

REVIEW ARTICLE

Ambulance Services in India - Are the Sirens Loud Enough!

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ABSTRACT

Background: Ambulances are the lifeline between life and death and play a critical role in pre-hospital emergency medical care in transporting patients to health facilities within the golden hour. In India approximately, 24,012 people die every day because of delays in getting medical assistance on time. During the COVID-19 pandemic, issues of unavailability of ambulances, not coming on time, being understaffed, and overcharging have been highlighted in the media. The Indian Government developed the National Ambulance Code to standardize the constructional and functional requirements of road ambulances. The existing regulations fall short on many fronts with regard to accountability for patient care and safety, ensuring an ambulance reaches on time equipped with facilities, life saving medicines, trained personnel and fixing rates among others. The government has implemented schemes to improve ambulance services; however, there is a critical need to review the existing regulations and implementation to provide timely care to save lives.

Keywords: Ambulances, India, Regulation, Standards, Quality, Availability

Introduction

India has one of the highest road traffic fatality rates: approximately 18.9 per 1,00,000 population, compared to 8.7 in high-income countries¹. Nearly 1, 51, 113 people died, and 4,51,361 were injured because of road accidents in 2019. National Institution for Transforming India (NITI) Aayog, a National level think tank of the government of India's report on emergency and injury care at district hospitals indicate that in India, with more than 1.5 lakh road traffic-related deaths, 98.5% of all ambulances are transporting dead bodies, 90 percent lack equipment and 95.0% have untrained personnel. It also states that most of the doctors in the emergency departments lack formal training in Emergency Medical Services (EMS), and nearly 30 percent deaths occur due to delays in emergency care.² Even in cases of childbirth, delays in reaching health facilities tend to range from two hours to three days, due to factors such as long distances and transportation difficulties-contributing to 33.8% of the total maternal deaths.³

Ambulances played a crucial role during the COVID-19 pandemic. However, they are yet to receive the rightful attention in India. This paper attempts to examine road ambulance services in India with regard to their availability, standards, quality and charging practices, and the regulations associated with them.

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Ambulances in India

In India, ambulances are used primarily in three types of situations: during emergencies, to prompt transfer trauma patients to the nearest medical facilities; for transporting patients to and from their residences and hospitals; and, for inter-hospital transfers. The most common mode of patient transportation is a road ambulance, which could be two-three-or four-wheeler vehicles, depending on geographical location, terrain, and type of emergency. National Ambulance Code (NAC), under the aegis of the Ministry of Road Transport and Highways (MoRTH), the Government of India (GOI) classified road ambulances (Table 1) for registration under the provisions of the Motor Vehicle Act, 1988 (MVA, 1988).

Table- 1: Types of ambulances classified under the National Ambulance Code and their minimum requirements

Ambulance type	Functionality	Requirements as per NAC
Type A Ambulance, Medical First Responder	Provide emergency, out-of-hospital medical care to patients when stationary and cannot transport patients in a supine state or provide medical care inside the vehicle.	Only transport patients not required to provide medical care inside the vehicle.
Type B Ambulance, Patient Transport Vehicle	For transporting patients from or between places of treatment, not expected to become emergency patients.	Required to have basic professional equipment for first aid and nursing care.
Type C Ambulance, Basic Life Support (BLS) Ambulance Vehicle	For transport and treatment of patients requiring non-invasive airway management or basic monitoring.	Required to have medical equipment for basic treatment and monitoring of patients to provide pre-hospital care.
Type D Ambulance, Advanced Life Support (ALS) Ambulance Vehicle	For transport and treatment of emergency patients requiring invasive airway management or intensive monitoring.	Required to have equipment for advanced treatment and monitoring of patients to provide pre-hospital intensive care.

Sources: Automotive Industry Standard: Constructional and Functional Requirements for Road Ambulances (National Ambulance Code), 2013, available at http://www.nisc.gov.in/PDF/AIS_125.pdf

Entities Providing Ambulances Services

The Government, Hospitals, Private Companies, Charitable Organisations, Religious Institutions, and Political parties are a few of the entities that provide ambulance services in India. The Government’s National Health Mission (NHM) operates National Ambulance Services (NAS) across most states and union territories. They provide free emergency transportation with the Dial-108 model (Emergency Response System), which has one ambulance positioned for every 1,00,000 population. Dial-102 (Patient Transport Services) is a service for pregnant women and newborns. Some states also use empanelled vehicles for transporting pregnant women and children, such as Janani Express in Madhya Pradesh and Odisha, Mamta Vahan in Jharkhand, and Nishchay Yan Prkalpa in West Bengal ^{4,5}.

