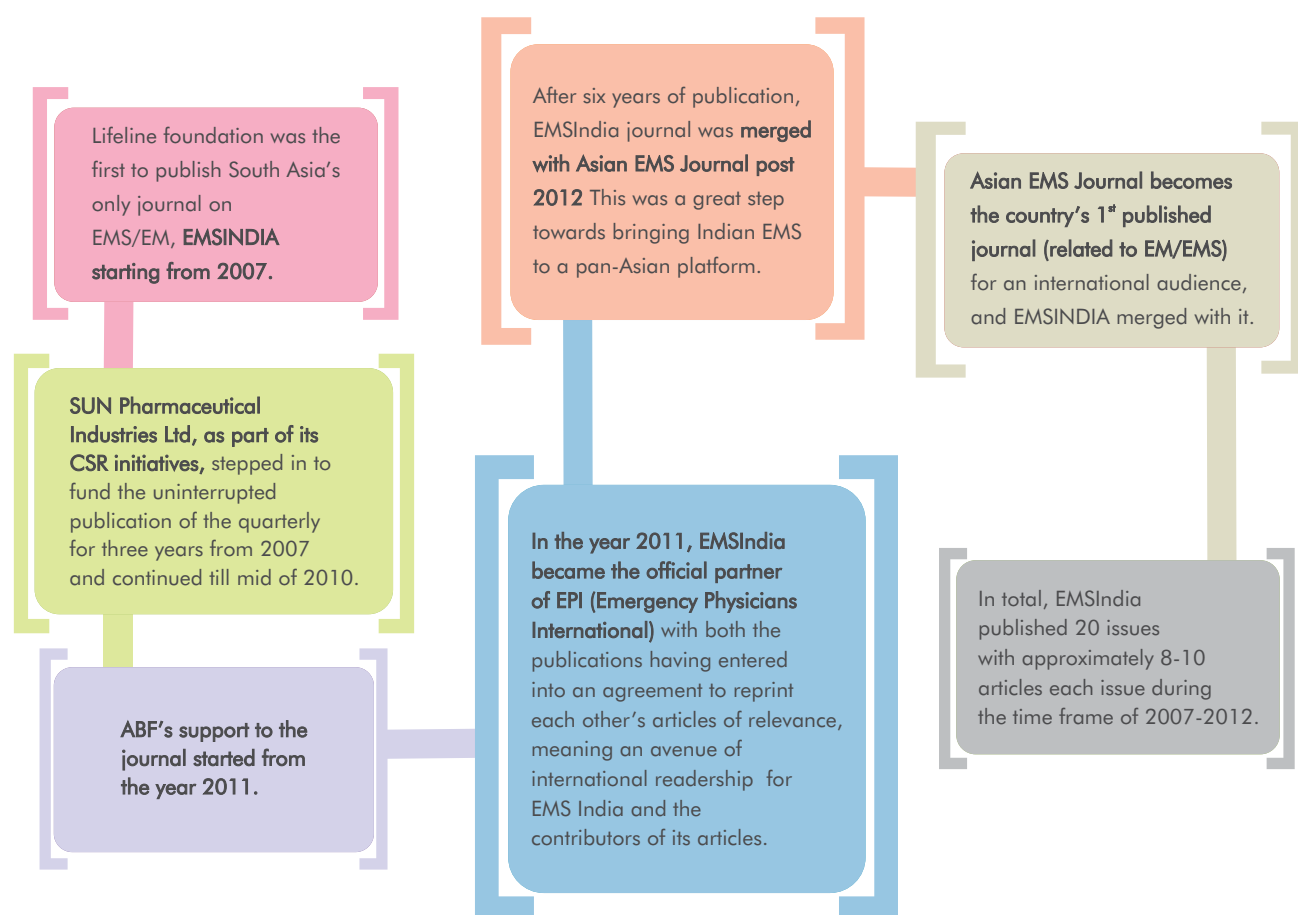
Lifeline Foundation was the first to publish South Asia's only journal on EMS/EM, EMSINDIA starting from 2007. SUN Pharmaceutical Industries Ltd., as part of its CSR initiatives, stepped in to fund the uninterrupted publication of the quarterly for three years from 2007 and continued till mid of 2010. Post that it was supported by ABF(Axis Bank Foundation) from the year 2011.

In the year 2011, EMSIndia became the official partner of EPI (Emergency Physicians International) with both the publications having entered into an agreement to reprint each other's articles of relevance, meaning an avenue of international readership for EMSIndia and the contributors of its articles.

After six years of publication, EMSIndia journal was merged with Asian EMS Journal post 2012 when Lifeline

Foundation was given the responsibility to create the Editorial Secretariat for the same, the official journal of the Asian EMS Council; an international journal to be published from India with its Peer Review and Edit Boards to be graced by the likes of A Proff Marcus Ong. This was a great step towards bringing Indian EMS to a pan-Asian platform. Responding to a long felt need to have a scientific journal addressing issues and developments related to Asian EMS, LLF took upon itself the onus of publishing the official Asian EMS Journal. Intended to publish original and scientifically researched articles of international standard and quality, this Journal is also supported by Axis Bank Foundation.

Asian EMS Journal will then became the country's 1st published journal (related to EM/EMS) for an international audience, and EMSINDIA merged with it.



Trend Map/Some common themes followed throughout the Publication

The inaugural issue itself introduced the comparison between the Development of EMS in USA and the Development of EMS in India., followed by comparisons of the state of EMS in USA 1960's with the current state of EMS in India. Drawing similarities between the emergence and state of EMS in USA during that period with how it is in India at present.. Throughout the issues this theme kept cropping up as one of the very important and significant aspect of the journal with constant derivations from the various aspects of American EMS system and learnings from their experiences of EMS journey over the years, constantly focusing on adapting their Best Practices and avoiding their mistakes.

In a similar way, some other comparisons have been drawn from our neighboring countries as well with a special feature on EMS in Sri Lanka appreciating its brilliantly executed EMS post its emergence, along with reports of formation of EMS council in Bangladesh. Other features have followed significant developments of EMS in Bangkok etc.

Regular articles reporting the various important and much significant events and conferences focusing on development of EMS in India and Pan-Asia have been covered quite well with their important highlights and learnings as well as well as sharing of the experience itself. Views of bodies like SEMI (Society for Emergency Medicine India) on the future of EM and their contributions along with latest developments by MCI for education in EMS have been featured with important aspects like developing a curriculum for granting an MD in EMS.

The issues in the journal categorically follows the development of EMS as a concept then as a law, with Gujarat bringing in the 1st EMS Act with other states following lead, and then as a social need/emergency highlighting every important development for EMS along with the shortcomings in our system to that affect addressing this issue effectively. Also discussing EMS in terms of it being a basic Consumer right i.e. citizens of our country having Consumer rights to a common EMS Helpline no. Further stressing the need for 108 services to be ensured in all parts of the country. It also follows the development of EMS in other states of India.

