Istanbul Seismic Risk Mitigation and
Emergency Preparedness Project
ISMEP

Disaster Emergency
Aid Planning Guide
for Healthcare Organizations

ISTANBUL **AFAD**
PROVINCIAL DISASTER AND EMERGENCY DIRECTORATE

Dear residents of Istanbul,

Istanbul is a city, which is under the threat of earthquakes and many other disaster risks. In many parts of the world, precautions are taken and some preparation plans are carried out against these kinds of risks. In Turkey, there are studies, which aim at the protection of public buildings, particularly schools and hospitals, and historical monuments and there are retrofitting studies for the whole infrastructure system, especially for transportation and communication, with the participation of the professionals in our country by evaluating the studies made in developed countries.

Physical retrofitting studies have the aim of eliminating the physical threats by earthquakes. But the case of earthquake preparedness is not limited with these activities. What's more important is to change our way of life in such a way to be ready for earthquakes and to be more sensitive for our surrounding.

In order to be ready for earthquakes firstly at individual and then at the national level, we should know about earthquakes, we should develop ourselves by having safe life awareness at our home, in our offices and surrounding, we should get training and above all we should become conscious about what we can do before a possible earthquake strike.

Therefore, we have prepared these awareness raising and training materials to reach you by the means of ISMEP (Istanbul Seismic Risk Mitigation and Emergency Preparedness Project), which is conducted by Istanbul Governorship Provincial Disaster and Emergency Directorate and Istanbul Governorship Special Provincial Administration Istanbul Project Coordination Unit. The documents, which are prepared with the help of specialists from civil and private sectors, are given the last shape after the controls of experts and relevant departments.

Fifteen different training titles have been defined for our editions, which require the preparation of different documents with different themes and appropriate contents for them have been developed to reach all our citizens living in Istanbul and to ensure the institutional preparedness in every sense. We wholeheartedly believe that these training materials which are thought to be appreciated by each institution and individual would meet an important need. Before anything else, to know that our dear citizens would benefit from these activities that would help earthquake preparedness, gratifies us and enlivens our studies.

In Istanbul, where the future is strengthened by us, we share happiness of looking to the future with confidence.

Best regards,
Muammer Güler
Governor of Istanbul

Take Step
1
For a Safe Life!

CONTENT

I. INTRODUCTION

Istanbul, which is one of the biggest metropolises in the world, faces a lot of risks like earthquake. It is not hard to guess the results of an earthquake that might affect Istanbul and Marmara Region which have significant roles in Turkish economy and health sector. In that situation, it is put on the agenda that hospitals and similar healthcare organizations have to take necessary precautions for earthquake that has the potential to turn into a big disaster; unless these precautions are taken, a serious social penalty is going to be paid.

Ministry of Health is the only responsible institution for health service in disasters and emergencies in our country. The preparation of health system for disasters and emergency, and the control of these situations are part of the duties of the Head of Emergency Health Service Department. To meet the needs of health service in disaster and emergency and to support local health system, new departments are organized.

Equipments for The National Medical Rescue Teams in which the participation depends on the principle of volunteership, are supplied by Ministry of Health. Also Ministry of Health, the Red Crescent and the Armed Forces have mobile and field hospital healthcare organization services. In addition to this, all healthcare organizations must make their own disaster prevention plans.

A disaster that occurs out of the region, can result in chaos and sudden increase in health care needs, there will be patient influx in all centres of the health system.

In the aftermath of a disaster in the region, hospitals and similar healthcare organizations will have to deal with both their own needs and the needs of the surrounding areas. In other words, to be successful in diagnosing and treating of patients who apply to the healthcare organizations during disasters, and to minimize the problems that may arise at the hospitals, every healthcare organization has to have its own written Disaster Emergency Aid Plan.

Disaster preparations have to include all the hospital staff, patients and their relatives, visitors and all services that the institution receives from outside . Even though healthcare organizations' will incurr damage during a disaster, this will not stop victims from going to this hospital in search of treatment. So, the duties of health sector members are to fulfill the legal responsibilities, protect themselves, and to take necessary precautions before a disaster, for service continuity in their institutions in the aftermath of a disaster.

So, healthcare organizations must make a proper Disaster Emergency Aid Plan to be able to minimize loss and damages during a possible disaster or emergency. Also before, during and after any disasters, in order to go through the proper channels, a well prepared plan is needed at first. During a disaster, the plan has to include the analysis of the possible risks for healthcare organizations and its region and how to deal with distribution and management of resources within the framework of disaster management's aims and principles.

In our country, both public and private healthcare organizations are improving the quality their health service and they have to prove this with accreditation certificates that are given by international accreditation institutions. During these accreditation attempts, it is mandatory for hospitals to have plans for disaster prevention.

Interruptions in health services, which is a result of disaster, affect people's belief in the institutions in a negative way. As an example that is observed in the USA, in the following years after the disaster, patients prefer institutions that are not damaged and can still give services to healthcare organizations that are damaged as a result of earthquake. However, the studies in Istanbul in 2005 and in Ankara in 2006, show that our healthcare organizations are insufficient in disaster preparations.

Going through the proper channels for disaster preventions and preparation for emergency, can be sufficient to save hospitals and similar health organizations in the aftermath of emergencies or disasters!

This book contains some basic knowledge and examples of the necessary steps needed to be taken to save lives and properties and also to ensure the continuity of services during an emergency/disaster, organization of support resources, determination of the roles and responsibilities, and disaster preparedness plans for our healthcare organizations. In other words, the aim of this book is to determine a road map for healthcare institutions to prepare a Disaster Emergency Aid Plan that will be able to respond to the increasing needs of medical interventions and health services.

II. DISASTER MANAGEMENT AND PLANNING

According to World Health Organization, disaster "is a sudden environmental (ecological) incident which is great enough to require external help." And according to American College of Emergency Physician (ACEP), it is the destructive effects of natural or manmade powers, tha may negatively affect the power of supplying the health needs in a region. " Turkish Emergency Medicine Association (TATD) defines disaster as an incident which may result in an influx of of injured people or patients to the healthcare organizations exceeding the healthcare organization's capacity".

In the Turkish health community, the term "extraordinary condition" (EC) is used much more than disaster. EC is defined as a situation or an incident that may result in widespread destruction, physical injury, loss of life and property that may exceed the communities capacity to cope with, requiring national and international help.

As a general definition that United Nations accept "Disasters are events (natural, technological or manmade) that occur when significant numbers of people are exposed to extreme events to which they are vulnerable, with resulting injury and loss of life, often combined with damage to property and livelihoods overwhelming local resources. As it can be understood from this definition that, for incidents to be able to cause a disaster, they must interrupt/ruin the healthcare organizations services, and/or cause losses in community and in healthcare organizations. In this book, United Nations' disaster definition will be used instead of EC as in universal disaster management literature.

Studies which would be performed beforehand will prevent such incidents to turn into a disaster or they will provide activation of responses after the incident. Stages of disaster management which intermingle with each other at many points can be summarized as below:

	Mitigation: These are the studies which are done in order to prevent risks turning into disaster and minimize the losses and damages. First of all dangers are identified and risks are assessed. Precautions for protection against this risks and reducing expected damages are determined, planned and implemented.	**Preparation:** These are the studies which include training, planning, creating teams so as to use response capacity effectively and efficiently. Estimation and early warning is also developed and used which is identified as secondary protection.
AFTER		
	DISASTER	
BEFORE	**Response:** These are the studies which are done to minimize loss and damages. For example, search and rescue operations or medical response to injured ones are important activities in this step. First of all effect and needs analysis should be made in order to understand the size and impact of the incident. The relevant units are activated according to the impact and type of the damage.	
	Amendment: After response works are over, efforts are directed towards turning the life back to normal. These efforts can be listed as the economic size of rehabilitation process , restructuring of natural and artificial environment, countering the losses as much as possible and taking precautions against unemployment. Health dimension includes treatment of sicknesses and injuries due to disaster and its adverse conditions, rehabilitating sequels and long time efforts directed to psychological problems.	

Mitigation and preparation performed beforehand will help in minimizing the harms after disaster. In other words, if "risk management" is prepared well before the disaster, then disaster risk can be mitigated as well.
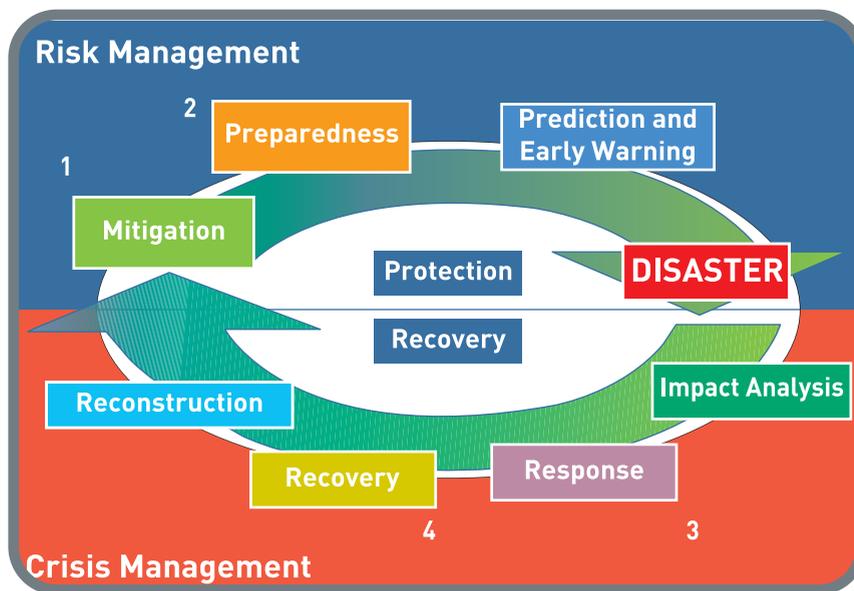
Figure 1. Integrated and modern disaster management system circular stages.

All works to be performed after disaster are for "crisis management" (Figure 1). In our country, we must pass from crisis management to risk management in health sector, and we must give much more attention to topics like prevention of disaster, damage mitigation, preparedness, estimation and early warning.

Disasters which affect the healthcare organizations that are responsible for giving service after disaster can be evaluated in three groups as internal, external and combined disasters:

External disasters: They are the disasters that occur outside of the hospital or the region (earthquake, flood, hurricane, accident, terrorism, immigration, etc.) totally away from the place of the healthcare organization. Hospitals do not get affected from external disasters physically, but depending on the incident type, in the long run a major increase in the number of patients seeking medical services after the disaster may be seen.

Internal disasters: They are the incidents that may physically affect the healthcare organization directly (terror, flood, electricity, water and gas cut, chemical and radioactive accidents, fire, explosion, medical gas leakage, violence, lift urgencies, etc.).

Combined disasters: They are the incidents that occur outside of the healthcare organization but affect directly both healthcare organization and people around (earthquake, flood, fire, explosion, chemical and radioactive accidents, etc.).

Since combined disasters pose the hardest situation for healthcare organizations, Disaster Emergency Aid Plans must be prepared in a way that will include this situation.

III. THE PLANNING PROCESS

We should bare in mind that planning studies depend on a process and requires a team work. Plans should be prepared in a way that they will include, the possible dangers, things to be done to minimize risks caused by the possible dangers, roles and responsibilities for the concerned groups.

PRE PLANNING

Before starting the planning process, there are some important studies to be performed. Firstly, current situation in health organizations must be investigated, present preparations and deficiencies must be identified. It is important that everyone including the senior management in healthcare organizations believe in planning and support the process from beginning to the end. Because planning is a long and demanding process; its results will affect all the employees and it can be useful work only when everybody believes in and contributes to it.

In Disaster Emergency Aid Plan the health organization should pay attention to the following items.

• Determination of a flexible structure that can be adopted to every possibility.
• A Systematic and clearly defined roles and responsibilities.
• Its comprehension by all employees and updated with drills.
• Identifying the alternatives of each position beforehand.
• Conducting reviews theoretically and with internal drills within the premices.
• Its being open to cooperation with other institutions.
• Keeping of records and documents, every detail identified during a possible disaster with quick recording methods.

It is necessary to emphasize the importance of senior managers' belief in studies. If managers do not believe in the subject, create strategic politics and do not support it in both tactical and operational wise, studies will lack belief and sources. The most important thing is that all these will be seen as a burden most of the time even by performers. In case this kind of situation occurs a good result from planning studies cannot be expected.

Healthcare organizations must take many structural and functional precautions against disasters and emergencies with regulations and instructions. Different points that are required for healthcare organization to be prepared are defined with different laws, bylaws, regulations and instructions. Therefore, before starting to planning, related regulation must be examined carefully.

