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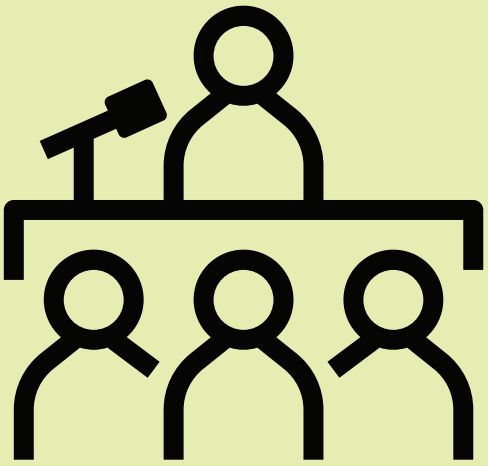
Modules for Training Hospital Stakeholders on Hospital Safety

SESSION PLAN AND GUIDELINES FOR TRAINERS/INSTRUCTORS OF HDM ADVANCED



LEADERSHIP TEAM

March 2023

Indian Institute of Management
Ahmedabad

National Disaster Management Authority
Government of India

Modules for Training Hospital Stakeholders on Hospital Safety:

Session Plan and Guidelines for Trainers/Instructors of HDM Advanced (Leadership Team)

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NATIONAL DISASTER MANAGEMENT AUTHORITY

Preface

Since its inception in 2005, the National Disaster Management Authority (NDMA) has undertaken numerous initiatives for Disaster Risk Reduction and capacity building for disaster management in conformity with its mandate under the Disaster Management Act, 2005. This Hospital Disaster Management (HDM) Manual is an initiative in that direction. The manual focuses on important and critical areas of Hospital Safety during disasters. It contains training modules on Hospital Safety that have been developed in line with the 2016 NDMA guidelines.

The contents of this manual have been prepared keeping in mind all the stakeholders in a hospital setting across multiple levels, including the Leaders, Assessors, Doctors and Front line Staff (nurses, paramedics, ward boys, security staff and ambulance staff). It seeks to empower these stakeholders to address Hospital Safety through a multi-hazard and interdisciplinary approach. While the structural safety of hospitals has been emphasized in recent building guidelines, these modules aim to strengthen the capacity of stakeholders in every hospital in the country to develop a fully functional and regularly tested Hospital Disaster Management Plan (HDMP). The manual has been reviewed by several experts and will serve as a handy document for all training programmes on Hospital Safety.

We take this opportunity to express our heartfelt appreciation to the team of experts from IIM Ahmedabad and various stakeholders who extended their willing support, cooperation and commitment by devoting their expertise to make valuable contributions to the development of this document. We are optimistic that this effort will go a long way in enhancing the preparedness of hospitals in handling any disaster if and when it strikes.

Sh. Kamal Kishore
Member Secretary
Incharge

Sh. Krishna S. Vatsa
Member

Sh. Rajendra Singh
Member

Lt.Gen. Syed Ata Hasnain (Retd.)
Member

Message

The role that health facilities, especially hospitals, can play in response to emergencies and disasters can hardly be undermined. Thus, the loss to health infrastructure as well as economic losses can be humongous when hospitals are destroyed or damaged due to poor construction or improper planning for disasters.

An effective design and implementation of disaster management plan entails seamless coordination between three different types of stakeholders. The first are technical experts and scientists who study the phenomenon of disaster in detail and develop in depth understanding of the mechanisms thus proposing measures for prevention, early detection and proper response. The second are implementers, for example the leaders, managers and employees in the hospital who are involved in the day-to-day activities. The third set of stakeholders are management experts who are concerned with the design of structure, systems, and processes for enabling designing, owning and implementation of the disaster management plans in the hospitals.

Implementation can be strengthened by creating a culture of safety since that culture will ensure regular capacity strengthening programmes, sound hospital safety assessment and planning, and strengthen compliance. For this to happen, a management approach has to be adopted.

For developing and implementing these Hospital Safety Modules, a multi-stakeholder approach has been adopted keeping in perspective that every stakeholder has a different role and responsibility to play. Thus, every stakeholder must be made a participant. Ensuring capacity, commitment and communication at all levels is the only way to make a hospital a highly resilient and high reliability organization and once this is achieved, a culture of safety is bound to continue.

Development of the Modules for Hospital Safety is a crucial step in this direction and we hope that by using these, Hospitals of India will become Safe hospitals, thereby contributing to the country's strategy for disaster risk reduction.

Rajesh Chandwani
Faculty, Human Resource Management Area
Dr Lal PathLabs Chair in Healthcare
Indian Institute of Management Ahmedabad.

Foreword

The World Health Organization (WHO)recognizes a Safe Hospital program as an essential component of a country's strategy for Disaster Risk Reduction (DRR)and, in particular, Emergency and Mass Casualty Management. The number of healthcare facilities in India, including both big and small hospitals, is growing by the day. Various government and accreditation agencies have mandated that every hospital ensure strict adherence with various structural, functional and safety norms and guidelines to ensure Hospital Safety and preparedness for disasters in accordance with the National Disaster Management Act, 2005, and the National Disaster Management Authority (NDMA)Guidelines on Medical Preparedness and Mass Disasters (2007) and NDMA Guidelines on Hospital Safety (2016). However, it is not unusual to hear of instances where hospitals and their patients have suffered due to some internal or external disasters.

Strict adherence to Hospital Safety norms and guidelines is possible only when every stakeholder is aware of these guidelines and of the consequences of non-adherence and has the knowledge, commitment, and capacity to execute their specific roles in ensuring Hospital Safety. Effective preparedness and responsiveness to disasters entail adequate and timely training of the medical community on how to respond to different types of disasters, both natural (earthquake, tsunami, cyclone etc.) and man-made (technological, terror attack etc). Such responses can mitigate the severity of the consequences of a disaster. These aspects depend on the design and implementation of a robust Hospital Disaster Management Plan (HDMP).

Disasters in hospitals not only have grave economic implications in terms of the investments required to reconstruct hospitals and restore damaged equipment, but they also affect healthcare delivery and create social challenges. Consequently, the NDMA has issued detailed guidelines on Hospital Safety. However, the effectiveness of these guidelines not only entails ensuring compliance with them but also creating a culture of safety, conducting regular capacity strengthening programs and undertaking detailed Hospital Safety assessments. Such a broad-based initiative requires a multi-stakeholder approach in which capacity, commitment and communication at all levels are essential.

The NDMA has entrusted the Indian Institute of Management Ahmedabad with the task of developing this training manual on Hospital Safety, which adopts a multi-stakeholder approach to capacity strengthening and resilience building. The training modules aim to support training on Hospital Safety for four levels of stakeholders in hospitals – (1) Nurses and Frontline Staff, (2) Doctors and Managers, (3) Leadership Teams and (4) Assessors. The training modules will enable the hospital teams to adopt an "all-hazards approach" to assess Hospital Safety and develop a HDMP that can be used in response to all kinds of hazards that can lead to disasters. This document also explains the roles and responsibilities of all stakeholders in the face of disasters.

We hope that the clear and detailed training modules will enable hospitals to prepare for and respond to any disaster – internal or external – that comes their way.

Errol D'Souza
Former Director,
(Jan. 2018-Feb. 2023)
Indian Institute of Management Ahmedabad

The Way Forward

Hospitals are the first point of care and treatment during disasters and thus, it is most crucial for hospitals to be safeguarded from, and to be resilient to disasters. This requires the hospitals to be well prepared for facing the disaster, manifest appropriate and swift response to the disaster and also to engage in post disaster relief measures. This entails involvement of hospital personnel across levels.

The need for ongoing capacity strengthening programs for all the stakeholders of hospitals cannot be undermined. I am sure these training modules will help in increasing the awareness of various stakeholders including the frontline staff, doctors, nurses, the managers, leadership, and the auditors on various aspects of disaster management. It will also facilitate strengthening stakeholders' capacities for handling internal and external disasters and enable them to undertake more effective monitoring and evaluation of disaster preparedness for their own set-ups.

The pragmatic approach taken to design these manuals and the comprehensiveness of the training material enable the adaptability of the modules by the hospitals. I am hopeful that going ahead, these training modules will prove to be assets in the hands of the hospital owners, managers, and the medical fraternity to efficiently deal with natural and manmade disasters in order to make hospitals safe and resilient.

My best wishes to NDMA for its future endeavours.

Prof. Bharat Bhasker
Director,
Indian Institute of Management Ahmedabad

Intended Participants of the Training Manuals

The manual is intended to train four basic stakeholder groups working in/with hospitals, who are listed as follows:

Course Name	Level of Training	Intended Participants
HDM Basic	Level 1 – Basic Awareness	Nurses and Frontline Staff
HDM Intermediate	Level 2 – Mid-level Awareness	Doctors (Junior and Senior)
HDM Advanced	Level 3 – Advanced Level Awareness	Leadership Team
HDM Assessor	Level 4 – Hospital Disaster Management Assessor	Internal Auditors

This particular Training Module pertains to the HDM Advanced Group i.e., the Leadership team.

Disclaimer

This document is intended for educational and practical use by hospitals and their stakeholders to promote Hospital Safety by strengthening their resilience against disasters. The references used in preparing the document are listed at the end. The authors and/or the reviewing teams do not intend to derive any commercial benefits from this manual and, hence, all re-productions and references have been used in good faith.

Contents

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We would like to express our heartfelt gratitude to all the 17 Expert Committee members who, despite their own work schedules, were always willing to guide every aspect of the project and proactively also helped with material development for the training programme.

The Experts Committee Members are:

- Dr. D K Shami, Fire Adviser, Civil Defence & Home Guards, Ministry of Home Affairs, Government of India
- Dr. Atul Mohan Kochhar, CEO, National Accreditation Board for Hospitals & Healthcare Providers (NABH)
- Dr. Chetan Patel, Chairperson, IMA Disaster Management Cell
- Dr. Harshad Thakur, Director, National Institute of Health and Family Welfare, MoHFW
- Dr. Manish Chaturvedi, Director, National Institute of Health and Family Welfare, MoHFW
- Dr. S. Aravind, Chief Medical Officer and Director – Projects, Aravind Eye Hospital, Chennai
- Dr. Chandan Ghosh, Professor and Head - Resilient Infrastructure Division, National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India
- Dr. Yash Paul Bhatia, Member- FICCI Health Services Committee and Managing Director, Astron Hospital & Healthcare Consultants Pvt Ltd
- Dr. Bharat Gadhavi, CEO and Medical Director, HCG Group of Hospitals
- Dr. Narendranath Jena, Director and Head of Department, Institute of Emergency Medicine, Meenakshi Mission Hospital and Research Centre, Madurai
- Dr. Suhail Nazki, HOD, Emergency, Narayana Hospital, Jammu/IMA
- Mr. Neelay Srivastava, Director, Institution for Disasters, Emergency and Accidents (IDEA)
- Mrs Pooja Saxena, Lead DRR, Institution for Disasters, Emergency and Accidents (IDEA)
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- Dr. Saurabh Dalal, Emergency, Risk & Crisis Management Officer, World Health Organization
- Dr. Anisur Rahman, Health Systems Strengthening Consultant, World Health Organization
- Dr. Priyanka Singh, Hospital Safety Expert, Indian Medical Association

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Abbreviations And Acronyms

ALS	Advanced Life Support
BLS	Basic Life Support
CBO	Community Based Organization
DMC	Disaster Management Cycle
DDMA	District Disaster Management Authority
EOP	Emergency Operations Plan
HazMat	Hazardous Materials
HRO	High Reliability Organization
HDMP	Hospital Disaster Management Plan
HIRS	Hospital Incident Response System
HMS	Hospital Management System
HRVCA	Hazard, Risk, Vulnerability and Capacity Assessment
HVA	Hazard Vulnerability Analysis
HIS	Hospital Information Systems
IT	Information Technology
IRS	Integrated Response System
IEC	Information, Education and Communication
ICD	International Classification of Diseases
IoT	Internet of Things
KPI	Key Performance Indicators
NABH	National Accreditation Board for Hospitals & Healthcare Providers
NHSRC	National Health Systems Resource Center
NDRF	National Disaster Response Force
NDMA	National Disaster Management Authority
NCC	National Cadet Corps
NIDM	National Institute of Disaster Management
NSS	National Service Scheme
NYKS	Nehru Yuva Kendra Sangathan
PTSD	Post-Traumatic Stress Disorder
PIO	Public Information Officer
SDMA	State Disaster Management Authority
SDRF	State Disaster Response Force
UNIDSR	United Nations International Strategy for Disaster Reduction

1. Overview

Hospital Safety program design and implementation entail addressing safety at all levels of a hospital's functioning – from the physical facility and its technical specifications to creating a 'Culture of Safety' wherein all stakeholders are aware and confident about their roles and responsibilities in times of emergency or disaster. Hospital Safety necessitates managing all these aspects seamlessly through the development of a well-documented Hospital Disaster Management Plan (HDMP) and the creation of an enabling environment in which it can be implemented adeptly.

This training module is designed to orient the Leadership Team to Hospital Safety norms. Hospital Safety is a crucial component of a country's strategy for Disaster Risk Reduction (DRR) and, in particular, emergency and disaster risk management for better health outcomes (WHO, 2015). There are 3 separate modules designed similarly for Nurses and Frontline Staff, Leaders (Management) and Internal Auditors respectively. Safe hospitals are health facilities that remain accessible and functional at the maximum capacity and that can provide services within the same infrastructure during and immediately following disasters, emergencies or crises (ISDR and WHO, 2009). While it may appear that the formulation of a robust and comprehensive Hospital Disaster Management Plan (HDMP) may suffice to keep a hospital safe, there is ample evidence to indicate that merely having an HDMP is not enough; there must be an effective system primed to facilitate its implementation. The commitment of the top leadership to Hospital Safety preparedness is crucial. The hospital leadership needs to generate awareness among all levels of staff about Standard Operating Procedures (SOPs) and plans related to Hospital Safety. This awareness could be generated through training and by fostering a 'Culture of Safety'. They should also ensure that all the systems and processes that facilitate Hospital Safety, including Compliance, Monitoring and Evaluation systems, are in place. The recent hospital fires that took place in August 2020 at Shrey Hospital, Ahmedabad, and Ramesh Hospital, Vishakhapatnam, are classic examples of violations of the Disaster Management Act (2005) and the NDMA Guidelines for Hospital Safety (2016); in short, they illustrate cases of implementation going wrong.

Hospitals are vulnerable to internal and external disasters since they are exposed to compound inherent risks. For example, the vast amount of electrical equipment present combined with the lack of adequate fire safety equipment can jeopardize an already vulnerable facility. They are also prone to hazards and accidents related to various chemical, radioactive and physical materials or equipment stored on the premises. The increased prevalence of natural disasters further adds to their vulnerability; climate change, overexploitation of natural resources and unplanned urbanization are resulting in an increase in the frequency and intensity of natural disasters. In this context, it may be noted that different parts of India are highly vulnerable to earthquakes, droughts, floods, cyclones, landslides and avalanches, exposing the hospitals located in these regions to the risk of these disasters as well. The ongoing Covid-19 pandemic has overtly exposed the vulnerability of Hospitals and Health Care facilities towards biological disasters, be it natural or manmade.

Disasters in hospitals not only have grave economic implications in terms of the investment required to reconstruct buildings and restore damaged equipment, but they also affect healthcare delivery and create social challenges. The health impact may result from lacunae in the public health response and lapses in the medical care provided to victims. The social impact is a loss of confidence and morale in the affected community and the resulting gap between the formal system and communities.

The Bhuj earthquake, which took place on 26 January 2001 in the Kutch district of Gujarat, is an example of how much damage a hazard can cause. Measuring 6.9 on the Richter Scale as per the Indian Meteorological Department and 7.7 as per the US Geological Survey, this earthquake was one of the worst in 180 years. It brought down a significant share of the buildings and structures of the Kutch district and caused the death of over 19,000 people in Gujarat, with 17,000 casualties in Kutch alone (Paul, 2013). In terms of health infrastructure, the earthquake brought down all health facilities, including Hospitals, Primary Health Centres and Dispensaries in Kutch, killing many patients, their families and hospital staff. For instance, the 44-year-old Civil Hospital in Bhuj, which had 250 beds, collapsed, killing around 150 patients. Smaller hospitals faced similar fate (Sharma, 2001).

While an increasing number of hospitals in the country are becoming sensitized to the need to have an HDMP, many are not equipped to develop them in-house. Further, even if a hospital does have a plan, most of its frontline workers and stakeholders who are supposed to implement it are not even aware that the plan exists. Mock drills are virtually absent in rural and small urban hospitals.

This Hospital Safety Initiative adopts a "multi-stakeholder" and "management" approach to Hospital Safety by designing four different training modules for four different categories of Hospital Stakeholders thereby addressing the training needs of all stakeholders from the top to the bottom of the pyramid. The modules have been customized for the four groups based on their specific roles and responsibilities. The modules pay equal attention to technical content related to Hospital Safety and Disaster Management as well as practical implementation and management aspects. Thus, for instance, the modules cover technical information related to the HDMP, but they also focus on who should design it, how it should be drafted, implementation challenges and strategies to ensure implementation.

The four modules have been designed to train hospital stakeholders from all types of hospitals irrespective of their size (small, medium or big), undertaking (public, private or joint), the scope of work (multi-specialty or single specialty) or geographical location (rural or urban).

1.1 Structure of the Module

The overview section provides general information about who should use this manual, how to use it, the learning objectives (session-wise) for participants, guidelines for trainers/facilitators, a brief overview of what the modules cover and the training approach to be used.

1.1.1 Session Plan and Instructions

This section provides a detailed day-wise session plan/agenda for the stakeholder group; a description of the teaching plan, learning objectives, materials required for each session and the suggested pedagogy; specific instructions on how to commence and conduct each session and its expected outcomes. It also provides starting points for discussions and details on how group exercises and activities can/should be conducted. However, this section does not contain the Trainers' Notes, i.e., the technical teaching material. Since the teaching content/material is common for all stakeholder groups, they are provided separately in a booklet titled ***"Modules for Training Hospital Stakeholders on Hospital Safety: Trainers (Technical) Notes."***

Though the modules are organized in a particular order, trainers/facilitators can exercise their discretion in how they use it according to the varying needs of each set of participants and their specific context. Each session's module and sub-modules can also be used either in the order presented, on their own, or in combination with another session in case of time constraints or other factors that require adaptation.

Similarly, while the estimated timings and duration for sessions are offered, trainers can modify the length of each session to fit the total time available and based on the group's level of experience and expertise.

1.1.2 Trainers' Notes for Modules

As discussed above, the topics to be covered for all the stakeholder groups are largely the same and hence are provided as common Trainers' Notes, which can be used across the four groups. Only the discussion sessions for each group will vary based on their specific roles and responsibilities. The training module for each stakeholder group thus elaborates on the discussions and activities to be conducted with each group separately. This module lays down the entire training plan for the Hospital Disaster Management (HDM) Advanced Group i.e., the Leadership team.

1.2 Supporting Material

All the supporting material to be used for training is provided in the annexures or as a separate link (in case of audio–visual material). The supporting material shared in the annexures includes mainly mini case studies, Information, Education and Communication (IEC) material, links to reference material and group exercises.

1.3 How to Use This Manual

The training module covers the content for a four-day long workshop (eight hours per day, excluding breaks) with about 5–7 main sessions per day for the 'HDM Advanced' group.

The duration of the workshops may be altered based on participants' requirements and time availability. For instance, if the program is being organized in-house and the specific group does not have a full day available, the day's sessions may be covered over two days. Some extra supporting material is also provided in case the training personnel

prefer to use one type of material over another, e.g., case studies/scenarios over the Trainers' Notes.

The modules and training material have been designed keeping in mind the context, local culture and language most popularly used in India. The material may be translated into the local state language if the NDMA, the concerned State Disaster Management Authority (SDMA) or local hospitals deem fit. However, it must be ensured that the translation does not change the meaning of the content. Most of the material, especially the cases and other IEC material, has been designed to provide fair representation to the different states of the country or at least different geographical locations.

1.4 Intended Users of This Manual

This manual, including its modules and the supporting material, is simple and easy to use. It can be used by trainers working in the area of crisis/emergency/Disaster Management (DM) in the following settings:

1. Internal trainers in hospitals
2. External trainers at hospitals who work either privately or with central and state government authorities in the field of disaster relief.
3. Academic institutions, such as the Indian Institute of Management, which provide training and management development programs.
4. Officials or Faculty from central-, state- and district-level institutions who are working with hospitals or in other healthcare settings pertaining to disaster relief.

Other than trainers, these modules may also be useful as learning resources for individuals who are interested and want to advance in the field of DM, especially those who are focusing on implementation aspects in hospital/healthcare settings.

1.5 Learning Objectives for the Participants

The broad objective of designing these modules was to create uniform and standard training material that can be used to strengthen Hospital Safety practices across India by strengthening the capacities of multiple stakeholders. These modules will make them aware about (a) the disasters and different disaster scenarios a hospital can face; (b) the organization's (hospital's) prevention and response strategy; and (c) the roles of different stakeholders in the prevention and response strategy.

1.5.1 Specific Objectives

After attending a training program on Hospital Safety, the stakeholders will be able to:

- Understand the different types of disasters and various concepts related to DM including the Disaster Management Cycle (DMC) and related processes.
- Have insights into Policies, Acts and Guidelines related to Hospital Safety and determine how they can be applied in their place of work.
- Be aware of the components of a Hospital Safety Assessment.

- Appreciate the relevance of a 'Culture of Safety' in implementing Hospital Safety.
- Design and implement a HDMP for their hospital and examine its robustness and practicality.
- Design processes for ensuring the proper implementation of the HDMP and deal with pragmatic implementation issues.
- Understand the relevance of IT, Communication and Networking as facilitators of Hospital Safety.

The modules cover topics based on the matrix outlined in the NDMA guidelines for capacity building of diverse stakeholders.

1.6 Training Approach and Teaching Aids

The modules and training delivery plan were developed based on the principles of adult learning theory. Thus, the sessions are designed to be highly participative, as suggested by Knowles, the founder of this theory (Knowles, 1973). The program will be relevant and useful to participants only if they feel that the information can help them realistically find solutions to problems that expose their hospital to risks, if it adds to what they already know and if they are proactively involved in the process of learning (National Research Council, 2000).

Accordingly, the module topics, content and teaching methods have been tailored to suit the training needs and requirements of the four different stakeholder groups. While the supporting material may be the same for the different groups, the discussions and presentations have been designed to focus on each group's specific roles and responsibilities in the hospital and the contribution they can make to Hospital Safety.