Another significant trend followed throughout the publication was of putting light to the nuances of various important technical and purely medical aspects of EMS that deal with emphasizing on the need for implementation of proper technology with focus on trauma care, for example 'patient transfer'. Along with some articles as versatile as "EMS response to Chemical and Nuclear Bio Terrorism" to "Snake bite: Evidence based Approach" and "blast/head injuries" etc. Also touching upon subjects like developing some qualitative and quantitative parameters for evaluating EMS and How does one measure the success of EMS.

The variety of such articles was in itself like a trend. A trend of showcasing issues that deal with medical and management expertise on such diverse technical topics.

Constantly exploring innovative ideas by various experts and stakeholders in the field for the betterment of the existing EMS system like reporting the pitching of an idea of establishing a "consortium of EMS stakeholders" along with reporting the latest developments in the EMS fraternity and related news like alleged lack of transparency in the functioning of the PPPs of EMS. Pointing out the lack of EMS during Mega-Sports events in India to finally reporting a good news of 15 states in our country being covered by a government driven EMS(108).

CHAPTER 7

OVERALL IMPACT GAPS AND RECOMMENDATIONS

The study team has presented the overall impact of the highway rescue project along with the gaps and recommendations based on certain thematic areas through a table presented below.

Aspect/Activity	Impact	Gaps/Recommendations
1. Policy & Advocacy	<ol style="list-style-type: none"> 1. Gujarat is the first and only state to have successfully passed Emergency Medical Services legislation in the year 2007. LLF has played a catalytic role in providing a pragmatic framework for the act. 2. The very first and one of a kind EMS legislation framework in a low income country. 3. Classic example of collaborative effort of motivated individuals, expert care givers, NRI community, committed professionals backed by the quintessential support of a proactive team of Government officials. 4. The Act provides for establishment and incorporation of City and District Emergency Medical Services Councils 5. Articulates functions and regulatory responsibilities of city and district councils. 6. Lays down a cognizant framework for penalties and punishment for noncompliance or abuse by the EMS provider companies. 7. Grants authority and empowers city and district councils to formulate EMS bye-laws. 	<ol style="list-style-type: none"> 1. Apart from Gujarat 18 other states have put in a 108 service; none have enacted the law. While there are states that still do not have an EMS Law the country lacks a National EMS framework/ law. 2. A distinct need for a National Policy framework has been proposed by many Individuals, health givers, and government official to kick start an EMS revolution in India. 3. LLF can crusade its existing model and use its bureaucratic influence to campaign for a legislative EMS policy framework in other states towards formulation of a National EMS Policy. 4. The Gujarat EMS Act 2007 still has underlying grey areas that needs address (As identified by numerous other stakeholder groups). E.g. <ol style="list-style-type: none"> A. Bye –laws for Registration/Licensing and de-licensing need to be articulated. B. Even as EMS Act clearly defines and demarcates authoritative roles and regulatory responsibilities of City and District Councils. The legislation has still not been enforced in many districts like Rajkot and Surat.

<p>Highway Rescue Project</p>	<ol style="list-style-type: none"> 1. LLF has covered a distance of 5029 Kilometres (Cumulative) under HRP across 5 states between 2002 and Dec 2014. 2. As of Dec 2014 21087 accident victims were rescued. 3. Introduced the concept of a universal access single rescue number. 4. LLF has extensively organised sensitisation and EMS awareness campaigns on road, highway and basic life safety to target groups like truck drivers, VTFs, housewives, school children etc. 5. LLF has been responsible to develop and implement a comprehensive Highway rescue response model that was one of the models that were used as a template to design EMS services in India. 6. Highway rescue services and industrial safety service provider to corporate companies. 	<ol style="list-style-type: none"> 1. Scalability - Mapping process is time consuming and continual, resource intensive. 2. Limited use of technology during the entire process results in confining the model to gain larger effectuation on wider scale. <p>Replicating the model on a larger scale or a national level will require tremendous resources which is only possibly in the existence of a National EMS policy or legislation.</p>
<p>Training and Capacity building</p>	<ol style="list-style-type: none"> 1. ABF funded First Aid training for different categories of people stood at 7087 till November 2014. 2. Other sensitisation and awareness training and capacity building programs have catered to 9089 people between 2008 to 2014 primarily training doctors, paramedics and conference delegates. 3. LLF provides certified training for BLS, ACLS, and ITLS trainings to various state and private entities. 	<ol style="list-style-type: none"> 1. Training needs to remain a continuous focus area of operations. 2. Training scope can evolve from generic Lifesaving skills training to more specialised response training like HAZMAT or Industrial EMS Training etc.

	<p>4. LLF provides training to, private ambulances and concessionaires etc.</p> <p>5. Overall training beneficiaries constitute of Police, Doctors, HAZMAT Professionals, Industrial Workers, VTF's, and Toll Plaza Staff etc.</p>	
Knowledge Creation	<p>1. EMSIndia journal, the first of its kind has proved to be a unique platform for all EMS related experts to come together and showcase all issues related to this field, eventually merging and evolving into a bigger and better journal catering to an international readership and addressing issues related to EMS pan Asia.</p> <p>2. The variety of topics discussed and brought into focus through the journal over the span of 6 years through the diverse medical as well as administrative experts who have contributed to it, kind of reflects the changes that took place in the EMS fraternity and the arenas which affected EMS related issues in India along with latest developments in the field.</p> <p>3. In total, EMSIndia had published 20 issues with approximately 8-10 articles each issue during the time frame of 2007-2012 with a circulation trend that shows a constant increase in circulation with almost every issue clearly indicating the increase in awareness for EMS as an important subject making its stronghold in India.</p> <p>4. Total issue circulation was 62205 between 2007 and 2012.</p>	<p>1. There is immense scope to further the reach and circulation of the journal through its online version. One of the areas that has been constantly a challenge is a functional and timely form of peer review.</p> <p>2. There has also been challenges in sourcing original evidence based research articles by Indian Authors.</p>

