



# Scheme for Hospital Safety

Safe Hospitals in Emergencies  
and Disasters

IMPLEMENTATION GUIDELINES

Himachal Pradesh State Disaster Management Authority



Government of Himachal Pradesh  
Department of Revenue(Disaster Management)

No.Rev(DMC)(F)4-2/2000/SEC

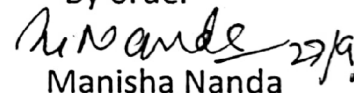
Dated the 29 September, 2018

**NOTIFICATION:**

The Governor, Himachal Pradesh is pleased to notify Scheme on “**Hospital Safety**” as per the Annexure enclosed (English & Hindi) spelling out the role of Stakeholders on the recommendations of State Executive Committee constituted as per provisions of Disaster Management Act-2005 to build a safer and disaster resilient State by initiating proactive prevention, mitigation and preparedness to ensure minimize loss of life, livelihood and property with immediate effect.

All concerned stakeholder departments will implement the scheme in their respective departments in letter and spirit and send action plan and requirement of funds to the Revenue(DM) department within a month's period.

By order

  
Manisha Nanda

Additional Chief Secretary(Rev-DM) to the  
Government of Himachal Pradesh.

To

1. All Administrative Secretaries to the Government of Himachal Pradesh.
2. All Heads of Departments in Himachal Pradesh.
3. All Deputy Commissioners-cum-Chairman, DDMA's in HP.
4. The Secretary(GAD) to the Government of Himachal Pradesh w.r.t. item No.15 of Cabinet decision held on 14.8.2018 for information.
5. The Mission Director, National Health Mission, Kasumpti, Simla-9
6. The Director, HP Institute of Public Admn, Fairlawns, Simla-12
7. The Principal, IGMC/Tanda Medical College.
8. The Principal, Health Training Institute, Parimahal, Simla-9
9. The Controller of P&S, HP for publication in Gazette.



(Milap Chand),

Under Secretary(Rev-DM) to the  
Government of Himachal Pradesh.

## I. BACKGROUND

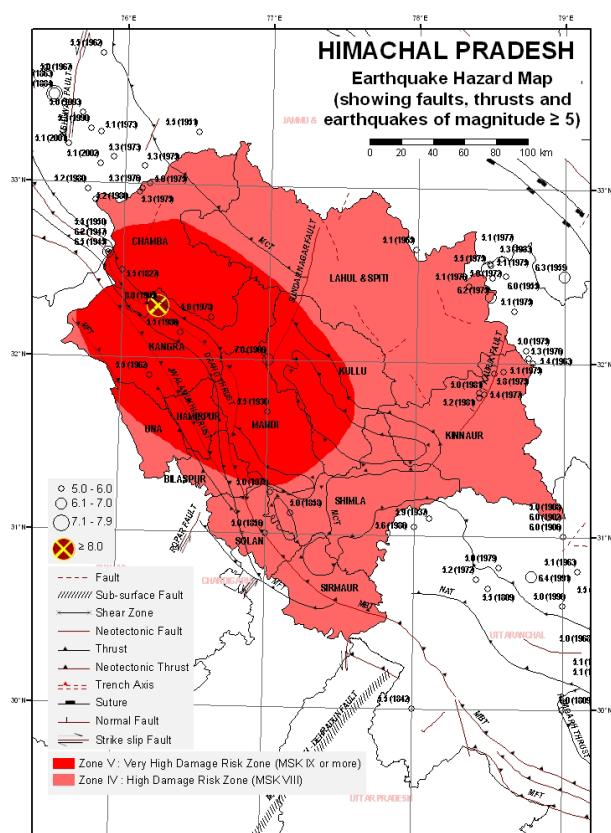
State of Himachal is prone to various hazards both natural and manmade. Main hazards consist of earthquakes, landslides, flash floods, snow avalanches, droughts, fires—domestic and wild, accidents— road, stampedes, etc. However, the hazard which poses biggest threat to the state is earthquake hazard. The state has been shaken by more than 80 times by earthquakes having a magnitude of 4.0 and above on the Richter scale as per the recorded history of earthquakes. As per the Bureau of Indian Standard (BIS) seismic zoning map five districts of the state, namely Chamba (53.2%) Hamirpur (90.9%), Kangra (98.6%), Kullu (53.1%), Mandi (97.4%) have

53 to 98.6 percent of their area liable to the severest design intensity of MSK IX or more, the remaining area of these districts being liable to the next severe intensity VIII. Two districts, Bilaspur (25.3%) and Una (37.0%) also have substantial area in MSK IX and rest in MSK VIII. The remaining districts also are liable to intensity VIII.