The teaching aids used include:

1. Hand-outs to be used as part of the IEC material
2. Audio–visual aids in the form of short movies or video clippings
3. Case studies with teaching notes
4. Group exercises
5. Links to reference material such as Guidelines, Acts, Policies, etc.

The trainers can prepare PowerPoint presentations using the Trainers' Notes provided to aid their teaching.

1.7 Tips for Trainers/Facilitators

For the training sessions to be interesting, insightful and relevant for the participants, a few suggestions are provided for the trainers:

1.7.1 Preparing for the Workshop

1. This training is best conducted by two trainers per stakeholder group if possible. The trainers can take turns conducting the sessions as this will

prevent monotony and fatigue in the trainers as well as the participants. Each trainer can choose to be an enabler in the session if they are not leading the session as the main trainer.

2. Each workshop should not have more than 20–25 participants. A larger group will prevent one-to-one interactions and limit the involvement of every participant.

3. It would be ideal for the trainers to be well-versed with the modules, supporting material and other reference material provided or mentioned in the modules.

4. The trainers should ensure that all the printed materials/resource materials/ hand-outs, such as the session plan, pre and post-test survey tools, IEC material and cases which have to be shared with the participants, are sequentially arranged in a separate folder/file for each participant. A checklist of the same can be prepared to ensure that no printed material is missing from any of the participant's files/folders.

1.7.2 Conducting the Workshop

1. Having prior information about the participants, their hospital/department and the nature of their work will help trainers form a rapport with the participants.

2. Each training session should be made as interactive as possible. An attempt should be made to involve all participants in the discussions.

3. While participants should be encouraged to express their point of view, long discussions on any one topic should be avoided. The questions and answers segment should be scheduled for the end of the session. The doubts of individual participants that need detailed discussion can be clarified during the lunch or tea break.

4. The information should be presented in a crisp and clear manner in a medium of instruction that all participants can understand.

5. The flow of dialogue should seamlessly and systematically move from one sub-topic to the other by clearly linking them so that no sub-topic is abruptly introduced.

Session Plans and Instructions for HDM Advanced

2. Session Plan and Instructions for HDM Advanced

A four-day training workshop is proposed for Leaders. The proposed session plan is included in this section. While there is a suggested time frame for each topic based on an assessment of the minimum time required for the session, trainers are free to tweak the timelines a little, based on need, workshop schedule and time available.

As in the case of the other stakeholder groups, the learning objectives, expected outcomes, and discussion topics are provided for the workshop for Leaders. Trainers' Notes are shared as a separate booklet for further information. During every session, discussions and brainstorming will take into consideration the roles and responsibilities of Leaders, to help participants gain insight into the contributions that they can make to enhance Hospital Safety.

2.1 Session Plan for Day 1: Basic Concepts Related to Disasters and Disaster Management – Hospital Disaster Planning and the Role of Standard Operating Procedures

Table 1 details the timelines, main topics and sub-topics for Day 1 of the workshop, based on the learning objectives for Leaders.

Table 1: Timelines, Main Topics and Sub-topics for Day 1 for Leaders

Session	Time and Duration	Topic	Sub-topics/Agenda
1.	1 hour (9.00 AM – 10.00 AM)	Introduction to Decision-making During Disasters: Ice-breaking	1. Introduction of trainers 2. Introduction of participants 3. Introduction to the purpose of the workshop (the relevance of the topic, ground rules for the workshop, expectations of participants, etc.) 4. Baseline survey 5. Group exercises in the form of ice-breaking activities
2.	1 hour, 30 mins (10.00 AM – 11.30 AM)	Description of Disasters, Epidemiology and DM	1. Key concepts explained – disasters, hazards (single and multi), risk, vulnerability, capacity, etc. 2. Types and classification of disasters 3. Role of climate change, human error and other factors in disasters 4. Understanding and documenting local disaster vulnerability 5. Implications for hospital-level policy development

Session	Time and Duration	Topic	Sub-topics/Agenda
BREAK (11.30 AM – 11.45 AM)			
3.	1 hour (11.45 AM – 12.45 PM)	The Disaster Management Cycle (DMC)	1. Understanding the DMC 2. Application of the DMC vis-à-vis emergency response in the hospital setting and the role of the hospital in different stages of the DMC 3. Recognizing vulnerable people including the differently abled (social inclusion) 4. Acknowledging types of disasters and the relevant public health implications
4.	1 hour (12.45 PM – 1.45 PM)	The Role of a Hospital in Disaster Risk Reduction (DRR)	1. Understanding the role of hospitals in DRR, Mass Casualty and Emergency Management, and the resources required for the same 2. Reflecting on the challenges a hospital faces while performing its role during a disaster and working on strategies to overcome these obstacles 3. Ensuring the development and implementation of policies/ guidelines that incorporate DRR strategies 4. Ensuring resource availability for DRR 5. Enabling teams to overcome challenges while performing their roles during a disaster
LUNCH BREAK (1.45 PM – 2.45 PM)			
5.	2 hours (2.45 PM – 4.45 PM)	Relevance of SOPs	Group Exercise
BREAK (4.45 PM – 5.00 PM)			

Session	Time and Duration	Topic	Sub-topics/Agenda
6.	1 hour (5.00 PM – 6.00 PM)	Hospital Disaster Planning: The Role of Standard Operating Procedures (SOP) for DM in Hospitals	1. Concept and importance of SOPs 2. Understanding potential disaster scenarios for hospitals 3. Understanding the need to translate the concepts of DM into SOPs and to incorporate DM into the existing SOPs of the hospital 4. Ensuring a comprehensive SOP for DM/DRR 5. Understanding the implications of non-compliance 6. Strengthening institutional mechanisms for DM through collaborations and partnerships with organizations within the institutional framework for DM as well as with other hospitals

2.2 Session-wise Guidelines for Day 1

2.2.1 Session 1: Introduction and Ice-breaking

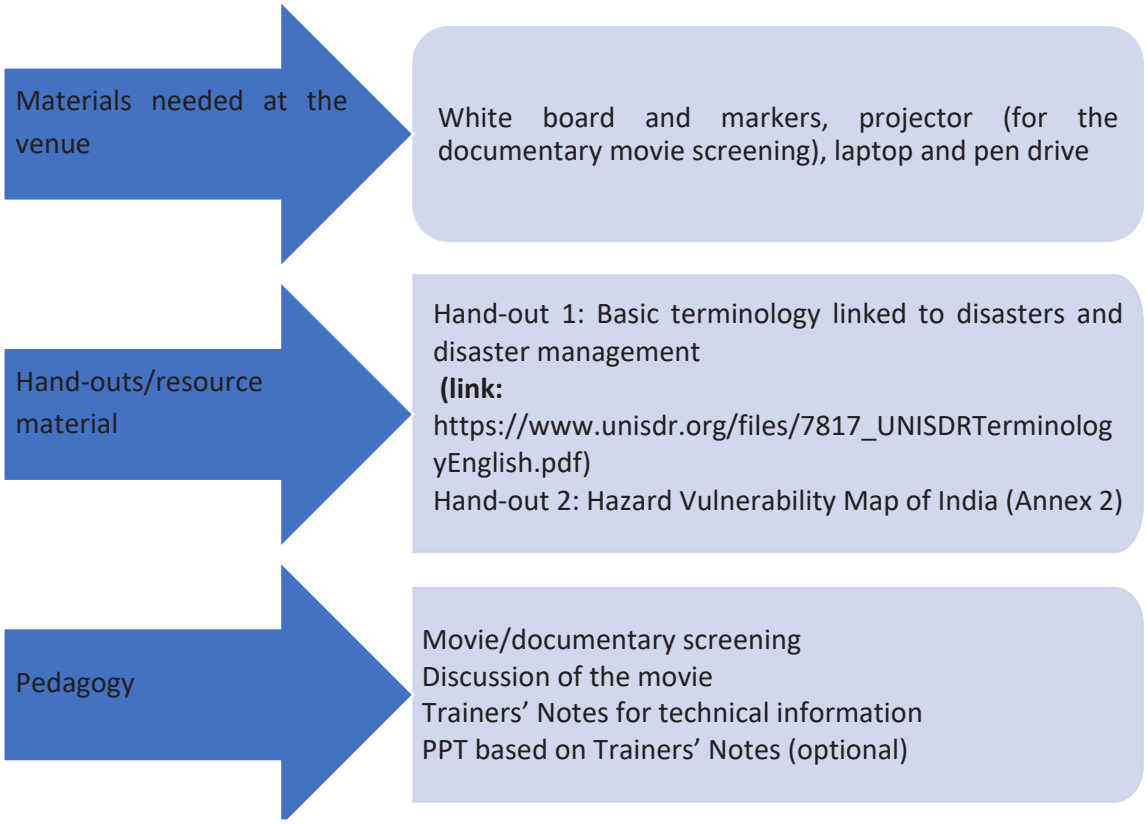
This session will be conducted as suggested in Section 1 of the Trainers' Notes. Tool for the baseline survey that will be conducted is shared in Annex 1, Part A.

2.2.2 Session 2: Description of Disasters, Epidemiology and Disaster Management

Learning Objectives of the Session

1. To familiarize participants with key concepts related to DM, such as disasters, hazards (single and multi), risk, vulnerability, capacity, etc.
2. To inform participants about the types of disasters and their classification.
3. To discuss the role of climate change, human error and other factors in disasters.
4. To provide participants the policy and legal context for disaster-related concepts and terminologies.
5. To enable participants to understand the locality's disaster vulnerability and its implications at the policy level for hospitals.
6. To enable participants to understand the implications of a hospital's vulnerability to disasters.

Preparation, IEC and Pedagogy



Guidelines for Conducting the Session

Starting the Session (10 minutes)

The session can begin with the trainer asking questions such as "*Have any of you encountered a disaster, crisis or emergency situation in your life or in your place of work? If so, how did you handle it?*" The answers can introduce participants to the purpose and intended takeaways of the session. Some participants may have interesting experiences to share and they can be asked to contribute their knowledge and experiences.

Main Session (1 hour)

The main session will begin with a 15-minute documentary on disasters. The movie is provided along with the manual as resource material and will cover information related to types of disasters, the concepts of hazards (single and multiple), risk, vulnerability and capacity. It will also contain a disaster management experts interview on disasters.

The movie will be followed by a discussion to contextualize the concepts and terminology. The Trainers' Notes can be used to systematically discuss all the relevant concepts. This will help crystalize the ideas of hazard, vulnerability, capacity and risk.

Next, the trainer must showcase the Multi-hazard Map of India (Annex 2) to give participants an idea about different states' vulnerability to various natural hazards. This will also enable them to understand and document local disaster vulnerability. Participants should be encouraged to share their views on the implications for disaster

planning and policy-making for hospitals.

At the end of the session, a brainstorming session can be conducted that will enable participants to proactively share what goes into responding to a disaster and the kinds of policies and guidelines that should be developed to ensure Hospital Safety.

Question and Answer Round (20 minutes)

The session will conclude with a question-and-answer round. All questions of participants can be reserved for this time.

Expected Outcome

By the end of the session, participants will have a clear idea about the different types of disasters and key concepts related to DM, including hazard, risk, vulnerability and capacity. They will be aware of the kinds of disasters to which their state is vulnerable. Further, they will gain insight into the kinds of policies and guidelines they need to develop for their hospital's safety so that hazards do not turn into disasters.

2.2.3 Session 3: Disaster Management Cycle

Learning Objectives of the Session

1. To enable participants to understand the DMC.
2. To sensitize participants to the application of the DMC vis-à-vis emergency response in the hospital setting.
3. To enable participants to recognize which people are most vulnerable to disasters.
4. To help participants understand the health implications of the response and recovery phases of the DMC and the role of Leaders in the process.
5. To highlight the relationship between development and disaster (dwelling on topics such as climate change and its impact on changing disaster scenarios.)

Preparation, IEC and Pedagogy

Materials needed at the venue	Post-it notes, flip chart, white board and markers, projector (for the documentary movie screening), laptop and pen drive
Pedagogy	Showcasing a movie and discussing it Small group exercise Consolidating learning from participants' presentations and Trainers' Notes

Guidelines for Conducting the Session

Starting the Session (5 minutes)

The session can begin with the trainer asking "*Why is DM a cyclic process and what are the different phases in the DMC?*" and *"How is development related to disasters (probing on aspects such as climate change and its role in bringing about heatwaves and forest fires etc).*

The trainer can note down participants' answers (but not discuss them in detail at this point) and then show a short video on the DMC. The video has been shared as resource material along with the manual.

Main Session (50 minutes)

Discussion on the DMC (15 minutes)

The trainer can use the video and the answers participants give at the start as the basis for explaining the DMC and for elaborating on the four phases – (1) Prevention, (2) Preparedness, (3) Response and (4) Recovery. The relevance of planning, rehabilitation and provision of psychosocial care will also be touched upon.

Exercise on the Role of Hospitals in the DMC (15 minutes)

Participants can be divided into three groups and each group can be asked to prepare a crisp five-minute presentation on one of the following topics:

1. Health implications for the general population at every stage of the DMC.
2. Whom they think the most vulnerable populations are (e.g., elderly people, children, or differently abled people), the specific care these people need during disasters, and how Leaders can ensure that they receive this care.
3. The role that hospitals in general, and Leaders in particular, play at various stages of the DMC to ensure healthcare provision and DRR.

Participants' Presentations and Discussion (20 minutes)

Each group will make a presentation of five minutes each. It must be noted that these topics are theoretical and experiential. As all participants are healthcare professionals and senior doctors or those in leadership roles, they will already have an idea about their role in the DMC, and many may have experience handling emergencies and mass casualty events. Therefore, an attempt should be made to make this session interactive and filled with experience sharing.

The trainer will then recapitulate all the information from the three presentations and bring up any missed relevant points (from the Trainers' Notes on DMC).

In the main session, a PPT may be used as supporting material, if required.

Question and Answer Round (5 minutes)

Participant questions can be reserved for this round, which concludes the session.

Expected Outcome

By the end of the session, participants will have a clear understanding of the DMC and the crucial role that hospitals and Leaders can play in the different phases – disaster prevention, preparation, mitigation, response and recovery (including rehabilitation).

2.2.4 Session 4: The Role of Hospitals in Disaster Risk Reduction

Learning Objectives of the Session

1. To enable participants to appreciate the role of hospitals in DRR.
2. To allow participants to identify the resources required for DRR and to ensure their availability.
3. To spell out the roles and functions of hospitals in the provision of Emergency Health Services (primary, secondary and tertiary) and during Mass Casualty Management.
4. To help participants identify the challenges hospitals face while performing their roles during a disaster, and strategies to overcome them.
5. To sensitize participants to the need to draft and implement robust hospital guidelines/policies for reduced exposure to hazards, decreased vulnerability of people and property, effective management of land and environment and improved preparedness for adverse events.
6. To enable participants to build their teams' capacity to overcome challenges faced while performing their roles during a disaster.

Preparation, IEC and Pedagogy

Materials needed at venue	Post-it notes, flip chart, white board and markers, projector (for the documentary movie screening), laptop and pen drive
Hand-outs/ resource material	None
Pedagogy	Small group exercise Consolidating learning from participants' presentations and Trainers' Notes

Flow of the Session/Guidelines for Conducting the Session

Starting the Session (10 minutes)

The trainer can begin the session with an activity on DRR. Four small groups of five to seven participants can be formed, and each group will be given a topic (based on the learning objectives) for brainstorming and preparing a presentation from one of the following topics:

1. The role of hospitals (and Leaders) in DRR, especially in Mass Casualty and Emergency Management Services.
2. Resources hospitals require to improve disaster/emergency preparedness and how Leaders can ensure their availability.
3. Challenges hospitals (and Leaders) face during Emergency Management and some easily implementable solutions (including motivating and strengthening their teams).
4. What should SOPs and guidelines for DRR cover?

Group Activity (30 minutes)

This is the time every group gets to discuss the topic and prepare a presentation.

Conclusion of the Session (20 minutes)

Each group will get about four minutes to make their presentation. At the end of the presentations, the trainer will summarize key learnings and add any points that the participants may have missed out.

Expected Outcomes

By the end of the session, participants will have a clear understanding of the following:

1. The crucial role of hospitals and Leaders in DRR, especially during the response and recovery phases of Mass Casualty and Emergency Management Services.
2. Resources hospitals are likely to require during DM operations, the challenges they may face and possible solutions.
3. The relevance of developing hospital policies and guidelines for DRR.

2.2.5 Sessions 5 and 6: Hospital Disaster Planning – The Role of Standard Operating Procedures for Disaster Management in Hospitals

Learning Objectives of the Session

1. To make participants understand the concept and importance of SOPs, especially in the context of DM.
2. To familiarize participants with the strengths and weaknesses of their hospitals' existing SOPs and make them understand what goes into making SOPs for DM/DRR.

3. To sensitize participants to the need to display SOPs for DM in strategic places.
4. To make participants aware of the implications of non-compliance with SOPs.
5. To familiarize participants with the institutional framework for DM from the central to the state level so that they can be integrated into the SOPs for DM.

Preparation, IEC and Pedagogy

Materials needed at venue	White board and markers, projector, laptop and pen drive
Hand-outs/ resource material	Exercise on Importance of a Good SOP (Poorly designed for Group A, well designed for Group B) (Annex 3) Flowchart of institutional structure for DM (Annex 4) Sample of a poorly- drafted SOP (Annex 5)
Pedagogy	Small group exercise Discussions using Trainers' Notes Mock drill/role-play

Guidelines for Conducting the Session

The topic of SOPs will be covered over two sessions – Sessions 5 and 6 – which will take three hours in total. Session 5 will last for two hours after lunch and includes activities. Session 6 will be theoretical.

Session 5: Group Exercise (2 hours)

A mock situation will be presented to participants that they have to enact. The exercise is shared below. This mock exercise will be followed by a debriefing session.

- **Exercise** (1 hour 15 minutes) (Note: 15 minutes is allocated for forming groups and giving instructions. One hour is allocated for the main exercise)

  Like in the case for the first two groups of stakeholders, the participants will be divided into three groups. Two groups will be given a mock situation of a fire in their hospital and the third group will be the observer. The first two groups will be given half an hour each to complete the exercise. They will simulate a disaster response situation using the SOP provided to them. One group (Group A) will be given a poorly designed SOP and the other group (Group B) will be given a clearly drafted SOP. The detailed objective of this exercise, method and activity plan is shared in Annex 3 along with the poorly drafted and clearly drafted SOPs.

Debriefing (45 minutes)

The group exercises and their outcomes will be discussed. Through the discussions, participants will reflect on the relevance of SOPs for DM in hospital settings. The observer group will be asked to give feedback on how the other groups could have done better and also share their opinion about which group performed more efficiently. Thereafter, the trainer will refer to the documentary on disasters shown in Session 2 to inform participants about the different types of hazards and disaster situations a hospital should be prepared for. The hospital needs to be prepared to face every disaster situation, and SOPs can facilitate timely, quick and well-planned interventions.

Session 6 (1 hour)

Starting the Session (20 minutes)

The session can start with the trainer asking participants about the SOPs that currently exist in their hospitals and their purpose. The activity in Session 5, and participants' responses about the SOPs developed by their hospitals, can pave the way for discussions on SOPs and their relevance for hospitals. In particular, the importance of SOPs for DM and the implications of non-compliance can be discussed using the Trainers' Notes. Details regarding the institutional framework from the central to the state level for DM will be shared with participants (Annex 4) so that they are aware of where they can seek help should the need arise. The same will be covered in the SOPs for DM as well.

Main Session: Group Activity (30 minutes)

A short activity of about 20 minutes will further enable participants to understand how to strengthen their hospitals' SOPs. For this, the participants will be given a hospital SOP for DM that is poorly designed (Annex 5). Based on the previous group exercise on SOPs, they will be asked to share feedback on the SOP and identify gaps in it. Design and content aspects of the SOP have to be focused on. They will be asked to rethink their hospitals' SOPs similarly to make them more comprehensive and robust.

Question and Answer Round (10 minutes)

All participant questions can be reserved for this round, which concludes the session.

Expected Outcome

By the end of the session, all participants will have a clear idea about what goes into making a good and comprehensive SOP, and why there should be SOPs for DM. The implications of non-compliance with SOPs, especially in terms of their reputation as well as their hospitals' reputation and business continuity, will be apparent.

2.3 Session Plan for Day 2: Hospital Safety, its Assessment and the Hospital Disaster Management Plan

Table 2 details the timelines, main topics and sub-topics for Day 2, based on the learning objectives for this stakeholder group.

***Table 2**: Timelines, Main Topics and Sub-topics for Day 2 for Leaders*

Session	Time and Duration	Topic	Sub-topics/Agenda
1.	30 minutes (9.00 AM – 9.30 AM)	Recap of Day 1	Revision of Day 1 topics
2.	1 hour, 15 minutes (9.30 AM – 10.45 AM)	Hospital Safety	1. Understanding the concept of Hospital Safety 2. Determining the context, relevance, aim and components of Hospital Safety 3. Identifying priority areas for Hospital Safety
3.	1 hour, 15 minutes (10.45 AM – 12.00 PM)	Hospital Safety Assessment	1. Ensuring the use of a comprehensive Hospital Safety Assessment checklist 2. Ensuring safety through maintenance and inspection 3. Licensing and accreditation requirements for Hospital Safety
BREAK (12.00 PM – 12.15 PM)			
4.	1 hour (12.15 PM – 1.15 PM)	Introduction to the HDMP	1. The concept of HDMP 2. The legal and policy context 3. The aim and basic principles of HDMP 4. The need for staff awareness of and familiarization with the HDMP and HIRS
LUNCH BREAK (1.15 PM – 2.00 PM)			
5.	2 hours (2.00 PM – 4.00 PM)	Relevance of Mock Drills	Group Simulation Exercise

Session	Time and Duration	Topic	Sub-topics/Agenda
6.	1 hour (4.00 PM – 5.00 PM)	Approving the HDMP	1. Ensuring the presence of all components for an HDMP in the hospital 2. Ensuring that the Hazard, Risk and Vulnerability and Capacity Analysis (HRVCA) exercise for an 'All-Hazards Plan'[1] has been done 3. Making sure that every phase of the DMC is covered in the HDMP 4. Ensuring that the HIRS is developed
BREAK (5.00 PM – 5.15 PM)			
7.	1 hour (5.15 PM – 6.15 PM)	Hospital vulnerability analysis – a prerequisite for an HDMP	Group exercise on HRVCA for an 'All-Hazards Plan'

2.4 Session-wise Guidelines for Day 2

2.4.1 Session 1: Recap of Day 1

This brief 30-minute session will be conducted to revise topics of Day 1. Discussions in this session will help participants link concepts from Day 1 to workplace realities.

