

Research Article

REVIEW OF THE CENTRALIZED ACCIDENT AND TRAUMA SERVICES (CATS) IN NEW DELHI, INDIA

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ABSTRACT

Emergency Medical Services are often the critical link between the injury-producing event and definitive care at a hospital. Even though at its inception the EMS system was a very broad system concept, over time, EMS has come to be recognized as the prehospital care component of the larger emergency health care system. The NCT of Delhi was one of the 1st States in India to have an organized EMS System of its own in the form of Centralised Accident & Trauma Services (CATS). The current study was done to review the operational status of CATS and to see its adequacy vis a vis demand. It was found that the service in its current form is grossly inadequate and needs an overhaul.

Keywords: *Centralized Accident and Trauma Services (CATS)*

INTRODUCTION

The trauma system includes, and/or interacts with, many different agencies, institutions, and systems. The Emergency Medical Services are one of the most important of these relationships. EMS is often the critical link between the injury-producing event and definitive care at a trauma centre. Even though at its inception the EMS system was a very broad system concept, over time, EMS has come to be recognized as the prehospital care component of the larger emergency health care system. It is a complex system that not only transports patients, but also includes public access, communications, personnel, triage, data collection, and quality improvement activities.

In the NCT of Delhi, EMS Support is primarily provided by the Centralised Accident & Trauma Services (CATS). Centralised Accident and Trauma Services (CATS) was conceptualised as a plan scheme in 1984 during the 6th Five Year Plan. The scheme was to be implemented under the aegis of All India Institute of Medical Science (AIIMS). In April, 1988, the ambulance service was transferred to the Delhi Fire Service (DFS) with a fleet of 14 ambulances. Since the service required multi sectoral coordination, it was later decided that the scheme may be implemented by a society registered for the purpose. Consequently, CATS society was formed by Delhi Administration as a registered society In June, 1989.

Objectives

- To study the operational status of CATS
- To Study the response timings of CATS
- To evaluate its adequacy vis a vis demand in the NCT of Delhi

MATERIALS AND METHODS

Methodology

1. A statistical analysis of the Control Room Call Logs of CATS for one year was done to review the status of the existing service and to study the response timings
2. Additional data to supplement the knowledge regarding the existing functional status was collected from key respondents to verify the effectiveness of the service.

Observations

CATS currently operates 28 Basic Life Support Ambulances. Each ambulance is manned by two interchangeable Assistant Junior Ambulance Officers (AJAOs). The AJAOs are graduates who have been trained in multi-disciplinary skills of first-aid emergency management, wireless communication and driving. These ambulances are located at their strategic base stations as per the list below:

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Ambulance	Base Station
Alfa-1	Babu Jagjivan Ram Memorial Hospital
Alfa-2	Sanjay Gandhi Memorial Hospital, F block Mongolpuri
Alfa-3	Malviya Nagar Colony Hospital, B block, main market, Malviya Nagar
Alfa-4	Kalkaji Colony Hospital behind Police Station Kalkaji
Alfa-6	Sarai Kale Khan dispensary, Sarai Kale Khan ;
Alfa-7	Moti Nagar Hospital near T.B. hospital, Moti Nagar
Alfa-8	B.R.Ambedkar Hospital,sector-5, Rohini
Alfa-10	Lal Bahadur Shastri Hospital, Khicharipur
Alfa-11	RML Hospital
Alfa-12	Inderlok Dispensary
Alfa-13	Lok Nayak Hospital
Alfa-14	Din Dayal Upadhaya Hospital, Hari Nagar
Alfa-15	Institute of Human Behaviour & Allied Sciences, Shahdara
Alfa-16	Yamuna Vihar Dispensary, Block B-5, Yamuna Vihar
Alfa-17	Sushrut Trauma Center, Metcalf Road
Alfa-19	Raja Harish Chandra Hospital Narela
Alfa-20	IPP Dispensary, Badarpaur Mathura Road near State Bank Of India, Badarpur
Alfa-21	Colony Hospital, B Block, Near Central Market, Lajpat Nagar
Alfa-22	Dr. Hedgewar Hospital, Karkardooma
Alfa-24	Primary Health Center, Najafgarh
Alfa-25	Charak Palika Hospital, near Begam Jaidi Market, Moti Bagh.
Alfa-26	Jag Pravesh Chander Hospital, Shastri Park, Delhi
Alfa-27	DDA Complex, Vasant Kunj
Alfa-28	Maharishi Balmiki Hospital, Pooth Khurd
Alfa-29	NANGLOI DISPENSARY
Alfa-30	Akshardham Temple
Alfa-32	Delhi Govt. Dispensary, Sec 12, Dwarka
Alfa-35	Patel Nagar Hospital, West Patel Nagar