• The law with regard to precautions to be taken and supports to be given because of current disasters in public life (25 May 1959 dated and 10253 numbered Official Gazette)
• Regulations concerning Emergency Aid Organizations related to Disasters and Planning Principles (8 May 1988 dated and 88/12777,19808 numbered Official Gazette)
• Natural Disasters and Methods to prevent their harms Teaching Program (2506 numbered Declarations Magazine)
• Regulation about Protecting Buildings from Fire (19 December 2007 dated and 26735 numbered Official Gazette)

- Protection against Sabotages Regulation (28 December dated and 20033 numbered Official Gazette)
- Inpatient Treatment Institutions Management Regulation (13 January 1983 dated and 17927 numbered Official Gazette)
- Regulation about Planning, Organization, Retrofitting and Conducting other services in Healthcare organization Services to be Built in Critical Regions (26 April 1966 dated and 12283 numbered Official Gazette)
- 7126 numbered Civil Defence Law
- Staff Obligation, Evacuation and Rarefaction, Planning about 6/3150 numbered civil defense and Other Services' Legislation
- Organizing and Precautions Legislation about 6/3150 numbered Civil Defence

First you must determine how ready is your organization for disaster and emergencies. For instance, do your employees know what to do in the first minutes? How will you direct your staff, patients, their companions and visitors?

Even though some health organizations have a plan or some plans for disaster and emergencies, these plans are usually not up to international standards. In order to determine your present situation and to know your establishment readiness against disasters or emergencies, you can have a look at the check list in Appendix-1. If your negative answers to the main questions in this list are more than 1, your organization's need for a real planning is high and urgent.

DISASTER PREPAREDNESS BEGINS AT HOME

The planning studies must be prepared in a way they will include all interested partners. From employees to patients and material suppliers, all people and organizations that are in relation to institution are partners of planning studies. Attendance of institution's staff to disaster and emergency planning activities begins with preparation studies at their homes. Therefore necessary motivation of employees must be provided about their preparations at their homes during the planning process (Appendix-2). Family disaster plan which employees can prepare with their families is extremely important to be able to manage health organizations' plan (Appendix-2).

FRONT

EMERGENCY INFORMATION CARD

Name-Surname ....
Blood group ....
Date of birth ....
TR identity number ....
Address ....
Emergency person for the card owner
Name-Surname ....
Phone number ....
For more information www.guvenliyasam.org

BACK

EMERGENCY INFORMATION CARD

Chronic disease if any :...............................
Medicines taken:...............................
Surgical operation if any :...............................
Any organ donation?:...............................
Family meeting point during a disaster:...............................
....
Other information:...............................
....
Please always carry this card with you.

THE PLANNING STEPS AND FORMAT
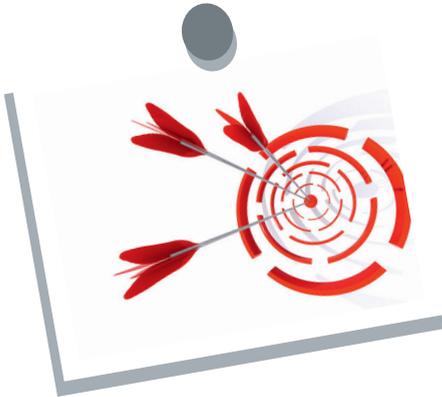
Disaster Emergency Aid Plan has 3 main goals such as, preventing loss of life and property and providing service/work continuity. In order to reach these goals, here is a list of alternative targets:

- To ensure the safety of evacuation routes by controlling primary and secondary effects the disasters might cause.
- To prevent chaos and panic that might occur between staff, patients and their neighbours.
- To provide safe evacuation.
- To determine number of patients and staff in evacuation region.
- To respond to fresh fires.
- To eliminate factors which might cause fire or cause danger.
- To save –if there are- people who are trapped.
- To give first aid or emergency aid to staff and patients trapped in or outside the premise and to provide their transfer to appropriate healthcare organizations.
- Ensuring the institution's safety, to prevent suspicious people's entrance to institution and institution' compound.
- Incase communication tools and network fails , sending messenger to the nearest police station and similar places, to make healthcare organization's situation and demands to be conveyed to county disaster management center.
- To make patient's transfer with identity control and documentation, to provide collective care and sheltering in case the evacuation process's takes long time.
- To hand over to authorities patients whose families are not reached.
- To make simple repair or restoration in the building or establishment and to eliminate possible dangers caused by them.
- To take safety precautions against burglary, and looting or to demand for similar precautions to be taken.
- To ensure the safety of the staff and their family (if possible a place within the healthcare organization – such as staff houses- can be used to accommodate staff relatives or an agreement can be made beforehand with an institution such as , hotel or guesthouse to accommo date staff and relatives during emergency).
- To do the necessary work and organizations so that the healthcare organization resumes service as soon as possible.
- To educate staff in giving medical or non-medical services, to make necessary plans and improve the plans with exercises and drills.

 Planning of to-do-list during a disaster will make your employees think that they can cope with disasters and this will increase their self confidence about how to survive during and after a disaster. After a destructive disaster such as earthquake, knowing how you will fulfill your mission and service and how you will handle your staff's psychological problems will contribute to your carrying on with daily activities and the healthcare organizations' regular working too.

At this point it is necessary to divide planning studies into steps which can be actualized. Therefore to make healthcare organizations "institutions that can handle disasters" and to make their ser-

vices "resistant to disasters" planning studies are grouped in to eight steps as below:

- Organizing teams
- Hazard and risk analysis
- Mitigation and Mitigation planning
- Command and emergency services
- Procedures
- Training and exercises
- Cooperation and collaboration
- Emergency equipments

A basic disaster emergency aid plan is advised to contain pages and parts in Appendix-3 respectively. You can find some of these subjects' explanations in oncoming parts and some of them in county disaster management center web site (www.istanbuladm.gov.tr).

PROVIDING CONTINUITY IN THE PLAN

To ensure that all participants are well versed with the prepared plan and to update these plans according to changing conditions is critical in terms of continuity. In a disaster or emergency no one has time to read the text from beginning to end. Therefore it is necessary for all those concerned to read, know and practice these plans through exercises in advance.

Every new personnel in healthcare organization, every new device, every amendment which is done brings about a necessity of taking new precautions. In order to provide continuity in the plan, orientation program for new personnel should be added to Disaster Emergency Aid Plan of Healthcare organizations, the plan should be renewed regularly according to the needs and personnel list and the inventory should be updated.
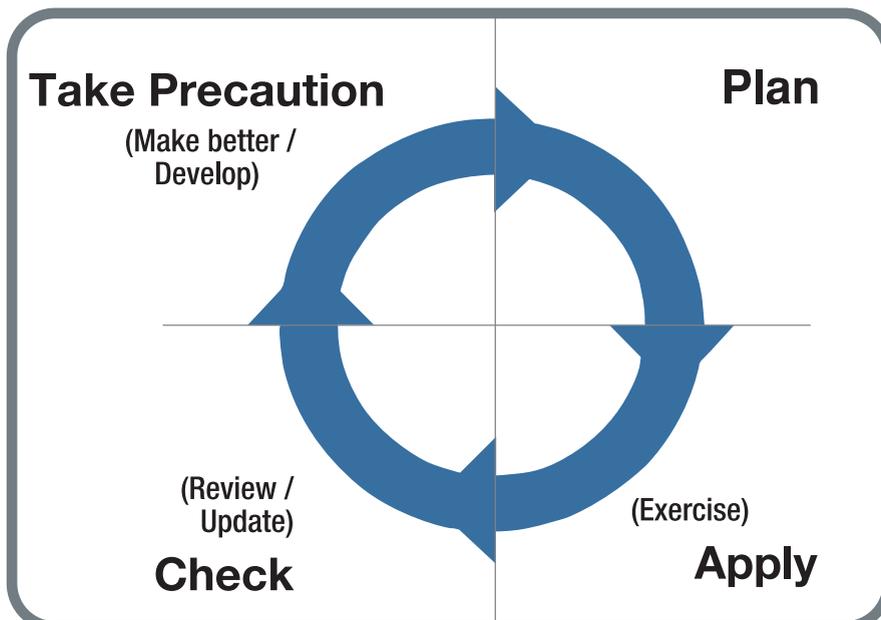
IV. THE FIRST STEP: ORGANIZING TEAMS

The manager of a healthcare organization is responsible for disaster preparedness, which means, during an earthquake and similar disaster or emergency he/she is responsible for the safety of people in the facility. In order to develop preparedness against earthquake and similar disasters, Disaster Emergency Aid Plan manager is the most important factor; his/her support or determination is very significant for providing employees' cooperation.

Within the scope of preparedness against disaster and emergencies there are two important teams that are necessary to be organized, these are Disaster Committee and Planning Team.

DISASTER COMMITTEE

Disaster management and especially the planning process requires team work. Support of the managers, like head doctor, and their participative approaches are fundamental. Another important principle is organizing a disaster committee in which all related departments in the institution can be represented. For this reason, disaster committee might consist of present management committee members of healthcare organizations, incident commander and service chiefs.

This committee is not to meant to prepare the process of disaster and emergency preparedness, but to take strategic decisions, to coordinate and control the communication between different departments. Disaster committee's missions are briefly given below :

a. To convene if necessary with the invitation of the chairman before disaster:

- To examine and determine necessary organization, facility, service and precautions for preparedness against disasters and their planning style and principle according to legislation and institution's properties.
- To assign necessary staff for preparing disaster emergency aid plans according to these principals; After reviewing, completing and signing the plan , to submit to authorities for approval.
- To coordinate and control the equipments, and education works with organization, facility and precautions stated in the plans.
- To provide necessary cooperation and work sharing between members and departments about these subjects.
- To organize necessary cooperation and work sharing between the staff who are assigned in rescue services and Provincial Search Rescue Unity Management in a possible emergency in the city or cities around.

b. To ensure that necessary precautions are taken, response and rescue work is done in accordance with the Disaster Emergency Aid Plan, by reviewing disaster preparedness precautions.

To decide with the incident commander to organize and develope a field hospital in case health organization suffers damage or its capacity becomes insufficient due to disaster (Appendix-4).

c. To take necessary precautions to reactivate the institution and to replace used or lost equipments and to ensure that the necessary amendments are proceeded.

Management must make a work plan announcement to show their support and promise about disaster and emergency preparedness of health organization. This announcement;

• Must explain the purpose of preparation of the plan and must state it includes the healthcare organization as a whole.
• Must include the structure of the planning group and its responsibilities.

Disaster committee must assign a planning team to form a Disaster Emergency Aid Plan. One of the team members should be the coordinator. Size of the group to be organized is related to needs, facilities and sources of healthcare organization. Working as a group will benefit in these points:

• Adoption of the plan by more people
• Increase in time and energy that group members would give
• Looking at subjects from a wide perspective. The disaster committee should

Primarily decide and appoint those who will be actively involved in the planning and who will take charge in consultant position.

In many practices, one person or two people perform most of the research. But contribution from departments such as superior management, staff works, public relations, and finance, is necessary. Planning team's members must be appointed in written by management and work definitions must be done clearly.

PLANNING TEAM

In order to start planning, at first the team which will perform the study should be organized. There must be experts and workers from different units in the team. Management must direct the planning team, and give authority to these people about taking all necessary steps during preparation of the plan. There should be a clear division in authority between the team leader and team members and each member's role should be defined.

V. THE SECOND STEP: HAZARD AND RISK ANALYSIS

After planning team is organized, the first thing that should be done is to determine the possible hazards and risks the institution may face.

In this process it should be taken into consideration that different types of emergencies have different impacts on the healthcare organization and its services. Thus, the establishment will know the possible events which can occur in which level of disaster or emergency and take the necessary precautions.

1. Daily Emergency Service: It is a routine service given to urgent patient and injured people with present (available) medical staff and equipments in the emergency services of healthcare organization.

2. Critical Patient presentation: It is the presentation of critical patients (heart attack, cerebral bleeding, major trauma, etc) that requires fast and coordinated efforts of a diverse health team that may change depending on the structure and level of the healthcare organization.

3. Mass Emergencies: these are the situations which many patients or injured people present to healthcare organizations suddenly as a result of accidents which take place in planes, buses, trains, or mass food intoxication.

4. Emergency Evacuation: Emergencies that prevent healthcare organization's service and cause serious hazard for staff, patients, companions and visitors of patients.

5. Disaster: Earthquakes, floods etc. are the heaviest of emergencies stated above. Healthcare organization which are adversely affected because of unusual increase in health service demand have to give service even under its current overstretched capacity.