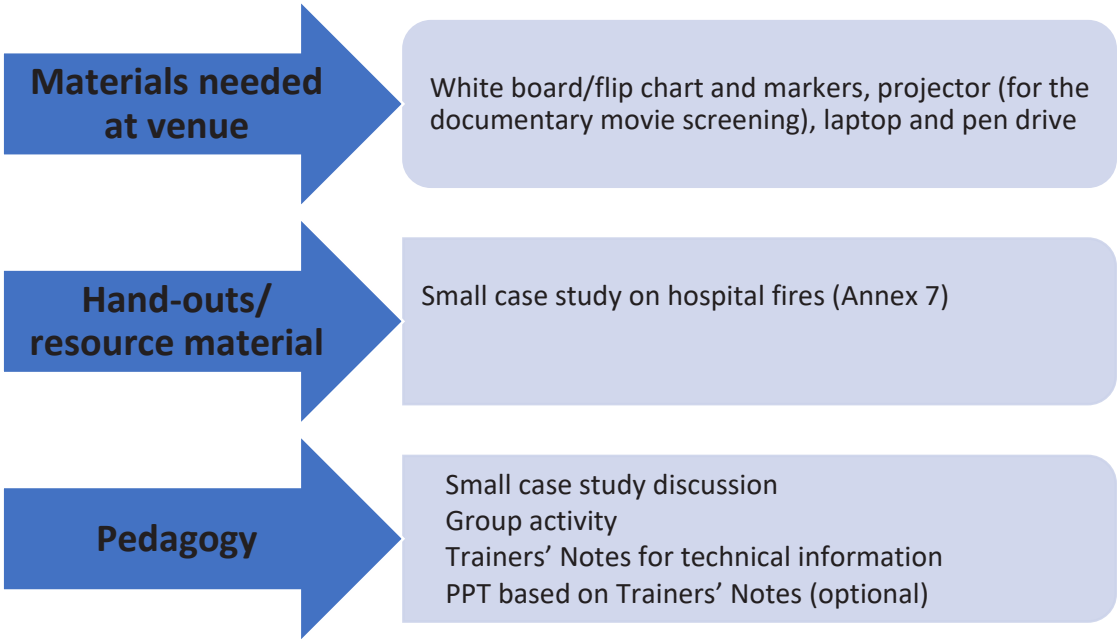
2.4.2 Session 2: Hospital Safety

Learning Objectives of this Session

1. To allow participants to revisit the concept of Hospital Safety and why it is necessary.
2. To sensitize participants to the policy context and aim of Hospital Safety.
3. To help participants revisit the components of Hospital Safety and the factors that account for hospital vulnerability.
4. To introduce participants to the priority areas of Hospital Safety.

[1] While an All-Hazards Plan will be the focus of the discussion, participants will be given hand-outs/resource material related to handling some key disasters – floods, cyclones, fires, chemical accidents, droughts, earthquakes, landslides and terror attacks.

Preparation, IEC and Pedagogy



Guidelines for Conducting the Session

Starting the Session (10 minutes)

The session could start with the trainer asking questions on Hospital Safety and requesting participants to write down their answers within five minutes. The questions could be "*What is a safe hospital?*" and "*How can you ensure Hospital Safety?*" One participant can help the trainer categorize the responses received, and the trainer can note the frequency of each category of response on the white board/flip chart.

Group Discussions (20 minutes)

The trainer can then use a PPT or the technical notes to discuss the concept of Hospital Safety, why it is necessary, the historical background and policy context (Hyogo Framework for Action, etc., as shared in the Trainers' Notes) and the aim and components of Hospital Safety. They can also be informed about the priority areas of Hospital Safety. Participants' responses can also be discussed.

Case Discussion (35 minutes)

Participants will be given mini case studies of hospital fires for discussion (Annex 7). About 10 minutes will be provided for reading and understanding the mini case study. This will be followed by a discussion for 25 minutes. The discussion will focus on questions such as the following:

1. Which type of disaster took place?
2. Which Hospital Safety norms were flouted?
3. What could the management/Leaders have done to avert the disaster?

Question and Answer Round (10 minutes)

In the last 10 minutes of the session, any queries that participants may have will be resolved.

Expected Outcome

By the end of the session, participants will be well-versed with the aim and basic components of Hospital Safety. They will also be aware of the priority areas for Hospital Safety. They will have a clear idea about how they can contribute to the safety of their own hospital.

2.4.3 Session 3: Hospital Safety Assessment

Learning Objectives of the Session

1. To enable participants to understand the relevance of regular Hospital Safety Assessments and the aspects to consider while approving the assessment checklist.
2. To sensitize participants to the need for regular maintenance and inspection of hospitals.
3. To familiarize participants with licensing and accreditation requirements for safe hospitals so that they ensure that their hospital complies with them at all times.

Preparation, IEC and Pedagogy

Materials needed at venue	White board/flip chart and markers, projector (for the documentary movie screening), laptop and pen drive
Hand-outs/ resource material	Index Evaluation Forms prepared by WHO under the Safe Hospitals Initiative) (Link: https://www.who.int/hac/techguidance/preparedness/hospital_safety_index_forms.pdf.) List of permits, certificates and approvals required by hospitals to function, and the Acts, rules and regulations a hospital has to comply with (Annex 9).
Pedagogy	Trainers' Notes for technical information PPT based on Trainers' Notes (optional) Small group exercise on Hospital Safety Assessment (HSA)

Guidelines for Conducting the Session

Starting the Session (15 minutes)

The session could start with the trainer sharing information and hand-outs with participants about the maintenance, inspection, licensing and accreditation requirements for ensuring a safe hospital (Annex 9). This can be done using the Trainers' Notes. Thereafter, the trainer can share the HIS on the projector (from the ink or soft copy provided) in class and explain why an all-hazards approach should be used and what they, as Leaders, should look at while reviewing and approving a Hospital Safety Assessment checklist for their hospital.

Group Activity on Hospital Safety Assessment (1 hour)

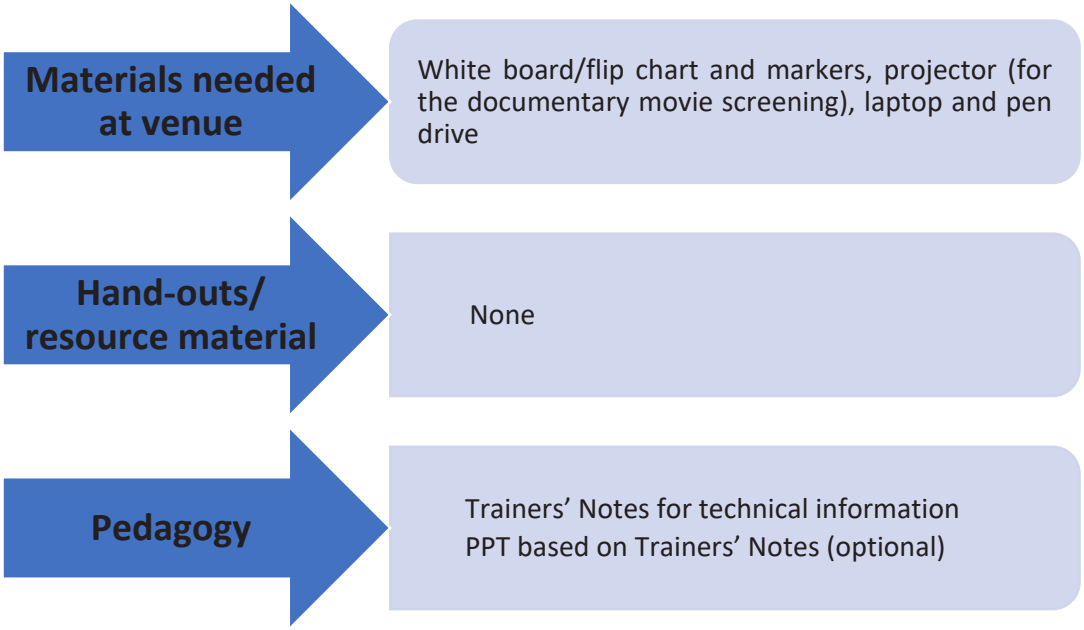
Participants will be divided into small groups of 7–10 members each. Each group will be urged to go through the HIS (prepared by WHO) in 20 minutes shared on the projector by the trainer. After a 20-minute group discussion, each group can share five points that they found most important in the HSI for their hospital's safety which is feasible enough for them to incorporate in their hospitals setting. The presentation of these five points can be done in the last 20 minutes. If time permits, participants can also share what aspects of Hospital Safety they, as Leaders, will ensure to enhance the safety of their hospitals.

This small group exercise will enable participants to understand the perspectives and priorities of others in the group.

2.4.4 Session 4: Introduction to the Hospital Disaster Management Plan

1. To enable participants to understand and ensure adherence to the aims and basic principles of an HDMP while formulating one.
2. To sensitize participants to the legal and policy context of the HDMP.
3. To help participants understand the relevance of staff awareness about and familiarization with the HDMP and HIRS and their contribution/role in ensuring compliance to the same.

Preparation, IEC and Pedagogy



Guidelines for Conducting the Session

Starting the Session (15 minutes)

The session could start with the trainer asking participants about the HDMP established in their hospital. Further questions can cover what the plan includes, if all the staff know about it, and whether or not it is regularly revisited. Answers thus obtained can further the discussion.

Main Session (35 minutes)

This session will be more theoretical. The trainer can make use of the Trainers' Notes as well as a PPT to teach participants about HDMPs and all the points mentioned in the learning objectives, such as the aims and principles to keep in mind while preparing a HDMP.

Question and Answer Round (10 minutes)

Like in all other sessions, the last 10 minutes will be dedicated to addressing participant's questions.

Expected Outcome

By the end of the session, participants will be aware of what principles their hospital's HDMP needs to adhere to and all the interlinked concepts, including HIRS. They will also be able to appreciate the importance of staff being familiar with their hospital's HDMP.

2.4.5 Session 5: Simulation Exercise

Learning Objective of the Session

1. To help participants understand the relevance of regular simulation exercises, mock drills and tabletop exercises for preparing for real-life disasters.

Group Activity

Practice exercises can be discussion-based or operations-based. Operations-based exercises such as mock drills are highly beneficial to prepare for disasters. However, in this training session, a simple simulation exercise will be conducted, which is the next best option, since it is not possible to do a full mock drill in a workshop venue.

Exercise (1 hour 15 minutes) (Note: 15 minutes is allocated for forming groups and giving instructions. One hour is allocated to the main exercise, with each group being given half an hour each.)

The participants will be divided into two teams of six. Remaining participants can act as adjudicators to observe the two teams and evaluate how they deal with the emergency situation presented to them (refer to Annex 10 for details of the situation, SOP provided and learning objectives of the exercise). The two teams, namely Team A and Team B, shall be handed out the same SOP. Both teams will be given five minutes to familiarize themselves with SOP.

Team B will be excused from the room while Team A executes the task. On completion of the task, Team B should be called for their turn. Lastly Team A will execute the same task again while Team B watches. The idea behind this is that through practice and observation, Team A should be able to perform better the second time and execute the evacuation more efficiently. During de-briefing session, the class can discuss the difference of performance of both teams.

Debriefing (45 minutes)

The tabletop exercises and their outcomes will be discussed. Discussions will focus on pinpointing problem areas and potential roadblocks to Hospital Safety in the given situation.

Participants will be encouraged to reflect on the relevance of practical/mock drills in a hospital setting. Many a time, a hospital may have SOPs and HDMPs in place, but without regular practice sessions, the staff may not be ready to respond to a disaster when it does strike. It is the Leaders responsibility to ensure regular mock drills. The observer group will be asked to provide feedback on how the other groups could have done better.

Expected Outcome

By the end of the session, all participants will be sensitized to the dire need for regular mock drills and tabletop exercises to strengthen their HDMPs.

2.4.6 Session 6: Approving the HDMP

Learning Objectives of the Session

1. To familiarize participants with all the ingredients of a robust HDMP.
2. To make participants aware of an HIRS and its relevance.
3. To orient participants to the steps involved in making an HIRS so that they can ensure the completion of the HRVCA exercise and that every phase of the DMC is covered within the HDMP.

Preparation, IEC and Pedagogy

Materials needed at venue	White board/flip chart and markers, projector (for the documentary movie screening), laptop and pen drive
Hand-outs/ resource material	Organizational structure of HIRS and Key roles (Annex 11) Possible candidates for profiles within the HIRS (Annex 12) Cadre-wise SOPs and SOPs for specific disasters (eg., fire, earthquakes, biological, chemical, nuclear, and radiation disasters etc). *Note: SOPs are shared as a separate folder of resource material)*
Pedagogy	Trainers' Notes for technical information Video on HIRS (called Hospital Incident Command system in the USA) (Link: https://www.youtube.com/watch?v=mZJeTyobQp8&feature=youtu.be) Group activity

Guidelines for Conducting the Session

Starting the Session (5 minutes)

The trainer can commence the session by referring to the simulation exercise and highlighting the importance of checking the robustness of the HDMP using such practices.

Main Session (40 minutes)

The trainer can make use of the Trainers' Notes to inform participants about the ingredients of a good HDMP. Challenges involved in the same can also be discussed. Thereafter, participants will learn about the HIRS, the organizational structure required for a good HIRS (Annex 11), potential candidates for each role (Annex 12) and how a hospital can tailor an HIRS to suit its requirements. Handouts related to the topic will be shared with the participants for their review. The main session can end with a ten-minute video (link provided under pedagogy) which summarises the HIRS and roles of people therein.

Question and Answer Round (10 minutes)

The trainer can ask the participants about the challenges that they face in their hospital set-ups with regards to developing an HDMP.

Assigning a Group Activity for Day 3 (5 minutes)

At the end of the session, participants will be divided into small groups of 5–7 members each. Each group will have to develop a checklist or plan for what they will ensure while approving the HDMP for their hospital. This will be a post-workshop exercise. Thus, they will spend time on it after the workshop ends for the day. Participants will have to present their plans during the first session of Day 3.

While they will follow an all-hazards approach, as part of the incident plan, each group can consider any one disaster to which their respective hospital is vulnerable – earthquakes, fires, cyclones, floods, droughts, terror strikes or chemical attacks. To ensure that each group chooses a unique disaster, they can choose the topic in consultation with the trainer.

Their approval of the HDMP should ensure that the plan addresses the following:

- **Pre-disaster planning**: Forming the HDM committee; establishing a response system; creating job cards; activating the plan; catering to bed requirements during disasters (especially in cases of surge or mass casualty situation), logistics and manpower planning, etc.
- **Building Safety Standards and functional aspects**: This includes structural components and non-structural components such as critical emergency exits and fire, electric, communication and water supply systems as well as functional components.
- **Phasing of HDMP**: This includes planning requirements for each DMC phase such as (a) Pre-disaster Phase (planning, disaster manual, staff training) and (b) Disaster Phase (phase of activation of a chain of command, operational phase, phase of deactivation).

At the end of the session, example SOPs/guidelines relating to the specific roles of Leaders and for certain types of disasters will be shared as resource material.

Expected Outcome

By the end of the session, participants will appreciate what goes into the making and approval of a robust HDMP. They will also understand the concept of HIRS and why a good HIRS can go a long way in ensuring Hospital Safety.

2.4.7 Session 7: Hazard Vulnerability Analysis – Prerequisite to Preparing a HDMP

Learning Objectives of the Session

1. To help participants understand how to conduct a Hazard Vulnerability Analysis (HVA) for their hospital so that they can develop and approve their HDMP accordingly.

Preparation, IEC and Pedagogy

Materials needed at venue	White board/flip chart and markers, projector (for the documentary movie screening), laptop and pen drive
Hand-outs/ resource material	Hazard Vulnerability Analysis Tool (Links: (1) https://www.hasc.org/sites/main/files/file-attachments/hva_tool.pdf (2) https://www.calhospitalprepare.org/post/hazard-vulnerability-analysis-tool accessed on March 3,
Pedagogy	Group activity - The participants will be asked to enter their responses regarding their hospital into the HVA as a trial exercise. The scores thus will be compared between the groups to give them an idea of the risks their respective hospital faces.

Guidelines for Conducting the Session

Starting the Session (10 minutes)

The trainer can commence the session by introducing participants to the HVA tool developed by 'Kaiser Permanente', a US-based healthcare company (shared in the links provided under handouts/resource material). This tool has been used because it is comprehensive and simple. Based on the responses, the tool uses Microsoft Excel to automatically generate results related to the probability and severity of the different

risks that a hospital faces. The trainer can explain the purpose of the tool and its scoring process.

Group Activity (50 minutes)

The participants should be divided into small groups of 7–10 participants each. Each group will be given time to enter their responses regarding their hospital into the HVA as a trial exercise. Thereafter, the scoring can be done. This will give participants an idea of how to conduct the HVA. Group members can then discuss the entire experience and share how they conduct the HVA in their hospitals and what factors the HVAs cover. They can also reflect on what they can incorporate from the tool into their hospitals' HVAs. This will also give them an idea of the risks their respective hospital faces.

2.5 Session Plan for Day 3: Hospital Safety and 'Culture of Safety'

Table 3 details the timelines, main topics and sub-topics for Day 3, based on the learning objectives for this stakeholder group.

Table 3: Timelines, Main Topics and Sub-topics for Day 3 for Leaders

Session	Time & Duration	Topic	Sub-topics/Agenda
1.	1 hour (9.00 AM – 10.00 AM)	Presentations on the HDMP	Group activity – group presentations on approval criteria for a HDMP (for participants' hospitals)
2.	1 hour, 15 minutes (10.00 AM – 11.15 AM)	Activating the HIRS	Steps involved in activating the HIRS during disasters
BREAK (11.15 AM – 11.30 AM)			
3.	1 hour, 30 minutes (11.30 AM – 1.00 PM)	Building a 'Culture of Safety' and Psychological Safety	1. Understanding what is 'Culture of Safety' in a hospital and the factors contributing to it 2. Assessing the 'Culture of Safety' 3. Understanding Psychological Safety 4. The benefits of Psychological Safety in building a 'Culture of Safety' 5. Understanding the factors that promote Psychological Safety 6. The role of Doctors and Leaders in promoting Hospital Safety

Session	Time & Duration	Topic	Sub-topics/Agenda
LUNCH BREAK (1.00 PM – 1.45 PM)			
4.	1 hour, 30 minutes (1.45 PM – 3.15 PM)	'Culture of Safety' and High Reliability Organizations (HRO)	1. Understanding HROs and their key characteristics 2. Developing HROs 3. Hospitals as HROs 4. Leadership and cultural maturity
5.	1 hour (3.15 PM – 4.15 PM)	Resilience	1. Understanding resilience 2. Staff and hospital resilience 3. Developing resilience 4. Hospitals' resilience to disasters
BREAK (4.15 PM – 4.30 PM)			
6.	45 minutes (4.30 PM – 5.15 PM)	The role of hospitals in the provision of mental healthcare during disasters	1. The mental health consequences of a disaster 2. Principles of disaster mental health services 3. The role of a hospital in mitigating mental health consequences 4. Relevance of Psychological Triage in identifying people needing psychological first aid versus clinical help
7.	1 hour, 15 minutes (5.15 PM – 6.30 PM)	Decision-making for Hospital Safety	Six thinking hats exercise

2.6 Session-wise Guidelines for Day 3

2.6.1 Session 1: Presentations on HDMPs

Learning Objectives of the Session

1. Developing the skills required to prepare a HDMP through an interactive session.
2. Learning to take feedback positively from peers to strengthen a HDMP.

Preparation, IEC and Pedagogy

Materials needed at venue	White board/flip chart and markers, projector, laptop and pen drive
Pedagogy	Presentations and group discussions

Guidelines for Conducting the Session

Presentations by Individual Groups (40 minutes)

Assuming a maximum of four groups, each will be provided with 10 minutes to make a presentation on the HDMP their group has prepared.

Feedback and Discussions on the Presentations (20 minutes)

After all the presentations are made, members will be encouraged to share feedback on how other groups could further strengthen their approval criteria for HDMPs. The facilitator can also provide tips based on the Trainers' Notes.

Expected Outcome

By the end of the session, the Leaders will have a clear idea of the points they need to consider while approving their hospitals' HDMP as well as the steps involved in drafting a HDMP and the level of teamwork that goes into it. They can use this knowledge and experience to help their hospital develop its own HDMP.

2.6.2 Session 2: Activating the Hospital Disaster Management Plan

Learning Objectives of the Session

1. To make participants aware of the steps involved in activating the HDMP and HIRS during disasters.

Preparation, IEC and Pedagogy

Materials needed at venue	White board/flip chart and markers, projector (for the documentary movie screening), laptop and pen drive
Hand-outs/ resource material	None
Pedagogy	Trainers' Notes for technical information PPT based on Trainers' Notes (optional)

Guidelines for Conducting the Session

Starting the Session (10 minutes)

The session can start with experience sharing. The trainer can encourage participants to share their experiences handling disasters at work by asking them how their hospitals, and they, as Leaders, handled the situation.

Main Session (40 minutes)

Once the experience-sharing is complete, the facilitator can use the Trainers' Notes to explain how the HDMP should be systematically activated. The trainer can highlight similarities and differences between the technical notes and participants' experiences. This session is largely theoretical.

Question and Answer Round (10 minutes)

The last 10 minutes of the session will be dedicated to addressing participant queries.

Expected Outcome

By the end of the session, participants will clearly understand not only how to prepare and approve the HDMP, but also how to systematically activate it, when the need arises.

