

Brief- National Programme for Prevention & Management of Trauma & Burn Injuries

Component-I- Trauma Care

1.1 Magnitude of the problem

Global Scenario:

As per the *Global status report on road safety 2018*, the number of annual road traffic deaths has reached 1.35 million in 2016. Road traffic injuries are now the leading killer of people aged 5-29 years. The burden is disproportionately borne by pedestrians, cyclists and motorcyclists, in particular those living in developing countries. It is the 8th leading cause of death for all age groups surpassing HIV/AIDS, tuberculosis and diarrhoeal diseases. As per the Report, 3 times higher death rate occurs in low-income countries than in high-income countries. The SDG 3.6 target to halve road deaths and injuries by 2020 will not be met without drastic action.

India Scenario

In India, accidental injury is one of the leading causes of mortality and morbidity. Road traffic crashes are one of the major causes of disability, morbidity and mortality in India. As per Ministry of Road Transport and Highways, road injuries are one of the top four leading causes of death and health loss among persons of age group 15-49 years. During 2018 (report of MoRTH), the total number of road accidents are reported to be 4,67,044 causing injuries to 4,69,418 persons and claiming 1,51,417 lives in the country. This would translate, on an average, into 53 accidents and 17 deaths every hour.

1.2 Background:

This programme was started on pilot mode under the 9th& 10th FYP as “Pilot Project for strengthening emergency facilities along the highways”. During the 11th Plan, the programme was named as “Assistance for capacity building for developing trauma care facilities in Govt. hospitals on National Highways”. The 11th FYP was approved for developing a network of 140 trauma care facilities in the Govt. Hospitals along the Golden Quadrilateral highway corridor covering 5,846 Kms connecting Delhi-Kolkata-Chennai-Mumbai-Delhi as well as North-South & East-West Corridors covering 7,716 Kms connecting Kashmir to Kanyakumari and Silchar to Porbandar respectively. Under this programme during 11th FYP, 116 trauma care facilities in the Govt. Hospitals were supported.

The scheme was extended to the 12th plan period and the proposal for extension of scheme during 12th plan as “**Capacity building for developing Trauma Care Facilities in Govt. Hospitals on National Highways**”, was approved for development of 85 new trauma care facilities.

Now, the scheme has been extended beyond the 12th FYP, till March, 2020 as “**National Programme for Prevention & Management of Trauma and Burn Injuries**”.

1.3 Objectives:

- To establish a network of trauma care facilities to reduce the incidence of preventable deaths due to traffic accidents by observing golden hour principle.
- To develop proper referral and communication network between ambulances and trauma centres and within the trauma centres.
- To develop National Injury Surveillance, Trauma Registry and Capacity Building Centre for collection, compilation, analysis and dissemination of information for policy formulation and preventive interventions.
- To develop trauma registry centres for ensuring delivery of quality services.
- To develop a National Trauma System Plan.
- To improve awareness through IEC activities.

1.4 Major achievements:

- **Infrastructure strengthening:**
 - During the 11th FYP, a total 116 TCF were identified and funded in 17 states for establishing Trauma Care Facilities.
 - During 12th FYP, a total of 80 Medical Colleges/District Hospitals (LI-5, LII-19, and LIII-56) have been approved for financial assistance in 22 states/UTs.
- **National Injury Surveillance, Trauma Registry and Capacity Building Centre** has been established at Dr. RML Hospital. The website is already launched by the name of www.nisc.gov.in. The Minimum Data set, injury surveillance format, SOPs for data entry and other documents in respect of National Injury Surveillance Centre have been developed. Software for Injury Surveillance and Burn Registry developed.
- **Capacity Building:**
 - ATLS & BLS training is being conducted at Dr. RML Hospital for Doctors and Nurses posted in trauma care facilities.
 - The pre-hospital trauma technician course initiated during 2007 has been revised by an Expert Group through an Agreement for performance of work (APW) with WHO. So far, more than 500 PTT students have been trained since 2007 in the three Central Govt. Hospitals of Delhi. Draft PTT module has been finalized and is in process for printing.
 - 6-months course curriculum on Neuro-trauma has been developed for General Surgeons.
 - First Aid course developed in consultation with AIIMS and WHO and released by MoS (AKC), MoHFW during the Road Safety Week 2019.