Therefore it is important to define emergency and disaster level of healthcare organizations as below and to take precautions according to these:

Level 1: Capacity of healthcare organization is enough to be able to cope with the incident.

Level 2: Capacity of healthcare organization is inadequate and aid from other institutions might be necessary.

Level 3: Regional capacity is inadequate and may require the national and even international aid.

Integrated disaster management envisages preparing a Disaster Emergency Aid Plan including daily emergency service, critical patient presentation and mass emergencies. Therefore while doing hazard and risk analysis, in other words while planning, the worst situation, level 3 must be taken into consideration. Medical and non-medical operations should be gathered under a single plan.

HAZARD AND RISK TERMS

Although in daily language the words "hazard" and "risk" are used interchangeably, they represent two different concepts in fact. It is necessary to know the difference between these two concepts in order to make hazard and risk analysis of the establishment.

Hazard is an event that has the potential of loss of life and property.

However, **risk** points out the size of damages when a hazardous event occurs. In other words, risk is the multiplication of the possibility of the hazard's coming true and the size of the damage in case the hazardous event occurs.

As it can be understood from the explanations risk can be the result or the next step of the hazard depending on the possibility and the damage it may cause. That's why in order to determine the existing hazards and risks of an establishment first of all the hazards that threaten the establishment and then how much these hazards threaten the establishment should be checked.

NATURAL DISASTERS

TECHNOLOGICAL DISASTERS

COMPLICATED DISASTERS

HAZARD ANALYSIS

Hazard analysis is the process of listing the events which can create hazard for the establishment. The events which can be identified as hazard can vary according to the establishment's situation. While some events like earthquake is a common source of danger for most of the establishments, some other events can change according to the situation. That's why the planning team should determine the events that can create danger for its own establishment.

It should be considered that each kind of incident which exceeds the capacity of healthcare organization can turn into a disaster. Therefore when defining the hazards, together with the region's geological and meteorological features, its closeness to chemical substance production facilities, highway, railway, airport, port, stadium and big amusement parks should be taken into consideration.

There is a list below which includes some examples of possible "hazards". The team should determine these hazards according to its own establishment's reality:

- Earthquake
- Flood
- Landslides
- Hot/cold weather waves
- Storm, lightning and static electricity
- Drought, famine
- Icing and freezing
- Tsunami
- Explosion and fire
- Environmental impacts (neighbor institution and establishments)
- Breakdowns (gas, electricity and water cut, etc.)
- Breaking/detaching of pipelines (gas-water-waste disharge)
- Hazards derived from the establishment which can give harm to the environment
- Communication troubles
- Logistics troubles (medicine, medical gases, etc.)
- Supply – transportation accidents
- System failures (sanitation)
- System breakdown (IT, hacker, etc.)
- Strike, lack of key staff
- Fugitive acts

- Contractor-subcontractor works
- Economic crisis
- Chemical, biologic, nuclear and radioactive leakage/CBRN attacks
- State of war
- Mass emergencies (train, plane, highway accidents)
- Sabotage, terror and social events
- Hazardous substances
- Epidemic illnesses (bird flu, etc.)
- Food poisoning
- Safety (theft incidents)
- Aggressive patient and relatives/safety (life safety)
- Work accidents (inside-outside of the institution)
- Emergency health problems (for staff)
- Job illnesses
- Psychiatric health problems

There are some methods to determine the hazards. These can be listed like this:

Past profile: the events that occurred in the history of the establishment are in fact the indicators of existing hazards. It is very important to know what kind of events occurred in the history of the establishment, when they occurred and what the results were. This kind of information should be listed. Thus the previous hazards will be listed and it will be possible to make predictions for future. Establishments can prepare forms including their own questions for this kind of a study.

Gathering information from the employees: employees are capable of knowing the possible hazards of an establishment. That's why information about this subject can be collected from the employees via forms. Their previous experiences and ideas can be asked. This study also enables the employees to be a part of planning process.

While determining hazards, its impact on these three elements should be checked:

- Human
- Properties and possessions
- Service, production, work flow

An event cannot give harm to people whereas it can be hazardous for service, production and work flow and vice versa. While determining whether an event is hazardous or not, humans, possessions, service, production and work flow should all be taken into consideration. This is also necessary while passing from hazard analysis to risk analysis.

Although all studies are being based on numerical values, it is possible to act a bit personal when defining possibility and harm potentiality of hazards.

RISK ANALYSIS

After the hazards are determined, next step is making risk analysis. The aim of the risk analysis is to present how those determined hazards pose a risk for the establishment with numeric data. Presenting hazards with numbers is also helpful to decide which one of the risks is more prior than the others because according to disaster and emergency type, patient profile presenting to healthcare organizations change too.

For example in explosions due to large number of patients, many surgical intervention, many operating room staff, intravenous solutions, blood etc. might be required. In fire and chemical gas poisoning many oxygen sources might be required.

As a result the establishments will be able to see ahead and immediately take the necessary precautions for greater risk and leaving the minor risks and their precautions to time.The relation between risk and hazard can be formulated like this:

Risk = the probability of occurrence of hazard x damages that can be caused by the hazard

The probability of occurrence expresses the frequency of the hazard. For example; an earthquake hazard can occur in long years while terror hazard exists every year.

While describing this probability, every establishment can determine time intervals specific to itself. Within this book the following time intervals are taken as reference.

Probability	Definition
3	The probability of the hazard's coming true in a year is 100%.
2	The probability of the hazard's coming true in a year is between 10% and 100%
1	The probability of the hazard's coming true in a year is between 1% and 10%.
0	The probability of the hazard's coming true in the following century is less than 1%.

If the hazard comes true people (staff and customers), possessions, service, productions and work flow will be affected in a negative way. For example due to the earthquake hazard people loose their lives or get injured, the buildings can be damaged or destroyed, establishments' services can stop for a while.

As it is in the hazard's possibility of occurrence, while calculating the possible damages, establishments can make different groups and definitions according to their own truths. Within this book the following time intervals are the base:

Damage	3	2	1	0
Human	It can affect more than 50% of the people.	It can affect 25% or 50% of people.	It can affect 10% or 25% of people.	It can affect less than 10% of people.
Real estate and possessions	It can affect more than 50% of buildings.	It can affect 25% or 50% of buildings.	It can affect 10% or 25% of buildings.	It can affect less than 10% of buildings.
Service / production / work flow	It can affect service, production, and work flow for 4 or more weeks.	It can affect service, production, and work flow for at least 2 weeks or more.	It can affect service, production, and work flow for at least 1 week or more.	It can affect service, production, and work flow for 24 hours or less.

Stated time intervals should be examined according to the properties of works in the healthcare organization and if it is necessary they should be extended or shortened. The probability of hazard's occurrence and possible damages are determined separately according to the explanations in the previous tables.

HAZARD AND RISK ANALYSIS														
	HAZARD										RISK			
	Damage					Possibility								
	0	1	2	3		0	1	2	3		0	1	2	3
Human														
Real estate, possessions					X					=				
Service, production, work flow														

After that in order to reveal the risk, the probability of hazard's occurrence and possible damages are multiplied. This operation can be done on the following table:

VI. THE THIRD STEP: MITIGATION AND PLANNING

Disaster plans envisage directing of health services to healthcare organizations within the region. But healthcare organizations' and infrastructure's suffering harm from disaster make it difficult to apply this plan. Although there is no structural damage in healthcare organizations, due to the nonstructural damages, breakdown of several materials and systems prevent continuity of the service, with the loss of patients who are connected to life support units, they can cause much more increase in losses.

Before

HAZARD   DISASTER   VULNERABILITY
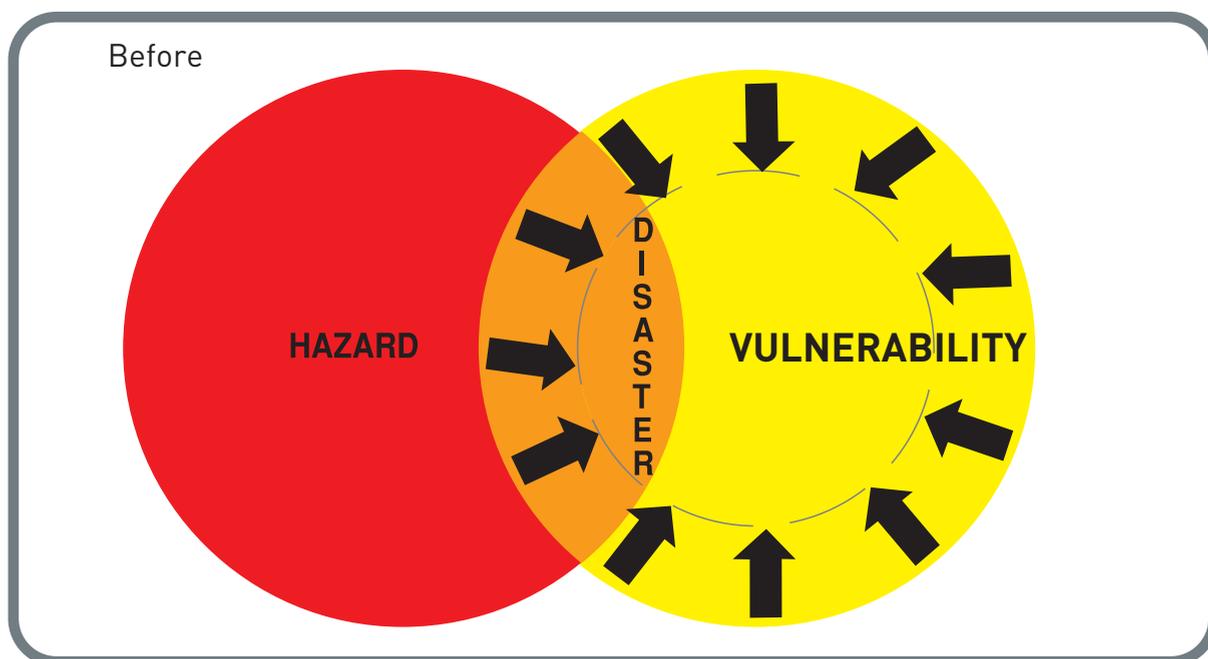
Therefore health organizations must work in order to mitigate risks and minimize possible harms after defining what kind of risks and hazards they would encounter. In order to mitigate the risks either possibility of occurrence or possible harms of this hazard should be mitigated. But most of the time, mitigating the possibility of hazard occurrence is not possible. For example possibility of an earthquake hazard occurrence is completely related to nature so this possibility cannot be mitigated. In case an earthquake happens, it is at our hand on a large scale to mitigate its potential structural and nonstructural damage.

Study of minimizing the damages is also the study of minimizing risks. That's why firstly hazard and risk analysis should be done.

MITIGATION

Mitigation studies for disasters can change according to the size of the building and possible risks and hazards that the establishment is confronted with. Main mitigation studies for hazards are these:

STRUCTURAL MITIGATION

The big earthquakes that have been experienced gave important lessons about surviving and getting over the damages. The main condition for this is to live in structures which are designed and built appropriately and protected later on against earthqukes. Earthquake is a natural event, yet people have an important role in the possible damages of it on the structures. Making the structures safe and minimizing the possible problems is emphasized in the mitigation studies.

That's why; all the structures of establishments must be safe. The components mentioned under this title are the carrier elements of a structure. For example columns and girders are the carrier components of the structure. If there is a possibility of weakness in the structural components of the establishment, related engineers should check them as part of mitigation studies and if necessary they should work for retrofitting or rebuilding.

Building or constructions that were constructed for different reasons should not be used as healthcare organization building. Disaster committee must make analysis of the building by making a deal with a professional technical person or organization and according to their needs they must actualize new arrangements with the support of experts. Again by the deal with this person/institution, damage evaluation of the building should be provided in a quick way after a possible disaster (Look at Appendix-14 Protocol Example to be conducted by civil engineer for earthquake).

(For further information about Structural elements, you can look at Structural Risk Mitigation and Structural Retrofitting Against Earthquake Training Programs.)

NON-STRUCTURAL MITIGATION

Non-structural components are the ones which do not belong to the carrier system of the building, namely they do not carry the building. Infilled walls, chimneys, windows, hanging ceiling, heating systems and stairs are the non-structural elements in our buildings. Another group consists of furniture, wardrobe, closet, china cabinet, hall stand, white goods, electric and electronic appliance, tableau, glassware, chandelier, etc. All these items can fall down, slip, crash and cause injuries during an earthquake.