ANNEXURE – 1

Stakeholder	Designation, Institution
Mr. Ajay Uppai	Head – Marketing, Mangalam Cement and President, Mangalam Timber Product
Dr. Amarjit Singh	IAS, GoI
Dr. Amit Shah	Emergency Physician, North Carolina, USA
Dr. Anil Kumar B. Chaudhary	Doctor, Karjan CHCN
Ms. Anita Rajane	Nurse, Shubhechha Hospital, Baroda
Mr. Ashok Ramani	Sr Manager, IOCL, Mumbai
Mr. Atanu Chakraborty	IAS, GoG
Dr. Atul Saxena	Professor, Head of ED, SSGH, Baroda
Dr Balasubramaniam	EM Pioneer and Ex-Chair AAPI, California, USA
Ms. Bharti Nageshwar	Nurse, Shubhechha Hospital, Baroda
Dr. Diptendu Panda	Chief Executive Officer, Sunshine Global Hospital, Baroda
Mr. M F Dastoor	Ahmedabad Municipal Fire Chief
Dr. Gauri Wagenaar	Entrepreneur, Ahmedabad
Dr. Haren Joshi	Vascular Surgeon, Florida, USA
Mr. Himanshu Bhatt	Paramedic trainer, LLF, Baroda
Ms. Isha Popat	Senior Manager, Program & Resource Mobilization, LLF, Baroda
Ms. Jayshriben Mehta	Chairperson, MCI, Delhi
Mr. Karthik Shah	Admin. Marketing, Spandan Hospital, Baroda
Dr. Ketan Patel	Head of ER, Apollo Hospitals Ltd., Gandhinagar
Dr. Kumar Allagapan	Head of ER, Long Island Jewish Hospital, New York
Mr. S Kutty	Ex-TATA Motors
Mr. M K Tandon	Ex-ADG, GoI
Dr. Maloy Sarkar	Chief Medical Officer, ONGC, Hazira
Mr. Manish Bhardwaj	IAS, GoG
Mr. Manish Goswami	Administrator, Sumeru Hospital, Baroda.
Dr. Manjul Joshipura	Doctor
Ms. Mathew Varghese	St. Stephen's
Dr. Minoo Patel	Trustee, LLF, Baroda
Dr. Mrugank Merchant	Trustee, LLF, Baroda
Mr. Mukesh Kacker	Ex-IAS
Mr. Nandkishor Patil	Employee, LLF, Baroda
Mr. Nilanjan Bhattacharya	Trustee, LLF, Baroda
Mr. Nihaj	Head of AHA, India

Stakeholder	Designation, Institution
PK Mishra	IAS, Chief Principal Secretary, PMO
Dr. Prasad Rajhans	Chief Intensivists, Deenanath Mangeshkar Hospital, Pune
Ms. Promila Zalpuri	Ex-Principal Baroda High school.
Ms. Raghib Manzoor	Secretary, Bangladesh Society of EM, Dhaka
Mr. Ravi Thakkar	Paramedic trainer, LLF, Baroda
Sharat Meshram	Executive Director, IOCL , Mumbai
Subhash I Patel	Former Member, NHAI, GoI
Dr. Sunil Kumar Ramashray	Director, Por CHC
Mr. Sushanto Mukherjee	Trustee, LLF, Baroda
Dr. Tamorish Kole	Head of Emergency Medicine, Max Group of Hospitals
Dr. Tejal Shah	Sr Manager, Medical Services
Dr. TV Ramakrishnan	Prof and Head of EM, SRMC, Chennai
Dr. V Anantharaman	Prof and Head of EM, Singapore General Hospital, Singapore
Mr. Vijay Reddy	Founding Member, EMRI

ANNEXURE – 2



Tata Institute of
Social Sciences

CONSENT FORM

I have been informed about the purpose of the Impact assessment study of the Axis Bank Foundation funded Lifeline Foundation & EMS Services. I have been assured that the information collected during the study will be confidential and used only for data analysis of the study and that at no point will identifying details be used for any purpose. I have voluntarily consented to participate in the study based on the nature of the study as explained to me by the researcher in a language that I understand.

Signature:

Place:

ANNEXURE – 3

TISS Lifeline Foundation impact assessment interview schedule :

What is the survey about?

This survey is about your experience of the Baroda Life ambulance services.

Who should complete the questionnaire?

This survey should be answered by Patients, Friends relatives, neighbours, or Bystanders who have either contacted or availed the Baroda life ambulance service.

*Participation to the survey is entirely voluntary and you may or may not chose to answer any of the below asked questions.

Part 1. Calling the Ambulance :

1. What was the emergency? Why did you utilize Baroda life Ambulance Helpline service?
2. Were you aware of the EMS Helpline number earlier?
 1. Yes
 2. No
 3. Don't know/Don't Remember
3. If yes how did you come by the helpline number?
 1. Highway Hoarding/signs
 2. On the ambulance itself
 3. Friends other references
 4. EMS Outreach programs etc.
4. Have you availed Baroda Lifeline ambulance services earlier?
 1. Yes
 2. No
 3. Don't know/Don't Remember

5. Number of telephone calls made to Ambulance service helpline number in this incident?
6. Were you (Person who called the Ambulance Service) immediately connected to the ambulance control room operator?
1. Yes
 2. No
7. If No, how long did it take for you to speak to the appropriate official/Emergency Advisor?
1. I spoke to them straight away
 2. Spoke to them in less than 5 minutes
 3. 15 minutes or less
 4. More than 15 minutes
8. Were any instructions provided by the Emergency telephone advisor?
1. Yes
 2. No
9. Were instructions clear cut, concise and easy to understand?
1. Yes
 2. No
10. Was the ambulance control room operator reassuring?
1. Yes, definitely.
 2. Yes, to some extent
 3. No
 4. Don't know / Can't remember
11. How would you rate the courtesy of the ambulance control room operator?
1. Excellent
 2. Very good
 3. Good
 4. Fair
 5. Poor
 6. Very poor

12. Did you consider calling any other organisation or service or helpline number?

1. Yes
2. No
3. Don't know / Can't remember

13. If yes then which?

Part 2. Attendance by the Ambulance Service :

1. Did anyone from the ambulance service come out to help you?

1. Yes
2. No
3. Can't Remember/ Did not wait for the Ambulance

2. Were you told how long you would have to wait for someone from the ambulance service to arrive? (Please elaborate)

1. Yes
2. No
3. Can't Remember/ Did not wait for the Ambulance

3. Did the ambulance arrive within the agreed time?

1. Yes
2. No
3. Can't Remember/ Did not wait for the Ambulance

4. Was the paramedic/driver who came out to help you reassuring?

1. Yes, Definitely
2. Yes, to some extent
3. No
4. Don't know/Can't remember

5. Did the Ambulance paramedic provide any BLS to the patient?

1. Yes
2. No
3. Don't know/Can't remember

Part 3. Transport and Facilities provided (Drivers, Relatives who travelled with the ambulance) :

1. How clean was the inside of the ambulance or ambulance car?
 1. Very Clean
 2. Fairly Clean
 3. Not very clean
 4. Not at all clean
 5. I was not provided transport in an ambulance/ambulance car
 6. Don't/Know can't remember
2. In your opinion/experience did the ambulance lack any essential facilities/equipment?
 1. Yes
 2. No
 3. Don't know/Can't remember

3. If Yes, Kindly Specify

Part 4. Overall Experience (Now thinking overall about your experience of the ambulance service on this occasion...)