### Safe Hospitals in Emergencies and Disasters



The threat of an impending earthquake in the state hangs like the proverbial Damocles sword over the large number of people residing in this region as well as adjoining states. An earthquake shaking may not only bring down the structures but the objects inside the buildings will also fall and topple. Research in the subject of earthquake effects indicate that over 50% of the losses in an earthquake are due to falling hazards or non-structural hazards (i.e. the contents of the building falling down and causing injuries and damage). As opposed to other lifeline buildings, this aspect is critical when it comes to hospitals which houses lifesaving and expensive equipment within a comparatively small area. On the other hand, there is dire need of preparedness planning of hospitals to enable them to tackle the huge inflow of patients after an earthquake, during accidents or any other major emergency.



BMFC: Vulnerability Atlas - 2nd Edition, Peer Group, M&S&P: Map is Based on digitized data of SO, GSI; Seismic Zones of India Map IS-1352: 2002, Seismotectonic Atlas of India, GSI

Himachal Pradesh Hazard Risk Map

in the year 2013, a study was conducted by the National Disaster Management Authority (NDMA), Government of India with the technical support of a team of earthquake engineering experts from Indian Institutes of Technology (IIT), Mumbai and Madras on the likelihoods of deaths due to a hypothetical earthquake of Mw 8.0. The projected deaths and injuries due to this earthquake are tabulated below. The deaths and loss estimates are based on the state-level data from Census of India (2011).

Table 1- Social Loss in Himachal Pradesh

| Population | Injuries  | Deaths   |
|------------|-----------|----------|
| 68,56,000  | 14,90,400 | 1,88,100 |

Table 2- District-wise Social Loss in Himachal Pradesh

| District       | Population | Injuries | Deaths |
|----------------|------------|----------|--------|
| Bilaspur       | 3,82,000   | 77,000   | 10,000 |
| Chamba         | 5,18,800   | 1,35,200 | 14,700 |
| Hamirpur       | 4,54,200   | 98,600   | 13,100 |
| Kangra         | 15,07,200  | 3,15,000 | 41,600 |
| Kinnaur        | 84,200     | 14,400   | 1,600  |
| Kullu          | 4,37,400   | 1,11,800 | 12,700 |
| Lahaul & Spiti | 31,500     | 13,800   | 1,400  |
| Mandi          | 9,99,500   | 2,59,100 | 29,400 |
| Shimla         | 8,13,300   | 1,86,700 | 23,300 |
| Sirmaur        | 5,30,100   | 1,11,600 | 14,000 |
| Solan          | 5,76,600   | 83,500   | 12,600 |
| Una            | 5,21,057   | 83,000   | 13,300 |

## II. NEED OF EMERGENCY PREPAREDNESS PLANNING IN HOSPITALS

Hospitals are critical infrastructure that have a very important role in any post-disaster scenario and have to remain fully functional after a catastrophic event. For this, it is not enough that the hospital building is strong enough to withstand the effects of an earthquake, but all the critical equipment and services in the building have also to remain secure and running to operate at over 300% of its design capacity to serve the dependant community after any disaster like earthquake, flood, major fire, landslides, terror attacks, etc. There is a need of higher level of preparedness to manage the incoming patients and provide them with life-saving care.



The physical components of a hospital or health facility are typically divided into two categories: Structural elements and non-structural elements. However, ensuring hospitals are disaster-resilient goes beyond the physical structure of the buildings.



The hospitals have expensive medical equipment and vital support systems that have to remain functional following a disaster to ensure the continuity of medical services. Securing these vital equipment and systems will greatly reduce damages and avoidable consequences such as loss of life and functionality of the hospital. Functional collapse, not structural damage, is the usual reason for hospitals being put out of service during emergencies. It is important that the decision makers in health facilities understand the importance of the factors affecting functional continuity and take steps to mitigate these. Making a health facility safer is as much about having vision and commitment as it is about actual resources.



### III. CASE STUDIES

#### Failure – Bhuj District Hospital

A large number of health care facilities were affected during the Bhuj earthquake, which occurred on 26/01/2001, causing serious hindrance in providing emergency medical services to injured and sick persons. The widespread damage to buildings and other structures resulted in not only deaths and injuries to patients and service providers (doctors, nurses, and other supporting staff) but also significant loss of medicines, supplies, and other medical equipment. Both preventive and curative health care activities were disrupted. The district hospital at Bhuj, a 281-bed facility, was completely destroyed. Before earthquake, it functioned as a referral hospital in the district, offering medical services such as surgery, gynecology, pediatrics and orthopedics. With the collapse of the building, 193 people, including 11 staff members, died. Located in the same premises were a nursing school and its hospital, an auxiliary nurse and midwife training school, district tuberculosis hospital, a mental hospital and staff quarters, all of which were destroyed or suffered major damage. With such devastation, the immediate task was to arrange for the treatment of orthopedic and spinal injury cases. The military hospital at Bhuj provided emergency care round the clock and carried out about 3,000 major and 6,000 minor operations. It provided medical treatment to 12,254 patients.