Non-structural damages can cause life loss and injuries, losing historical and cultural heritage and great economic loss. Half of the damages in 1999 earthquake were caused by non-structural reasons. While non-structural components compose nearly 60% of a house
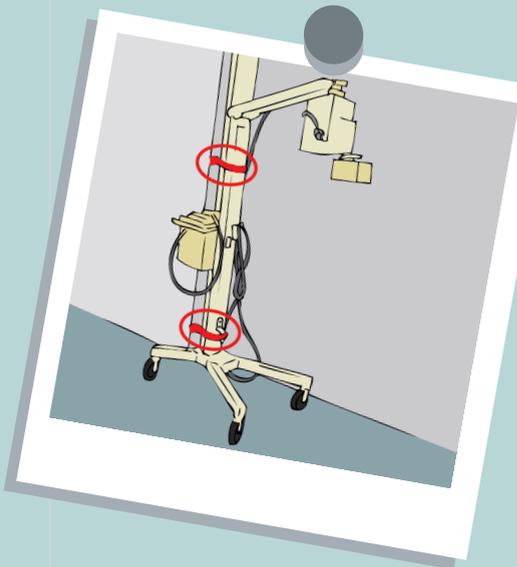
or office, in the healthcare organizations this rate is 85%-90%. Therefore economic loss is much higher for healthcare organizations.

During and just after the tremor lots of people were injured. In a research that was done after Marmara earthquake, it is mentioned that 50% of the injuries and 3% of deaths were due to non-structural components. For healthcare organizations these rates are much higher because of loss of patients connected to both life support units and bedridden ones, also inability to provide service to disaster victims due to destroyed equipments and systems.

There are legal arrangements against the fire and sabotage risks .But the control of non-structural risks is completely within the responsibility of the person who use the building. The control of non-structural risks in health organizations can be actualized best with the pursuit and control of department managers. Therefore cooperation of all staff is required. You can use suitable materials in the check list given as an example in the Appendix-5 to mitigate nonstructural damages in your establishment.

In order to be able to mitigate non-structural damages in the healthcare organization, there are many studies to conduct. These can be exemplified as:

- Fastening the items, furniture and necessary materials, etc. Fastening the items which are hanging from the ceiling or stays above the head level; with the stabilization of medical materials, fastening of litter and patient beds and keeping their wheels locked, fastening the electrical devices and supporting them with uninterruptable power supply or generator.
- Keeping all the poisonous, flammable and dangerous materials in closed and safe boxes in which they can not pour out during an earthquake according to the rule of limit, isolate, eliminate, separate.
- Organizing training and awareness programs for the staff, patients and their families.

Healthcare organizations must be ready for each kind of disaster in terms of its building structure and its architec-

tural plan. At the same time architectural planning which makes evacuation process easier has significant importance. Healthcare organizations, especially hospitals must have independent water and energy sources.

As healthcare organizations are the buildings with high population, they are the structures in which many exit ways must be found in their architectural planning (emergency exit doors, ramp, stairs, lifts)

It is necessary to plan exits of inpatient services, polyclinics and waiting parts as wide with many doors. For a safe evacuation during a disaster exit points should be opened easily and marked with signs.

(For further information about Non-structural components, you can look at Non-structural Risk Mitigation Against Earthquake Training Program.)

MITIGATING FIRE DAMAGES

Fire is alone an important danger because it poses a big threat after an earthquake. That's why it is necessary to be aware of the possible damages due to fire and making mitigation studies for it.

During these studies by walking around in all services and polyclinics, fire tubes,emergency exit doors, alarm warning buttons, fire hoses and shelter must be examined, a current situation evaluation should be done, deficiencies and things to do should be noted down. Also, emergency exit stairs and emergency lightening system must be examined. 25 kg, 12 kg and 6 kg fire tubes, should be bought and counter checked whether they are distributed to the related units according to critical order of importance.

To sum up, in healthcare organizations, in order to mitigate fire damages basically these subjects given below must be examined and amendment studies should be conducted by taking necessary precautions for related headlines:
- Escape ways
- Escape stairs
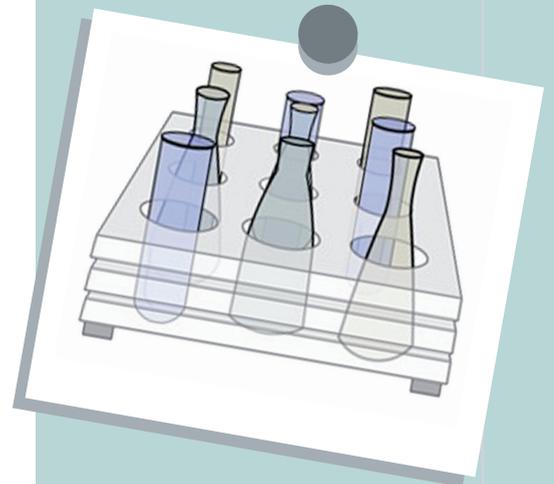
- Boiler rooms
- Fuel tanks
- Kitchens, stoves and chimneys
- Shelters, car parks and roofs
- Lifts
- Lightning conductors, transformers and generators
- Electric installations
- Emergency lightning and directing
- Fire detection and alarm systems
- Periodic tests, maintenance and control
- Smoke detector
- Fire extinguishing systems
- Storing and using hazardous materials
- Fire safety, teams, control and cooperation

MITIGATION PLAN

The next step after determining the damaging components which need to be minimized is to prepare a plan and then another step comes which is application.

The purpose in mitigation and improvement of non-structural damages is to have a safe physical structure of a healthcare organization. The criterion of this plan is defined in detail with the legal arrangements in reconstruction, fire, sabotage and occupational health and safety subjects. Together with the aid of expert organizations, structure's situation must be examined, by examining halting points necessary strengthening and amendment should be conducted.

The purpose in non-structural risks' control is to prevent vulnerability of the institution's employees, patients and their companions to disaster and emergencies and to provide organization's giving service with full capacity after the disaster. It is necessary for healthcare organizations to make necessary arrangements with the cooperation experienced experts related to this subject and medical staff should show necessary awareness and responsibility.

For mitigation study, at first identified hazards are listed. Necessary precautions to be taken is decided for risks that

After

HAZARD — DISASTER — VULNERABILITY
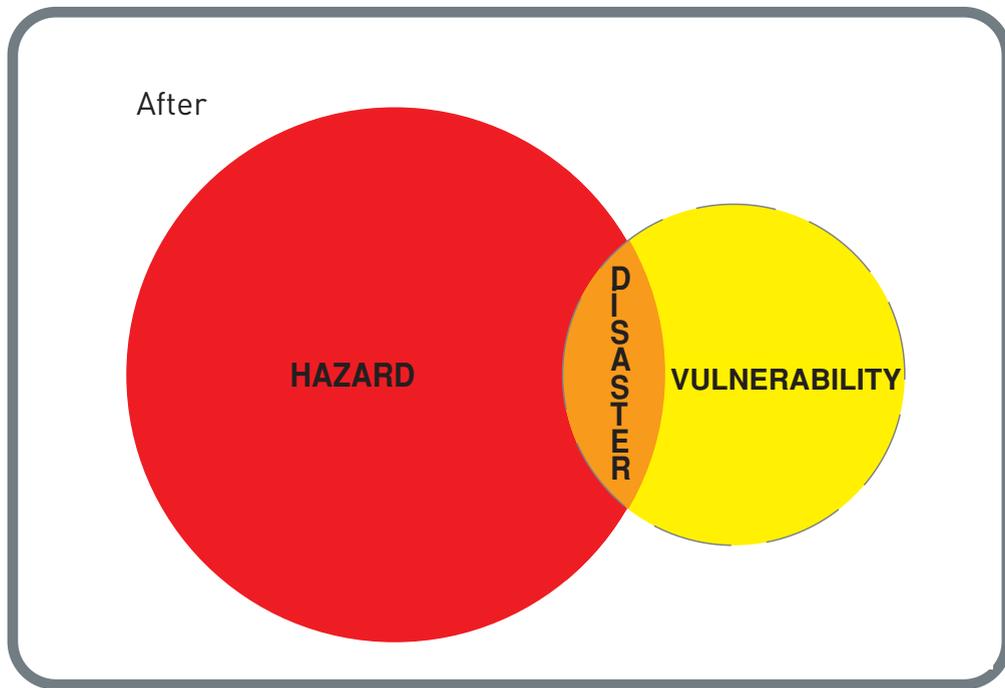
each hazard creates. But of course it might not be possible to take precaution for each hazard at the same time; some can be prioritized (For a Filled Mitigation Form example look at Appendix-7). Planning study should include mitigation and preparation stages as well as response. For this reason, when mitigation studies are defined in Disaster Emergency Aid Plan one by one, it is necessary to prepare a work plan.

The necessary budget for each mitigation work and time interval in which the work will be done (the beginning and target end dates) must be mentioned. There can be different details in the action plan depending on the size of the establishment, amount of the mitigation works and other related components.

VII. THE FOURTH STEP: COMMAND AND EMERGENCY SERVICES

In this step of the planning studies, all the necessary control and coordination systems and centers should be established for all the studies that are going to be performed and especially, emergency services should be organized for response stages.

In this system, the staff of health care facility should take in charge as the member of a team depending on an incident commander/a manager, service rulers and the crew chiefs in services and together with team leaders in the teams established. Studies and necessary matters that should be dealt within this context are summarized below.

INCIDENT COMMAND SYSTEM

During a disaster or emergency lots of subjects must be determined and included in the plan, such as the responsible people and their responsibilities, how the coordination and command systems will function, the teams and members for response stages etc.

During the response in a disaster or emergency it might be necessary to do lots of things at the same time. It is important for the personnel to know their turn and mission in the response. This is possible with a predetermined structure.

This organization can be possible with a mechanism termed shortly as 'Incident Command System' (ICS). This system has been organized for all the dangers and emergency responses at every level. This system creates the combination of communication, staff, materials, procedures and opportunities working in the structure of a standardized organization.

The approaches named as 'Organization for Mass Admission of Patients in the Healthcare organization' (OTM) and 'Disaster Management Plan' (DMP) has been used with similar purposes in the world. But 'Healthcare organization Emergency Incident Command System-HEICS' which has been carried out since 1987 in the healthcare organizations in USA, is being widely used nowadays in healthcare organizations as ICS (Figure2).
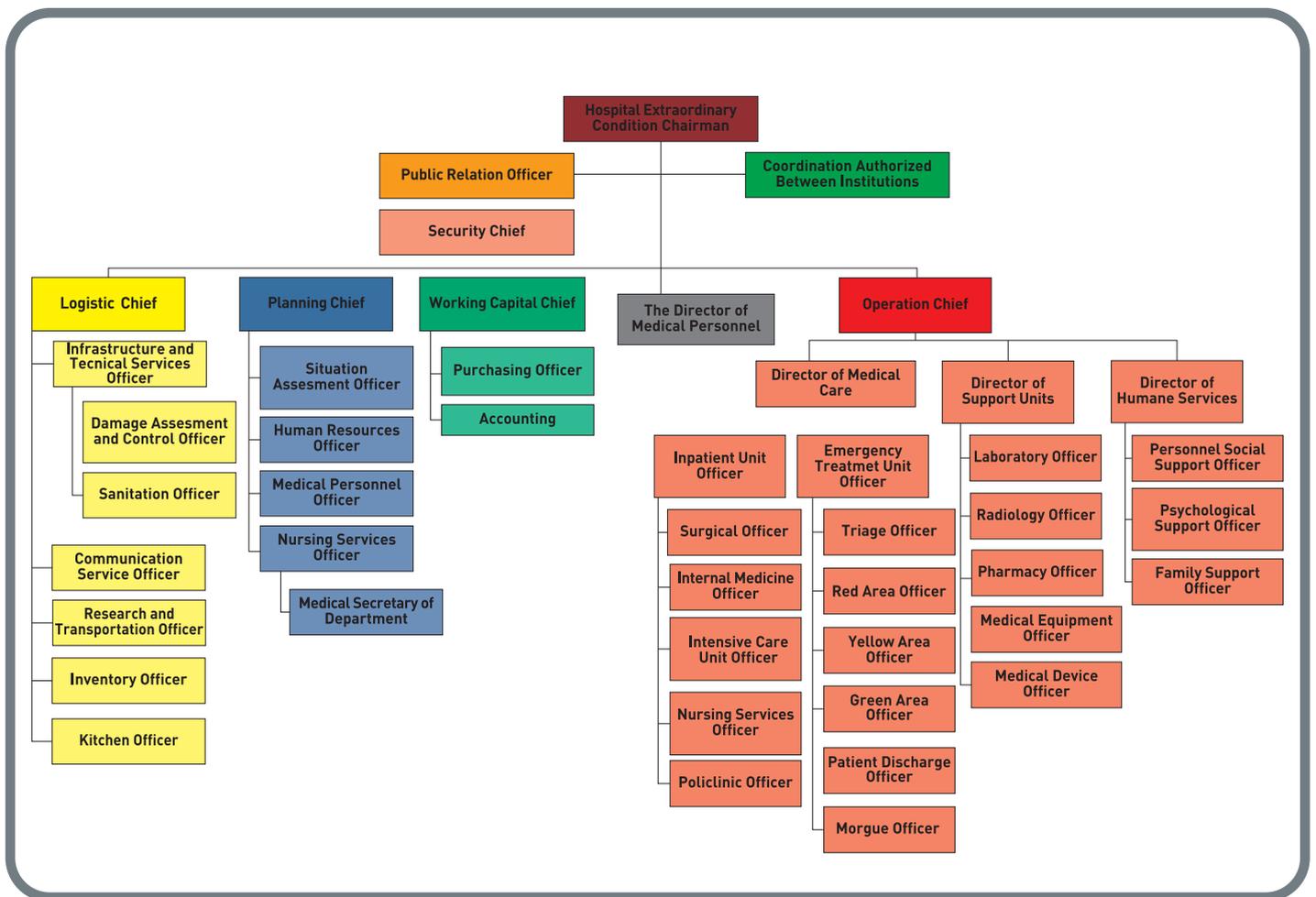
Figure 2. HEICS has been adapted in our healthcare organizations by Dokuz Eylül University. This is an ICS diagram describing the vertical and horizontal hierarchy that can be used in healthcare organizations during any disaster and emergency case.