On receiving a call, the ambulance nearest to the site of accident is alerted and the ambulance along with the two ambulance personnel, reach the site of accident. The victim is provided necessary first aid and if required shifted to the nearest Govt. hospital. Each ambulance is manned by two inter-changeable Assistant Junior Ambulance Officers (AJAOs). The AJAOs are graduates who have been trained in multi-disciplinary skills of first-aid emergency management, wireless communication and driving.

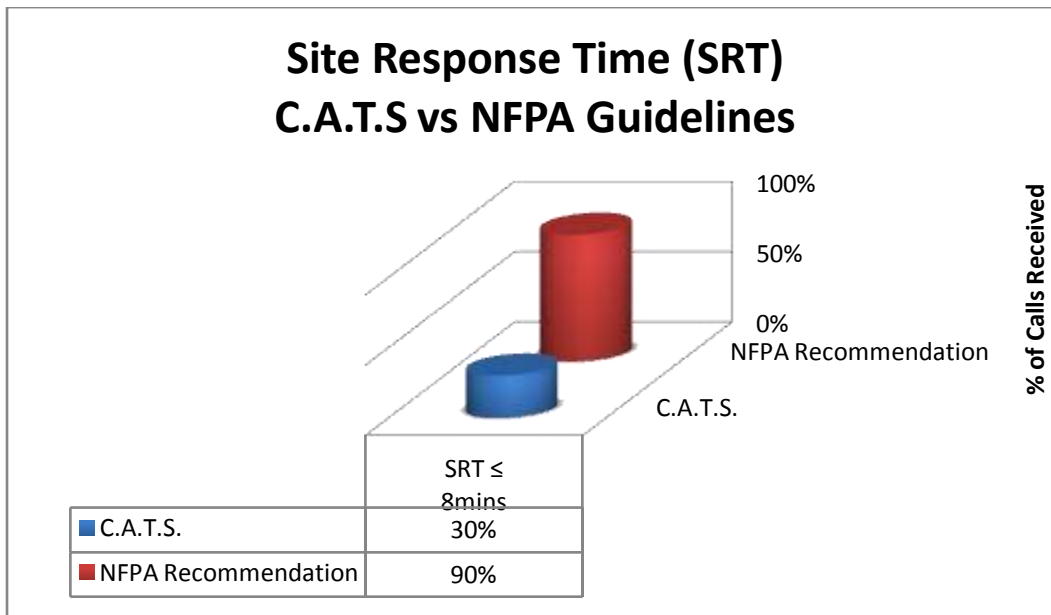
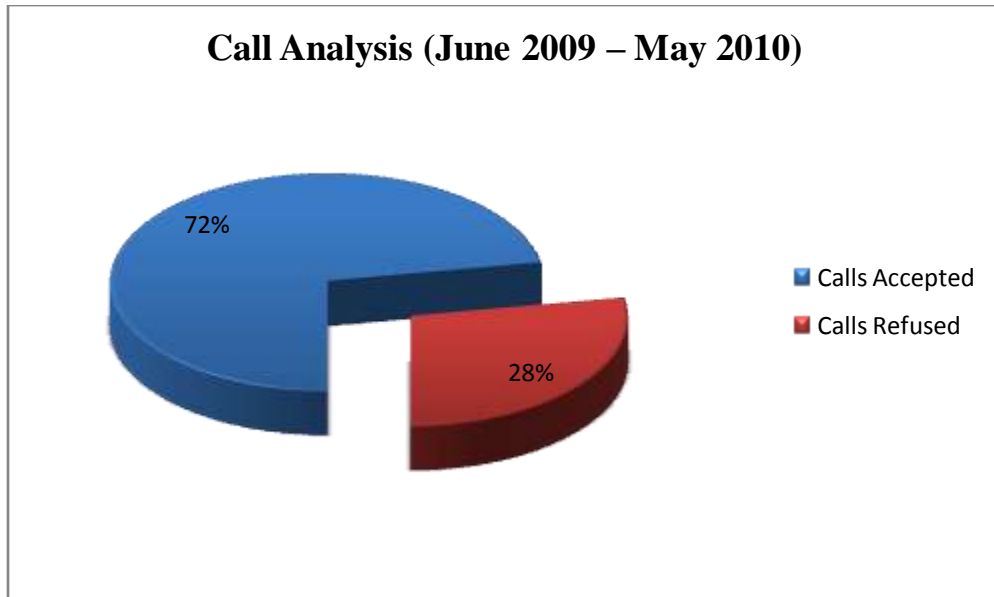
The Central Control Room of CATS is situated in the CATS Head Office at Bela Road, Yamuna Pustak, Shanti Van, New Delhi. Here the calls are received at telephone Nos. 1099 and 102 (Toll Free number) on 12 lines of telephones. The calls are also received through Police Control Room (PCR) and from Delhi Fire Service through wireless. The Central Control Room and ambulance stations are linked with wireless sets for facilitating two-way communication between the sender and the receiver. All calls received in the