- Medical First Aid training imparted to 300 Airport Rescue & Firefighting (ARFF) Personnel, Terminal staff and Airport Health Organization staff at Delhi International Airport.
- First Aid trainings provided to 200 staff and students of Safdarjung Hospital, Dr. RML Hospital, LHMC and Nirman Bhawan at Safdarjung Hospital during the Road Safety Week 2019.
- First Aid training provided to 800 Medical Officers/ Paramedics in preparation of Ardh-Kumbh Mela, Jan-March, 2019. A TOT provided to 40 Medical Officers.
- 120 ANM students & staff at RHTC Najafgarh provided with First Aid training.
- **IEC activities:**
 - Audio-video spots and documentary films on Good Samaritan & First Aid have been developed and distributed to all states through Mass Mailing Unit (MMU). They have also been translated into major Regional Languages.
 - Print material (2 charts, 2 posters and 5 stickers) have been developed and distributed to all states.
 - Publicity campaigns of telecast, broadcast and bulk SMS campaigns have been undertaken.
- **Third party evaluation**

The evaluation task for the Scheme implemented during the 12th FYP was assigned to National Institute of Health & Family Welfare (NIHFW) during 2017-18. The salient recommendations are as follows:

- NIHFW stated that the States find the programme of great value and that it should be continued.
- Periodic review of activities by State Nodal Officers (SNO) jointly with the In-charge of the respective trauma care facility
- Developing coordination mechanism between SNOs, designated officer from the state DME, State NHM office and In-charge of the trauma care facilities.
- Coordination committee may be formed under chairmanship of Medical Superintendent.
- Separate recruitment process for TCFs to be initiated immediately.
- Remuneration should be revisited.
- Purchase of equipment and recruitment of staff to be done simultaneously along with the civil works to avoid time lag in delivery of services
- TCFs should have strong networking with referral hospitals and ambulances.
- IEC activities should be enhanced to increase awareness about availability of trauma care facilities along the highways.

In addition, NITI Aayog undertook an external evaluation of all centrally sponsored schemes through Ernst & Young LLC. Salient recommendations of the report are as follows:

- Improving fund flexibility in the programme for utilizing funds under different heads
 - Ensuring provision of adequate trained and skilled manpower for smooth functioning of TCFs
 - Provision of dedicated trauma beds in the TCFs to avoid unnecessary shifting of trauma victims for specialty consultations.
 - Streamlining flow of funds to the States to avoid delays experienced currently due to fund transfer to State Treasury and subsequently to the TCFs.
 - Strengthening community awareness about availability of trauma care services.
- **Miscellaneous:**
 - List of manpower and equipment to be recommended for Trauma care facilities has been revised by the Technical Resource Group (TRG).
 - The schematic design diagram of trauma care facility has been designed for L-III, L-II, and L-I in collaboration with Central Design Bureau.
 - Operational Guidelines for the programme have been finalized and circulated to the States and UTs.
 - Nine Screening Committee Meetings have been held under the chairmanship of AS (H) to approve Trauma and Burn Unit.
 - On the directions of Hon'ble Supreme Court of India, a committee has been constituted in the Dte. GHS, MoHFW to work on the "Report of the Working group on Emergency Care in India, 2011" which is in the process of framing National Trauma System Plan. For this, 7 Regional workshops have been organized for the states for developing State-wise Action Plan. A total of 32 States/UTs have submitted first draft of their State Action Plan. The Committee has also finalized the technical specifications of the medical equipment component of the ambulances.
 - In respect of the Gazette notification issued by the Ministry of Road Transport & Highways on Good Samaritan, the Ministry of Health & Family Welfare has issued guidelines to all States/ UTs on the same specific to the Health care facilities.
 - As per the Hon'ble Supreme Court's Directive, an advisory has been issued to all the States to implement the PTT course curriculum in their respective State for capacity building and training of para-medical personnel for ambulances, as there is an acute shortage of the same in States.

- World Trauma Day, Remembrance day for road accident victims, Road Safety Week 2018 & 2019 were observed wherein various awareness generation activities were undertaken. Felicitation of Good Samaritans was undertaken by MoS (AKC), MoHFW during the Road Safety Week 2019.
- Technical Resource Group has been re-constituted which has finalized the following:
 - Minimum Standards for trauma care facilities for uploading on the Clinical Establishment Act
 - Standard Treatment Guidelines for trauma injuries & maxilla-facial trauma injuries
 - Key performance indicators for pre-hospital, hospital and rehabilitation care for trauma victims.
- A 'Hand Book on Prevention of Accidents and Awareness of First Aid' has been developed (in Hindi and English) by the Programme Division and released by MoS (AKC), MoHFW during the Road Safety Week.
- Coordination with NHSRC in providing technical inputs for Operational Guidelines of Primary Emergency Healthcare and Operational Guidelines for Emergency services at District Hospitals.
- Visits undertaken to identified TCFs with officials from NITI Aayog in compliance to the Consultative meeting of NITI Aayog held in August, 2018 on Developing World Class Trauma and Emergency Care Services.