ICS adapted as in the Figure 2 is only for external disasters and it has such a big and complicated structure that every healthcare organization cannot apply it. Because the matter of ICS is not known in detail, the healthcare organizations that have been applying this system by taking it completely as mentioned above, have been running into many difficulties. So ICS will be introduced with its main lines in this booklet. At the same time, an ICS structure is given in the Figure 3 that can be applied in medium healthcare organizations during any external, internal and mixed disaster. This main schema can be adapted to every healthcare organization; or rather these organizations can form their subunit numbers according to the number of their own resource and staff in accordance with this schema. If the number of staff is not enough to form subunits, units can be combined. It is important for organizations to be organized in a way that can carry out at least all of the primary missions stated in the Figure 4. in terms of disaster management.

In the Figure 4, a much simpler ICS structure is given that can be used in small healthcare organizations. An ICS as this can be organized in health organizations that have few staff as a health center.
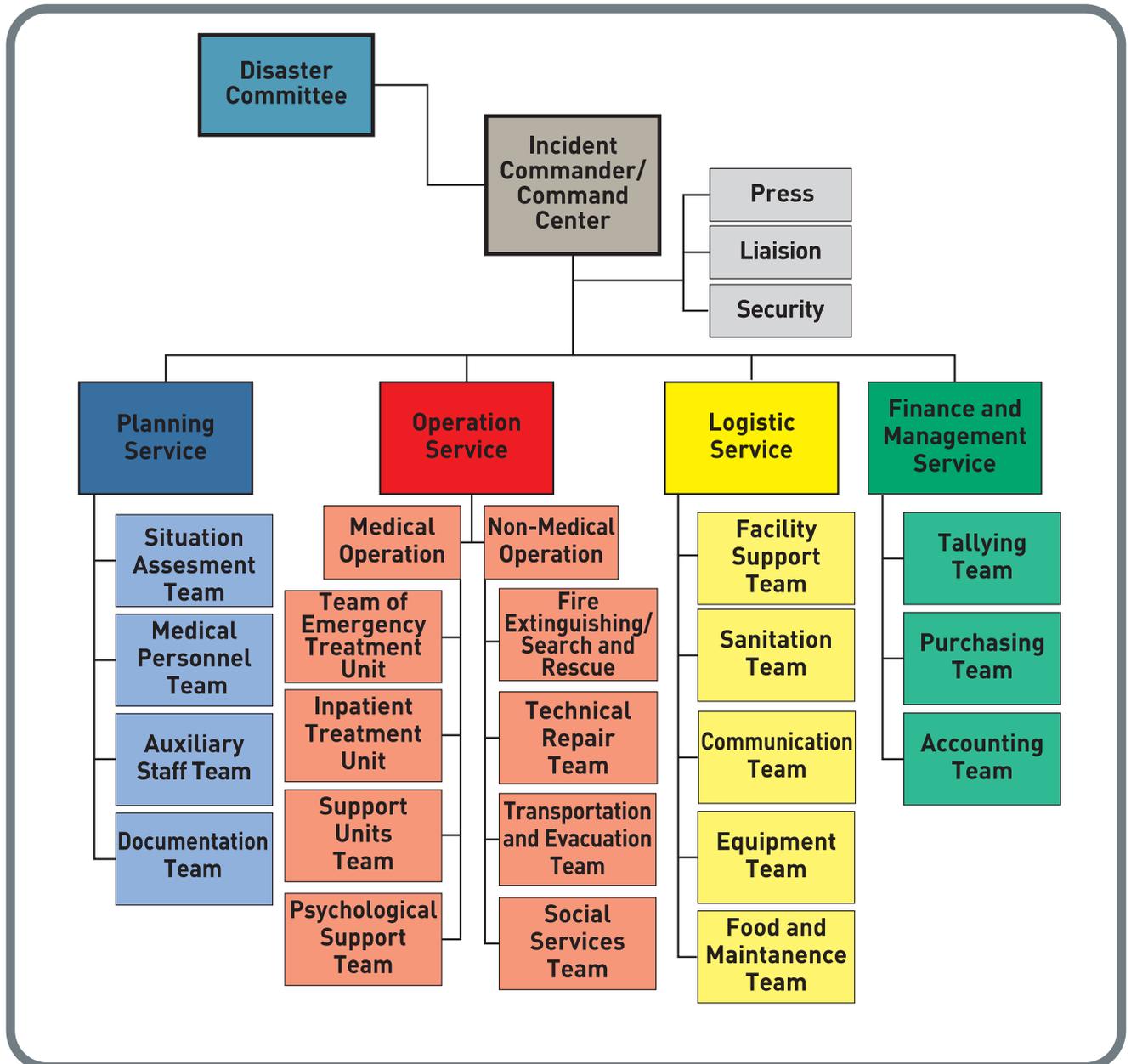
Figure 3. An incident command system that is recommended to be used during any external, internal and mixed disaster in the medium and large scale healthcare organizations in Turkey. Operation departments that are not medical cannot be activated during any external disaster.
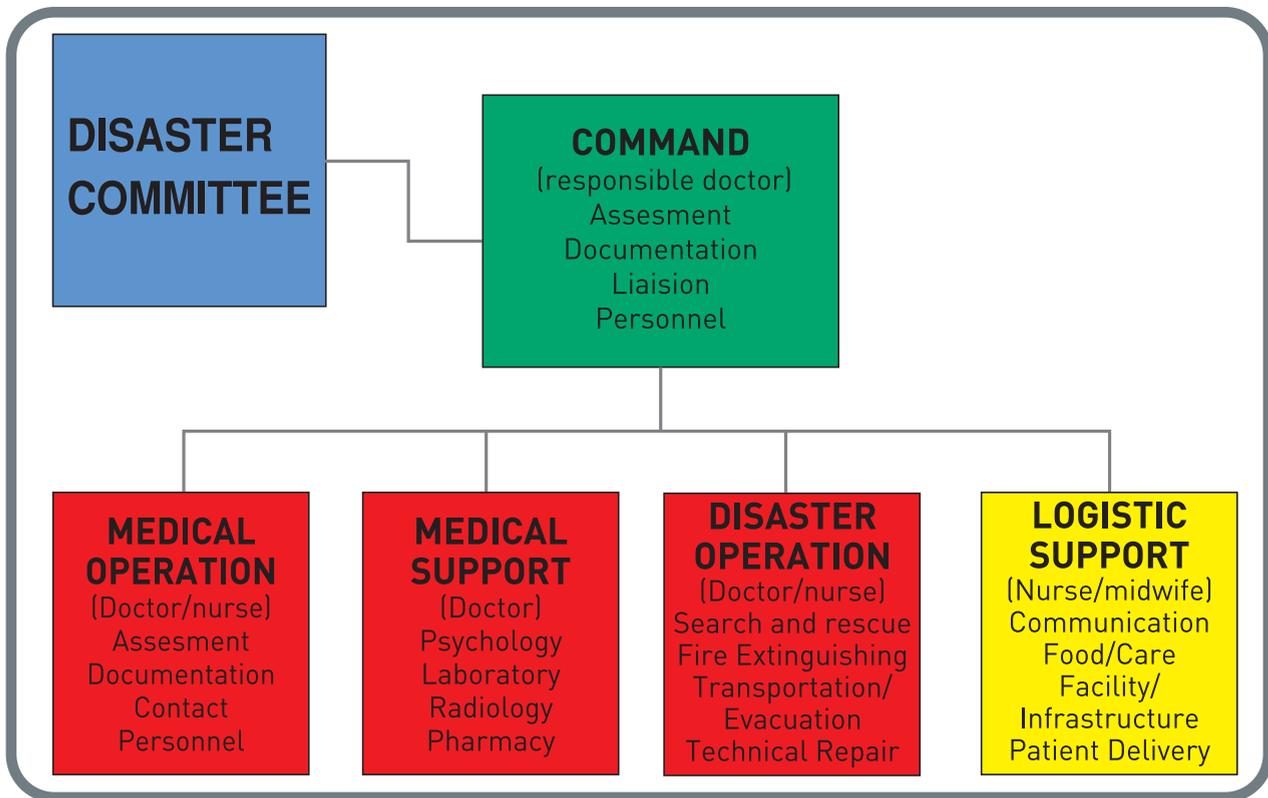
Figure 4. An incident command system that is recommended to be used during any external, internal and mixed disaster at the small healthcare organizations. Disaster operation unit cannot be activated during external disasters.

The staff should be primarily known in order to organize an incident command system in the best way. The information forms belonging to the staff who are going to organize an incident command system, both make easier to get in contact with the family of an individual during an emergency case and aid the health staff that will perform any medical response. An example to a staff emergency information form is given in the Appendix-8.

ICS, have been mentioned above, consists of elements mentioned below (Figure 5):

• Incident commander
• Response/operations
• Information/planning
• Logistic
• Finance and administrative affairs

For each of the items mentioned here the participants and their roles have defined and is explained in the forthcoming parts.

A security, public information officer, liaison officer who will work directly under the incident commander, should be thought in the command center of this system.
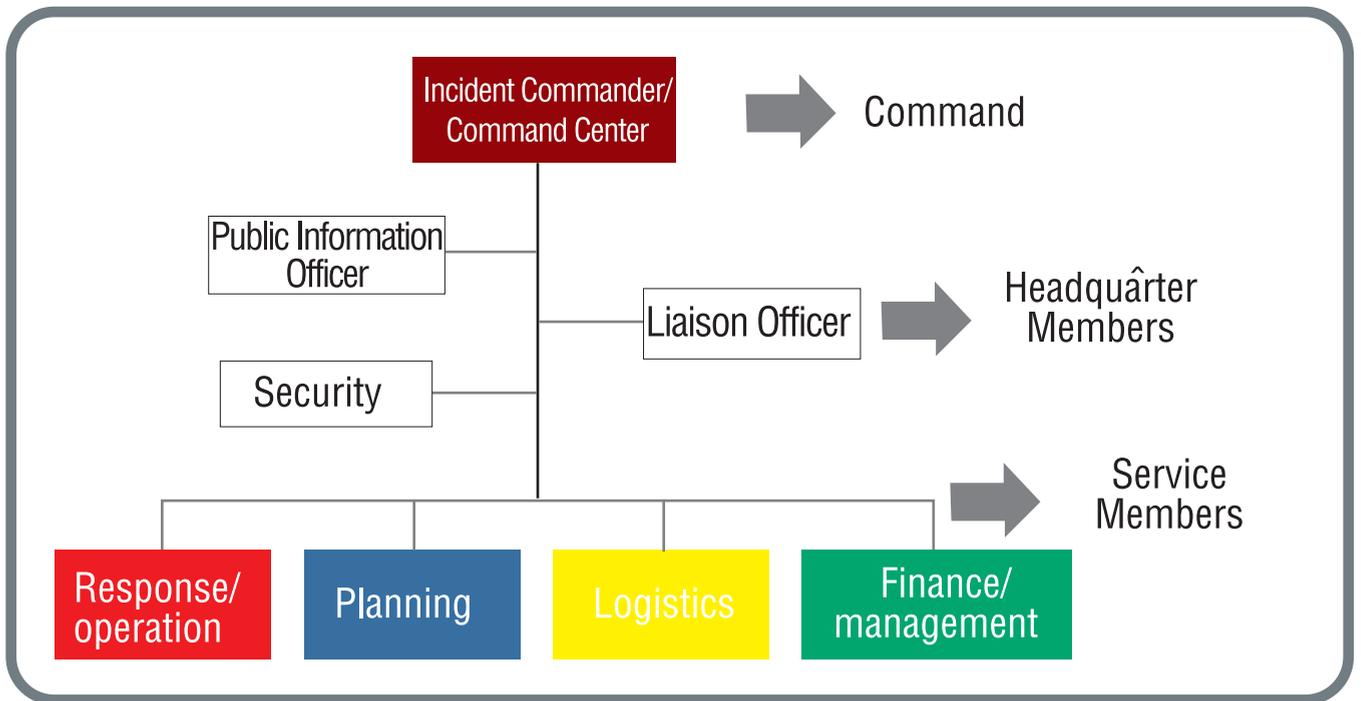
Figure 5. Services that should be found in an Incident Command System (ICS) as an emergency condition organization center.