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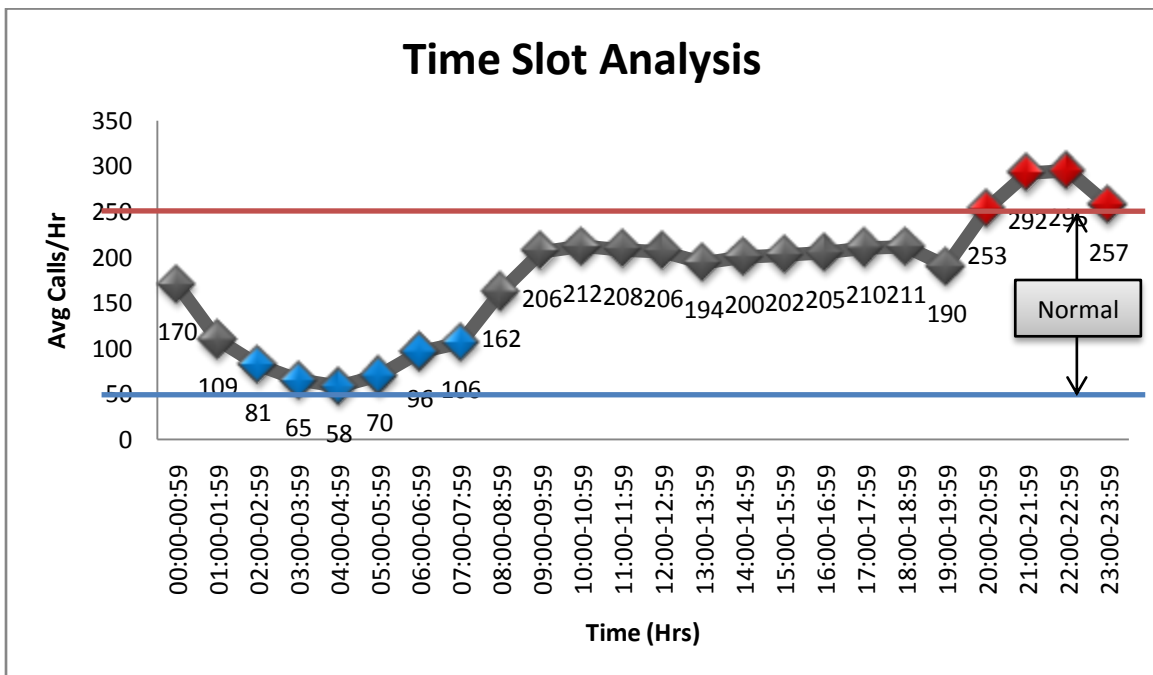
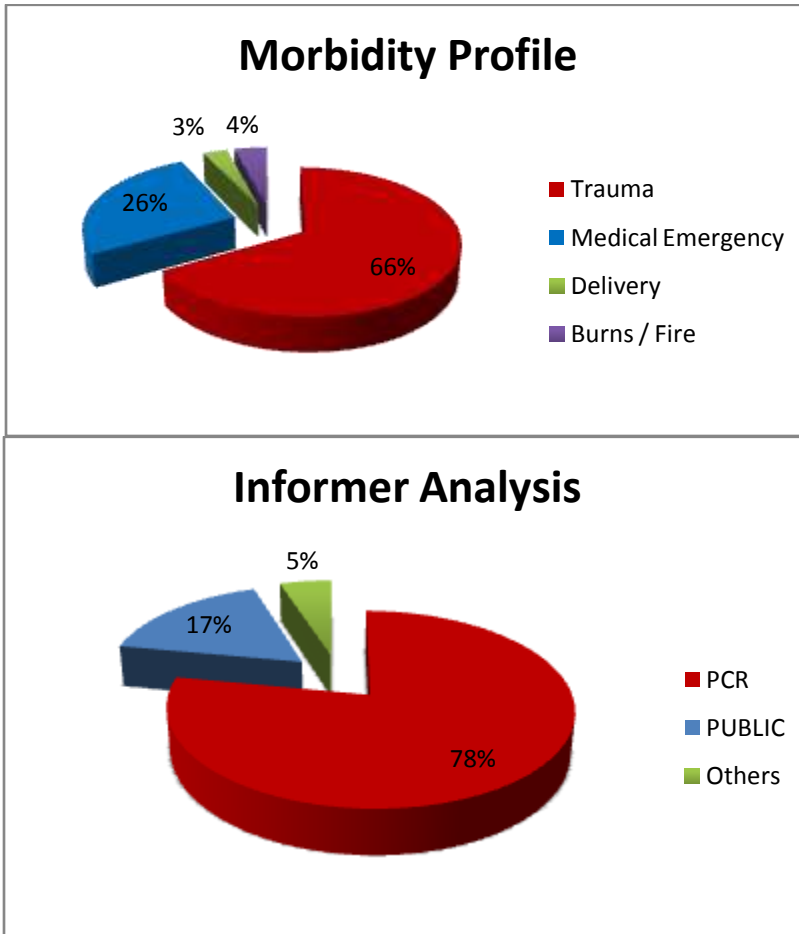
control room are logged manually and a monthly call analysis report is prepared for administrative review.