The National Highway Authority of India (NHAI), GOI has deployed approximately 550 ambulances on national highways⁶. Additionally, it operates the Incident Management Services, i.e., the provision of an ambulance, a patrol vehicle and a tow-away crane on national highway stretches of at least 60 km charitable institutions have been at the forefront of providing ambulance services in India. Private organizations work in partnership with state governments, hospitals and NGOs to offer ambulance services. For instance, Gunapati Venkata Krishna, Emergency Management and

Research Institute and Ziqitza Health Care Limited offer fleets of 14,197 (GVK - EMRI (Gunapati Venkata Krishna – Emergency Management and Research Institute) (and 3643 (Ziqitza Health Care Limited :<http://zhl.org.in>) ambulances hospitals and NGOs to offer ambulance services. For instance, Gunapati Venkata Krishna (GVK) Emergency anagement and Research Institute and Ziqitza Health Care Limited offer fleets of 14,197 (Gunapati Venkata Krishna – Emergency Management and Research Institute) and 3643 ((Ziqitza Health Care Limited: <http://zhl.org.in>) ambulances, respectively.

While political parties do provide ambulance services, they are often used for the party's publicity. They display their party's logo and leaders' photos, even though it goes against the regulatory protocols of displaying signs unrelated to ambulance services⁷. The current digital-led healthcare has also promoted the uberfication of India's ambulance services, with ambulances now available via online bookings in metropolitan cities such as Delhi, Hyderabad and Bengaluru⁸.

Availability

The recommended ambulance-to-population ratio is one road ambulance per 1,00,000 population in the plains, and one per 70,000 population in hilly terrain or tribal areas^{9,10, 11}. Several sources provide information on ambulance availability in India. The data from these varied sources, however, seems inconsistent. For instance, there is variation in the data sets provided by MoHFW and MoRTH.

According to MoRTH's Road Transport Yearbook (2017–2018 and 2018–2019), nearly 52,740 private commercial vehicles were being used as ambulances as per their primary permit, valid up to 31 March 2019.¹² However, further inspection of data from MoRTH shows that this figure of 52,740 ambulances may have also included public ambulances empanelled under NHM. According to MoHFW, NHM supports 10,993 and 9,955 ambulances under the Dial-108 and Dial-102 models, respectively, and 5,126 empanelled vehicles in some states⁵. We came across three separate sources, all maintained and published by the MoHFW, which provide differing information on the type and the total number of ambulances in India.

The state-wise data (*Table 2*) too seems erroneous on multiple accounts. It indicates that the number of existing ambulances exceeds the stipulated numbers, which seems unlikely. Moreover, the data from large states such as Bihar, Madhya Pradesh, Rajasthan, Punjab, Odisha, and Uttar Pradesh are undetermined. This conflicts with NHM's report that records Uttar Pradesh as having one of the highest numbers of ambulances in India, i.e., 4,720 ambulances.

1 Data on ambulances are reported under two categories, (i) Emergency Response System vehicles operational in States/ UTs under NHM (102/ 104/108 and others) and (ii) Ambulances functioning in the State/UTs other than NHM (at PHC/CHC/SDH/DH) and is sourced from Quarterly National Health Mission Report, September 2021. In MoHFW, GoI, available at <https://nhm.gov.in/index4.php?lang=1&level=0&linkid=457&lid=686>

There is no information in the report on what does *other than NHM* cover in the category “Ambulances functioning in the State/UTs other than NHM (At PHC/CHC/SDH/DH)”. It may imply private ambulances stationed at public healthcare facilities and not financially supported by NHM.

2 Number of Commercial Vehicles (Private vehicles) in use as road ambulances (as per Primary Permit Valid as on 31 March 2019) is sourced from the Road Transport Year Book (2017 - 18 & 2018 - 19), MoRTH, GoI, available at <https://morth.nic.in/sites/default/files/RTYB-2017-18-2018-19.pdf>

As per the 254th Rajya Sabha session, there are nearly 1,691 advanced life support (ALS) ambulances in India¹³. However, a news article mentions approximately 1,601 ALS and 13,535 basic life support (BLS) ambulances in India.¹⁴