**Success- Tribhuvan University Teaching Hospital, Kathmandu, Nepal**

Efforts of USAID-supported Program for the Enhancement of Emergency Response (PEER) and Hospital Preparedness for Emergencies (HOPE) helped the Tribhuvan University Teaching Hospital, Kathmandu, Nepal to prepare for emergencies. The first earthquake on 25th of April, 2015 measuring 7.8 on the Richter scale and the second on 12 May measuring 7.3, failed to disrupt services at Kathmandu's largest public hospitals, Tribhuvan University Teaching Hospital (TUTH). By implementing best practices identified through the HOPE training course, including developing a disaster response plan and implementing non-structural mitigation techniques, such as fastening oxygen cylinders to walls and laminating windows, Kathmandu's Tribhuvan University Teaching Hospital remained operational when the April 2015 earthquake struck. As a result, hospital staff were able to provide medical care to approximately 700 earthquake survivors and perform more than 300 earthquake-related surgeries in the days following the disaster.

**IV. OBJECTIVES OF THE SCHEME**

To prepare Health Department and hospitals of the State for emergencies and to ensure that the hospitals are more resilient to face disasters, remain functional in post disaster scenario and seamlessly increase their surge capacity to cope up with increased number of patients in case of Mega-disasters.

**V. SPREAD OF THE SCHEME**

All 12 districts of the state and Health facilities starting from Medical colleges up to Community Health Centre level.

**VI. COMPONENTS OF HOSPITAL SAFETY**

- i. Rapid Visual Screening, Structural Audit & Retrofitting, Non-Structural Mitigation of the Hospitals & Health Institutions.
- ii. Training and Capacity building of Doctors & other Paramedical Staff on Hospital Safety and Psychosocial Care.
- iii. Preparation of Disaster Management Plans of Departments and Health Institutions.
- iv. Capacity building of Health Training institutions to conduct training on Hospital Safety and Psychosocial care.
- v. Conduct of Mock Drills
- vi. Exposure visits
- vii. Integration of Disaster risk reduction in Health Sector.

## VII. IMPLEMENTING AGENCY / DEPARTMENT

- i. Himachal Pradesh State Disaster Management Authority (HPSDMA) through DM Cell, Department of Revenue will be responsible for overall implementation of the Scheme.
- ii. Department of Health & Family Welfare (DHFV) will own up Hospital Safety Programme.
- iii. DHFV will build Capacities of Health training institutes to conduct training on Hospital safety & Psychosocial care.
- iv. DHFV will provide funds for RVS, Safety audit & Retrofitting of key hospitals and health institutions.
- v. Department of Health will collaborate with DM Cell, Department of Revenue to conduct hospital safety programme and perform its various components.

## VIII. FUNDING

- i. The DHFV will explore the funding opportunities from the National Health Mission funds, etc.
- ii. The DMC may provide the funds under the State Disaster Response Funds – Capacity Building Grant under 14th FC funds or other funds available with DMC.
- iii. Funds may also be obtained from other sources, such as Scheme(s) of Govt. of India, Corporate Social Responsibility, Donor agencies, etc.

## IX. COVERAGE AND TIME SCHEDULE

- i. All the medical colleges of the state and training institutions of the Health department would be covered in the first phase and aim is to do so by March 2019.
- ii. In the second phase all the zonal and referral hospitals shall be covered, and the aim is to complete this activity by March 2020.
- iii. Next phase may focus on CHCs and cover them by March 2021.
- v. Rapid Visual Screening (RVS) of all the Hospitals will be completed in the first year of implementation itself. The Department may conduct table top exercises to do the job within defined time frame.



**Himachal Pradesh State Disaster Management Authority (HPSDMA)**  
**Department of Revenue**  
**Himachal Pradesh Secretariat**  
**Shimla 171002**  
**Telephone: 0177 2880331, 2880320**  
**E-mail: [sdma-hp@nic.in](mailto:sdma-hp@nic.in)**  
**Website: [www.hpsdma.nic.in](http://www.hpsdma.nic.in)**



**HPSDMA**