1. Did you have to pay any money before or after availing the Ambulance services?
 1. Yes
 2. No
 3. Don't know/can't remember

2. Respondent satisfaction rating Scale

Rating Scale	Good	Average	Poor
Available			
Accessible			
Affordable			
Quality of the service			

3. Would you recommend Baroda Life Line Ambulance service to your Family, Friends, and relatives in the future?
 1. Yes
 2. If No, why?
 3. Don't know

ANNEXURE – 4

Questions about the emergency response centre -

1. Process and functions :

- 1) Emergency Response Center (ERC) whether it is 24 x 7 X 365 services?
- 2) Telephone number to call for easy & quick alert?
- 3) Inbuilt call surge capacity/ capability to respond to mass causality/ disaster?
- 4) ERC with coordination with Police/ Fire Dept. network hospital?
- 5) Multi-mode communication
- 6) Geo-spatial information (digital maps – Road/landmarks)
- 7) Service organization information (hospitals, fire/police) E
- 8) What are the Different departments and processes they coordinate

2. Human resource related questions :

- 1) Staffing of each of the departments
- 2) Experience and since how long the staff are in the specific units
- 3) Job roles
- 4) Reporting hierarchy?
- 5) Training received/ capacity building carried out?
- 6) Performance review system

3. Performance related :

- 1) Average number of calls per day?
- 2) Average number of hoax calls?
- 3) Average number of rescue calls responded to in the last month/ year?
- 4) Peak time of the day for calls? What reasons for this?
- 5) Peak months/ seasons for highest calls? What reasons for this?
- 6) Average call time?
- 7) Number of rings before picking a call?
- 8) Number of simultaneous calls that can be taken?
- 9) Average time by which executive is free from one call?
- 10) Automatic Vehicle Location Tracking system?
- 11) Ability to mobilize additional fleet to scene?

4. Awareness related :

- 1) What are the various forms of awareness generation activities conducted
- 2) What's the frequency of these events
- 3) Are there any challenges/ recommendations

ANNEXURE – 5

Ambulance/erv checklist -

1. Medical Equipment :

- 1) Collapsible Auto loading stretcher
- 2) Scoops Stretcher – For patients with Spinal Injuries /Spine Board
- 3) Suction Apparatus
- 4) Oxygen Manifold system
- 5) Fire extinguisher
- 6) Warning torch.
- 7) Bi Phasic Defibrillator
- 8) Airway related equipment
- 9) All emergency drugs including necessary consumables including Anti Snake Venom
- 10) Automatic B P Apparatus in addition to manual apparatus
- 11) Glucometer
- 12) Digital Pulse Oxy meter
- 13) Water dispenser
- 14) Clock in Patient compartment
- 15) Extrication Kit – Rescue Tools
- 16) Multi-Para Monitor

2. Fabrication :

- 1) Type of vehicle make/ year of manufacture
- 2) Overall general condition of vehicle interiors and exteriors?
- 3) Air conditioning with dual Insulation for Thermoregulation
- 4) Fire Retardant and low noise levels.
- 5) Electrical Power Source - 220 Volts A/c, 12 Volts DC, In patient compartment
- 6) Invertors, 90 Amps alternator, additional battery backup 2 x 75 AH and external charge port.
- 7) Hard furnishings – Medical storage space,
- 8) wash basin
- 9) fresh water / drain water tanks
- 10) foot operated sprout
- 11) space for storing medical records
- 12) seating for Crew paramedic and attendants
- 13) Waste Disposal System
- 14) Floor loading height of 700 mm for easy loading of patient into cabin?

3. Driver :

- 1) Name
- 2) Age
- 3) Base location
- 4) Response radius
- 5) Referral points
- 6) Driving license number
- 7) Years of service
- 8) Experience in similar job role
- 9) Training status date/ type

4. Driver performance related :

- 1) Average number of cases attended day
- 2) Total calls attended by log book
- 3) Protocols followed
- 4) Percentage of victims reached with golden hour
- 5) Percentage of victims provided basic first aid/ medical first response
- 6) Is the Vehicle manned by paramedical staff
- 7) Training levels of paramedic staff
- 8) Communication facility with patient, control room , hospital
- 9) Challenges and remedial measures

ANNEXURE – 6

Health care Professional/ Associates/Community members :

1. Basic information :

- 1) Name
- 2) Job role
- 3) Name of organisation employed
- 4) Years of service
- 5) Total years of service
- 6) Qualifications

2. About the service :

- 1) Are you aware of the EMS/ Lifeline foundation and its services?
- 2) Are you associated with the organisation or service in any way? Yes No
- 3) Nature of association?
- 4) Since how long?

3. Perception about the services :

Sr Number	Questions	Good	Average	Poor
1	Awareness of the service			
2	Awareness of the method to utilise			
3	Rate the availability of the service			
4	Rate the affordability of the service			
5	Rate geographic accessibility of the service			
6	Rate the quality of the service			

1. Do you think there is a need for such a service? (Please elaborate)

1. Yes
2. No

2. Do you think the service is utilised well?

1. Yes
2. No (If No Please elaborate)

3. Are you aware that ABF is a funding partner of the project?

1. Yes
2. No

4. What in your opinion is the future for such a project? Please elaborate

ANNEXURE – 7

Training in Pre-Hospital care :

Community Capacity Building and First Aid Training in Industries :

Background :

LLF advocates the significance of community involvement in pre-hospital care; it sensitises and trains first responders to intervene in emergencies. Lifeline is making the society responsible for instant response and immediate post-accident care thereby minimising response time to reduce mortality and residual disabilities. It trains industrial staff, university and school students with modules developed with help of UNDP.

Lifeline is the 1st non-profit in Gujarat to become a Regional Training Centre of AHA, global leaders in life support training.

LLF trained its first batch in 2007; certified courses of AHA's Advanced Cardiac Life Support (ACLS) and Basic Life Support (BLS) besides other courses are conducted.

Doctors and paramedics from public and private sector corporate are being trained by the Foundation.