INCIDENT COMMAND CENTER

According to disaster regulation there should be disaster preparedness, response, and a center to manage civil defense actions and operations in all the institutions in case of emergency. Some important missions fall to the leader of ICS, in other words the incident commander commanding all the events in this place.

Primary missions of this center are:

- Putting the disaster plan into action and spreading the warning and alarm news
- Providing communication, dispatch and management among emergency services
- Contacting with local defense, disaster management centers and administrative units and providing cooperation and collaboration when necessary
- Providing communication and if necessary cooperation and collaboration with neighbour foundations and institutions
- Informing civil defense management levels around the organization and in the region by evaluating the news about nuclear, biological and chemical and radiological hazards

Incident command centers should be established in deanship and at the office of head physician or near an emergency service and a safe place. If a healthcare organization is damaged during a disaster and it is needed to be evacuated, a center should be formed by setting up a tent in a suitable place. An example to the organization of a present office as an incident command center is given in the Figure 6.
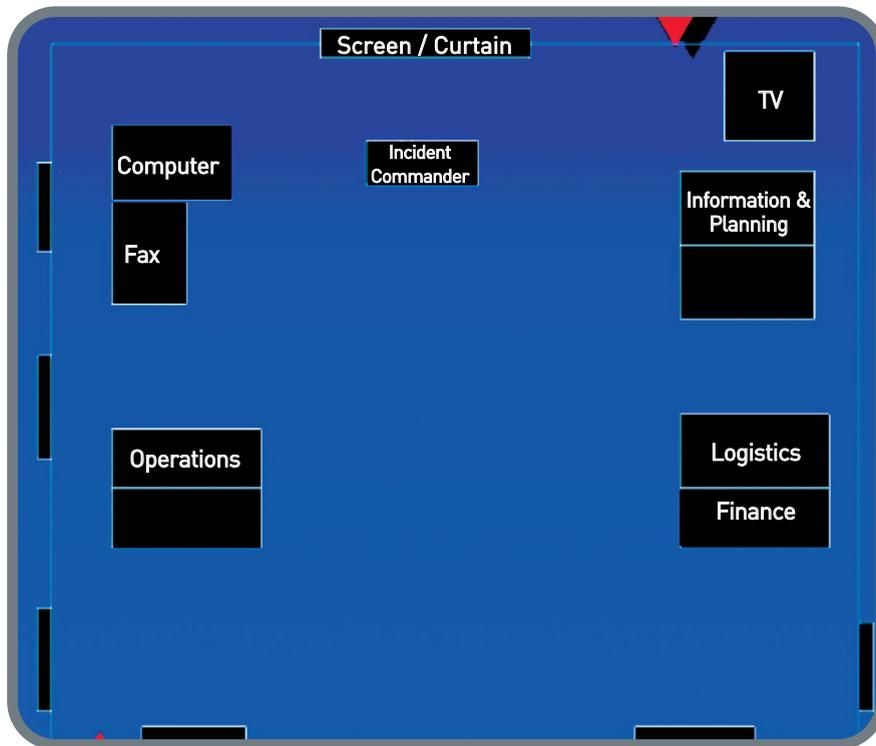
Figure 6. An example to the organization of a present office as an incident command center.

In this book, terminology about disaster-emergency case management has been used. Statements other than this terminology have been used in some Healthcare organization Disaster Plans (HDP). Incident Command Center or Disaster Emergency Case Command Center are statements that are widely used. But 'Disaster Emergency Case Command Centers' is a name given to the Disaster Management or Disaster Coordination Centers at provincial or district levels that are permanent and professional at their work. A temporary room with chairs and tables within or around the hospitals are named as an 'Incident Command Center'.

Also in some healthcare organization disaster plans, some statements as 'Incident Commander', 'Extraordinary condition Leader 'and 'Disaster Emergency Case Manager' are used to name an individual who manages the incident. 'Incident Commander/Manager' is any individual who arrives first to the incident scene and takes command till the professional team arrives. As for 'Disaster Emergency Case Manager' he/she is an individual who is well-versed in this matter, in other words, a professional with powers. After a 'Disaster Emergency Case Manager comes to the incident scene, the mission of incident commandership is taken over by a 'Disaster Emergency Case Manager.'

In this book, in accordance with disaster terminology, the center that an incident is managed, is called as an 'Incident Command Center' and the individual who is responsible for all the organizations and manages the incident, is an 'Incident Commander'.

INCIDENT COMMAND

In every rescue/response work, there must be an individual who should be in charge of the operations. This individual is responsible for the continuity of the system and its working properly. This individual
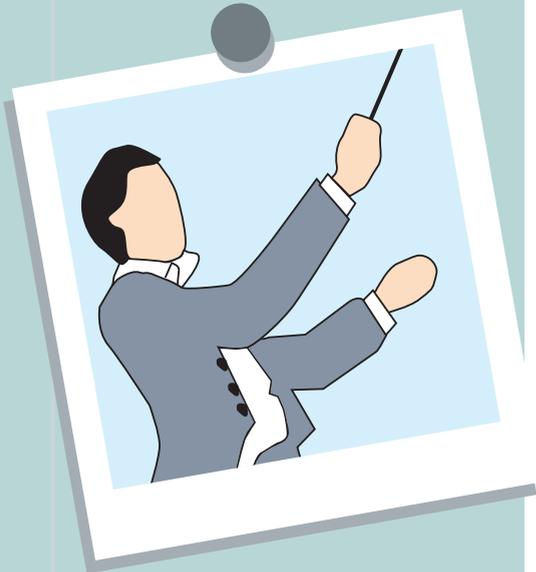
assesses the situation and manages with the reports taken from a security, public information officer, liaison officer, response/operation department, information and planning department, logistic department and finance/management department that are going to be explained shortly in the forthcoming parts.

A healthcare organization is responsible for the management and organization of a Disaster Plan. Though it can change with the structure of the healthcare organization, An incident commander should be preferably be the dean in faculties, a head physician in healthcare organizations or a doctor in charge in other healthcare organizations.

The primary missions of an incident commander are these:

• An incident commander is responsible for activation of the Disaster Plan of a healthcare organization and putting an incident command center into action. If he/she is not in a healthcare organization or cannot be reached, the one who is responsible for putting this plan into practice, is the assistant of an incident commander appointed beforehand. If he/she is not present, it is the most senior doctor (night specialist) of the healthcare organization who is on duty at that moment or the manager of the healthcare organization. (If an event occurs in working hours, it is a manager; if not, it is a night specialist).
• ICS convenes the chiefs of the services according to the present staff and assigns for the absent ones.
• Incase of any danger, he/she decides early discharging of patients from healthcare organizations and to evacuate hospital and also decides the necessity of a field hospital. (If the equipments of a healthcare organization are not adequate, the situation of a field hospital is informed to the crisis management center in Local Health Authority and a decision is taken after the necessary evaluation).
• He/she folllows and manages all the response operations.

Even though they are not a part of the four basic teams that under the incident commander, it is suitable to give some duties to other individuals for the other basic activities that are important during a response to an incident like in the Figure 3 and 4. Briefly, these activities can be performed within missions mentioned below:

Security guard

He is responsible for providing the safety of working areas inside and outside of healthcare organizations and organizing the traffic flow. During any disaster, working together with the police and gendarmerie against any possibility of a civil unrest and chaos. To accomplish this there should be cooperation between the healthcare organizations and law enforcement authorities as a support unit.

At the same time, if a safety team has not been organized in a response service, he organizes safety, traffic and transportation during any dangerous situation and rescue operation. Healthcare organizations should give information to safety firms that they work in the form of service procurement about the place and missions in Disaster Emergency Aid Plans.

A security can be the chief of safety teams in a healthcare organization or qualified, experienced staff and also educated about this matter.

The primary responsibilities of a security are these:

• Providing safety of Incident Command Center and observing to enable the functionality of operations.
• Keeping unauthorized individuals out of restricted areas.
• Protecting Incident Command Center, triage, nursing of ill persons, morgue and any other vulnerable points from any intrusion. Organizing the entries of visitors.
• Providing protection for food, water, medical equipments and blood center.
• Placing the mark of 'No trespassing' to the unsafe areas.
• Informing dangerous and unsafe situations that are identified by safety officers working under him, to the damage evaluation and control officer.
• Reporting to the incident commander and the leader of department about dangerous situations that may affect safety.
• To ensure that the teams are working safely.
• Identifying the entry and exit points for ambulances together with logistic teams.

Public Information Officer

He/she is responsible individual for collecting and classifying information in order to inform public and media all the time. He/she is in contact with media and public and informs necessary information to press and public opinion.

A public information officer can be a public relation specialist in healthcare organizations or one of the experienced, adequate and also educated staff member.

These are the primary missions of a public information officer: Learning limitations that will be made in the content of news.

- Organizing a News and Information Center by cooperating with logistics teams away from the treatment areas of patients and Incident Command Center.
- Providing coordination about informing by keeping in touch with other organizations in the incident.
- Giving necessary news to media and public within the knowledge of an Incident Commander.
- Keeping in touch with an evaluation authority.
- Determining the places where the members of media can enter and keeping in touch with a safety chief about this matter.
- Cooperating with a medical staff and an assistant staff in charge about voluntary working calls that will be made to public through media.

Liaison Officer

A liaison officer is responsible for gathering information and keeping in touch with the representatives of the other foundations and institutions (City Disaster and Emergency Management, Health Organizations, etc.).

These are the primary missions of a liaison officer:

- Researching and gathering information about the magnitude of the disaster, its nature and area affected.
- Providing communication with Meteorology Provincial Directorate to watch weather forecast.
- Identifying working hospitals and the other healthcare organizations in the region.
- Keeping in touch with City Crisis Center in order to provide suitable communication and the flow of message and working in coordination with a public information officer.

- Gathering information about such matters as the capacity of nursing of ill people in healthcare organizations, existing or a probable understaffed resource, the number of patients that will be transferred to the other healthcare organizations, the needs that are demanded from other departments and collaborating with a planning supervisor about these matters.
- Making contact with city and town crisis centers and among healthcare organizations by using emergency communication network with the aid of a communication service contact and giving information about the present situation of healthcare organizations.
- Giving information to City Coordination Authority (City Disaster and Emergency Management) about the developments and changes in healthcare organizations.
- Providing to present necessary data (the number of injured ones accepted, the types of injured ones treated, the number of patients who has stayed in healthcare organizations and discharged from healthcare organizations or transferred to the other healthcare organizations, the personal data and reports of injured ones) about the injured individuals applying to healthcare organizations.
- Providing documentation of the activities made in healthcare organizations about disasters with a planning supervisor.
- Watching whether a disaster plan is successful or not and giving information to an incident commander.

A liaison officer can be staff member who is educated, experienced and adequate about the matter.

A possible incident command center should include ICS services mentioned below: (In this part, main and subunits have been organized and they have been named as service-service chief, crew-crew chief, team-team leader in accordance with disaster management system and terminology).

RESPONSE/OPERATION

It is the team that conducts all the operation and response activities. In this context, search and rescue, firefighting, safety and transportation, emergency medical responses, first aid, triage, evacuation and other similar activities can become a part of this activity. So the teams in organizations about such matters as search-rescue, firefighting, immediate medical response and first aid can work in this group.