RESULTS AND DISCUSSION

Results obtained after a statistical analysis of the Control Room Call Logs of CATS from June 2009 - May 2010 are as follows:



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DISCUSSION

From the above analysis, it is observed, that:

- CATS refuses approximately 28% of the total calls received monthly. This refusal is primarily due to the non-availability of the Ambulance.
- The Avg. Site Response Time (SRT) i.e. the time from receiving the call to reaching the site is approx 10min. This is significantly higher than the internationally accepted NFPA norm of 8mins. This anomaly is primarily due to inadequate ambulance density
- In only 30% of the total calls received by the CATS Control Room, CATS Ambulance reach a victim in 8min vis a vis the international accepted NFPA norm of 90% of times.
- The Avg. Hospital Response Time (HRT) i.e. the time taken in transferring the victim from the site to the hospital is approx. 30min
- The Avg. Total Call Time (TCT) i.e. the time from dispatch from base to returning back to base is approx. 57min.
- 66% of Calls Attended relate to Trauma (Accidents, Fall, Injuries, Blasts, Stabbing, Collapse, Clash, Hanging, etc). This highlights the problem of injury in the state and re-enforces the need for a well developed Trauma System in the state.
- 78% of Calls Attended to were received from Police Control Room (PCR). This reflects a lack of awareness amongst the public regarding the CATS Toll Free Number (1099) or (102)
- The CATS Control Room on an average receives 178 Calls per hour with the number of calls almost doubling between 8pm – 12am (peak time) and almost halving between 2am – 8am (lean time).

Conclusion

EMS Services in Delhi have been time and again reviewed by various committees (Dr. K.N. Rao Committee, 1967; BaluSankaran Committee, 1994; Dr. Wiswakarma Committee, 1996; etc). Yet few vital recommendations of these committees have been put into practice.

A Workshop on ‘Developing Modalities for Providing Trauma Care Services in Delhi Metropolis’ organized by All India Institute of Medical Sciences, New Delhi in July 1999 under the aegis of Ministry of Health and Family, Welfare, Govt. of India and the World Health Organization (WHO), recommended one ambulance for 50000 population to be located at a distance of every 5 sq. km to achieve a response time of 3 – 5 mins.

Going by this recommendation, the NCT of Delhi would need 280 – 300 ambulances across its geographic territory. Comparing this to the existing fleet of 28 ambulances CATS has, gives us an impression of the inadequacy of the fleet. Also there is no Medical Direction in the daily functioning of CATS. There are no pre-defined protocols for dispatch or field triage. The AJAO’s currently function as per convention and situational requirements. Though CATS has a universal access number, the same is not known to the public at large. Due to this precious time is wasted in routing the calls through the police control room.

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