Questionnaire :

To understand the BLS & ACLS training course

1. Eligibility criteria for joining the course
2. How is the course module tweaked to local needs and sensitivities (language)
3. Have there been any up gradations in the course
4. How many training sessions are conducted
5. Theory / practical how is the course divided
6. Practical – what equipment are they familiarised with & how
7. Evaluation, cut off criteria
8. Course duration, content
9. Usage of technology, audio-visual , innovative practices in teaching
10. Trainer profile, how many trainers, KII with them.
11. KII with trained individuals
12. KII with trainers

1. Do you personally screen candidates for training?
2. How are they acquainted with EMS in India & the world
3. How are their doubts solved?
4. How are the site visits scheduled as a part of study?
5. Is the training seeing results? Explore

6. In the case of accidents
7. Challenges in training
8. Newer emergencies reveal new gaps , how are they addressed

KII with trained individuals :

1. Has the course improved your own understanding of emergency situations
2. How do you rate your emergency preparedness after undergoing this course
3. What are the set protocols in the face of an emergency situation
4. What are the challenges in implementing those?
5. In how much time do you have to respond in an emergency situation
6. What do you think can be done to improve these services
7. Typically how do you handle a medical emergency?
8. Are there any refresher courses held?

ANNEXURE – 8

Basic questions to understand the structure of an organisation -

- 1) What is the size of the organisation in terms of employees?
- 2) What comprises the physical infrastructure of the organisation in terms of its office size, number of centres, number of vehicles etc.?
- 3) What is structure of the organisation in terms of hierarchy or what is the line of authority/chain of command in the organisation? (or if it is a flat organisation with no hierarchy)
- 4) How many departments/divisions/branches/centres are there in the organisation?
- 5) Is there one head of all the departments or are their multiple heads heading the various departments of the organisation? (delegation of authority)
- 6) What is the line of communication/reporting structure of the organisation?
- 7) Do the employees report to their department head or everyone reports directly to general manager? (superior subordinate relationships)
- 8) How are tasks allocated in the organisation? (process of task allocation)
- 9) How is the coordination between different departments facilitated, carried out and supervised?
- 10) What are the monitoring criteria of the organisation in terms of operations?
- 11) Is there a separate department to handle the finances of the organisation? Who is responsible for handling and analyzing finance of the organisation?
- 12) What is the process of revenue generation in the organisation?
- 13) What are the sources of funding and who are the funders of the organisation?
- 14) Who is responsible for handling the PR (public relations) for the organisation and how? (if outsourced or handled internally)
- 15) Does the organisation have a corporate clientele to which services are provided (like lending organisation's vehicles etc.) in return for a fee?
- 16) What is the requirement and structure for these types of revenue generating activities carried out by the organisation?
- 17) Does the organisation have any government linkages as well? What are the facets/features of such linkages if any?
- 18) Does the organisation follow any process of connecting/sharing of services or experiences in terms of any cross linkages learning with similar organizations working on EMS (emergency medical services), like GVK foundation etc.?

ANNEXURE – 9

Survey for Govt. Stakeholders / Bureaucrats :

Name:

Designation:

Aspect	
No of years of association with Lifeline Foundation	
Nature of association with Lifeline Foundation and EMS service	
Perception of the role and commitment of Lifeline Foundation and EMS service	
Role of Lifeline Foundation and EMS service as a catalyst in policy formulation	
Role of Lifeline Foundation and EMS service in introducing new systems and creating an ecosystem for setting up the Emergency Helpline	
Critical local stakeholders in the EMS space other than Lifeline Foundation and EMS service	
How does Lifeline Foundation and EMS service interface with these stakeholders	
Lifeline Foundation and EMS service role in addressing challenges	

ANNEXURE – 10

Medical Appliance Bank :

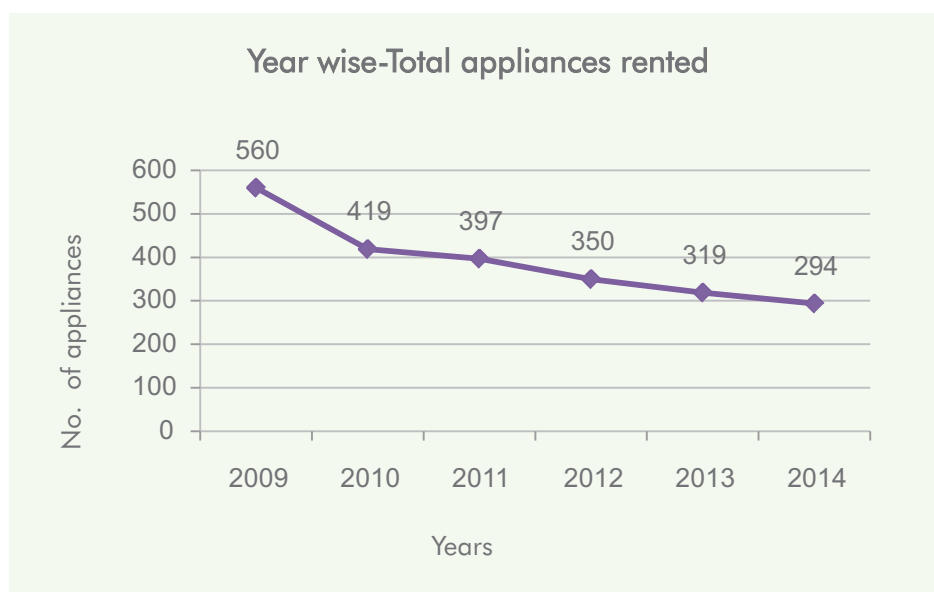
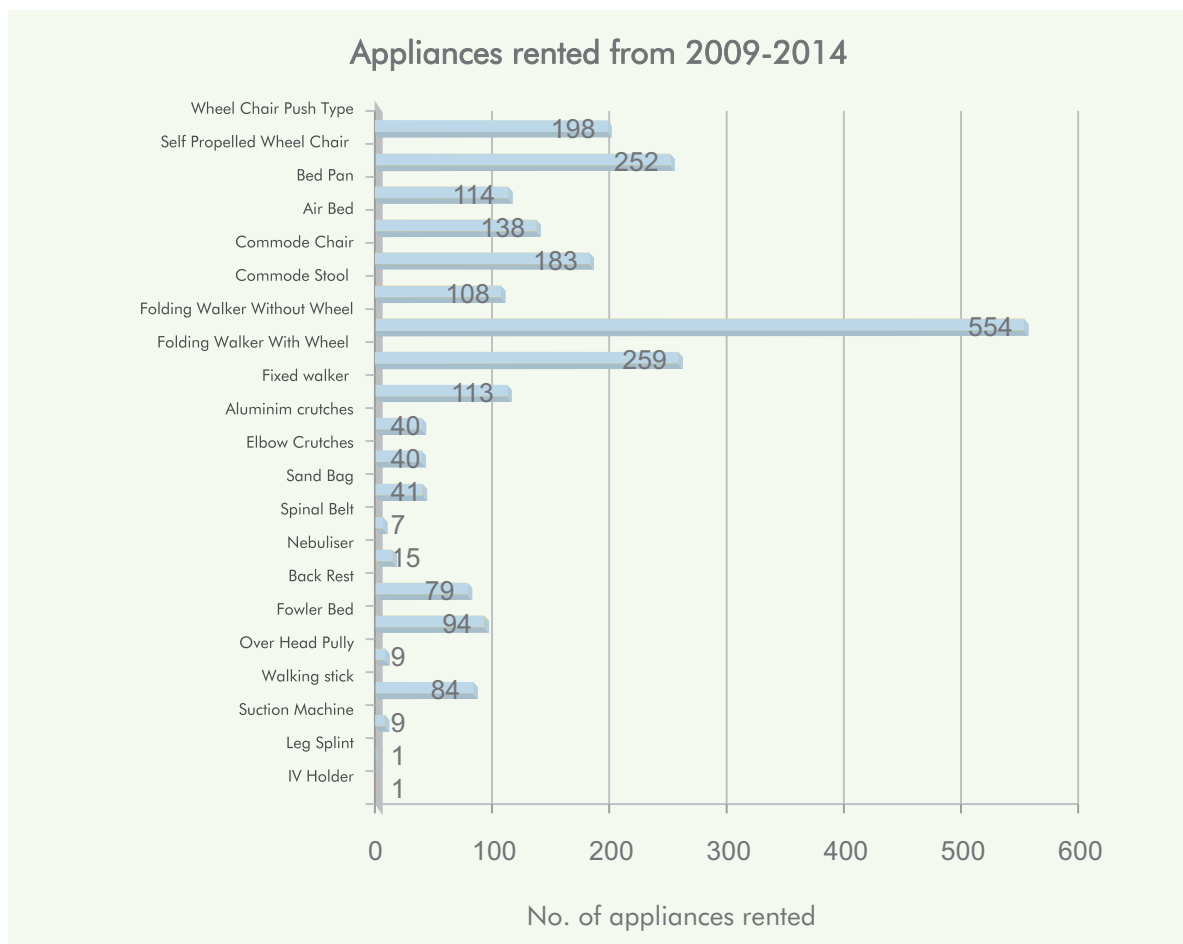
On the 28th of September 2007, Medical Appliance Bank (MAB) sponsored by GAIL (India) Ltd and SBI under their CSR Programme was inaugurated at LLF Baroda. MAB provides medical equipment to BPL families at a nominal rent and deposit. Equipment which becomes redundant post treatment becomes a burden after investing in it. MAB has till today helped more than 2000 families procure medical equipment at affordable rates.