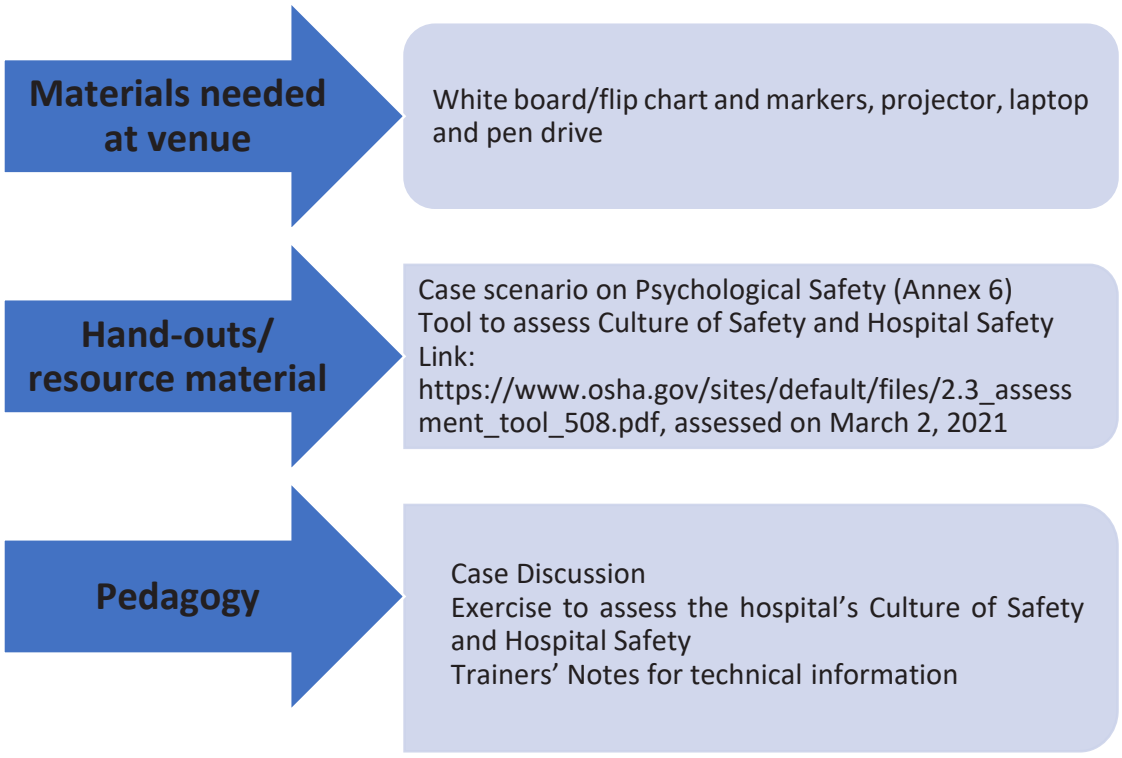
2.6.3 Session 3: Building a Culture of Safety and Psychological Safety

Learning Objectives of the Session

1. To enable participants to understand the need for 'Culture of Safety' in a hospital and factors contributing to it.
2. To empower participants to assess the 'Culture of Safety' in their hospitals.

3. To help participants understand Psychological Safety and its benefits in ensuring a safety culture.
4. To help participants comprehend the factors that promote Psychological Safety.
5. To increase awareness among participants of the role that Leaders play in promoting a 'Culture of Safety' in hospitals.

Preparation, IEC and Pedagogy



Guidelines for Conducting the Session

Starting the Session (5 minutes)

The session can start with the trainer distributing a small case study on psychological safety to the participants.

Case Scenario Discussion (40 minutes)

Next, participants will be asked to read the one-page case scenario (Annex 6) . Thereafter, they will be presented with five questions. Participants will share their views and inputs on each question. These can be noted on the white board or flip chart. Each question will be allocated approximately five minutes for discussion.

Sharing Technical Concepts (15 minutes)

Using the case discussion, the trainer will explain the concepts and benefits of a 'Culture of Safety' and Psychological Safety. The Trainers' Notes provide the technical information required to explain the topic. The case discussion will help highlight factors that influence a safety culture and the role that both Doctors and Leaders can play in enhancing Psychological Safety and strengthening the safety culture. Any points that participants

have missed out can be shared from the Trainers' Notes to complete the discussion.

Group Exercise (30 minutes)

At the end, the participants can be shown the assessment tool for 'Culture of Safety'[2] on the projector, which can be discussed, and even filled out jointly as a group exercise.

Expected Outcome

By the end of the session, the Leaders will appreciate why a 'Culture of Safety' and Psychological Safety are necessary preconditions for Hospital Safety. They will also be equipped to assess and enhance the safety culture in their respective hospitals.

2.6.4 Session 4: Culture of Safety and High Reliability Organizations

Learning Objectives of the Session

1. To enable participants to understand the concept and characteristics of an HRO.
2. To make participants realize what goes into making HROs that are high in cultural maturity.
3. To help participants understand why hospitals need to work like HROs at all times.
4. To make participants, who are Leaders of tomorrow, understand the role that Leaders play in creating a culturally mature HRO.

Preparation, IEC and Pedagogy

Materials needed at venue	White board/flip chart and markers, projector, laptop and pen drive
Hand-outs/ resource material	Case scenario comparing airlines and healthcare organizations (Annex 13)
Pedagogy	Case discussion Trainers' Notes for technical information Group Discussion

2 Link: https://www.osha.gov/sites/default/files/2.3_assessment_tool_508.pdf, assessed on March 2, 2021

Guidelines for Conducting the Session

Starting the Session (30 minutes)

The trainer can start by introducing the concept of an HRO and asking participants how many of them are familiar with it. Thereafter, using the Trainers' Notes, facilitators can explain the concept of an HRO, its characteristics, the development of HROs and other technical information.

Comparing Airlines and Hospitals: A Case Discussion (50 minutes)

Participants will be given a case sheet that discusses an airline as an HRO (Annex 13). Then, participants will be divided into two groups. Both groups will be asked to put on their thinking caps and identify similarities and differences between airlines and hospitals in the context of the hospital's 'Culture of Safety' and reliability. One group can identify similarities and the other differences. In doing so, participants will reflect on three aspects – people, processes and systems. The idea is to make participants understand that a hospital is an HRO and, thus, should work like one at all times.

Group Discussion (10 minutes)

The case discussion will be followed by a group discussion on the lessons or key takeaways for the participants, who are leaders. They will be encouraged to share how they can implement the 'Culture of Safety' in their hospital set-ups.

Expected Outcome

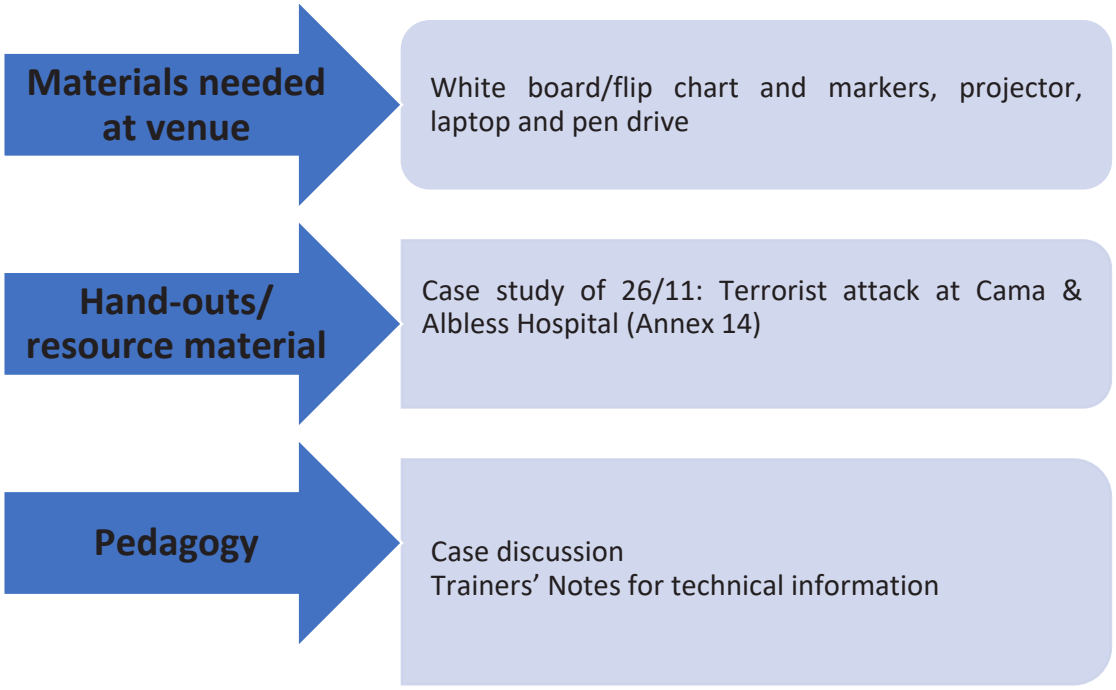
By the end of the session, the participants will be able to understand that a hospital is an HRO and, thus, safety should be integral to its culture. If it upholds all the standards of a HRO, there is no way that a hospital will be unable to withstand a disaster.

2.6.5 Session 5: Resilience

Learning Objectives of this Session

1. To acquaint participants with the idea and importance of hospital resilience.
2. To encourage participants to reflect on how to develop staff and hospital resilience.
3. To help participants understand how a hospital can increase its resilience to disasters.

Preparation, IEC and Pedagogy



Guidelines for Conducting the Session

Starting the Session (10 minutes)

The trainer can start by asking two questions and noting participants' responses on the white board or flip chart. The first question can be "*What is your understanding of resilience?*" The second question can be "*How, in your opinion, can a hospital be made resilient to disasters?*" It would be interesting to learn about the perceptions of participants. Their answers can then be discussed along with the Trainers' Notes to see how well they understood the concept.

Case Discussion (45 minutes)

Participants will be provided with a hand-out of a case study on attack at Cama & Albless Hospital (Annex 14). Once they go through the case, the trainer can explain the concepts of staff resilience and hospital resilience, using the case study and Trainers' Notes.

Question and Answer Round (5 minutes)

A short question-and-answer round can be conducted at the end to help clarify the questions of the participants, if any, related to the topic.

Expected Outcome

By the end of the session, the Leaders will understand the concept of resilience and how staff and hospital resilience can be developed, especially for dealing with disasters.

2.6.6 Session 6: The Role of Hospitals in Providing Mental Healthcare during Disasters

Learning Objectives of the Session

1. To help participants understand the mental health consequences of a disaster.
2. To make participants aware of the principles of disaster mental health services.
3. To sensitize participants to the role of a hospital in mitigating mental health consequences, and the part that they, as Leaders, can play in ensuring the same.
4. To help participants appreciate the relevance of Psychological Triage in identifying people needing psychological first aid versus clinical help.

Preparation, IEC and Pedagogy

Materials needed at venue	White board/flip chart and markers, projector, laptop and pen drive
Hand-outs/ resource material	None
Pedagogy	Trainers' Notes PPT (optional)

Guidelines for Conducting the Session

Introducing the Exercise (10 minutes)

The session can start with the trainer asking participants to suggest, based on their experiences, the role that they, as Leaders, can play in ensuring that patients overcome the common and severe mental health consequences of a disaster. All responses can be recorded on the white board. The points that participants suggest can become focal points for further discussion during the main session.

Main Session (25 minutes)

The facilitator can make use of the Trainers' Notes to inform participants about the consequences of disasters, the principles of disaster mental health services, the relevance of 'Psychological Triage', and the role that Leaders, Doctors and Frontline Staff can play in mitigating the mental health consequences of a disaster. The points that participants suggest during the introduction can be brought in at this point.

Question and Answer Round (10 minutes)

The last 10 minutes can be spent addressing queries. Participants are free to share their experiences related to the topic at this point, too.

Expected Outcome

By the end of the session participants will be able to empathize with the mental health suffering of victims of a disaster. They will also have an understanding about what they, as Leaders, can do to ensure that nurses, Doctors and other staff are sensitive to the mental health needs of patients and are equipped to undertake 'Psychological Triage' for patients.

2.6.7 Session 7: Decision-making for Hospital Safety

Learning Objectives of the Session

1. To make participants realize the importance of creative thinking while solving problems or handling complex situations like disasters. Looking at the larger picture and thinking from multiple perspectives is crucial.
2. To teach participants team-based problem-solving and brainstorming techniques that help prevent conflict and coordination issues despite the existence of different viewpoints.

Preparation, IEC and Pedagogy

Materials needed at venue	White board/flip chart and markers, projector, laptop and pen drive
Hand-outs/ resource material	None
Pedagogy	Group Exercise

Guidelines for Conducting the Session

Introducing the Exercise (10 minutes)

As in the case of Doctors, the trainer will divide the Leaders into small groups of six. Thereafter, the trainer will explain to them the exercise given in the Trainers' Notes. Each group will be assigned a colored hat that represents the perspective they have to adopt. Next, a problem which requires decision making will be shared with all the 6 groups.

The problem situation is shared in the box below:

> "With the advent of the internet and social media, localized incidents have found a way to go viral and thereby highlight larger issues with the systems. One such issue that has found prominence in the recent years is the violence that doctors and hospital staff are subjected to by the aggrieved relatives of patients. While most doctors are worried, a very small number is actually trained to deal with such situations. According to the Indian Medical Association, up to 75% of doctors have faced some kind of violence ranging from telephonic threats to physical assault and even murder.
>
> In light of this, hospital management across the board are looking to increase security in order to provide a safe working environment for their staff.

Group Discussion and Activity Time (20 minutes)

Utilizing the Six Thinking Hats, the 6 groups are required to discuss various steps in which the security of hospitals and its staff can be improved without impeding the workflow of the hospital. The groups will be given 20 minutes to work out a solution, and come up with ideas to solve the problem.

Presentation of Solution (1 hour)

Each group will be given approximately 10 minutes to explain their solution and the role or input of every member in the decision-making process. At the end of the session, the trainer can summarize the session and consolidate participants' learning.

Expected Outcome

By the end of the session, participants will appreciate why it is important to think creatively to find solutions to a problem after gathering all the facts, taking into account intuitive feeling, considering the larger picture and weighing the positive and negative outcomes. They will also understand why this kind of decision-making is important in times of disaster.

2.7 Session Plan for Day 4: Systems for Facilitating Hospital Safety

Table 4 details the timelines, main topics and sub-topics for the final day of the workshop, i.e., Day 4, based on the learning objectives for this stakeholder group.

Table 4: Timelines, Main Topics and Sub-topics for Day 4 for Leaders

Session	Time and Duration	Topic	Sub-topics/Agenda
1.	30 minutes (9.00 AM – 9.30 AM)	Recap of Day 3	Revision of the topics of Day 3 and introduction to the topics of Day 4
2.	1 hour, 30 minutes (09.30 AM – 11.00 AM)	Coordination with Multiple Agencies: The Hospital as an Embedded Entity	1. Relevance of networking and partnerships for DM 2. Response partners for DM
BREAK (11.00 AM – 11.15 AM)			

Session	Time and Duration	Topic	Sub-topics/Agenda
3.	2 hours (11.15 AM – 1.15 PM)	Communication Systems and Managing Public Relations	1. The role of communication as facilitator of DM 2. Relevance of internal and external communication during disasters 3. Importance of sharing information with internal and external stakeholders
LUNCH BREAK (1.15 PM – 2.00 PM)			
4.	1 hour, 30 minutes (2.00 PM – 3.30 PM)	Man-made Technical Disasters: HIS and Cyber Security Disasters	1. Distinguishing between information systems and information technology 2. Benefits and types of HIS 3. HIS as a source of cyber security disasters 4. Preventing and responding to cyber security disasters
5.	1 hour (3.30 PM – 5.00 PM)	Compliance, Monitoring and Evaluation	1. Importance of compliance with guidelines for Hospital Safety and the 'Clinical Establishments Act' 2. The role of monitoring and evaluating people, processes, systems and structures to strengthen compliance with Hospital Safety norms 3. The role of Leaders in strengthening mechanisms to minimize human and systemic errors and maximize Hospital Safety
BREAK (5.00 PM – 5.15 PM)			
6.	1 hour (5.15 PM – 6.15 PM)	Summary and conclusions (Including post training feedback)	

2.8 Session-wise Guidelines for Day 4

2.8.1 Session 1: Recap of Day 3

This brief 30-minute session will be conducted to revise the topics of Day 3. The discussions in this session will help participants link the concepts they have learned to workplace realities.

2.8.2 Session 2: Coordination with Multiple Agencies – The Hospital as an Embedded Entity

Learning Objectives of the Session

1. To sensitize participants to the fact that a hospital is a part of a larger system and community, hence, networking and forming partnerships with other agencies and hospitals involved in DM are critical to the success of a hospital's incident response process. They, as leaders, are the key stakeholders responsible for achieving this.
2. To acquaint participants with potential response agencies with whom partnerships are essential for DM and to encourage them to build institutional linkages to the benefit of their hospitals.

Preparation, IEC and Pedagogy

Materials needed at venue	White board/flip chart and markers, projector, laptop and pen drive
Hand-outs/ resource material	Case study on "hospital as an embedded entity" (Annex 15)
Pedagogy	Small case study discussion Video on partnerships and coordination during an incident response (Link: https://www.youtube.com/watch?v=x_rzWTJIo94. Accessed on 01 March 2021. Trainers' Notes for technical information

Guidelines for Conducting the Session

Starting the Session (15 minutes)

The session can start with the trainer showing a small video of an air crash related disaster that took place in Kozhikode, Kerala, in August 2020[3]. This video showcases how the community and response agencies worked together seamlessly to save victims of the recent disaster in India. This video is about 5 minutes long.

3 Link for YouTube video: https://www.youtube.com/watch?v=x_rzWTJIo94.

Case Discussion (1 hour)

Thereafter, a small case study that brings out the relevance of partnerships between hospitals will be shared with the participants (Annex 15). The written and video case studies will serve as topics for discussion. Through these, and with the help of the Trainers' Notes, the facilitator can highlight the fact that a hospital needs to work in close coordination with several response agencies, including other hospitals, in case of an external disaster. Also, in times of internal disaster, the hospital cannot work in isolation; it must have response partners whose assistance may be required during such incidents.

During a brainstorming session, the trainer can ask participants to suggest how their hospitals can build or strengthen institutional linkages with all the entities discussed.

Question and Answer Round (15 minutes)

The main session will be followed by a question-and-answer round during which all participant queries related to the topic will be clarified.

Expected Outcome

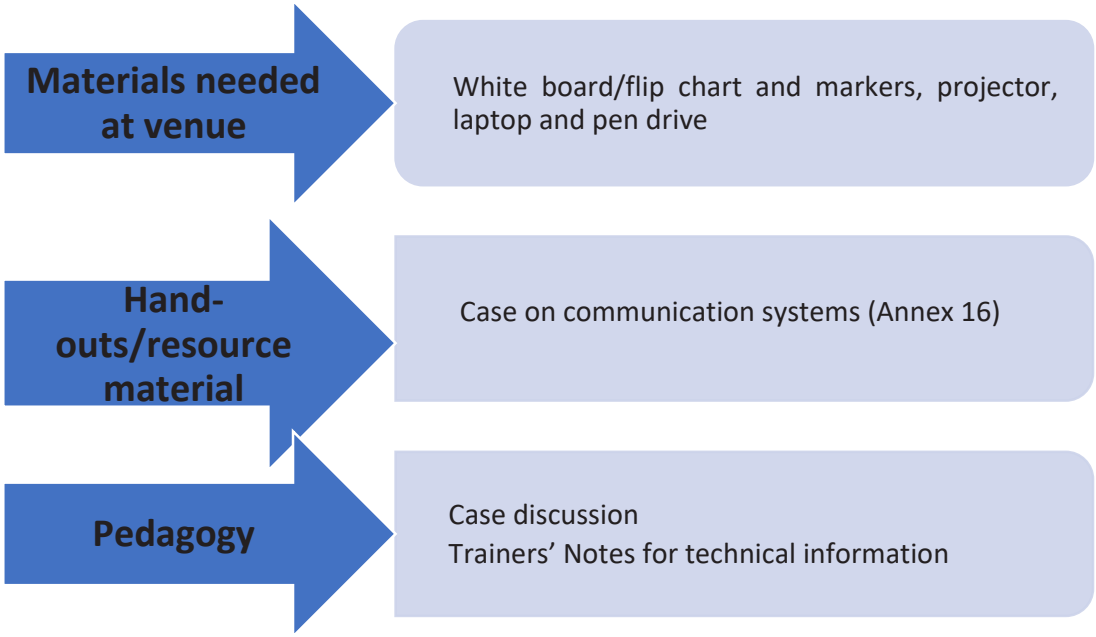
By the end of the session, participants will appreciate the need for networking and working in close coordination with various response partners during complex situations like disasters. They will also gain insight into who the various response partners are and how they can strengthen their linkages/partnerships with them.

2.8.3 Session 3: Communication Systems and Managing Public Relations

Learning Objectives of this Session

1. To sensitize participants to the crucial role of communication as a facilitator of DM.
2. To acquaint participants to the significance of internal and external communication during DM and their role in facilitating these processes.
3. To help participants understand their role in sharing sensitive information about disasters or crisis situations with multiple external stakeholders like the media (including social media), government agencies, and very important persons.

Preparation, IEC and Pedagogy



Guidelines for Conducting the Session

Starting the Session (20 minutes)

Participants will be given 20 minutes to read and understand the case provided in the hand-out.

Case Discussion (1 hour)

The case study will serve as the topic for discussion (Annex 16). Through this, and with the help of the Trainers' Notes, the trainer can explain the process of communication, discuss the relevance of communication systems, and emphasize the fact that a hospital needs to have good communication systems along with backup plans to safeguard against any communication failures during an incident response. Leaders in the hospital need to ensure that the hospital officials in-charge of communication know how much of the sensitive information has to be communicated; to which audience, and in what manner.

The trainer can then facilitate a discussion on the role that Leaders can play in ensuring that the right messages reach the intended audience. Through discussion, participants can be sensitized to the measures they can take to ensure good communication and backup systems within their organization. The facilitator can use the Trainers' Notes to impart this information.

Question and Answer and Experience Sharing Round (10 minutes)

About 10 minutes will be reserved at the end of the session to address the questions of participants.

Expected Outcome

By the end of the session, participants will have a clear understanding of the communication process, how it can be improved, the various communication systems that are essential to hospitals, how backup systems should be created, and how these backups can be used in disaster situations to facilitate the response and recovery processes. They will also know what traits their Public Information Officer/Liaisons Officer should possess and how to train them to impart sensitive information to various external partners.

2.8.4 Session 4: Man-made Technical Disasters – Hospital Information Systems and Cyber Security Disasters

Learning Objectives of the Session

1. To enable participants to clearly distinguish between information systems and information technology.
2. To acquaint participants with the benefits and different types of HIS that they can use in their hospitals.
3. To sensitize participants to how the HIS can be a source of cyber security disasters.
4. To strengthen participants' understandings of how cyber security disasters can be prevented or handled.