Especially, policlinics should be evacuated by an evacuation team in the response service during a disaster. With logistics services, working areas should be ready for a response. The beds of patients should be made. Disposable bed clothing should be used in vacant beds (Patients can also aid during making up beds).

Visitors and other foreigners should be immediately kept away by safety teams. Healthcare organization patients should stay in their rooms. Monitor service should be evacuated as much as possible and the patients whose conditions are not serious and also can walk, should be discharged from healthcare organizations or should be given permission to go (also in neighboring healthcare organizations). Secondary entries should be closed immediately. The entrances and exits of vehicles should be emptied and should be indicated with a signboard.

Evacuation, safety and triage teams should act immediately in the stage of response during a disaster. Policlinics should be completely evacuated and the evacuation of monitor rooms and patients in emergency services should be made according to their conditions as discharging from the healthcare organization, giving permission or transferring to neighboring healthcare organizations that are less busy. The vacant places should be prepared for disaster victims by reducing the number of present patients as much as possible. Safety teams should keep away visitors and healthcare organization attendants and should empty the compound of healthcare organization and parking area and should enable its continuity. If the families of the patients, who have been discharged from healthcare organizations or those sent on permission during these activities, are disaster victims too, the necessary needs of the patients should be met by getting in touch with the department of Governorship/District Disaster Center that carries out social services.

The triage teams with logistics teams in accordance with the physical structure of healthcare organizations should organize triage areas (by using such areas as cafeterias and waiting rooms) and if possible triage staff in charge should direct patients and injured ones in the entries and compound of healthcare organizations.

An operation service supervisor should be a dean in faculties, a head physician in healthcare organizations (preferably experienced, educated and adequate about the matter). In the teams of medical operations as mentioned below, a team leader should be a Medicare director/faculty chairperson/service doctor in charge. In the teams of operations that are not medical, a team leader can be preferably a civil defense expert.

The crews who organize these services and the teams that organize these crews are as mentioned below:

Medical Operations Service

A) The Team of Emergency Treatment Units
- Triage Team
- Red Area Team
- Green Area Team
- Patient Discharge Team
- Morgue Team

The team leader of emergency treatment units can be a department head/service doctor in charge (preferably an emergency medicine specialist). As for the group leaders this can be a senior doctor, doctor, paramedic and experienced health staff.

B) The Team of Inpatient Units
- Surgical Team
- Internal Medicine Team
- Intensive Care Unit Team
- Policlinic Team

The team chief of inpatient units can be a department head/service doctor in charge. The team leaders can be responsible doctor of present surgical, internal diseases, intensive care unit, and policlinic healthcare organizations.

C) The Team of Support Units
- Laboratory Team
- Radiology Team
- Pharmacy Team

The team chief of support units can be a department head/service doctor in charge. As for the team leaders can be an individual who is in charge at the present laboratory, radiology, pharmacy units of healthcare organizations.

D) Psychological Support Team

The team chief of psychological support team can be a department head/ service doctor in charge/senior psychiatrist.

Non Medical Operations Service

A) Fire Fighting, Search-Rescue Team
B) Technical Repair Team
C) Transportation and Evacuation Team
D) Social Service

The team chief of operation services that are not medical can be experienced, educated and adequate about the matter. A social service expert is preferred to be the team chief of social services.

Medical operations service has these responsibilities:

- Establishing, controlling and organizing of teams that are connected to a team chief
- Planning about the diagnosis and treatment of present and coming patients by frequently gathering with team chiefs
- Providing necessary staff and material for subunits

- Sending the copy of all the communication to communication service contact and making documentation of all the decisions and actions taken.
- Diagnosing, treating and sending and discharging of all the injured individuals in health care organizations.
- Taking necessary precautions by collaborating with logistics team for the control of epidemic that can occur after a disaster and applying necessary procedure for the identified facts (For detailed information, see the Appendix-9).

It is the responsibility of the medical operation commander to inform the families of patients that have been discharged from healthcare organizations, and a service supervisor should perform this responsibility by collaborating with a social service team.

The team of inpatient units ensures that all works are performed and carried out in coordination with a team and team leaders that work in connection with them.

The team chief of emergency treatment unit is the one who will take the responsibility of a team that will work more than other teams during a disaster. For this purpose, with the help of group leaders connected to him especially the triage team leader, he will ensure that all work is well coordinated and carried out efficiently.

The team of support units provides a coordinated working atmosphere with the teams and the team leaders connected to them. They are in close collaboration with the chief of logistics service. The team of psychological support unit is responsible for giving service to both staff and disaster victims after a disaster. The operations service that is non-medical is responsible for planning and carrying out necessary activities together with its subunits under the leadership of preferably a civil defense expert during a disaster inside the healthcare organizations or during mixed emergency case/disasters.

Fire and search-rescue teams ensure that the materials for fire and search-rescue is ready and plan activities. They take precautions in order to prevent fires and to minimize risks and also control them; they control and extinguish; they do minor search-rescue activities; they make the decontamination of hazardous and radioactive materials; they enable coordination of work between fire brigades and search-rescue teams.

A technical repair team makes the repair of technical vehicles and every kind of infrastructure services as electricity, natural gas, heating, air conditioning, water, sewage system, phones and makes them repair and enables them to give service all the time during any kind of technical failure.

A transportation and evacuation team coordinates the incomings and outgoings of staff to Incident Command Center in a comfortable way. They decide on areas open or closed to traffic. They help in directing the incoming ambulances, fire brigades and search-rescue vehicles. They make coordination with neighbourig foundations, institutions and transportation units.

They help in transportation of equipments, devices and materials to be used. They plan alternative exits and ways to emergency exits, and make the planning of evacuation prioritization and carry it out during a disaster. They identify some safe areas where evacuated patients, staff and materials will be situated and perform a safe evacuation.

The team of social support service is responsible for providing social support for staff and their families. The providing such needs as sheltering, nourishment, health care and child care of the healthcare organization staff and their relatives; supporting the staff and their relatives are up to this unit (If the operation unit that is not medical, is not activated in healthcare organizations during external disasters, this unit should become a part of the medical operation unit in order to perform the function of support to the families of the staff. It can work coordinately with psychological support unit).

The necessary medical operation units of this service described in the Figure 3 and 4 can be activated during external disasters. All the necessary medical and non medical units should be actiavated during any internal and mixed disaster (For more detailed information about triage activities and morgue services, see the Appendix-10 and Appendix-11).

INFORMATION AND PLANNING

During response activities on one hand search-rescue and such activities continue and on the other hand all the information about the activities that are performed should be gathered and planned. Otherwise, a great disorder and chaos might emerge. To avoid this an individual working under the incident commander and if there is, others connected to him, make plan and information management (Figure 3).

One of the most important functions of medical services is to make a record and keep them. The records that are kept in information processing system should be backed up and the system should be enabled to work without any break by taking the advantage of the developing technology too. Healthcare organizations should be ready for an information disaster. The

INFORMATION AND PLANNING

loss of the records can cause unrecoverable legal problems and serious financial losses. More detailed information about information disasters are given in the Appendix-12.

The chief of planning service can be the assistant of a head physician/a quality council chief/the manager of nursing services. The team of planning service and team chiefs should be educated, experienced and adequate about the matter.

The teams that make up this service, is shown below:

- The team of situation evaluation
- The team of medical staff and nursing services
- The team of assistant staff and documentation team

The primary duties of the service are these:

- Appointing the team chiefs working under him, and to ensure their coordination.
- Planning all the activities that should be done before, after and during a disaster and ensure that their records are kept.
- Determine the departments where new staff is needed and providing this need. Placing the staff who are currently on duty and those who will be called for duty, inorder of priority and registering of the incoming staff.
- Organize for the calling of medical staff and the staff from other healthcare organizations and to decide their resting and working hours.
- Coordinating and controlling doctors, nurses and medical staff and also volunteers coming from the other healthcare organizations.
- Providing the documentation of the activities per formed by healthcare organizations about disasters.
- Determining whether Disaster Emergency Aid Plan of the healthcare organization has become successful or not and informing this to the incident commander.
- Preparing protocols about the features of neighboring healthcare organizations, protocols on patient transfer among organizations, medical staffs and ambulance support (with a liaison officer).

LOGISTICS

A logistics service is responsible for providing vehicles, equipments, service and staff depending on an incident. It organizes and manages such enterprises as the maintenance of physical area, enough food, sheltering and provision of medical equipments before a disaster.

While performing a response to an emergency case, they ensure the provision of necessary man power, equipments and materials. They establish and coordinate the necessary communication systems, maintenance and sheltering.

They aid evacuation without giving chance to any panic and they establish and coordinate the necessary communication systems. They provide emergency clothing food and other daily requirements for the staff.

Healthcare organizations are organizations that are dependent on technology and infrastructure system. Even a minor failure in logistics (for example long term power-water cut) can make a healthcare organization unserviceable.

While the activities of the response/operation teams continue intensely, various needs of both these teams and all the other individuals and teams that are included in this incident emerge. Providing these needs are necessary for the continuity of operations (For example providing materials, food and drink and transportation by medical teams together with search-rescue teams).

In case of an emergency the logistics team decides such places as triage areas, response rooms, observation rooms, record and documentation areas beforehand and should place suitable equipments and materials by indicating these areas with signs in case of an emergency. The chief of logistics service can be a healthcare organization manager. The teams of logistics services and team chiefs should be chosen from educated, experienced and a staff member who is well versed with this condition.

The teams that organize this service, are as in the below:

- Facility support team
- Sanitation team
- Communication team
- Equipment team
- Food and maintenance team

The primary missions of logistics service are these:

- Identifying the responsibilities of the teams dependent on them and controlling them by providing coordination among them.
- Identifying every kind of resources as medical equipments, technical materials and providing them and identifying the departments needing these resources.
- Identifying medical stuff that are going to be used during an emergency case, providing education for the staff (appointing alternatives) who are going to use these materials and also ensuring that the related units know the location of these equipments that will be used in case of an emergency.
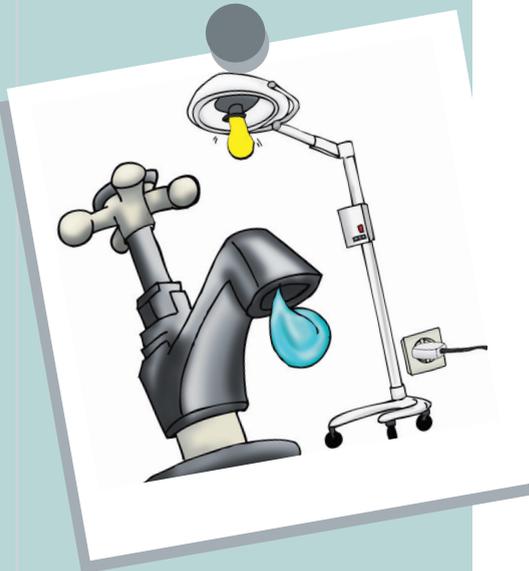
- Controlling the present technical systems in health-care organizations, assessing the amount of damage, repairing breakdowns and ensuring the continuity of systems (heating, air conditioning, water, sewage system, electricity, lifts and medical systems as a central oxygen system).
- Controlling phones, wireless, etc. and ensuring the establish communication network.
- Controlling the problems about hazardous chemicals.
- Providing primary and urgent maintenance.
- Identifying the number of available beds and maintenance equipments in the healthcare center and planning the usage and back up of these items as necessary.
- Providing necessary food and maintenance service for staff and patients.
- Providing for a sanitation team that should control whether present waste water and drainage system is functional and organizing for alternatives beforehand.
- Providing materials for decontamination and performing their periodical maintenance and determining decontamination areas together with a planning team (For a detailed information, see the Appendix-13 The Decontamination and Contamination of Healthcare Organizations).

FINANCE AND MANAGEMENT

All the activities that are performed during a response have financial and administrative dimensions. While the activities go on, it will be suitable for a person or persons under the authority of the incident commander to take control of the financial and administrative activities. All the items and materials that may be required during a response work and creation of the necessary financial resource and related payments should be thought in this context.

This service orginizes the use of financial resources during a disaster and emergency. At the same time they control the documentation of emergency expenses and medical maintenance by checking the conditions of the necessary resources and services, so that the healthcare organization to carry out its functions properly.

The chief of financial and administrative service can be the hospitals deputy manager. The team of financial

and administrative service and team chiefs should be individuals who are educated, experienced and adequate.