Table- 2: State-wise availability of ambulances in India

	Emergency Response System vehicles operational in States/ UTs under NHM (102/ 104/108 & others) ¹ , 2021	Number of Ambulances functioning in the State/ UTs other than NHM (At PHC/ CHC/ SDH/DH) ¹ , 2021	Commercial Vehicles (Private vehicles) in Use (as per Primary Permit Valid as on 31 March 2019) ²
India	27810	11660	52740
Andaman & Nicobar Islands	1	52	0
Andhra Pradesh	628	120	243
Arunachal Pradesh	240	113	21
Assam	1035	0	2615
Bihar	1202	164	1
Chandigarh	6	8	0
Chhattisgarh	625	400	2
Dadra Nagar Haveli and Daman & Diu	11	27	67
Delhi	229	165	0
Goa	55	72	0
Gujarat	636	1510	0
Haryana	501	0	0
Himachal Pradesh	329	200	1104
Jammu & Kashmir	493	611	3476
Jharkhand	2140	271	11
Karnataka	909	777	10960
Kerala	315	447	7245
Ladakh	18	81	0
Lakshadweep	0	0	0
Madhya Pradesh	1460	0	1
Maharashtra	3611	3622	14533
Manipur	43	24	30
Meghalaya	50	16	312
Mizoram	65	9	43
Nagaland	80	12	0
Odisha	1131	280	0
Puducherry	11	43	0
Punjab	242	439	0
Rajasthan	1335	363	0
Sikkim	9	31	155
Tamil Nadu	1153	950	11347
Telangana	624	362	45
Tripura	50	50	0
Uttar Pradesh	4720	0	0
Uttarakhand	388	160	529
West Bengal	3465	281	0

There are multiple reasons which have led to the discrepancies that occur in the data on ambulances in India. The most prominent ones among these are the lack of registration standards for issuing a license as an ambulance, and the absence of a single national database to store and showcase relevant data. India does not possess a platform that serves as the official repository of verified information on the number of ambulances distinguished by their type (A/B/C/D), by services BLS, ALS or patient-transport vehicles), by distribution (public or private), or by geography (urban, rural or tribal). Additionally, while MoRTH's figure of 52,740 ambulances translates to availability of one ambulance per 23,000 populations nationally, it does not factor in any inter-district variation, urban-rural geography, density of population or district-wise proportion of emergency cases.

From the 1989 Supreme Court of India judgment mandating (*The Supreme Court of India judgment (1989) mandated the provision of emergency medical care by hospitals regardless of a patient's paying and medico-legal status under Article 21, Right to Life, the Constitution of India*) the provision of emergency medical care by hospitals regardless of a patient's financial and medico-legal status to the current network of free transportation under Dial-102 and Dial-108 models, the emergency medical services as evolved both operationally and geographically. However, there is evidence to show that the available ambulance services are inadequate and insufficiently efficient to deliver prompt patient transport services.

The Comptroller and Auditor General (CAG), GOI reports from Jammu and Kashmir (2018), Arunachal Pradesh (2019), Karnataka (2019) and Bihar (2020) indicate insufficient numbers, shortages and uneven distribution of ambulances and essential equipment. According to the Jammu and Kashmir (2018) CAG report, 102 ambulances were not operational for more than three years.¹⁵ The Karnataka CAG report (2019) observed a severe ambulance staff shortage in the state, which further impacted ambulance services¹⁶.

In the area of ambulance services transporting pregnant women, a study revealed that less than one-fifth of pregnant women used ambulances—based on the data from Himachal Pradesh, Andhra Pradesh, Telangana, Chhattisgarh, Gujarat, and Assam (2013–2014).¹⁷ These abysmal usage rates could be attributed to delays in transportation- ranging from two hours to three days- contributing to 33.8% of the total maternal deaths.³ This is despite the various NHM schemes to improve the transportation of pregnant women, especially in rural areas.

The chute time (*Chute Time is the time between the assignment of an ambulance and the moment it starts moving towards the scene*) for Dial-108 ambulances in Karnataka was more than the specified one minute in 85.0% of cases, and up to 100 minutes or beyond in some cases. The response time (Response time is the total time taken from assigning an ambulance to its arrival at the scene of emergency; it is a combination of triage time, chute time and travel time. The standard norm is response time of 20 minutes for urban areas and 30 minutes for rural areas and less than 10 minutes in cases of cardiac, respiratory and stroke cases) for emergency cardiac, respiratory, stroke and accident cases was more than 10 minutes in 60.0% of the cases, against the stipulated 10 minutes. Approximately 50 percent of the trauma patients were admitted to a hospital after the golden hour, the first hour after the injury, when the emergency treatment is most likely to be successful^{16, 18}. In Madhya Pradesh, Dial-108 ambulance services took between 41 and 47 minutes, against the standard norm, in reaching a case¹⁹. Moreover, a hospital-based analysis showed that the average time taken for road traffic accident victims to reach health facilities was three hours, and only 55.0% of the cases reached within the golden hour.²⁰

Registration and Licensing

Motor Vehicles Act, 1988 (MVA, 1988) applies to all regions across India. The state governments constitute their respective State Transport Authority (STA) and Regional Transport Authority (RTA) to exercise the powers and functions specified under the MVA, 1988 and Central Motor Vehicles Rules, 1989 (CMVR, 1989).