Preparation, IEC and Pedagogy

Materials needed at venue	White board/flip chart and markers, projector, laptop and pen drive
Hand-outs/resource material	Case on IT phishing attack (Annex 17)
Pedagogy	Case discussion Trainers' Notes for technical information

Guidelines for Conducting the Session

Starting the Session (20 minutes)

The trainer will spend the initial 20 minutes of the session clarifying the basic terminology related to the topic – information technology, information systems, the HIS and its benefits as well as threats to hospitals in the form of cyberattacks.

Question and Answer Round (10 minutes)

After imparting the theoretical information, trainers can address participant questions.

Case Discussion (1 hour)

After all the queries are resolved, participants will be given 20 minutes to read and understand the case (Annex 17). Then, about 40 minutes will be spent on case discussion. The discussion will shed light on the kinds of cyberattacks a hospital faces and what measures the Leaders of the hospital can take to resolve such situations.

Expected Outcome

By the end of the session, participants will have a clear understanding of how the HIS can serve as a boon and a bane. Participants will understand the relevance of making policies related to cyber security and of either having a strong in-house IT team or outsourcing the work to ensure that cybercrimes do not take place.

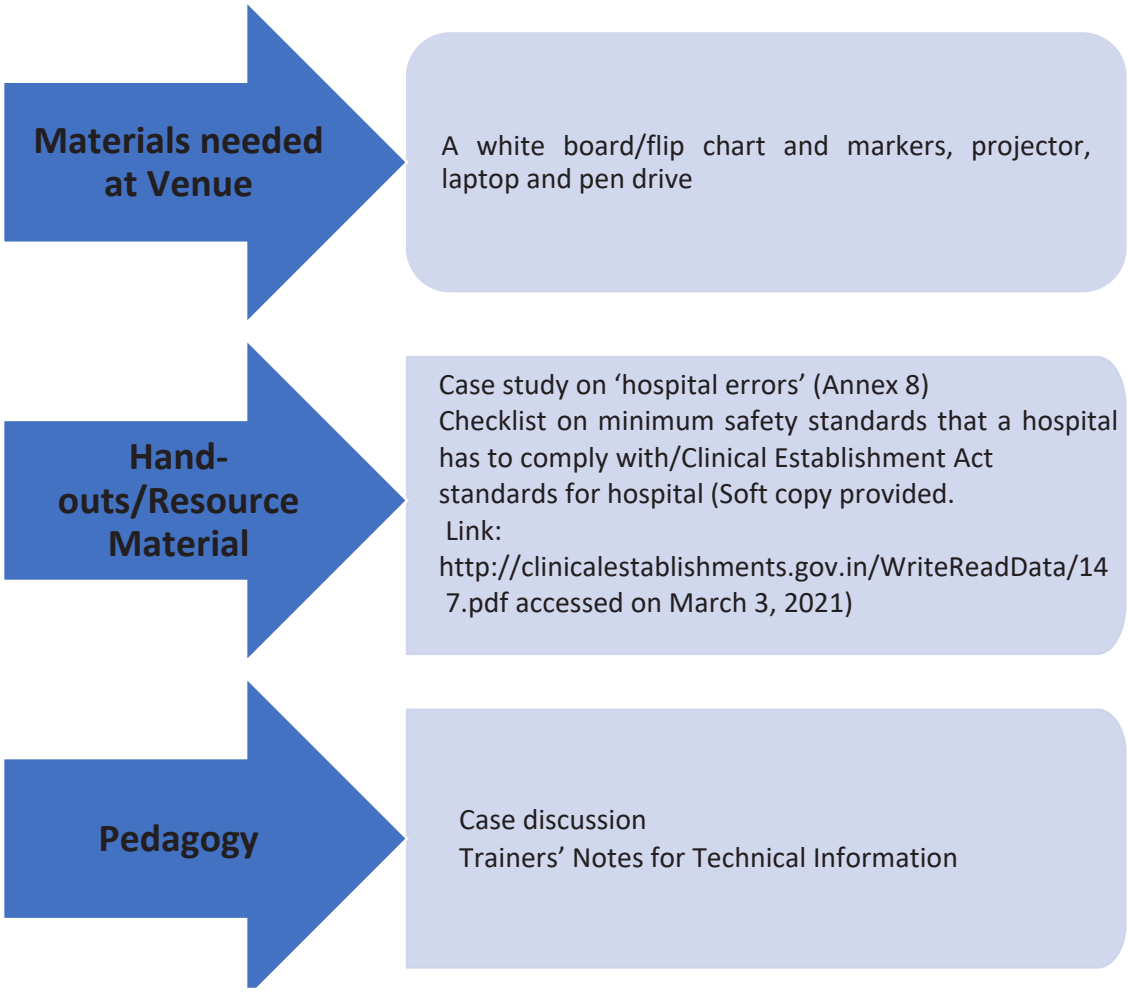
2.8.5 Session 5: Compliance, Monitoring and Evaluation

Learning Objectives of the Session

1. To ingrain in participants what aspects of Hospital Safety cannot be compromised on and why compliance with the guidelines for Hospital Safety and the Clinical Establishments Act is essential for Hospital Safety and the reputation of the hospital.
2. To sensitize participants to the role of regularly monitoring and evaluation of people, processes, systems and structures in strengthening compliance with Hospital Safety norms.

To make participants aware of the role they can play to strengthen mechanisms to minimize human and systemic errors and maximize Hospital Safety.

Preparation, IEC and Pedagogy



Guidelines for Conducting the Session

Starting the Session (20 minutes)

The trainer will spend the initial 20 minutes of the session clarifying the basic terminologies related to Compliance, Monitoring and Evaluation. The guidelines for Hospital Safety and the Clinical Establishments (Registration and Regulation) Act, 2010, will also be discussed in conjunction with the Trainers' Notes, especially the standards set by it for hospitals.

Question and Answer Round (10 minutes)

The questions and doubts of the participants will be addressed in this round.

Case Discussion (1 hour)

Participants will be provided 20 minutes to read and understand the case provided as a hand-out (Annex 8).

About 40 minutes will be spent on discussing the case. The discussion will shed light on the kinds of human errors that can take place in a hospital and how even a small error can lead to a potentially disastrous situation.

Brainstorming solutions will shed light on how such situations can be prevented and the role the Leaders of the hospital can play in ensuring such errors do not take place.

Expected Outcome

By the end of the session, participants will be aware of the consequences of non-compliance with Hospital Safety norms. They will also know what monitoring and evaluation systems/measures they can put in place to ensure the compliance of all staff, systems, and processes within their hospital with safety norms.

2.8.6 Session 6: Summary and Conclusions

This is a one-hour session that can be broken down into the two parts discussed below.

Summarizing the Sessions

The basic purpose of this session is to have a quick run through of all the sessions conducted during the four-day workshop period. The best way to re-check what the participants have learned is to let individual participants volunteer to share a summary of each of the sessions and also share what key learnings they are taking away from the workshop and how they plan to apply it in their place of work. About 40 minutes can be spent on this activity.

Post-training Survey and Feedback

In this concluding session, participants will be required to share post-training feedback. Participants can be given 20 minutes at the end of this session to fill up the Post-Training Survey and Feedback Form (Annex 1, Part B), which would have questions on the workshop and its contents. The feedback from participants will help in improving the content and pedagogy of subsequent workshops on Hospital Safety.

Annex 1: Pre and Post Evaluation Training Tool

Part A

Pre-Training Evaluation

Your Name:

Your Hospital Name:

Your designation:

For the questions below, please tick on the option that you feel is correct:

1. A disaster occurs when:
   a. A sudden and unexpected incident/hazard occurs
   b. In case of Hazard + Vulnerability
   c. In case of Hazard + Vulnerability/Capability
   d. It can occur anytime

2. The hospital decontamination team performs monthly donning and doffing drills. These drills benefit the hospital decontamination team so they are able to reduce mistakes and readily respond in the case of an emergency. As part of Emergency Management, this is a part of which of the below phases?
   a. Response
   b. Preparedness
   c. Mitigation
   d. Recovery

3. What are the three phases of Disaster Management Planning?
   a. Preparation, Response and recovery
   b. Evacuation, Reconstruction and Re-branding
   c. Preparation, Planning and Visualizing
   d. Planning, Evacuation and Recovery

4. The likelihood of an undesirable event occurring within a particular period or under specified circumstances is known as:
   a. Vulnerability
   b. Risk
   c. Hazard

5. Which of the following systems which facilitate hospital safety may also be a source of disaster?
   a. Communication Systems
   b. Information Systems
   c. Monitoring systems
   d. None of the above

6. Which of the following is not a component of Structural Safety in a Hospital building?
   a. Foundation
   b. Pillars
   c. Ceiling
   d. Walls

7. The Hospital Incident Command System is:
   a. A Hospitals management structure
   b. A Standardized approach to incident management
   c. Viable solution to manage both planned events and unplanned incidents
   d. A and C
   e. B and C

8. A Hospitals Incident Response System should be active 24*7.
   a. True
   b. False

9. Who should be in charge of organizing catering services during a hospital incident?
   a. Planning Section Chief
   b. Operations Section Chief
   c. Logistics Section Chief
   d. Finance and Administration Section Chief

10. Who is in charge of deciding what actions have to be taken and about the strategic resources required while handling disasters?
   a. Planning Section Chief
   b. Operations Section Chief
   c. Logistics Section Chief
   d. Finance and Administration Section Chief

11. A hospital staff feels psychologically safe while working when:
    a. He/She is mentally relaxed with minimal stress
    b. She/he does not suffer from work related fatigue and pressure
    c. When she/he is able to share concerns about the hospital and its functioning with superiors
    d. When she/he is able to discuss with peers about all the good and bad things of the hospital.

12. For a hospital to be safe from disasters, it should be so well prepared and equipped that it does not need to take the help of any other hospital to handle its patients
    a. True
    b. False

13. The National Disaster Management Authority (NDMA) is headed by:
    a. President of India
    b. Minister of Home Affairs
    c. Prime Minister of India
    d. Governor of Delhi

OR

13. The Disaster Management Act was made in
    a. 2002
    b. 2003
    c. 2005
    d. 2008

14. Every Hospital in India has got standardised guidelines on Hospital Safety that it has to strictly adhere to, failing which, its license can be revoked.
    a. True
    b. False

15. Resilience of Hospital Staff contributes to Hospital Safety
    a. False
    b. True

Answer Key:

1. C, 2. B, 3. A, 4. B, 5. B, 6. C, 7. E , 8. B, 9.C, 10. B,

11. C 12. B, 13. C, 14. B, 15. B

Part B

Post-Training Evaluation and Feedback

Your Name:

Your Hospital Name:

Your designation:

For the questions below, please tick on the option that you feel is correct:

1. A disaster occurs when:
   a. A sudden and unexpected incident/hazard occurs
   e. In case of Hazard + Vulnerability
   f. In case of Hazard + Vulnerability/Capability
   g. It can occur anytime

2. The hospital decontamination team performs monthly donning and doffing drills. These drills benefit the hospital decontamination team so they are able to reduce mistakes and readily respond in the case of an emergency. As part of Emergency Management, this is a part of which of the below phases?
   a. Response
   b. Preparedness
   c. Mitigation
   d. Recovery

3. What are the three phases of Disaster Management Planning?
   a. Preparation, Response and recovery
   h. Evacuation, Reconstruction and Re-branding
   i. Preparation, Planning and Visualizing
   j. Planning, Evacuation and Recovery

4. The likelihood of an undesirable event occurring within a particular period or under specified circumstances is known as:
   a. Vulnerability
   k. Risk
   l. Hazard

5. Which of the following systems which facilitate hospital safety may also be a source of disaster?

   a. Communication Systems

   m. Information Systems

   n. Monitoring systems

   o. None of the above

6. Which of the following is not a component of Structural Safety in a Hospital building?

   a. Foundation

   b. Pillars

   c. Ceiling

   d. Walls

7. The Hospital Incident Command System is:

   a. A Hospitals management structure

   b. A Standardized approach to incident management

   c. Viable solution to manage both planned events and unplanned incidents

   d. A and C

   e. B and C

8. A Hospitals Incident Response System should be active 24*7.

   a. True

   b. False

9. Who should be in charge of organizing catering services during a hospital incident?

   a. Planning Section Chief

   b. Operations Section Chief

   c. Logistics Section Chief

   d. Finance and Administration Section Chief

10. Who is in charge of deciding what actions have to be taken and about the strategic resources required while handling disasters?

    a. Planning Section Chief

    b. Operations Section Chief

    c. Logistics Section Chief

    d. Finance and Administration Section Chief

11. A hospital staff feels psychologically safe while working when:
    a. He/she is mentally relaxed with minimal stress
    b. She/he does not suffer from work related fatigue and pressure
    c. When she/he is able to share concerns about the hospital and its functioning with superiors
    d. When she/he is able to discuss with peers about all the good and bad things of the hospital.

12. For a hospital to be safe from disasters, it should be so well prepared and equipped that it does not need to take the help of any other hospital to handle its patients
    a. True
    b. False

13. The National Disaster Management Authority (NDMA) is headed by:
    a. President of India
    b. Minister of Home Affairs
    c. Prime Minister of India
    d. Governor of Delhi

OR

13. The Disaster Management Act was made in
    a. 2002
    b. 2003
    c. 2005
    d. 2008

14. Every Hospital in India has got standardised guidelines on Hospital Safety that it has to strictly adhere to, failing which, its license can be revoked.
    a. True
    b. False

15. Resilience of Hospital Staff contributes to Hospital Safety
    a. False
    b. True

Answer Key:

1. C, 2. B, 3. A, 4. B, 5. B, 6. C, 7. E , 8. B, 9.C, 10. B, 11. C

12. B, 13. C, 14. B, 15. B

Post Workshop Feedback

I. How would you rate the workshop on a scale of 1 to 5 where:

1 = Poor

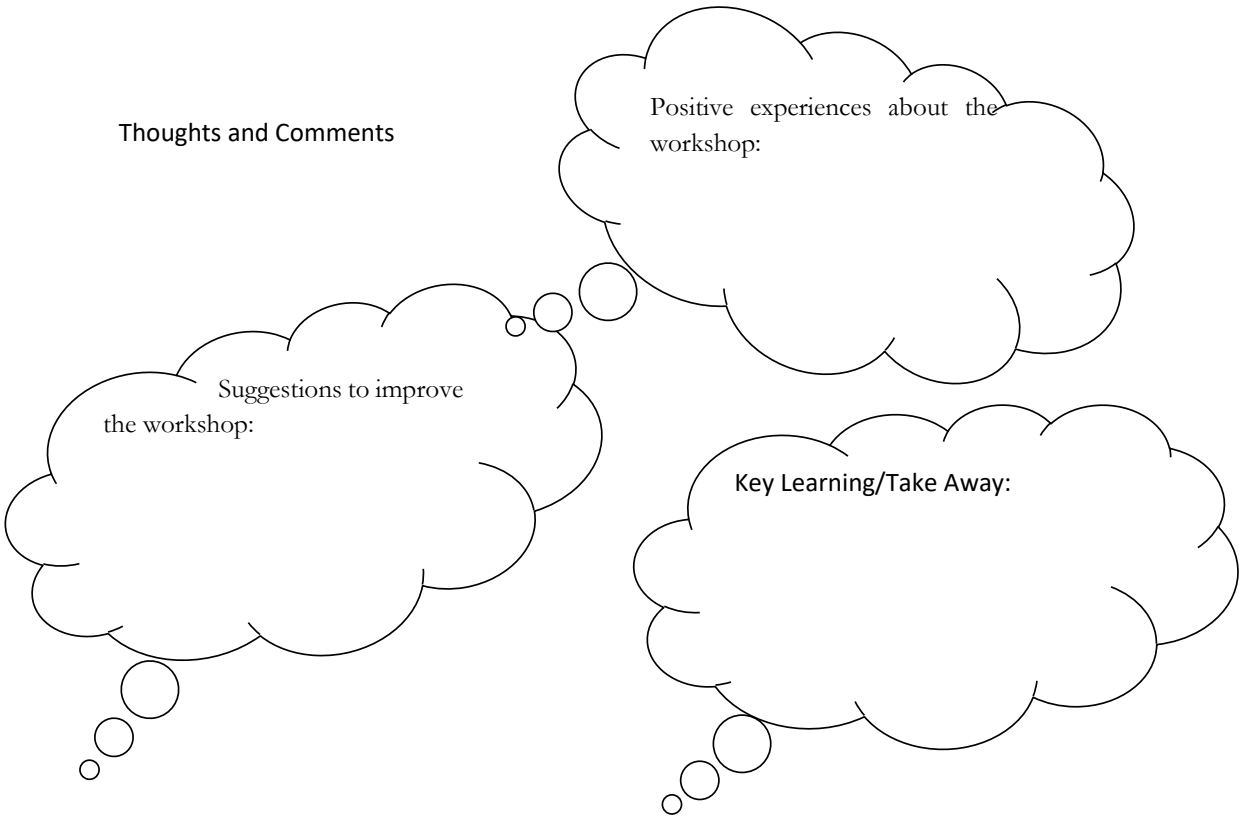
2 = Below Average

3 = Satisfactory

4 = Very Good

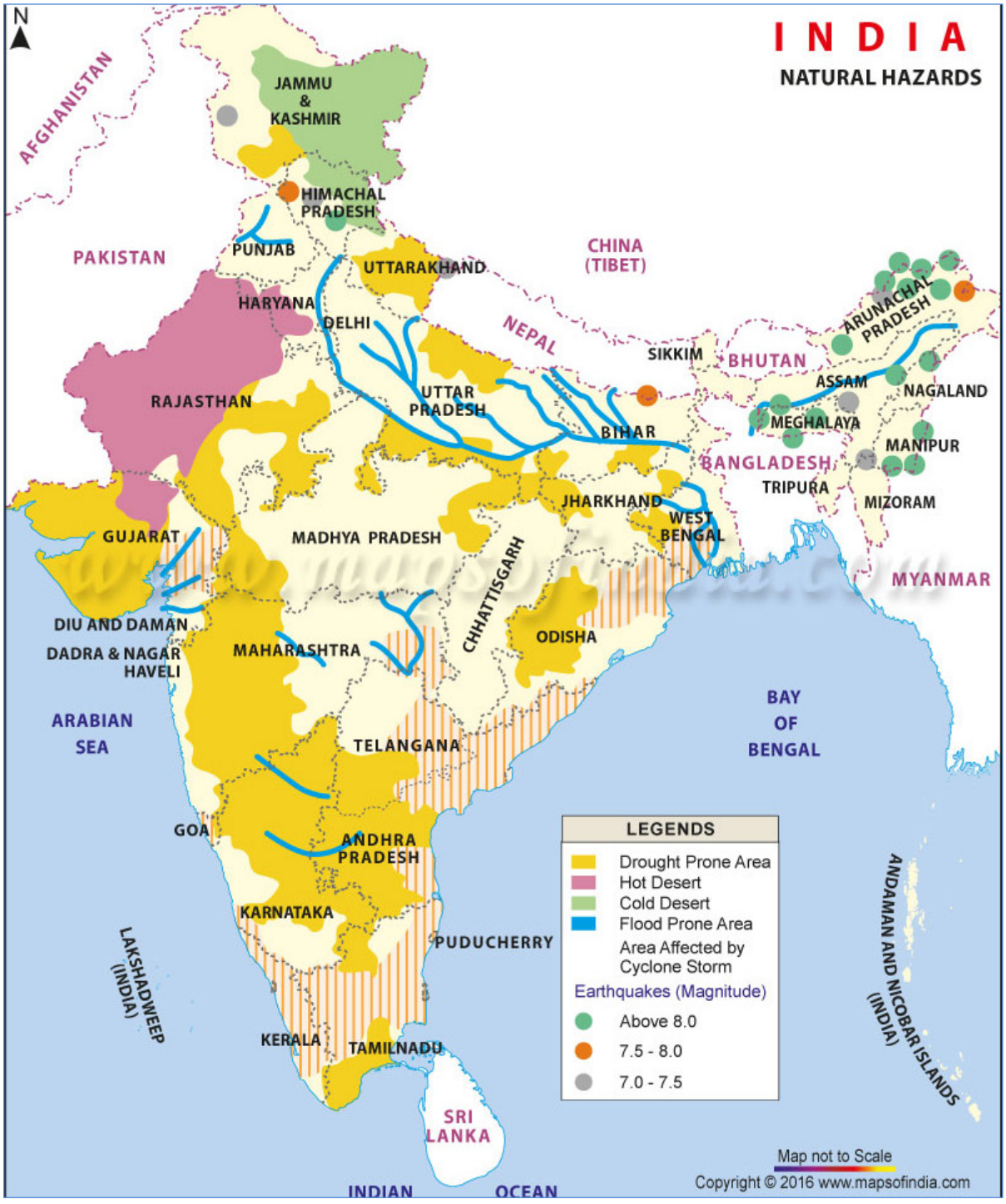
5 = Excellent

		Poor	Below Average	Satisfactory	Very Good	Excellent
1	Content of Workshop	1	2	3	4	5
2	Facilitators	1	2	3	4	5
3	Knowledge of Facilitators	1	2	3	4	5
4	Pedagogy used/ communication	1	2	3	4	5
5	Duration of workshop	1	2	3	4	5



Thank you for your Feedback

Annex 2: Natural Hazards Map of India



For a more detailed map on Natural Hazards and Disaster Risk Profiling, the Instructor may refer to the following link: https://nidm.gov.in/easindia2014/err/pdf/country_profile/India.pdf

Annex 3: Exercise on Importance of a Good SOP

Learning Objectives

1. To ensure participants are aware of the necessity of a thorough SOP for Hospital Safety and disaster management.
2. To enlighten participants about the pitfalls or gaps that an SOP can have.
3. To encourage teamwork through proper delegation of tasks.
4. To underline the need for developing SOPs for Hospital Safety that are specific to their hospital and the disasters they are vulnerable to.

Method

The participants can be divided in two teams of six. Remaining participants can act as adjudicators, observing the two teams and evaluating how they deal with the situation presented to them. The two teams, namely Team A and Team B, shall be handed out SOP A and SOP B respectively. Both teams should be given five minutes to familiarize themselves with SOP.

Team B should be excused from the room while Team A executes the task. On completion of the task, Team B should be called for their turn while Team A waits. At the end of the same, the adjudicators should present their evaluation which should broadly encompass what all went right and wrong with either team.