Outcomes and Deliverables

1 Stated aim and objectives of the Scheme:

Component-I: National Programme for Trauma and Care (NPTC)

Expected Outcomes

- By the end of 2019-20, 198 (17 of 11th FYP +81 of 12th FYP and 100 new) trauma care facilities will be established at various locations on the National/ State Highways. As stated above, 99 TCFs, approved and funded in the 11th FYP, have already become functional and efforts will be made to make maximum number of TCFs functional.
- Creation of self-sustainable functional TCFs for providing quality services to the injury victims in hassle free manner.
- The project is expected to bring down the number of preventable deaths and disabilities due to road accidents and other injuries.
- National Injury Surveillance Centre to become fully functional to provide evidence based data for policy formulation on road safety and injury preventive interventions.
- Trauma registration pilot project will be established at two premier institutions of the country which will provide data on clinical care of trauma victims for improvement of quality care.
- The project would lead to the creation of trained manpower for emergency trauma care.
- The project would pave the way for the development of a nationwide referral network for incremental level of trauma care.
- The project would synergize ongoing initiatives by different agencies for providing comprehensive trauma care services, like Ministry of Road Transport and Highways, WHO/other International Organizations and EMR Division for pre-hospital care component.
- The project would build capacities for better trauma care in large numbers of peripheral district hospitals.
- Development of state resource centres that will be connected to the National Injury Surveillance Centre for providing data on injuries in the standard injury surveillance format. These resource centres will also be responsible for providing various trainings under the programme as well as for monitoring various components of the programme.

- Provision of dedicated, trained and motivated manpower in the identified TCFs to provide timely and quality care to the trauma victims.
- Establishing 5-6 Regional Apex Trauma Care Centres with heli-ambulances services besides providing helipad services at identified TCFs.
- Rehabilitation services

Component-II Burn Injuries

Background:

1. Pilot Programme for Prevention of Burn Injuries (PPPBI) - 11th Five Year Plan:

A pilot programme was initiated in the year 2010 by Ministry of Health & Family Welfare in the name of “Pilot Programme for Prevention of Burn Injuries” (PPPBI) with a total budget of Rs. 29 crore. The programme was initiated in the following three Medical Colleges and six Districts Hospitals:

- **Haryana:** Post Graduate Institute of Medical Sciences Rohtak; General Hospital, Gurgaon; Civil Hospital, Panipat.
- **Himachal Pradesh:** Dr. Rajendra Prasad Medical College, Tanda at Kangra, District Hospital, Hamirpur; Zonal Hospital, Mandi.
- **Assam:** Guwahati Medical College; District Hospital, Nagaon; District Hospital, Dhubri.

The Goal of PPPBI was to ensure prevention of Burn Injuries, provide timely and adequate treatment in case burn injuries do occur, so as to reduce mortality, complications and ensuing disabilities and to provide effective rehabilitative interventions if disability has set in.

2. National Programme for Prevention & Management of Burn Injuries (NPPMBI) - 12th Five Year Plan:

The proposal for continuation of pilot project as full-fledged programme was approved by Empowered Finance Committee (EFC) on 17.05.2013 and subsequently by Cabinet Committee for Economic Affairs (CCEA) on 6th February, 2014, for covering 47 State Government Medical Colleges.

Now, the scheme has been extended beyond the 12th FYP, till March, 2020 as “**National Programme for Prevention & Management of Trauma and Burn Injuries**”.

2.1 Objectives

- To establish a network of burn units with adequate infrastructural facility for burn management and rehabilitation in all identified Govt. Medical Colleges and District Hospitals.
- To improve the awareness among the general masses and vulnerable groups especially the women, children, industrial and hazardous occupational workers.

- To establish Burn data registry under NPPMBI with integration with National Injury Surveillance Centre for collection, compilation and analysis of burn injury data to bring down the incidence of burn injury cases.
- To carry out Research for assessing behavioral, social and other determinants of Burn Injuries in the country to facilitate effective need based program planning, monitoring and evaluation.
- To organize burn Injury training Programmes for doctors, nurses and paramedical staff associated in management of burn injuries from the identified District Hospitals and Govt. Medical Colleges.