In 2011, a working group on emergency care, set up by the MoRTH, observed that the concept of an ambulance is missing from the Indian legislation. Limitations in the MVA, 1988 allowed goods and passenger vehicles to function as ambulances without essential safety features such as occupant restraints, certified electrical systems, etc. The working group hence recommended the need for the National Ambulance Code (NAC). This code formulated the constructional and functional requirements for road ambulances, which were notified in September 2016 via the Central Motor Vehicles (Ninth Amendment) Rules, 2016. It also defined a road ambulance as a *“specially equipped and ergonomically designed vehicle for transportation and/or emergent treatment of sick or injured people and capable of providing out-of-hospital medical care during transit or when stationary, commensurate with its designated level of care when appropriately staffed”*.

However, there dedicated guidelines for the registration of road ambulances still do not exist in India. Anyone who has an address proof along with certificates of vehicle’s sale, insurance, and roadworthiness can apply for registration as an ambulance with the RTA’s office, which is the nodal office for registration of all road vehicles. The RTA also holds the authority to suspend or cancel the certification. No specialized training or minimum educational qualifications is required to acquire a license to drive an ambulance. The RTA’s inspecting authority is solely required to inspect the vehicle physically at their office before granting the registration, which is valid for 15 years from the date of issuance.

States and union territories have the authority to set their own rules and standards for issuing license to drivers (Section 28); for construction, maintenance (Section 111) and registration of road ambulances (Section 65); and, to decide about penalties—all within the scope of the Central Act.

Equipment and Facilities

Numerous studies have raised concerns over the lack of standards for a vehicle to be deemed an ambulance. A review conducted by Centralised Accident and Trauma Services (CATS) Delhi in 2018 showed that out of 265 state-run ambulances, only 31 had ALS facilities such as defibrillators and ventilators, approximately 60 were non-operational due to mechanical faults, and nearly 155 were older than six years. During the second wave of COVID-19, in 2021, the demand for private ambulances in Delhi increased fivefold compared to the previous months, amidst a severe lack of sufficiently equipped public ambulances²¹.

National Ambulance Code has specified minimum requirements in ambulances depending on their type: A, B, C and D road ambulances (*Table 1*). Several types of equipment, most of which do not apply to Type A ambulances, are recommended. These include patient handling equipment such as stretchers, undercarriages, vacuum mattresses; immobilization equipment such as set of fractures and traction sets; suction oxygen therapy equipment, i.e., portable oxygen, stationary oxygen, and mouth-to-mask ventilator with oxygen inlet; diagnostic equipment; various drugs; infusion material; equipment for the management of life-threatening problems; and personal-protection equipment. In addition to the necessitated equipment listed by the NAC, supplementary devices may be introduced depending on the local needs of the state or district²². It is the responsibility of the owner or the operator of the ambulance to ensure compliance with these regulatory requirements mandated by the NAC.

Ambulances supported by NHM under the National Ambulance Services have also specified details of more than 30 types of equipment, such as foot-operated and portable electric suction pumps, laryngoscopes, oxygen cylinders, etc., along with terms of their use, physical and technical characteristics, warranty, documentation, and more²³. This requirement is advisory and not legally enforceable, except in the case where there is an agreement between ambulance operators and NHM.