Task

In the early hours of 23rd February, 2021, a fire broke out in the adjacent commercial complex of SN Hospital. The fire suddenly rages on and spreads to the canteen of the hospital which shares a boundary with the complex. At 5 AM, a staff who has just arrived for duty notices the fire and rushes to inform the doctor. Since the canteen was built later as an add-on building, the fire does not trigger the fire alarm and sprinkler system in the building.

Trainer's Guide

- Some participants should be made patients who need evacuation. Their treatment status should be different i.e., ambulatory, mobile with wheelchair, tethered to ventilator, dialysis machine, etc.
- If there are two exits in the room, block exit 1 without informing the participants. SOP B will mention this.
- Two wheeled chairs can be used as wheelchairs. However, they should be placed at a location that has been mentioned only in Team B's SOP.
- Place a fire extinguisher outside the classroom. Only team B's SOP states the location.

- One student can act as the Fire Department and two as a hospital where patients can be shifted. Only team B's SOP states the need to have a Public Information Officer to coordinate with the agency.
- Light switches can be used to signify heavy machinery that needs to be turned off in case of emergencies.

Fire Emergency SOP for Team A

1. Ensure proper division of various responsibilities.
2. Make contact with the Fire Department and update them with the situation.
3. Identify exit points from the hospital.
4. Exit using the nearest fire exit door.
5. Use fire extinguishers.
6. Early discharge or transfer of patients to long-term care facilities, assisted living facilities or other hospitals may be considered by the doctors as conditions warrant.
7. Begin evacuation of the patients in an orderly fashion. Use wheelchairs where necessary.
8. Ensure ambulances are ready to take patients to other hospitals.
9. Switch off all important equipment that might cause further damage.

Fire Emergency SOP for Team B

1. Assign the following roles
    a. Incident Commander (IC) - To ensure proper commitment to the SOP
    b. Public Information Officer (PIO) - To liaison with external agencies and parties
    c. Safety Officer (SO) - To locate and employ safety tools and measures
    d. Operations & Logistics Officer (OLO) - To identify personnel and patients and deploy a plan for evacuation.
2. PIO to make contact with the Fire Department (Input number of volunteer student) and provide an update on the situation.
3. SO to bring the Fire Extinguisher to the scene of the incident from (Input location).
4. SO to identify Exit 2 and inform the group that it is the designated Fire Exit.
5. OLO to identify patients and visitors and evacuate them in the following order -
    a. **GREEN**: Those able to walk: Accompanied out in groups by nursing assistants, ward clerks, or other non-professional personnel. Infants will be carried by their parent.
    b. **YELLOW**: Wheelchair-dependent patients: Accompanied out by nursing assistants, or ancillary services personnel (x-ray, lab, RT, PT, OR, etc) Use wheelchairs located at (Input location).

c. **RED**: Bed bound patients: Accompanied out by nursing assistants or ancillary service personnel. Use beds, gurneys, or backboards. Any patient requiring close monitoring (ICU, Labor, Postoperative, ER) will be accompanied by licensed personnel.

6. PIO to make contact with other hospitals, (Input number of volunteer students) and make enquiries about availability of beds in order to shift patients. Forward the information to the IC.

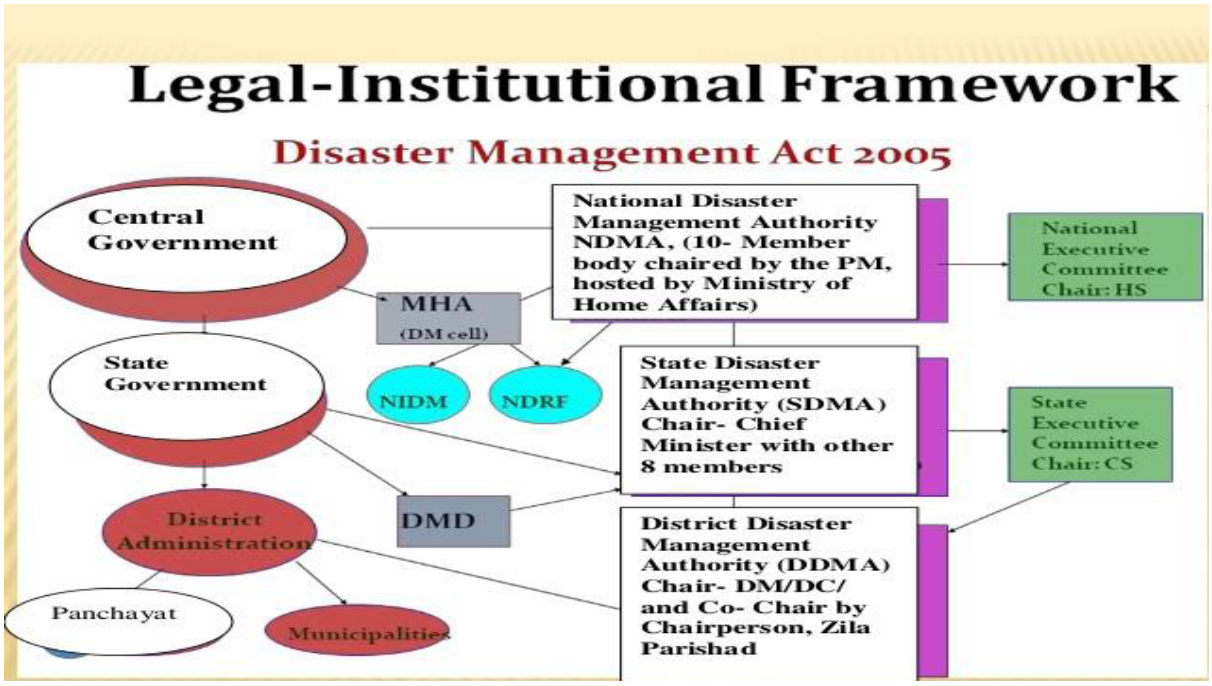
7. IC to identify a location outside the hospital as a temporary shelter area. Share location with the rest of the team. OLO to ensure all evacuees arrive at the location.

8. IC to make a list of all patients and identify the patients that need to be shifted to other hospitals in coordination with the OLO.

9. SO to ensure all electronic equipment in the hospital building have been switched off at (Input switch location).

Annex 4: Institutional Framework for Disaster Management in India

(Mandated by the Disaster Management Act, 2005)



Source: Ahmad, Muzzafar. (2013). Disaster Management Initiatives: Policy Perspective and Effective Response Mechanism in India. Presentation made by member of NDMA at the 28th ALNAP meeting, Washington D.C, 4th March. Accessed on 03 October 2020 from https://www.slideshare.net/ALNAP/disaster-management-initiatives-in-india

Annex 5: Poorly Drafted Standard Operating Procedures on Disaster Management

XYZ Hospital

State ABC, INDIA

(Established by an act of _____, Estd: 1925)

POLICIES & STANDARD OPERATING PROCEDURES ON
DISASTER MANAGEMENT

AIM

1. To provide the Disaster Management Plan for XYZ hospital.
2. To develop a holistic strategy in coordination with other regional & National agencies with focus on prevention, preparedness & risk mitigation, in order to reduce the impact of disasters both within the hospital and in the region.

POLICY:

A. Committee

A XYZ Hospital Disaster Management Committee (SDMC) will be constituted under the Chairmanship of Director- XYZ Hospital with a broad membership of all stakeholders. This Committee composition may be modified from time to time.

XYZ Hospital Disaster Management Committee

S.No	Name & Designation	Department	Contact No.

B. Objectives of the Committee:

1. To take adequate measures and adopt necessary best practices to ensure that the hospital is prepared to manage any natural as well as manmade disaster.
2. To update the Disaster Management Policy periodically

C. Broad Policy Outline.

This document will outline protocols to be followed for further development of department/ area specific SOP's training programmes. Mock drills are to be implemented after the initial round of education & training. This activity should be done once in every quarter.

III. DISASTER DESCRIPTION

- Definition of Disaster and Types of Disasters:
- Disaster Classification
- Disaster Management Cycle.

Disaster Risk Reduction within the hospital

Biological: Hospital will be safeguarded against any outbreaks of communicable diseases

Ownership –

Accidents: Buildings and surroundings should be inspected monthly with documentation of soundness regarding civil, Mechanical & Electrical components to prevent fire, collapse, water logging, drainage disruption etc.

Ownership-

Technological: Areas prone for hazards relating to radiation, chemical spills and sewage shall be monitored and proper educational processes or radiation hazard and chemical spill instituted.

Ownership –

Disaster Risk Information Improvement and creating safety culture:

Improvement in structural & non-structural elements will be undertaken to increase safety. Physical infrastructure (drainage channels etc) will be reviewed and rectified as required. Increased efforts will be made towards knowledge development /dissemination, awareness campaigns, and curriculum development.

Ownership –

Integrated Planning with regional and national disaster management agencies:

Meetings, at least once in 6 months, should be held with state / national agencies, so as to ensure smooth operation in case of disaster.

Ownership –

FUNDAMENTAL PRINCIPLES OF DISASTER MANAGEMENT:

Do the greatest good to the largest possible number of affected people within the optimal time frame using the maximal resources deployable. For this, all the staff of the hospital should be aware of the hospital disaster management plan.

Disaster Rapid Response Teams:

When Emergency operations are required, the central command will activate Disaster (Disaster Action). The Disaster Rapid Response Teams shall comprise the following area-specific sub-teams.

A. Main hospital

S.No	Name	Department	Contact No.

B. Casualty/EMS

S.No	Name	Department	Contact No.

C. R I C U

S.No	Name	Department	Contact No.

D. Medical ward adjacent to Casualty

S.No	Name	Designation	Mobile No.

E. Communications Team-Administration Building and Lobby:

S.No	Name	Designation	Mobile No.

F. Security Team-Administration Building and Lobby:

S.No	Name	Designation	Mobile No.

G. Transport/Vehicles Team-Transport Room:

S.No	Name	Designation	Mobile No.

H. Fire Safety Team:

S.No	Name	Designation	Mobile No.

Disaster Management Steps: When any Disaster Action is enforced, an emergency control room should be activated. All Disaster Rapid Response teams should position themselves in the designated areas. The workforce designated to the respective areas should be called in by the Rapid Response teams.

Responsibility of Control Room Medical officer

1. He is the Head of the Disaster Management team and should act effectively during crisis. He will be assisted by a General Administration Officer, Medical Administration Officer and other voluntary members.

Responsibility of General Administration Officer

1. He will work under the instruction of Control Room Medical officer.
2. He should have drawn advance cash from Account office.
3. He should decentralize the vehicles at the required place
4. He should control the sanitation and security related work

Responsibility of the Medical Officer

1. He will work under the instruction of the Hospital Command Centre /Control Room Medical Officer and take care of the entire hospital.
2. He should organize additional medical staff for emergencies.

Responsibility of General Section

The vehicles under the control of the General Manager should be made available with drivers

Responsibility of Estate Manager

The Estate Manager with his team should be present at the Hospital Command Centre/ Control Room, to assist the General Manager.

Voluntary members from Staff & Students

This is very important manpower in crisis management.

Annex 6: Case Scenario on Psychological Safety

Learning Objectives: At the end of this activity, you will be able to:

- Understand how poor leadership and low psychological safety can lead to low staff morale in hospital/healthcare setting.
- Realize how low psychological safety can lead to hospital and patient harm.
- Illustrate why it can be difficult to speak up when someone in a position of power displays unsafe behavior.

Description: The behavior of a senior doctors starts to put your hospital safety at risk. How will you react?

I was a nurse in a 50-bedded hospital in the state of West Bengal. I had been working there for the last 5 years. Our previous nurse-in-charge (nursing supervisor) was very approachable, and all the nurses and other frontline workers had a good bond with the team. The new nurse-in-charge, who joined 6 months ago, was a contrast. She was very strict and unfriendly with her juniors. She was good at pointing out faults of juniors and the system and made us feel small and worthless and did nothing to share or understand our problems, both-personal and work related. However, she maintained good relations with the doctors and Department head. One day, when I was on duty in the Operation Theatre, I went to open a cupboard to take out a medical equipment and suddenly I noticed a strong odor of formalin. How did it get there? I quickly closed the door and opened it once more to recheck. The same smell again! I also felt a burning sensation in my eye and felt difficulty in breathing. I gathered some courage to go to the nurse-in-charge and inform her about the incident and ask her to take the required action for the spill containment and cleaning-up by a specially trained team. As usual, she looked at me angrily and asked if I wanted to teach her about her responsibilities? Then she just walked off from there asking me to prepare for the operation that was due to take place in 15 minutes. I was left thinking about what to do.

Discussion Questions:

1. If you were in the nurse's place, what would you do? Is there anyone you would go to, to report about your superior for providing unsafe care? Who would that be?
2. How does you senior's behavior impact your ability to feel safe when reporting an unsafe act?
3. As a nurse, would you report about a doctor's unsafe behavior or practices? Vice versa?
4. Can you think of any situation when you stayed quiet or would stay quiet, when you saw a superior providing unsafe care?
5. Have you had any personal experiences with bad leadership that you'd like to share?

Annex 7: Case Studies on Hospital Fires

LACK OF FIRE SAFETY MEASURES IS A TREND THAT CONTINUES UNABATED IN HOSPITALS

The month of August 2020 has witnessed 2 fires in Covid-19 designated hospitals of India. The recent incidents took place in Vijayawada and Ahmedabad and point to the lack of fire safety measures. While rules for fire safety are very well laid down by the Bureau of Indian Standards, are hospital stakeholders even aware of the rules? How are these rules flouted, and how will this trend be curtailed? These are some questions that need reflection as well as action. A brief about the 2 cases is discussed below:

THE CASE OF SHREY HOSPITAL AHMEDABAD

India woke up to the death of 8 patients of Covid-19 who were admitted in the ICU ward of Shrey Hospital, Ahmedabad early on Thursday, 6th of August 2020. The cause of death was suffocation caused by fire in the ICU ward which was on the 4th floor of the building. There were 49 patients in the 50-bed Shrey Hospital at the time, eight of them in the ICU. Shrey Hospital is a 22-year-old hospital. It was designated a coronavirus facility on May 16, 2020.[1]

The hospital had no fire clearance, Ahmedabad Fire and Emergency Services Chief Fire Officer M F Dastur said. This is despite the fact that hospitals are required to renew their fire no objection certificates (NOC) every year[2]. Interestingly, Shrey Hospital was largely permitted for residential use before it started operations as a health facility in 1999 and illegal constructions were also made which were regulated only in 2016.[3] The fire, reported around 3.30 am on Thursday, is suspected to have started due to a short-circuit in the ICU, spreading from there to the third floor. The eight patients thus died of suffocation before the firemen could make it to the fourth floor, that was the topmost.

An FIR against the owner and some unknown persons was registered on the 10th of August for causing negligence which caused the fatalities. The owner/trustee and the administrator were then arrested on 12th of August, almost a week after the mishap.[4] The DCP zone 1- shared "We have found that the hospital was being run without fire NOC, no proper arrangements were done to deal with the fire and their staff was not trained to deal with the fire tragedy."[5]

THE CASE OF RAMESH HOSPITAL, VIJAYAWADA.

At least 10 Covid patients were asphyxiated when a makeshift Covid- 19 hospital in Vijayawada caught fire on Sunday, 9th of August; merely 3 days after the Ahmedabad Covid-19 hospital fire tragedy. More than 20 other patients and 6 medical personnel

1 indianexpress.com/article/cities/ahmedabad/gujarat-ahmedabad-shrey-hospital-fire-vijay-rupani-6541676/
2 indianexpress.com/article/cities/ahmedabad/gujarat-ahmedabad-shrey-hospital-fire-vijay-rupani-6541676/
3 https://indianexpress.com/article/cities/ahmedabad/shrey-hospitals-illegal-constructions-were-regulated-in-2016-6546405/
4 https://indianexpress.com/article/india/week-after-8-covid-patients-died-in-gujarat-hospital-fire-administrator-held-6552314/
5 https://timesofindia.indiatimes.com/city/ahmedabad/shrey-hospital-fire-tragedy-fir-against-bharat-mahant/articleshow/77479836.cms

were present in the hotel-turned Covid-care facility and around 18 have sustained injuries.[6] A short circuit in the building's air-conditioning unit flared into a blaze and caused this mishap. Ramesh Hospital, which had rented the Swarna Palace hotel as a make shift facility, has been blamed for failing to check if the temporary facility adhered to fire safety norms. Apparently, safety concerns were given a miss apparently in the scramble for standby arrangements, after Andhra Pradesh's COVID caseload began to increase.[7] While investigating the accident, the incident commander and Tahsildar of Vijayawada Central unearthed some major lapses from the hospital management's end. He quoted, 'It appears that Hotel Swarna Palace and Ramesh Hospitals had knowledge of that there were electrical defects in the lodge, and as rectification of defects involved huge amounts, avoided the repairs.[8]

Three officials of Ramesh Hospital including the COO have been arrested in connection with Vijayawada fire accident.[9] The owner of both, the hospital and hotel, are missing since the news of the fire at Swarna Palace broke.[10]

The Indian Medical Association Andhra Pradesh chapter has written to Director General of Police (DGP) requesting him not to incriminate and initiate action against the service providers (Ramesh Hospitals) and its employees at a time when doctors are offering their services amid a crisis. The IMA pointed out that the Health Department had given permission to run the Covid Care Centre![11]

Where lies the problem and who is accountable?

India accounts for nearly a fifth of the serious fire accidents in the world according to the Global Disease Burden Study 2017.[12]

The National Building Code of India published by the Bureau of Indian Standards (BIS) is the recommended document for all buildings across the country. The chapter on 'Fire and Life Safety' is instrumental in the way the exits and staircases are laid out and electrical circuits and water tanks are mapped in order to minimise fire related accidents. Further, every building has to get a fire safety audit done every year, where a fire officer comes to check on all the parameters and codes. Despite all these guidelines, the implementation mechanisms are weak.

While the responsibility for maintenance and upkeep of the building rests with the management, the contractors should also be held accountable for maintenance.

6 https://www.newindianexpress.com/states/andhra-pradesh/2020/aug/12/eight-special-teams-hunt-for-md-of-ramesh-hospitals-in-connection-with-fire-that-killed-10-covid-19-patients-2182346.html
7 https://indianexpress.com/article/opinion/editorials/vijayawada-fire-covid-care-center-and-pandemic-ramesh-hospital-6549274/
8 https://www.timesnownews.com/india/article/andhra-pradesh-three-arrested-in-connection-with-vijayawada-fire-accident-which-claimed-10-lives/634961
9 https://indianexpress.com/article/opinion/editorials/vijayawada-fire-covid-care-center-and-pandemic-ramesh-hospital-6549274/
10 https://www.newindianexpress.com/states/andhra-pradesh/2020/aug/12/eight-special-teams-hunt-for-md-of-ramesh-hospitals-in-connection-with-fire-that-killed-10-covid-19-patients-2182346.html
11 newindianexpress.com/states/andhra-pradesh/2020/aug/12/eight-special-teams-hunt-for-md-of-ramesh-hospitals-in-connection-with-fire-that-killed-10-covid-19-patients-2182346.html
12 https://indianexpress.com/article/opinion/editorials/vijayawada-fire-covid-care-center-and-pandemic-ramesh-hospital-6549274/

Municipal bodies that give the final clearance should be held accountable for giving the NOC for any building. The architect/builder must also be questioned on the safety and validity of the building plan.[13]

13 https://indianexpress.com/article/explained/vijayawada-ahmedabad-covid-19-hospital-fires-rules-6550865/

Annex 8: Case Study on Hospital Error

Learning Objectives:

At the end of this activity, you will be able to:

1. Understand the concept of compliance, monitoring and evaluation along with their operational context.
2. Identify which activity should be planned at what stage.
3. Realize the importance of these processes in ensuring a smooth work-flow process during and after the disaster.

Disaster Preparedness of Ambulatory Facilities at KNP Hospital, Madurai

The KMC Hospital is intertwined with the history of Madurai having existed since 1875. It started off as the offshoot of the KNP Medical college and steadily grew to an independently-governed 1500 beds hospital. The Hospital and the Medical College coexist in a symbiotic relationship pushing each other to grow and flourish.

The CEO of KMC Hospital, R. Srinivas is a thorough man who understands the importance of Disaster Management and its consequences. The Disaster Management Committee, established on his insistence, actively organises mock drills, which are thoroughly observed and analysed. This leads to identifying faults in the SOPs and points of weaknesses that can cause the loss of life during disasters.

In one such drill some gaps became apparent. The drill was emulating a fire scenario in a building five kilometers from the hospital. As per the plan chalked out by the DM Committee, everyone got to work. The ambulances rushed to the site of the disaster. At the site, they were supposed to work in tandem with the fire department and tend to all the rescued people. Observe and report the level of severity of the injury and either administer first aid or rush them to the hospital in a serious case.

The drill started revealing gaps from the get-go. The staffers of the ambulances, realize that the wheelchairs in the ambulances were missing. The wheelchairs used for ferrying earlier patients were never returned and therefore lay scattered across the hospital campus. They scrambled to secure them but that took time. Time that could have saved lives.

The delay caused by wheelchairs was only made worse by another gap. On arrival, several patients who would have been subjected to thick carbon monoxide fumes would need to be administered oxygen to breathe. However, the oxygen cylinders in the ambulances were empty. The hospital had not allocated the responsibility of replenishing oxygen cylinders or even keeping a check on them to any employee. In a real disaster this could be detrimental to saving lives.

The final nail in the coffin came in the form of expired Adrenaline. Adrenaline can be a very useful drug as a last resort to save lives. It helps breathing, stimulates the heart

and can even raise a plummeting blood pressure. The ambulances had Adrenaline shots that were past their expiry date rendering them useless. The staffers had been ensuring that the ambulances are stocked but hadn't been keeping the expiry dates of the drugs in check.

This drill highlighted multiple facets of errors that could be the question of life and death in such rescue operations. The management of the hospital was now in a place to take informed decisions on how to fill the gaps in their operations.

Discussion Questions:

Assume that you have been appointed as a member of the disaster management committee by the head of your hospital. Now, try to figure out the responses to the questions elucidated below.

1. What do you think was the reason behind the fiasco during the mock drill?
2. Could this fiasco been avoided, given that the team had to rush to an unknown location which is on fire and the team is not well acquainted with the place?
3. Which among the three processes of compliance, monitoring and evaluation would have been helpful and in which part?
4. For each of the three processes mention whether it should have been carried out by the internal staff of the hospital or external or a mix of both?
5. What are the challenges that you would face while carrying out each of these processes and how you will overcome it?