Quantitative analysis of Medical Appliance Bank (MAB) at LLF :

The list of appliances rented to beneficiaries' year wise is given as below:

Appliance	2009	2010	2011	2012	2013	2014	Total
Wheel Chair Push Type	60	26	32	34	23	23	198
Self-Propelled Wheel Chair	45	32	38	45	58	34	252
Bed Pan	48	24	22	16	4	0	114
Air Bed	47	38	14	16	14	9	138
Commode Chair	52	39	49	10	7	26	183
Commode Stool	22	19	25	18	14	10	108
Folding Walker Without Wheel	152	86	81	85	84	66	554
Folding Walker With Wheel	39	40	45	54	38	43	259
Fixed walker	18	30	18	19	10	18	113
Aluminium crutches	11	10	5	9	2	3	40
Elbow Crutches	12	3	6	6	7	6	40
Sand Bag	5	15	7	2	7	5	41
Spinal Belt	3	3	0	0	1	0	7
Nebuliser	4	3	4	1	2	1	15
Back Rest	15	14	19	11	11	9	79
Fowler Bed	6	20	16	17	17	18	94
Over Head Pulley	3	4	0	0	1	1	9
Walking stick	18	13	15	3	14	21	84
Suction Machine	0	0	1	4	3	1	9
Leg Splint	0	0	0	0	1	0	1
IV Holder	0	0	0	0	1	0	1
Total	560	419	397	350	319	294	2339

The table clearly shows that folding walkers with and without wheels were the most rented items. Leg splints and IV Holders were the least rented items.



ANNEXURE – 11

Summary of the feasibility study conducted of the mumbai suburban rail network :

A study was conducted to assess the feasibility of launching a rescue and evacuation scheme for Mumbai suburban railway accident victims. The project was launched on 13th August 2005, undertaken by Lifeline Foundation, Baroda, funded by UTI Bank Ltd under its CSR initiative.

It covered the Mumbai suburban rail network between Churchgate and Palghar (Western), CST and Kasara, Karjat (Central) and between CST and Panvel (Harbour).

The objective of the survey was to gauge the gravity of rail accidents, understand current statistics, causes and effects of accidents, role of vivid stakeholder's viz. railways, NGOs and CSR partner UTI Bank Ltd.

LLF was commissioned to study the current accident response structure, give recommendations and find local agencies, financial estimates in order to structure it as a CSR activity by UTI Bank Ltd.

The findings lay forth an anatomy of the suburban rail network – kilometre spread, daily travellers, density and number of rakes in a local train. Four causes of rail accidents were identified namely – railway track crossing, falling from the train, getting hit by poles and falling between gaps of platform and train.

Quantitative statistics like number of deceased under each of them were graphically represented. The number of deaths from highest to lowest are in the same order as mentioned above. Each cause is explained as to why citizens take to crossing tracks, why they get hit by poles etc.

The existing system of reporting accidents to authorities was detailed. Protocols for informing accidents happening on platforms, in between stations, major and minor stations were classified. It was determined that the average time taken to transport accident victims to the nearest hospitals as being 3 hours and only 20% of the victims received treatment within 1 hour, and victims are admitted in hospitals which are within a 3 km radius from the station¹⁶.

Communication delays, unavailability of both standing manpower and prompt treatment thus missing the golden hour and indifference on part of concerned authorities, were identified as the existing weaknesses in the response system.

The survey included assessment of response systems of multiple agencies Government Railway Police, Red Swastik (Charitable Organisation) and MANAVATA (NGO)

GRP runs a 24 hours free railway accident helpline services¹⁷. Its primary duties include evacuating accident victims and providing information about missing persons. The ASRA (Ambulance Services for Railway Accidents) Project by Red Swastik Society stationed ambulances outside 10 main suburban stations spread across the 3 lines. Their responsibility was admitting the accident victim to the nearest hospital. The third partner surveyed was MANAVATA,

¹⁶Based on statistics provided by the study.

¹⁷GRP Helpline Number-23004000

which provided infrastructure and human resource support to GRP with the objective of making ambulance services more efficient on the rail network.

The study concluded with recommendations in 8 areas, Viz.