Table -3: Recognition and visibility of road ambulances as per the National Ambulance Code

Section	Characteristics
Colour	<ul style="list-style-type: none"> The complete exterior colour of the road ambulance should be brilliant white (RAL Code - 9010) (<i>RAL code is a colour matching system which defines colours for paint, coatings, and plastics</i>) including front, rear and side bumpers.
Conspicuity Improving items	<ul style="list-style-type: none"> This includes all markings, stripes and symbols on the road ambulances and should be in brilliant red (RAL code - 3024). Mandatory to display the word “AMBULANCE”, the Star of Life symbol and the emergency number on the vehicle. “AMBULANCE” should be placed on a contrasting colour, red on white background (side of vehicle) and red on yellow background (front and rear end of vehicle) “AMBULANCE” markings must follow a 7:1 length to height ratio and in mirror image to allow reverse reading for drivers ahead. “FIRST RESPONDER” shall be used instead of “AMBULANCE” in Type A. Ambulance calling number (YYY) must be displayed on the side and back. Standards of colour and conspicuity improving items do not apply to Type A road ambulance
Emblems	<ul style="list-style-type: none"> Signs, symbols, or markings not included under conspicuity improving items, such as government/ private / operator signs, corporate identities, are only allowed in a non-reflecting manner. Their size cannot be more than 60% of the “AMBULANCE” markings.
Warning lights	<ul style="list-style-type: none"> Type A and B road ambulances are required to have flashers fitted as per the vehicle type. Type C and D road ambulances should have blue and red warning lights with a minimum brightness of 100 cd in daylight and 200 cd at night.
Sirens	<ul style="list-style-type: none"> All siren loudspeakers have to be mounted on the front of the vehicle in all types of road ambulances with the permitted frequency range between 500 Hz to 2,000 Hz. A siren can only be used when the warning lights are on.
Recognition of personnel	<ul style="list-style-type: none"> For the protection of ambulance personnel against heat and flame and their easy identification, their safety garments should conform to at least ISO (<i>International Organization for Standardization (ISO) 14116:2008 specify protective clothing requirement for protection against heat and flame. Clothing material should reduce the possibility of its burning and prevent the personnel from any hazard</i>).

Sources: Automotive Industry Standard: Constructional and Functional Requirements for Road Ambulances (National Ambulance Code), 2013, available at http://www.nisc.gov.in/PDF/AIS_125.pdf

NAC has also mandated guidelines for the physical appearance and clear visibility of ambulances on the road (Table 3). The Motor Vehicles (Driving) Regulations, 2017 prescribe that vehicles designated by the state government for emergency services, including road ambulances, should operate the sirens and flasher lights only when the vehicles are responding to emergency calls or alarms. When the siren and the flasher are on, the ambulance has the right of way over all the other vehicles. Furthermore, all road ambulances are exempted from the mandatory speed governors, i.e., speed limiting devices or speed limiting functions, as per Rule 118, CMVR (Amendment), 2015.

Communication Systems

People can call 102, 108, 112, 1033 and several other phone numbers for local and regional ambulances operated by the state governments and private operators. However, during emergencies, people often end up calling multiple help lines before they connect with the relevant ambulance services²⁵. Also, India lacks standard protocols for seamless communication during ambulance transfer and for pre-hospital care triage.

CMVR, 2016 introduced the Vehicle Location Tracking and Emergency Alerts System (VLTS), which includes fitting tracking devices in public-service vehicles and setting up a command and control centre monitored by the state transport department. National Informatics Center has been working on this with some states. For example, the command and control centres (*The Command and Control center is an IT-based monitoring system bringing various public services (all civic such as traffic and essential services such as police, fire, ambulance, disaster management, etc.)* across the city in one place for their management and coordination with each other) are operational in Uttarakhand, Goa and Rajasthan, for ambulances only. Whereas, the ones in Bihar, Punjab, Chandigarh, Mizoram and Haryana are in progress.^{2, 5} However, the provision of VLTS is not mandatory for private road ambulances, even though state governments have the authority to mandate this for all road ambulances.

Staffing

Indian Public Health Standards (IPHS) recommends one driver along with two technicians for every ambulance positioned in a district hospital. However, no such staffing requirement or training has been mandated or even recommended by Indian legislation. The state governments, though, can prescribe their own standards vis-à-vis staffing.

A tertiary hospital-based study revealed that the level of basic life support knowledge was poor in more than half the ambulance staff, nearly 76 percent of the ambulance personnel did not have any paramedical degree and only one percent had EMT qualifications²⁶. A highly unskilled workforce directly impacts the quality of care, which urgently calls for guidelines on human resources.

During the pandemic, MoHFW released SOPs for ambulance drivers and technicians transporting suspected COVID-19 patients. They prescribed strict adherence to cleaning and decontamination protocols, standard precautions while managing patients, and training of all ambulance staff on common signs and symptoms of COVID-19.²⁷

More recently, the National Commission for Allied and Healthcare Professions Act, 2021 has recognised emergency medical technologists and advance care paramedics as allied and healthcare professionals under the category of Trauma and Burn Care Professionals. However, their roles and responsibilities in a road ambulance will be better understood once the Act is implemented by the states.