Annex 9: Handout of List of Mandatory Permits, Certificates, Approvals and Acts for Hospitals

Hospitals are required to acquire the following necessary permits, certificates and approvals (NDMA, 2016):

1. Building Permit (From the Municipality)
2. No Objection Certificate from the Chief Fire officer
3. No Objection Certificate under Pollution Control Act
4. Radiation Protection Certificate in respect of all X-ray, Cath lab, CT Scanners, Nuclear Medicine from BARC
5. Atomic Energy Regulatory Body approvals
6. Excise Permit to store spirits.
7. PAN number and other Tax documents
8. Permit to operate lifts under the Lifts and Escalators Act
9. Licenses under the Narcotics and Psychotropic Substances Act and License
10. Sales Tax Registration Certificate
11. Vehicle Registration Certificates for Ambulances
12. Retail and Bulk Drug License (Pharmacy)
13. Wireless Operation Certificate from Indian Post and Telegraphs (if applicable)

Hospitals are also required to comply with the provisions laid down under the following Acts, Rules and regulations:

1. Air (Prevention and Control of Pollution) Act, 1981
2. Arms Act, 1950 (if guards have weapons)
3. Bio- Medical Management and Handling Rules, 1998
4. Cable Television Networks Act 1995
5. Central Sales Tax Act, 1956
6. Constitution of Atomic Energy Regulatory Board, 1983
7. Consumer Protection Act, 1986
8. Contract Act, 1982
9. Copyright Act, 1982
10. Customs Act, 1962
11. Dentist Regulations, 1976
12. Drugs and Cosmetics Act, 1940

13. Electricity Act, 1998
14. Electricity Rules, 1956
15. Employees Provident Fund Act, 1952
16. ESI Act, 1948
17. Employment Exchange Act, 1969
18. Environment Protection Act, 1986
19. Equal Remuneration Act, 1976
20. Explosives Act 1884
21. Fatal Accidents Act 1855
22. Gift Tax Act, 1958
23. Hire Purchase Act, 1972
24. Income Tax Act, 1961
25. Indian Lunacy Act, 1912
26. Indian Medical Council Act and Code of Medical Ethics, 1956
27. Indian Nursing council Act, 1947
28. Indian Penal Code, 1860
29. Indian Trade Unions Act, 1926
30. Industrial Disputes Act, 1947
31. Insecticides Act, 1968
32. Lepers Act
33. Lifts and Escalators Act
34. Maternity Benefit Act, 1961
35. MTP Act, 1971
36. Mental Health Act, 1987
37. Minimum Wages Act, 1948
38. Narcotics and Psychotropic Substances Act
39. National Building Code
40. National Holidays Under Shops Act
41. Negotiable Instruments Act, 1881
42. Payment of Bonus Act, 1965
43. Payment of Gratuity Act, 1972
44. Payment of Wages Act, 1936

45. Persons with Disability Act, 1995
46. Pharmacy Act, 1948
47. PNDT Act, 1996
48. Prevention of Food Adulteration Act, 1954
49. Protection of Human Rights Act, 1993
50. PPF Act, 1968
51. Radiation Protection Rules, 1971
52. Radiation Surveillance Procedures for Medical Applications of Radiation, 1989
53. Registration of Births and Deaths Act, 1969
54. Sale of Goods Act, 1930
55. The Transplantation of Human Organs Act and Rules
56. Tax deducted at Source Act.
57. Safe Disposal of Radioactive Waste Rules, 1987
58. Sales Tax Act.
59. The Water (Prevention and Control of Pollution) Act, 1974

Annex 10: Exercise on Importance of Mock Drills

Learning Objectives

1. To ensure participants are aware of the necessity of mock drills for Hospital Safety and Disaster Management.
2. To enlighten participants about how unforeseen challenges can be on-ground while practicing.
3. To underline the need for doing regular mock drills to make sure all the staff and employees are aware and habitual of their roles and responsibilities in case of any circumstances they might be vulnerable to.

Method

The participants can be divided in two teams of six. Remaining participants can act as adjudicators, observing the two teams and evaluating how they deal with the situation presented to them. The two teams, namely Team A and Team B, shall be handed out the same SOP. Both teams should be given five minutes to familiarize themselves with SOP.

Team B will be excused from the room while Team A executes the task. On completion of the task, Team B should be called for their turn. Lastly Team A will execute the same task again while Team B watches, The idea behind this is that through practice and observation, team A should be able to perform better the second time and execute the evacuation more efficiently. During de-briefing session, the class can discuss the difference of performance of both teams.

Task

In the late evening of 6th March, 2021, a toxic gas, chlorine, leaked in the maintenance room on the terrace of JP Hospital. A super specialty cardiac hospital, it is a 5 storey building that housed over fifty patients on that day. Exposure to these toxic fumes causes respiratory ailments and immediate treatment is required. The staff on duty realized the smell is something out of the ordinary as patients begin to complain of breathing issues. The gas quickly pervades through the area and makes its way across the building through the central air conditioning unit. A Senior Medical Officer is alerted.

Trainer's Guide

- Some participants should be made patients who need evacuation. Their treatment status should be different i.e., ambulatory, mobile with wheelchair, tethered to ventilator, dialysis machine, etc.
- If there are two exits in the room, block Exit 1 without informing the participants. Inform them when they try to use it during the exercise.
- Two wheeled chairs can be used as wheelchairs. One of them is not operable. Inform them when they try to use it during the exercise.

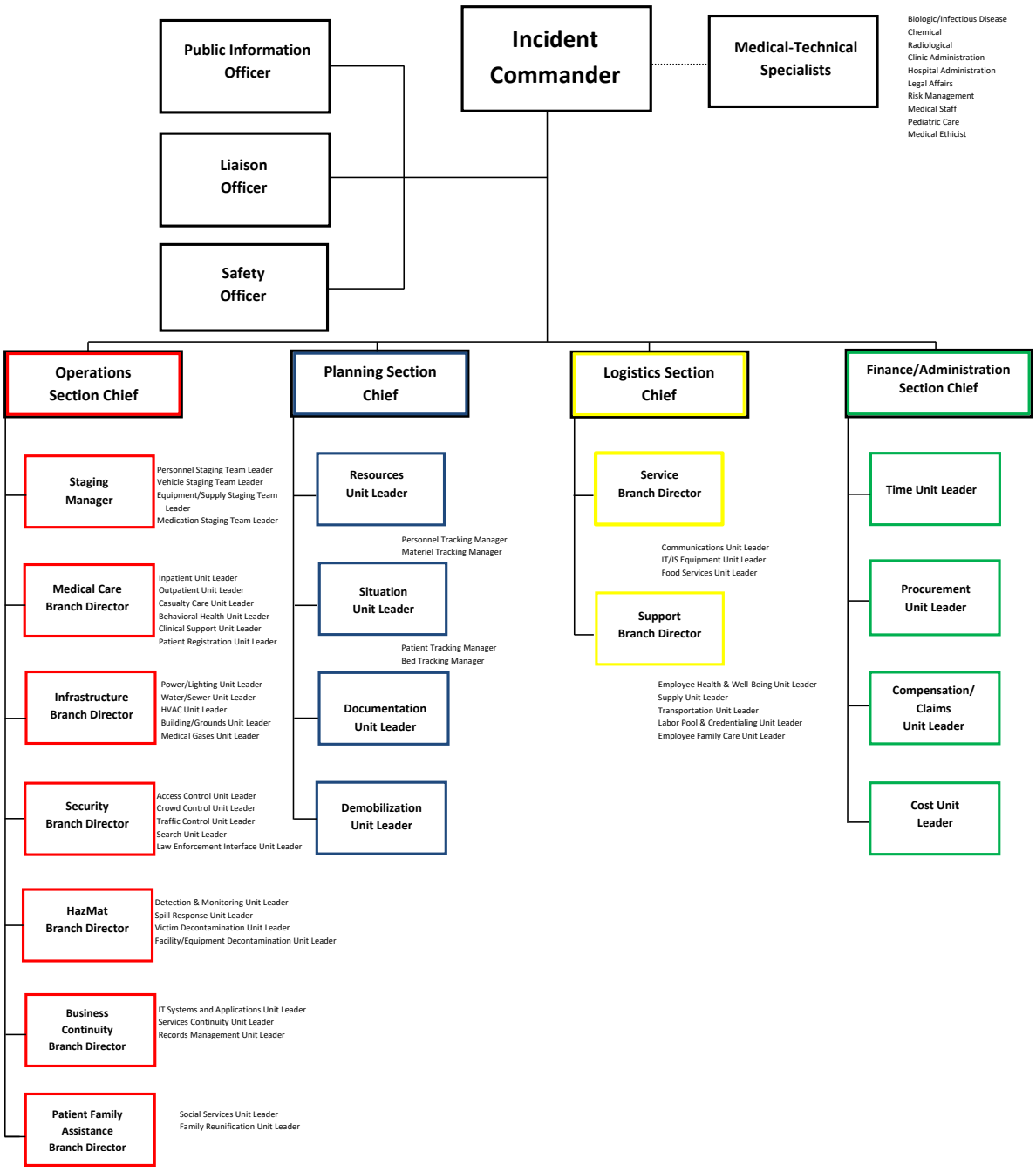
- Light switches can be used to signify heavy machinery that need to be turned off in case of emergencies.
- Oxygen tanks are empty. Inform participants if they wish to access them.

Chemical leak Emergency SOP for Teams

1. Assign the following roles
    a. Incident Commander (IC) - To ensure proper commitment to the SOP
    b. Public Information Officer (PIO) - To liaison with external agencies and parties
    c. Safety Officer (SO) - To locate and employ safety tools and measures
    d. Operations & Logistics Officer (OLO) - To identify personnel and patients and deploy a plan for evacuation.
2. PIO to make contact with the Fire Department (Input number of volunteer student) and provide an update on the situation.
3. IC to identify a location outside the hospital as a temporary shelter area. Share location with the rest of the team. OLO to ensure all evacuees arrive at the location.
4. IC to make a list of all patients and identify the patients that need to be shifted to other hospitals in coordination with the OLO.
5. SO to bring Oxygen Tanks to aid patients struggling.
6. SO to identify Exits.
7. OLO to identify patients and visitors and evacuate them in the following order -
    a. GREEN: Those able to walk: Accompanied out in groups by nursing assistants, ward clerks, or other non-professional personnel. Infants will be carried by their parents.
    b. YELLOW: Wheelchair-dependent patients: Accompanied out by nursing assistants, or ancillary services personnel (x-ray, lab, RT, PT, OR, etc). Use wheelchairs located at (Input location).
    c. RED: Bed bound patients: Accompanied out by nursing assistants or ancillary service personnel. Use beds, gurneys, or backboards. Any patient requiring close monitoring (ICU, Labor, Postoperative, ER) will be accompanied by licensed personnel.
8. PIO to make contact with other hospitals, (Input number of volunteer students) and make enquiries about availability of beds in order to shift patients. Forward the information to the IC.
9. SO to ensure all electronic equipment in the hospital building have been switched off at (Input switch location).

Annex 11: Hospital Incident Management Team

Part A:



(Source: HICS, 2014)

Part B:

Brief Note on The Hospital Incident Commander, Key Officers and Chiefs of General Section and Their Responsibilities

HIRS COMMAND STAFF

Incident Commander

- This person is like the captain of a ship.
- The first person responding to the incident fills the role of the Incident Commander until another person with more experience or training arrives
- Should ideally be the most senior person on duty at the time of the incident
- Should have the authority to make decisions for the organization and provide overall direction for the HIMT.
- Should have the level of training, experience, and expertise to serve in this capacity
- Qualifications for this role is not based on rank, grade, or technical expertise

Liaison Officer

- Serves as a bridge between the internal HIMT and external emergency response partners.
- Is the face of the hospital in any conferences or discussions with the other response partners or government departments.

Safety Officer

- Is responsible for the overall safety of the hospital and people within.
- Organizes and enforces facility protection, traffic security, and safe practices for the incident response personnel.

Public Information Officer

- Coordinates information sharing internally within the organization
- Is responsible for sharing information with the media, VIP, patients families etc and for answering any queries from them.
- Has to be a good communicator who is able to provide accurate and crisp information.

Medical/ Technical Specialists

These are persons with specialized expertise (e.g., infectious diseases, legal affairs, medical ethics) who have to be available for expert advice or guidance as an when required during incident response.

HICS GENERAL STAFF

HICS General Staff are divided into four sections and each section is led by the section

chief. The Chief has a team to provide assistance in the Section related work. It must be borne in mind that while in larger hospitals where the staff strength is big, every role within a particular section may be taken on by a separate person, but in cases where hospitals are small and staff strength is small, one person may take on more than 1 role. Thus, for instance, 2 or 3 subfunctions may be taken on by one person.

The four sections Chiefs are (Refer Figure 1):

1. Operations Section Chief
2. Planning Section Chief
3. Logistics Section Chief
4. Finance and Administration Section Chief

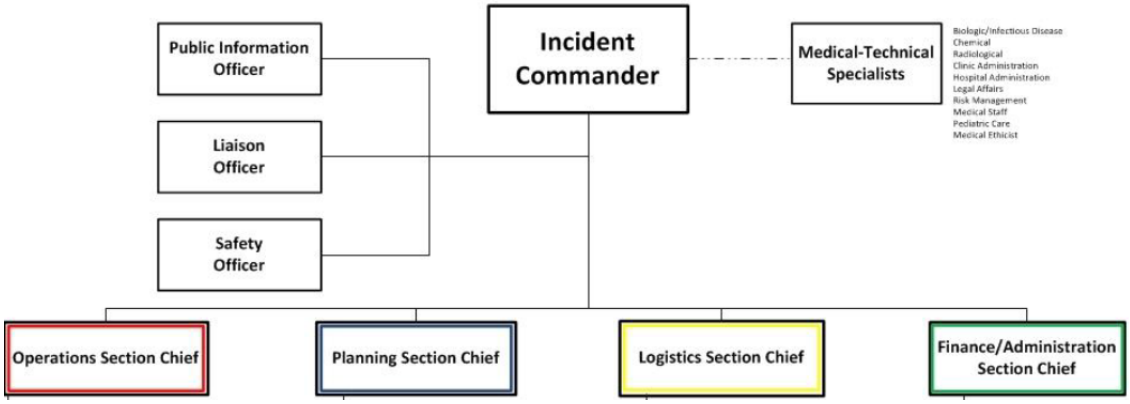


Figure 1: Reporting Structure of The Section Chiefs

Operations Section Chief

The Operations Section Chief is responsible for:

- Implementing strategies based on incident objectives
- Organizing, allocating, and directing the strategic resources
- Managing the Staging Area (if applicable)
- Identifying the need to assign resources to support the objectives of the mission at hand.
- Overseeing the work of the entire operations team and guiding them as required.

This Section is one of the biggest and most crucial for handling the incident response. The organisational structure of this section along with the other roles involved is shared in Figure 2.

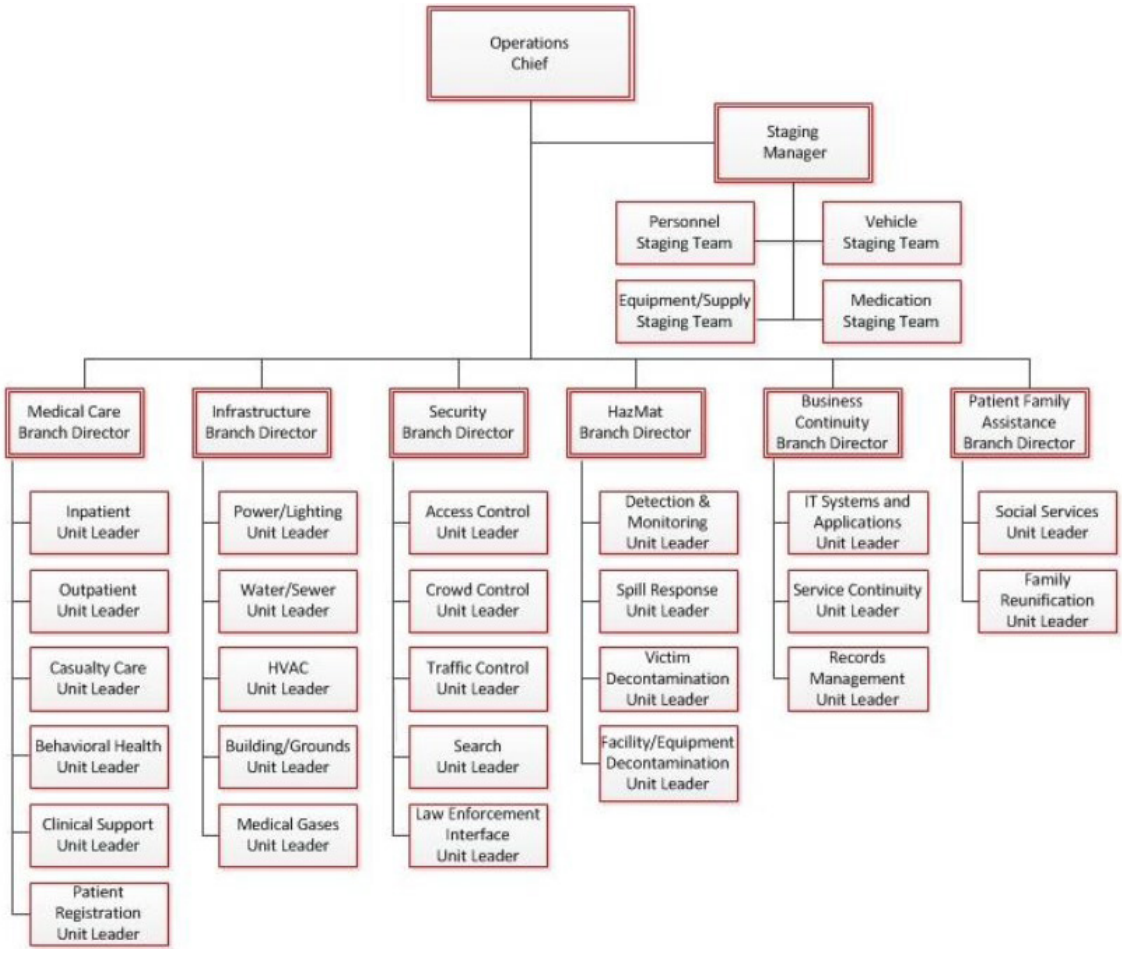


Figure 2: Structure of the Operations Section

Planning Section Chief

The Planning Section Chief is in charge of:

- Keeping a check on the status of all resources allocated for the incident
- Developing plans for incident documentation
- Collecting, analyzing, and disseminating situational awareness information
- Developing strategies for demobilization
- Preparing the Incident Action Plan (IAP).
- Leading the briefing of the IAP.

The planning Chief has a small team of persons to provide assistance in the work related to planning. The structure of this section is shared in Figure 3.

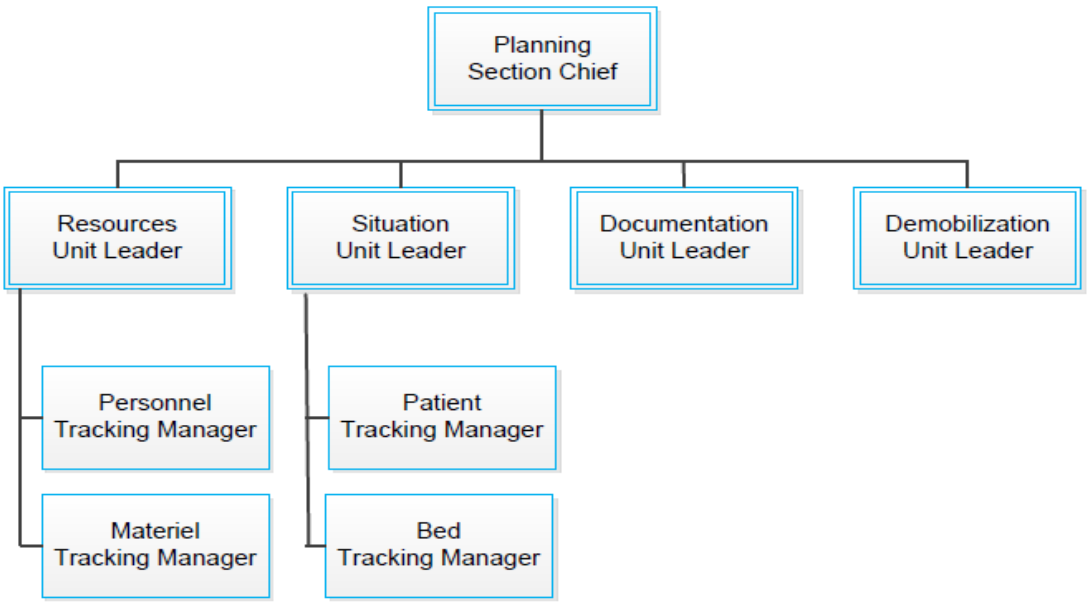


Figure 3: Structure of the Planning Section

Logistics Section Chief

The Logistics Section Chief has the tasks of arranging for all the support and service functions. These include:

- Setting up and maintaining incident facilities including IT services etc
- Organizing food services
- Providing communication for planning and establishing resources
- All support needs of the incident such as tracking and responding to resource requests
- Acquiring resources such as transport and additional staff, from internal and external sources based on requirement
- Ensuring the well-being of employees and their family.

The Logistics Chief also has a small team to provide assistance with all the work. The structure of this section is shown in Figure 4.