1. Constitution of credible task force: LLF proposed constitution of a trans-disciplinary team representing multiple agencies - Western railway, GRP, BMC official, State Government health official, IMA representative, NGO, with UTI Bank Ltd and LLF.
2. Policy changes: Policy changes suggested a two way communication and dynamic bureaucratic approach to accident paperwork, introducing insurance to private patients, green signal for private parties and NGOs to operate in railway jurisdiction lastly ambulances and automated transportation.
3. Upgrading communication systems: Allotting walkie-talkies to important personnel like guards, motormen, station masters, ambulances and to put in place sound communication systems between hospitals, ambulances and the railways.
4. Upgrading Resources for transporting victims: Ambulances be parked outside all stations to be equipped with essential lifesaving equipment and efficient attendants who would transport victim to the nearest hospital
5. Hospital Networking and up-scaling Life Saving Infrastructure: Network of hospitals both private and public and nearest hospitals should be kept handy and exhaustive first aid kits should be available at all times.
6. Efficient manpower: LLF recommended station manager to be responsible for accident related actions taken and defining duties and roles to various railway personnel.
7. Centralised helpline number: An easy to remember helpline number, preferably a 3 digit number, to be displayed at strategic locations and public awareness campaigns regarding the same should be launched.
8. Changing the setup of the Central Control Room: Central Control Room guidelines to coordinate communication between station managers, ambulances, relatives of victims and how detailed database about the victim should be recorded which should be accessible to both authorities and relatives of victims.

ANNEXURE – 12

“EMS – Maharashtra – A road map” :

A one day workshop 'EMS-MAHARASHTRA – A ROAD MAP’ was held on 11 February 2006 in Mumbai was spread out in two Technical Sessions over 12 hours Ms. Manju Srivatsa awarding the welcome speech. Addressing the inaugural note was Dr. P. J. Nayak, followed by Introduction to EMS and HRP a Background provided by Dr. Prasad Rajhans and Dr. Subroto Das respectively.

The First session kicked off with Dr. Manjul Joshipura¹⁸ accosting on Designing & Administering of EMS by explaining the various System-based EMS. Dr Prasad Rajhans¹⁹ explained in detailed the Pune EMS Model, followed by a brief presentation by Mr. T S Bhal, IPS, Founder of Red Swastik Society, Mumbai on their Suburban Railways EMS project extensively supported by Lifeline Foundation and UTI bank.

In the Backdrop of the Pre- Hospital care and Emergency Medical service gradually fastening their roots in India, the best National and International hospital care providers came together to discuss and exchange thoughts, ideas, and share their experiences with the objective of devising an ideal EMS system which would suit the India context. Unlike developed nations, EMS systems in India are still in their infant stages and lack standardization which often lead to significant high numbers of morbidity and mortality.

The workshop focused on a spectrum of EMS issues like regulation and legislation, Funding, system designs, research and EMS personnel credentialing and scope of practice each of them circumferential with the five general principles of EMS.



¹⁸Dr. Manjul Joshipura heads EMS Ahmedabad & Director, Academy of Traumatology

¹⁹Dr. Prasad Rajhans, EMS Pune & Chief Intensivist at Deenanath Mangeshkar Hospital, Pune

Highway Rescue Project conceptualized and developed by the Gujarat based Lifeline Foundation with the unfettered support of UTI (Now AXIS Bank Foundation) bank is a unique public-private-NGO partnership implemented on the highways of Gujarat and Maharashtra. After the Initial Success of Highway rescue project (HRP) in Gujarat, it was replicated in Maharashtra and the coalesced experiences and findings of Gujarat and Maharashtra EMS were showcased in the workshop and was a roadmap for EMS in the state of Maharashtra was put forth.

The scope of this workshop was to draw out the best practices of EMS as prevalent in Maharashtra, get all stakeholders on a common platform to etch out a joint program to carry EMS forward in Maharashtra, as was done in Gujarat.

In the Second and final technical session chaired by Dr. Ram Prabhoo²⁰ focused on topic such as EMS Training (Dr. Mahesh Joshi²¹) and The Gujarat Emergency Medical Services Act (Dr. Manjul Joshipura). The proposed Maharashtra Emergency Medical Services Council Act was presented by Dr. Paresh Navalkar²² while Dr. Mrugank Merchant²³ presented a replicable model for smaller cities based on the Baroda EMS. Dr Vijay of EMRI, Hyderabad presented the renowned 'Dial 108 Ambulance Service' model.

The final session was concluded by Shaffi Mather who presented a corporate model for EMS – Dial 1298 based on the Ambulance Access for All (AAA) concept.

²⁰Dr. Ram Prabhoo, President, Mumbai Orthopaedic Society.

²¹Dr. Mahesh Joshi, Head of Intensive Care, Apollo Hospital, Hyderabad

²²Dr. Paresh Navalkar, Founder Director, LIHS, Mumbai

²³Dr. Mrugank Merchant, Member, EMS Council of Baroda

ANNEXURE – 13

Course content for EMS trainings

AHA Training Courses :

1. BLS – Basic Life Support – Classroom²⁴:

Course Audience	This course is designed for healthcare professionals who need to know how to perform CPR, as well as other lifesaving skills, in a wide variety of in-hospital and out-of-hospital settings.
Course Duration and Format	Initial Provider Course requires approximately 4.5 hours to complete, including skills practice and skills testing. Renewal Course requires approximately 4 hours, including skills practice and skills testing. *course time based on 1 instructor: 6 student: 2 manikins
Course Features	Video based course ensures consistency Instructor led, hands on class format reinforces skills proficiency Student manual comes with new Pocket Reference Card, designed to provide quick emergency information to the rescuer at any time. Updated Science based content
Course Content	Key changes in basic life support, reflecting the new science from the 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Critical concepts of high-quality CPR The American Heart Association Chain of Survival 1-Rescuer CPR and AED for adult, child and infant 2-Rescuer CPR and AED for adult, child and infant Differences between adult, child and infant rescue techniques Bag-mask techniques for adult, child and infant Rescue breathing for adult, child and infant Relief of choking for adult, child and infant CPR with an advanced airway* (* This is an introduction to the compression/ventilation rate and ratio for a patient who has an advanced airway in place. For more information on advanced airways, please refer to the Airway Management Course.)