Charging Practices

Local Circles, a community-based social media platform, conducted a national survey during the second wave of COVID-19. With a sample size of 38,000 across 389 districts, results showed that 70 percent of those in need of ambulances were overcharged. Almost 50 percent of the survey respondents were charged 500 percent or more over the regular price, while 10 percent were charged between 100 percent and 500 percent more. Only 30 percent of the respondents said they were charged per the regular pricing.²⁸

A shortage of public ambulances and lack of regulatory mechanisms to control the pricing allowed private ambulance operators to take advantage of the people's dire situations during COVID-19. For instance, in Gurugram, Haryana, private ambulance operators charged between INR 15,000 and INR 40,000 for a distance of less than 5 km in the city²⁹. Observing the rise in complaints about such excessive charges, the Supreme Court of India recommended that a protocol for ambulances must be established in order to prevent exploitation of citizens, along with the creation of a platform for reporting and redressal of such cases³⁰.

The authorities did try to curb the pricing of ambulance services during the pandemic, using Section 67 of the MVA, 1988 to fix the prices of private ambulance operators. For instance, the Commerce and Transport Department of Odisha mandated standard charges for the ambulances of private hospitals and private operators in the state, at INR 10 per km for the first 10 km and additional charges ranging from INR 30 to INR 50 per km³¹. While some state health

departments, through NHM, fixed the transportation charges for private health facilities, NHM Haryana fixed the rate of BLS ambulances at INR 7 per km, and ALS and neonatal care ambulances at INR 15 per km³². However, similar regulations across multiple states proved ineffective due to confusion regarding powers and responsibilities among departments. Delhi government capped the maximum prices for private ambulances during the pandemic, but the order issued by CATS Delhi was not legally enforceable³³, since only the appropriate disaster management authority could issue such orders, deriving powers from the Disaster Management Act, 2005.

The 108/ 102 ambulance services are available free to the users under NHM but may charge transportation to private facilities. Some private health insurance providers cover patient transportation charges, which maybe either be part of an insurance plan or an add-on emergency cover³⁴. The Pradhan Mantri Jan Arogya Yojana offers a family health cover of 5 lakh INR a year, however, there is no mention of transportation costs or ambulance services in its benefit packages³⁵.

Responsibilities of Citizens

A study found that one in 10 patients dies because motorists fail to give way to ambulances³⁶. The Motor Vehicles (Amendment) Act, 2019 introduced punishments for those who obstruct the free passage of ambulances on the road, liable to imprisonment which may extend up to six months, or a fine of INR 10,000, or both.

Fear of intimidation by police and prolonged legal formalities are the main reasons why nearly 75 percent of Indian citizens hesitate in helping victims of road accidents³⁷. In an effort to encourage the citizens, the MVA was amended in 2019 to protect those who assist in transferring a victim of a motor vehicle accident to the hospital. According to the amendment, such persons cannot be forced to disclose any personal information for the medico-legal case or bear any medical expenses towards the treatment of the injured person. In October 2021, the Indian government launched the Good Samaritan Scheme under which anyone who saves the life of a road traffic accident victim within the golden hour is eligible to receive a certificate of appreciation and a cash reward of INR 5,000.³⁸

Monitoring

Ambulance services are primarily provided via public-private partnerships. However, in the absence of reporting arrangements and accountability, state governments lack access to project databases, which hampers monitoring and data-gathering for research¹⁶. Multiple CAG reports also emphasize the inefficient supervision and inadequate performance-monitoring of ambulances by state governments. This shows in the idling of ambulances due to procedural delays in tender procurement, delays in payments to the private providers, and non-fulfillment of maintenance per the prescribed timeline¹⁹. Inconsistency and incomplete reporting make information unusable for corrective actions.

Conclusion

The panic faced by the citizens during the second wave of the pandemic reinforced the need for a single portal that carries verified and up-to-date data on registered and operational ambulances. Equally importantly, there is a need to establish evaluation parameters for equipment availability, care processes, human resources, monetary charges as well as patient and staff safety. Moreover, India needs stringent educational requirements for ambulance staff, accompanied by well-formulated communication strategies and grievance redressal mechanisms that patients can access in emergencies.

COVID-19 has served as an urgent reminder that the legal framework which defines the roles of ambulance-services stakeholders needs clarity and standardization, along with more stringent enforcement of several existing regulations.

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