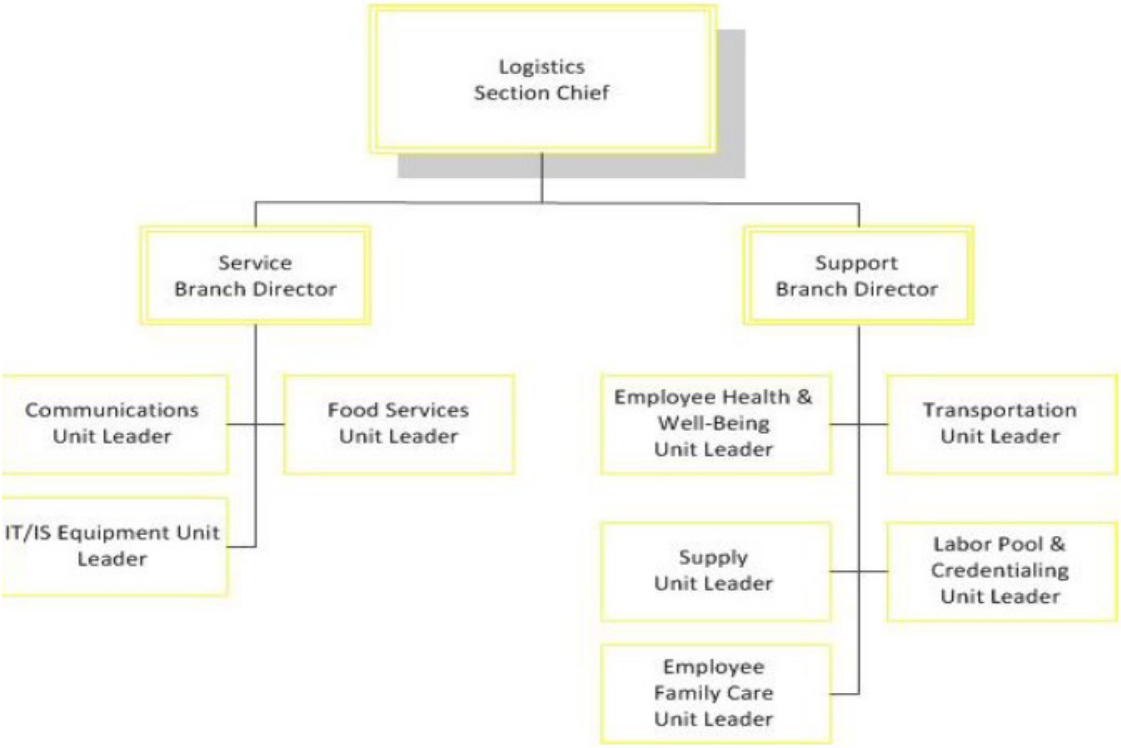


Figure 4: Structure of Logistics Section

Finance and Administration Section Chief

Last but not the least is the Finance and Administration Section, whose Chief is responsible for:

- Monitoring personnel time
- Negotiating and monitoring any necessary contracts and procurement
- Analysing costs incurred due to the incident and the incident response
- All kind of compensation and claims settlement of the staff and the patients.

The Chief has a small team to provide assistance and the Structure of this section is shared in Figure 5

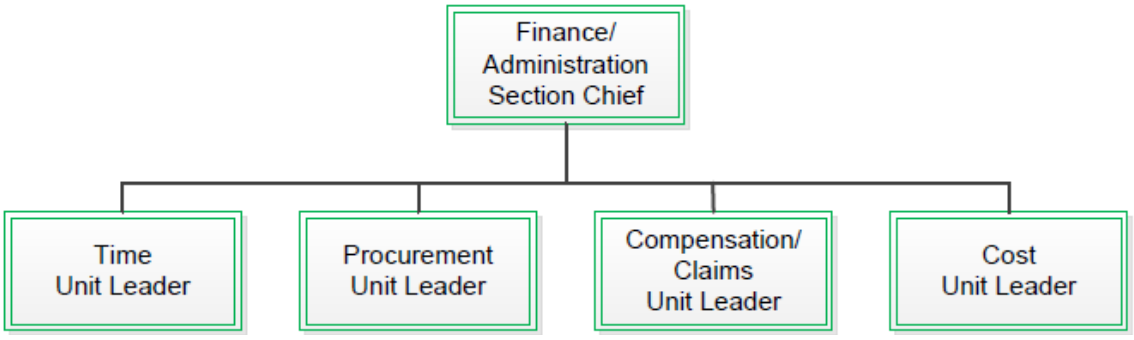
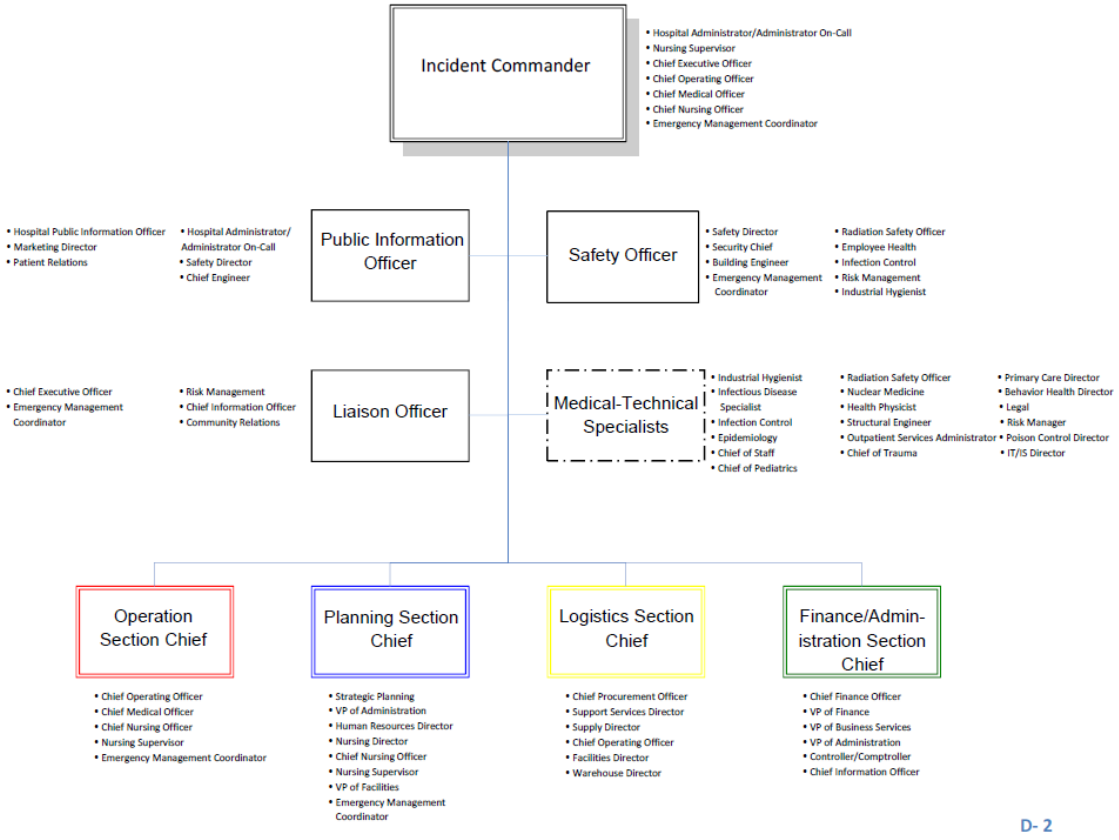


Figure 5:Structure of the Finance/Administration Section

Annex 12: Potential Candidates for Hospital Incident Response System: Command and General Staff Positions

(Adopted from Source: Emergency Medical Services Authority (2014) Hospital Incident Command System Guidebook, 5th Edition. Copyright © 2014 by California Emergency Medical Services Authority (EMSA).

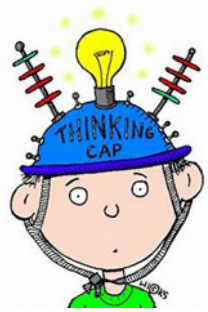


Annex 13: Discussion Case: Airlines vs. Hospitals

Airlines as an HRO….

Airlines are an HRO and their reputation depends upon the percentage of on-time performance, passenger safety, completion rates, reduced rate of mishandled or lost bags, complaints and go od and friendly customer service amongst other measures.

Let's compare this with Hospital Settings. A hospital also gains and maintains its reputation through on-time treatment of patients, patient safety, completion of successful treatments and surgeries, reduced rate of badly handled cases and complaints, and good and approachable nurses and doctors. So, isn't high reliability crucial here too? Let's go back to the airline's scenario. The number of flights per day for any good airline run into hundreds if not more, and yet, there is consistency and reliability in their performance. Any lack of vigilance on part of the pilot can lead to air crashes, costing the life of hundreds of passengers and crew members. Any slackness in the working of the crew can also put passenger safety in danger. That does not happen, because on the flight, the crew and pilots work like a team to ensure full safety and comfort of passengers. In the airport control rooms, the air traffic controllers work in coordination with the pilots to ensure the same. Even the staff responsible for cleaning the aircrafts, refuelling it, inspecting the various parts like engine, fuselage, tyres, tail, wings etc. and putting the luggage into the aircraft work seamlessly and in coordination with each other to ensure near zero errors occur. Why? Because safety is their culture. In turn, the smooth running of the airline enhances customer perception, satisfaction, and loyalty. Fewer operational problems also imply better cost efficiency and overall financials for the airline.



Put on your thinking cap and lets try and draw similarities and differences between the Airlines and Hospital Scenarios in the context of Culture of Safety and Reliability….

Annex 14: Small Case Study on Terror Strike

The Night at Cama & Albless Hospital

Learning Objectives:

1. To appreciate the role of team-work and smooth coordination among the hospital staff in minimizing the extent of any disaster
2. To gain insights into the contribution the front-line staff of a hospital can make while dealing with the patients in the time of a crisis.
3. To understand how mutual cooperation among patients and the hospital staff leads to win-win situation for both
4. To understand about the role of Resilience in overcoming any ill- fated situation.

The Case:

Cama & Albless Hospital
Location - Fort, Mumbai
Date - November 26, 2008

Just like any other day, the staffers at the Cama & Albless Hospital in Mumbai were going about their duties on the night of 26th November. The hospital for women and children boasts of almost 400 beds. But on that fateful night, the hospital was going to face a challenge that had never occurred in more than 200 years of its existence.

Around 09:30 PM, sounds of firecrackers are heard in the wards of the hospital. Unknown to the people in the hospital, Mumbai was under attack and the terrorists had open fired at the adjacent CST Station.

Soon after, staffers noticed a horde of people coming up the stairs. They are then informed that two gunmen have entered the hospital. Ajmal Kasab and Abu Ismail had entered the premises of the hospital after having jumped over the boundary wall and killing two security guards in cold blood. They notice some people looking on from one of the floors and shoot at them. A staffer gets a wound in her hand and the lights of the ward are shot down.

Quick to act, the nurses and doctors took all the patients and bystanders in the wards. The staff on-duty took charge of their own wards. They blocked the doors with furniture and whatever else they could find. The lights were switched off. And everyone either sat on the floor against walls or hid in the pantries, a room without windows.

In the maternity ward, women in labor were made to give birth in dark corners of the colonial building as the staff tried to ensure complete silence. Newborns were immediately fed milk to prevent them from crying. Nurses stayed by the bed of the patients that were immobile had been restricted to their beds.

Unable to find anyone and facing dark corridors and jammed doors, the terrorists took some hostages and went to the terrace. A small group of policemen were able to enter the building and assisted by a hospital employee, they headed towards the terrace. The police secured the exit of the terrace.

Every soul in the hospital remained still and in fear of death as for 45 minutes, the halls of the hospital resounded with gunshots and hand grenade explosions. After a gruesome showdown with the small police unit, the terrorists were successful in making an escape, but due to the standoff they left behind equipment, ammunition and all hostages unharmed.

Mumbai would still be under attack for the next two days as the terrorists lay siege at the Trident, Taj Hotel and Nariman House. But it was due to the coordinated response by the staff that not a single patient died that night. They were quick to respond and took precautions to contain and prevent any loss of life.

Discussion Questions:

Imagine yourself to be a front-line healthcare staff at the hospital and answer the following questions:

1. How will you coordinate with the other staff in the hospital?
2. What would you do to prevent the spread of any sort of rumors among the staff and patients in the hospital at this hour?
3. How would you deal with the patients in this case, given that some may be in a very serious condition and any lapse in their treatment may lead to worsening their health conditions?
4. Would you exercise your own mind or take inputs from the higher-up authorities in dealing with such an exceptional situation?
5. Which government agencies should you coordinate with in this situation?

Annex 15: Case Study on Partnership between Hospitals

Role of AHNA in the Coronavirus Pandemic

Learning Objectives:

1. To gain insights into a model of Public-Private Partnership in the healthcare industry.
2. To discuss how to find constructive solutions to public health emergencies can be found.
3. To appreciate the value of co-existence-How coordination between competing hospitals can benefit all involved parties.
4. To gain insights into how can hospitals can deal with situations involving mass casualties like Covid-19
5. To understand that hospitals cannot function in isolation. They need to exist within an ecosystem of various stakeholders in collaboration.

Case Study:

On December 31st 2019, while the whole world was celebrating the New Year's Eve, there was a cluster of cases of pneumonia in Wuhan City, home to 11 million people and the cultural and economic hub of central China. In fifteen days, there were 282 confirmed cases with 6 deaths, 51 severely ill people and 12 in a critical condition.[1] The cause of the severe acute respiratory syndrome was soon known as COVID-19. Soon after a month, India reported its first case in Thrissur, Kerala. On March 11th, 2020 COVID-19 was declared as pandemic by the WHO mainly due to the speed and scale of the transmission of the disease.[2] On 24th March 2020, the Indian Prime Minister announced a nationwide lockdown as a preventive measure to limit the spread of the deadly virus. Indian, along with the rest of the world, came to a halt. Daily thousands of new cases of COVID-19 were being confirmed worldwide.[3] The death rate was over 1000 per day alone in our country and over 8,000 per day globally. It soon became evident that we were not prepared to deal with such a disease and a greater threat was lying ahead for our developing nation of 1.3 billion.

Amidst lockdown, there was a sheer sense of fear and panic amongst people as the number of cases kept increasing. There was not enough medical research available on COVID-19. While wearing masks and social distancing became the new normal, it was not enough to control the spread of the virus. COVID-19 had become a mysterious disaster…. a pandemic never witnessed by anyone. The hospitals were reporting an all-time high of patient occupancy which caused all the hospitals and clinics to reach their surge capacities. Despite various attempts made by the government to convert many institutional buildings like schools, colleges and hotels into COVID-19 facilities, the whole country faced an acute shortage of hospital beds, healthcare resources and staff.

As this was a new kind of phenomenon globally, the insurance companies too were also not ready and hence the clearance of COVID-19 bills were taking more time than usual as there was no clarity. This was directly impacting the functioning of the hospitals as they were not getting timely reimbursements and hence were falling short of funds, while on the other side the inflow of the patients was only increasing. The chaos further led to hospitals having uneven rates which further led to overburdening of patients in the hospitals with low charges.

The city of Ahmedabad found a way to deal with these issues in a novel way. AHNA (Ahmedabad Hospitals and Nursing Homes Association) came out as a solution provider in the time of crisis in the healthcare system of the city. It became an example to the overall model of the healthcare system of a general city, demonstrating the potential of strength in unity.

Established in September 2019, AHNA was just a few months older than the pandemic. It was made with a view to promote solidarity and brotherhood among all the member hospitals and nursing homes of Ahmedabad and surrounding areas within a radius of 50 kilometers. When the pandemic struck, the organization started collecting data of the beds available in each of the clinics and hospitals under their jurisdiction which then helped in equalizing the burden on individual hospitals. It also cleared and negotiated the rates with the insurance companies along with timely management of funds to the corresponding hospitals as the patients discharged. This provided the hospitals with sufficient resources to cater to the large influx of patients. Lastly, AHNA also standardized the rates and caring protocols in collaboration with Ahmedabad Municipal Corporation, which in turn helped equalizing the burden even more.

Questions

1. What are the possible hurdles in achieving this type of collaboration?
2. Execute a SWOT Analysis of the organization.
3. How can the organization help in other aspects of Disaster Management like prevention and preparedness?
4. How can one ensure the continued functioning of the organization post the pandemic?

Footnotes

1. COVID-19: a brief history and treatments in development. By Steve Chaplin. 25 May 2020. Available from: https://doi.org/10.1002/psb.1843
2. WHO Director-General's opening remarks at the media briefing on COVID-19. 11 March 2020. Available from: https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020
3. World Health Organization. Coronavirus disease 2019 (COVID-19). Situation Report – 113. 12 May 2020. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports

Annex 16: Case Study on Communications

Learning Objectives:

At the end of this activity, you will be able to:

1. Understand how sustained and successful use of IT applications can help the hospital authorities tide over any eventualities.
2. Realize how GIS technology can be leveraged in emergency situations to locate patients and bring them to the hospital.
3. Reflect on why it is difficult for the hospital authorities to tackle these situations and how properly they can handle it.

Description:

An extremely severe Cyclone, Fani has hit the coastal state of Odisha leaving a large trail of destruction of both life and property. Many people in the coastal areas are estimated to have died with scores of people injured or in a critical situation despite massive evacuation efforts being carried out by the state government. The healthcare staff has been deployed at all the health centres' and the district hospital in Puri. Hospital authorities are warned beforehand about the destructing trail of the cyclone and the efforts they need to undertake in its aftermath. However, the severity of the cyclone has dismayed the staff in the hospitals. Telephone signals have been disrupted, thousands of trees uprooted and there is power outage. Generators have stopped working since they were placed in the basement which was flooded with water. A pregnant mother has just been brought to the hospital by her relatives. A little later a few more patients turn up- one has died as a result of electrocution, the other is critically injured after a tree fell on his thatched roof. The hospital beds are already filled up with pre-existing patients and it may not be possible to handle the surge of patients. Many departments have reported that some medical equipment are dis-functioning as the generator has failed. The patients from the ground floor need to be immediately evacuated to a safer location. But, the hospital authorities are in a dilemma about whom to contact and how to contact for help. The staff at the hospital is well trained and prepared for attending to any eventuality but currently they lack clarity on the expected number of patients they need to cater to. Besides, no recent information has reached them either from the State Disaster Management authorities nor any other health officials. The intensity of the cyclone is far more than what they were informed about. The hospital authorities are in a dilemma as to what steps they need to take now to handle this situation. Their quandary is further compounded by the fact that the telephone system has failed thus rendering them clueless as to people in which particular areas have suffered maximum damage to life and need immediate medical attention. Whether they need to send some of the doctors to the cyclone-stricken areas or the entire team needs to wait for patients in the hospital itself. Though the hospital is working with adequate manpower and in full capacity, the ambiguity about the location of the patients and their numbers is turning out to be a nightmare for the authorities.

Discussion Questions:

Imagine yourself to be one of the hospital authorities or the communication/liaison officer and reflect on the questions below:

1. What would your communication strategy entail so as to be an effective one? Which stakeholders would you communicate with (both within and outside the hospital) and how?
2. What other challenges could you have faced in such a situation and how would you overcome it?
3. What type of communication tools would you use given that power and telephone services have been disrupted?
4. How best you could utilize GIS technology in this situation?
5. What type of IT adoption techniques will help you to overcome this situation?
6. How can social media be leveraged to handle disasters more effectively? (the Trainer can draw upon discussion points for question 6 from the following article link: *https://researchbank.swinburne.edu.au/file/9f73753e-9fbc-432f-931f-a870f71ba268/1/PDF%20%28Published%20version%29.pdf)*

Annex 17: Case Study on Cyber Security Breach at a Hospital

Cyber Security Breach at KNP Hospitals

Learning objectives:

1. To understand the vulnerabilities which make an information system prone to a phishing attack
2. To understand the different ways in which a phishing attack can take place.
3. To think about how a Malware can derail the functioning of your organization and create disrepute among your consumers.
4. To brainstorm about the ways to avoid falling victim to a Ransomware
5. To become equipped in designing effective strategies to provide protection from as well as counter any sort of malware.
6. To examine the perils of adopting any technology without sharing any responsibility.

The Case:

KNP Hospitals are a chain of twenty-five hospitals operating across major cities of India. The first hospital was established over a hundred year ago, but it was only after the liberalization of the Indian Economy in 1991, did the group rapidly expand from ten hospitals to twenty-five. The heart of their vision remained unchanged - to serve the masses by providing quality healthcare at an affordable price. The staff was regularly trained in soft-skills to ensure the patients always felt welcome and comfortable. Sometime in the mid nineteen-nineties, the group had developed and deployed a data recording and management system - Hospital Management Information System or HMIS. Each hospital had its own local server that was connected to desktops for doctors, reception, billing and pharmacy via LAN cables. Each patient at the hospital was given a card which had a unique Patient Id. This ID was used to record data including patients' personal information, medical records and billing details. The staff relied on this data to function efficiently.

However, with the modernization of telecom and availability of fast internet, the system was scaled up to accommodate all servers online with backup facilities at the Hospitals' Headquarters. All staffers had access to the data through their unique IDs and passwords online via any device. This left gaping holes in the security of the system because it was designed for local servers and not online usage.

In the July of 2019, a cyber-attack was orchestrated. Staffers of the hospital were inundated with advertisements of medical devices. On accessing the advertisement, the website prompted the user to share their name, hospital's name, work email address and phone number. A request form was then mailed to the user which had to be downloaded. Within the form was also embedded a malware. Over the next few days, the malware collected all data being typed and displayed on the user's screen and sent it to the hackers. The malware, just like a virus, also duplicated and spread to other

systems via data transfers. Once it was on the server, it spread to all devices. The final task of the malware was to encrypt all data on the server at a set date and lock out the hospital staff.

At 08:00 AM on the eighth of July, 2019 the CEO received an email from the hackers. They had successfully encrypted all the data on the hospitals' servers and wanted a ransom in exchange for the data. Without this data, the hospitals were paralyzed. The staffers also received the same mail on their personal IDs. The information was eventually released on social media and the press; and rumors of the data being up for sale on the dark web started doing the rounds.

The CEO, along with the other members of the management, was quick to set a recovery plan in action. Five objectives were identified and groups were made to designate the responsibilities - this was the Emergency Task Force (ETF).

1. *Business Continuity* – to restore hospital operations to normal as soon as possible
2. *Stakeholder Communication* - to communicate with all stakeholders with information
3. *IT Recovery* - to recover the IT systems for users
4. *IT Re-engineering* – to plan and execute changes to avoid such cyber-attacks in the future
5. *Forensics* – to extend all help to forensic authorities in their task of finding the cause and culprits

It took three weeks for the hospitals to resume normal operations and the forensic investigation took much longer. The hospitals' image took a major hit amongst the public and data showed that the drop in the number of patients was 30% from last year. The CEO, now had to come up with a plan to restore the public's trust in the brand while ensuring that such a disaster does not occur again.

Discussion Questions:

1. What were the loopholes that led to this data breach?
2. Who all in the hospital should be held accountable for the data breach that has occurred?
3. What were the repercussions of the data being leaked on the dark web?
4. Have the employees of the hospital been sensitized before about the threat of data leak and how best to avoid it?
5. What strategies would you formulate to ensure the hospital information system is robust and remains protected from any sort of malware in future?
6. As a CEO of the hospital, what would your Action plan entail to counter this offensive attack?
7. Who are the different stake-holders that are affected by this ransom ware either directly, or indirectly?