²⁴http://www.heart.org/HEARTORG/CPRAndECC/HealthcareProviders/BasicLifeSupportBLS/BLS-for-Healthcare-Providers---Classroom_UCM_303484_Article.jsp

2. BLS PHP - Basic Life Support for Pre-Hospital Providers²⁵:

Course Audience	<p>Primary: Prehospital, emergency care professionals including emergency medical technicians (EMTs), police officers, fire fighters, paramedics and advanced EMTs (AEMTs)</p> <p>Secondary: Athletic trainers, any/all other first responders</p>
Course Duration and Format	Students complete the BLS for PHP Online Portion, which presents all cognitive information. Students then attend the in-classroom portion, led by an AHA BLS Instructor. The classroom portion features Instructor-led discussions, debriefing, coaching and support for hand-on skills.
Course Features	<p>Course is tailored to providers working in the field. All scenarios are modelled after real-life experiences that they may actually face. High-quality team CPR focus teaches how to conduct a code with teams ranging from 2-6 people. Introduces the concept of post-case debriefing to BLS Instructors. Develops Core Course Segments that provide the opportunity for Medical Directors to tailor the course to local response protocols.</p>
Course Content	<p>The most current science from the 2010 AHA Guidelines for CPR and ECC</p> <p>Critical concepts of high-quality CPR</p> <p>The American Heart Association Chain of Survival</p> <p>1-Rescuer CPR and AED for adult, child and infant</p> <p>2-Rescuer CPR and AED for adult, child and infant</p> <p>Differences between adult, child and infant rescue techniques</p> <p>Bag-mask techniques for adult, child and infant</p> <p>Rescue breathing for adult, child and infant</p> <p>Relief of choking for adult, child and infant</p> <p>CPR with an advanced airway</p>

²⁵http://www.heart.org/HEARTORG/CPRandECC/HealthcareProviders/BasicLifeSupportBLS/BLS-for-Prehospital-Providers_UCM_459708_Article.jsp

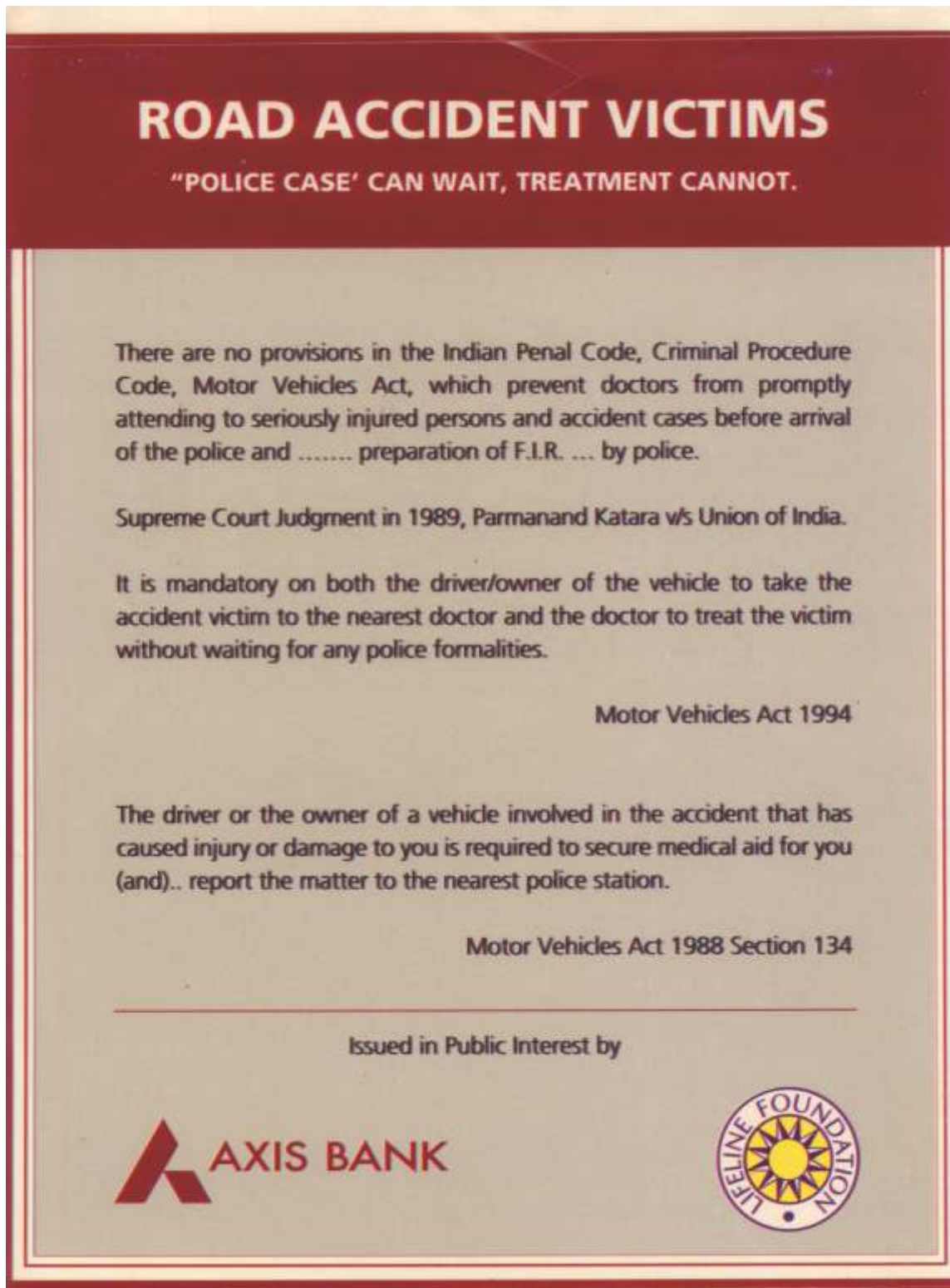
3. ACLS - Advanced Cardiovascular Life Support – Classroom²⁶:

Course Audience	ACLS is designed for healthcare professionals who either direct or participate in the management of cardiopulmonary arrest and other cardiovascular emergencies. This includes personnel in emergency response, emergency medicine, intensive care and critical care units.
Course Duration and Format	Initial Provider Course requires approximately 10-12 hours to complete, including skills practice and skills testing. Renewal Course requires approximately 5-6 hours, including skills practice and skills testing. *course time based on 1 instructor: 6 student: 2 manikins Classroom-based (instructor and video, with skills conducted throughout)
Course Features	Course uses learning stations for practice of essential skills simulated clinical scenarios that encourage Active participation Hands-on class format reinforces skills proficiency Classroom-based works well for learners who prefer group interaction and instructor feedback while learning skills
Course Content	Key changes in advanced cardiovascular life support, reflecting the 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Basic life support skills, including effective chest compressions, use of a bag-mask device and use of an (AED) Recognition and early management of respiratory and cardiac arrest Recognition and early management of peri-arrest conditions such as symptomatic bradycardia Airway management Related pharmacology Management of Acute Coronary Syndromes (ACS) and stroke Effective communication as a member and leader of a resuscitation team Effective Resuscitation Team Dynamics

²⁶http://www.heart.org/HEARTORG/CPRandECC/HealthcareProviders/AdvancedCardiovascularLifeSupportACLS/Advanced-Cardiovascular-Life-Support-Classroom_UCM_306643_Article.jsp

ANNEXURE – 14

Poster campaign collateral





Knowledge Partner



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