2.2 Components

- Prevention Programme (IEC)
- Treatment
- Rehabilitation
- Training
- Monitoring and Evaluation
- Research

2.3 Achievements during 12th FYP

- The list of equipment, manpower and the architectural design of the proposed burn unit/ ward has been revised in expert group meeting, with technical design specifications supplied by Central Design Bureau.
- The Practical Handbook/ Manual for Burn Injury Management developed during the 11th FYP has been revised. A chapter on the Standard Treatment Guidelines for Acid attack victims has been incorporated in the practical handbook.
- Operational Guidelines for the Programme have been finalized and circulated to all States and UTs. Operational Guidelines for the District Hospital component have also been finalized and uploaded on the website of NHM Division.
- The Quarterly report format has been finalized and circulated to states.
- 47 Medical Colleges have been approved for financial assistance under the Programme.

- Burn Data Registry and software have been developed and will soon be implemented at National level to collect, compile and analyze data related to Burn Injuries in the country.
- Under Information Education and Communication (IEC) activities, following activities have been undertaken:
 - Print IEC material (8 posters/pamphlet) has been developed and distributed in states through Mass Mailing Unit (MMU).
 - Audio-visuals developed on first aid on acid burns and translated into major Regional languages.
 - Publicity campaigns undertaken through telecast, broadcast, digital cinema and campaign of external train wrapping.
- The 6-day practical training of Medical Officers in Burn Injury management for doctors organized at Safdarjung Hospital and Dr. RML Hospital. Around 80 doctors have been provided the training so far.
- A manual on dressing techniques for paramedics has been developed and a pilot training for 25 dressers was undertaken during the WOUNDCON2017. A Training Course in Dressing Techniques including a Training Manual and Session Plan for 5-day training is being finalized.
- Technical Resource Group has been re-constituted which has finalized the Standard Treatment Guidelines for burn injuries.
- The activity of Situational Analysis of burn injuries is being undertaken through AIIMS, New Delhi. The activity is nearing completion and report will be submitted shortly.

2.4. Evaluation / recommendations of NIHFWS.

- All the visited institutes / hospitals were managing burns patients in the General Surgery department. In some of the institutes / hospitals patients were also treated in the existing plastics surgery and burn units. Under the NPPMBI it requires the additional space for creation of burn units. In the visited institutes / hospitals the additional space required for burn units was the major constraint.
- The purchase of equipments and recruitment of the staff should be done simultaneously along with the progress of civil work so that once the building is constructed the trained staff and equipments will be available and there will be no time lag for delivering the services.

- The remuneration of the staff should be equivalent to the similar post in the state at the level of entry. For instance, the M.Ch. Burns and Plastic Surgery appointed should receive the emoluments at the entry level of the Assistant Professor in the state even though he is appointed on contract basis. Similar procedure should be followed for the staff nurses and other staffs. So, the emoluments will be different in different states.
- An ongoing training of the staff should be in place especially because the staff may be transferred to other institutions.
- The dressings of the burns patients require a lot of consumables. Sanction of an amount for consumables should be inbuilt in NPPMBBI.
- A core group of Institutions like NIHFWS should be formed which regularly interacts with the state and the institutions to ensure the timely progress of the programme.
- The states should be allowed to have some flexibility as per their specific requirements in terms of site selection/ renovation of existing building and fixing salary of contractual staff after discussions with the Dte GHS.
- Regular periodic self-assessment of the NPPMBBI at the burn unit level and submission of its report to the state government.
- The existing staff and staff to be recruited under the NPPMBBI should be trained for management of disaster having mass patients of Burn Injuries. Preferably mock drills should be carried at periodic intervals.
- IEC activities for the prevention and management of Burn Injuries should be enhanced. It will not only help in the prevention of injuries but also create the demand for services.

Expected Outcomes:

- To establish 20 new burn units with trained manpower in Govt. Medical Colleges and separately new burn units in District Hospitals (through NHM)
- The number of units in District Hospitals under NHM would depend on the proposals to be submitted by the State Governments/UTs.
- To make all approved and funded burn units in Govt. Medical Colleges functional
- To carry out research activities and conduct training Programmes in burn injury management for all levels of healthcare providers.
- To undertake IEC activities to spread awareness about the prevention and management of burn injuries