The teams that organize this service are these as below:

*   Tallying team
*   Purchasing team
*   Accounting/cost team

The primary missions of finance and administration service are these:

*   Identifying the responsibilities of teams under their authority, coordinating and supervising them
*   Organizing the use of financial resources
*   Providing the documentation and organization of expenses about emergency cases
*   Preparing reports showing financial data about staff resource and various expenses that are presented by a purchase specialist every 12 hours collaborating with a planning service about the donation from public
*   Making a planning about wages by keeping records of the working hours of employees

PREPARATION FOR RESPONSE

Some preparations are needed beforehand in order to make response activities process well. In this context, activities mentioned below can be done:

Information about staff: Some information about all the staff working in healthcare organizations should be gathered for emergency cases. For example, information such as a staff relatives or next of kin to be contacted during an emergency, trainings taken beforehand about disasters and emergency cases, drills that are attended, information and skills about response activities and if there is, illnesses and medicines that are taken by the staff can be learnt (Appendix-8). At the same time forms containing this information, can be changed into a form that can be used during emergency response.
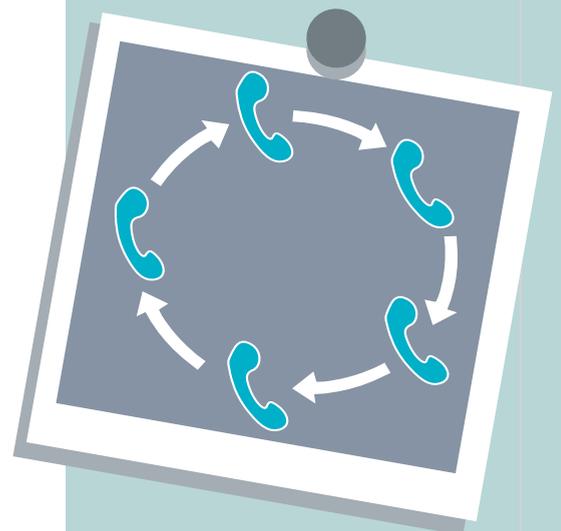
Telephone chains: A telephone chain is a system prepared beforehand about who will be in contact with whom during a disaster and an emergency. It is very important to activate this chain perfectly. The number of individuals and what kind of a chain will be established are important at this point. The family members of staff can be included in this chain together with the ones mentioned below during necessary cases. The one who will start this chain should be decided beforehand too.

- The staff of healthcare organizations
- Civil defense
- City, town disaster management
- 112 ambulance
- All the related organizations (Fire brigade, etc.)
- Highways

The other information systems: Various information systems can be established in organizations other than telephone chains. It will be decided according to the magnitude of a disaster or an emergency which one of these systems can be used.

In addition to media organs such as TV channels and radios, consider the following ways during and out of working hours.

a. During working hours

- Through general announce system
- Sending E-mail
- Interphone calling
- Internal…. or…. being called by informing security
- Informing switchboard operator
- Sending SMS message
- Informing by going personally or a carrier
- Informing someone that is in suitable state
- By using a mobile phone
- By informing an information desk staff

b. Out of working hours

- Calling Exchange by a phone directly
- By using a mobile phone

- Sending SMS
- Sending E-mail
- By coming in the organization personally

Communication lines should be reliable. The names, addresses and phone numbers of all the doctors and assistant medical staff, important administrative and technical staff, kitchen staff and transportation officers should be ready.

A plan should be designed in a way that it covers a wide range from daily routine emergency cases to disasters and should be activated gradually. So Disaster Emergency Aid Plan should act according to an organization that includes being informed beforehand about a critical or injured patient coming to a healthcare organization and starting a planned standard response automatically.

These steps or stages can be as mentioned below:

Stage 1: Activation stage (receiving call, situation evaluation, firt response)
Stage 2: Application stage (organization: triage, diagnosis, treatment, care)
Stage 3: Recovery stage (turning into daily life, reporting)

Response teams are actually the teams that can carry out the functions seen under ICS. In this context, teams should be organized in relation with the size of an organization and matching with the necessities prescribed in Disaster Legislation.

Local Disaster Volunteers (LDV) is a team that will carry out various responses and particularly search and rescue activities and when appropriate do preparation activities. This team having been trained earlier by volunteers or official orginizations, carries out the activities at the first hours/days until professional response teams arrives. These individuals can perform such activities as responding a minor fire, cutting off infrastructure services as power, natural gas and, treating minor injuries and doing minor search and rescue activities in accordance with their previous trainings on disaster/an emergency. It is very important to be prepared, to do planning and to cooperate with workmates in order to carry out these activities and to overcome these difficulties (For a detailed information about Local Disaster Volunteers, you can make use of Disaster Preparedness for Local Disaster Volunteers Training Program).

VIII. THE FIFTH STEP: PROCEDURES

It is necessary to make some preparations in order to decide how to act in every subject in case of a disaster or emergency. In healthcare organizations, there are protocols applied in normal times and in mass incidents similar to protocols given below:

- Preparation lists in services
- Protocol of conducting Hospital Disaster Emergency Aid Plan
- Protocol of ending Hospital Disaster Emergency Aid Plan
- Protocol of recalling the staff
- Security protocol
- Hospital evacuation protocol
- Volunteers' working protocol
- Patient care protocols
- Protocols of quickly discharging the patients

In addition to these, deciding on the process of communication system within the establishment and how it is going to be activated in case of a fire, what the first person who sees the fire should do and the mechanism of counting the staff after the evacuation, which forms are going to be used and other important issues should be determined in order to increase the probability of the system's working perfectly during and after the event.

Considering this reality during planning works, tools like arrangement instructions and Standard Operating procedures should be developed. These tools should be as the articles given below:

- Appropriate for the planned usage
- Complete
- Understandable, brief, easy to use
- Has enough details
- Current
- Appropriate for the purpose
- Described in Disaster and Emergency Plan

Type of these tools which will be explained in the following chapters in detail, are as below:

- Standard operation procedures
- Directions
- Check lists
- Sign up forms
- Information cards
- Maps

STANDARD OPERATION PROCEDURES

Standard Operation procedure (SOP) is a procedure that contains information that enables all the related people to do the things in the same way. In case of a disaster or emergency, who will do what, where, when and how, is also described in SOP. All the tasks which are necessary to do should be in the written form of SOP prepared beforehand and should be located in an easily accessible place in case of an incident (For an example of SOP see Appendix-14).

SOPs are developed in the planning process and added to the "Appendix" part of the plan. The following steps can be followed in this process:

- Making a list of missions
- Defining who will do what, where, when and how
- Determining the steps of each mission
- Determining the standards to fulfill mission
- Testing the procedures
- Checking the SOPs regularly and keeping them up-to-date

INSTRUCTIONS

The instructions/directions related to the activities performed in the working places can be listed like this:

- ISO-9001-2000 Quality Management System
- OHSAS 18001 Occupational Health and Safety Management System
- ISO-14001 Environmental Management System
- Internal company regulations

Depending on their field of actions the healthcare organizations may prepare instructions/directions of different numbers and with different contents (an example of work-flow schema of instructions and directions is given for triage in Appendix-10).

CHECKLISTS

A checklist is designed to tick off the missions' list, their steps, features, contents and other details when they are completed. Checklists can be in the following forms:

- One box tick off (DONE or AVAILABLE) or an empty box (NOT DONE or NOT AVAILABLE)
- More than one box (for example YES or NO)
- Ratio scale

The checklists are useful in the following cases:

- The tasks which have simple steps
- Keeping a record of what is done or what is not done
- Reminding the important stages
- Evaluations

SIGN UP FORMS

Sign up forms are the ones on which calculations; observations and other information are recorded. The main aim here is to keep records of what is done. For example, damage evaluation forms which are created in order to make damage evaluation after an incident.

INFORMATION CARDS

Information cards are the documents on which necessary information to perform an action is stated properly. They are easy to use and give practical information. Information cards are useful for the following subjects:

- When the useful information is given in graphics for the missions
- The information which can get lost (change periodically)
- The information gathered from different sources

An example of information cards is the documents on which basic information about chemicals used in the establishments is stated. (For an example of İnformation cards see Appendix-12.) These cards can include information about a chemical; the material's basic chemical characteristics, the possible hazards related to the material, if any hazard occurs what should be done as first aid response, how to transport and store this material safely.

Other information card examples include the followings:

- Reference lists
- Diagrams, labeled demonstrations, graphics and tables
- Information summaries prepared in the matrix form (like tax tables)

MAPS

Maps are important parts of Disaster and Emergency Aid Plans. Multiple maps can be added in order to use in different parts of the plan. These can be listed like this:

- Geographical characteristics and borders
- Area of responsibility
- The locations of important functions
- Routes of transportation
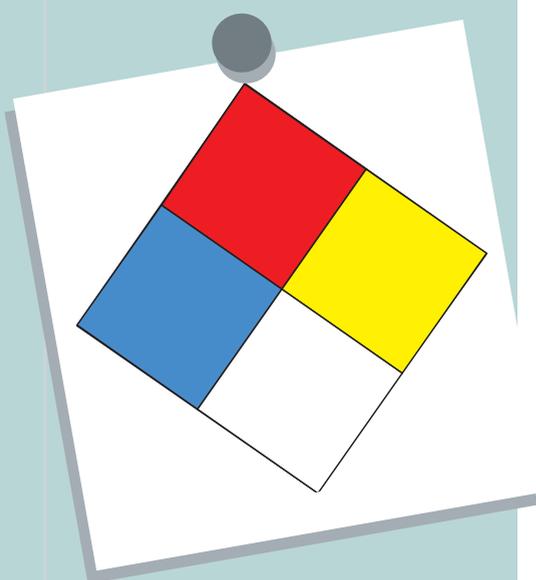
IX. THE SIXTH STEP: TRAINING AND EXERCISES

Training and exercises are supporting activities which enable performing what is written in the plans. Trainings are useful in order to teach people what is written in the plans, to make them understand the meanings of the processes in the plans and to help them reach the necessary level of knowledge and ability to perform the tasks within the plan.

On the other hand exercises help to perform what is learned in the trainings and to see what is wrong and what is right. Everything that should be known within the training and exercise studies are explained under the related topics below.

TRAINING

Training within the scope of disaster preparedness should not be kept limited only with explaining the plan and the staff's role within the plan. Staff should be trained in such a way that he/she should be aware of activities taking place outside his area of action and he/she should acts in a way that makes the process easier. Besides due to the principle which states that "precautions against earthquake starts from the staff's home", all the staff must be trained about personal precautions against disaster.

Pyramid diagram (top to bottom):

- URBAN PLANNING AND CONSTRUCTION FOR DISASTER MITIGATION
- STRUCTURAL RETROFITTING AGAINST EARTHQUAKE
- STRUCTURAL RISK MITIGATION AGAINST EARTHQUAKE
- DISASTER EMERGENCY AID PLANNING FOR EDUCATIONAL INSTITUTIONS-HEALTHCARE ORGANIZATIONS - INDUSTRIES AND WORKING PLACES
- PSYCHOLOGICAL FIRST AID
  NON-STRUCTURAL RISK MITIGATION AGAINTS EARTHQUAKE
  LOCAL DISASTER VOLUNTEERS
  COMPULSORY EARTHQUAKE INSURANCE AWARENESS
  SURVIVAL UNDER EXTRAORDINARY CONDITIONS
  FOR DISABLED PEOPLE
- FOR INDIVIDUAL AND FAMILY

FIRST AID TRAINING

Different trainings might be required depending on the needs and studies designed within the plan of the healthcare organization. Within this scope, training can be given about necessary precautions to be taken on the subjects of disaster medicine, disaster preparedness, fire extinction, search and rescue, team institution, evacuation, in case of nuclear, biological, chemical, radiological poisoning, alternative techniques on the subjects like sterilization for the continuity of service in extraordinary conditions, triage techniques and many similar subjects.

It is very important for all medical staff in healthcare organizations to get disaster medicine training and provide continuity of it. Staff should be completely trained against possible health problems due to certain disasters. For example after the Marmara Earthquake the number of patients with crush syndrome is approximately 700. Procedure of approach to these patients should absolutely be known by the staff to reduce mortality. It should not be forgotten that patients with crush syndrome would need dialysis because of acute kidney failure.

Depending on the type of disaster, illness and injury types may differ and healthcare organizations must be prepared properly for these different types of injuries and illness. For example, the number of patients that are exposed to trauma after the disaster increase significantly, and surgical intervention preparation of healthcare organizations should be planned well.

By the way, needs like training of technical staff on non-structural hazards, DASK (Turkish Catastrophic Insurance Pool) and trainings of administrative staff on handling of the disabled, fire, rescue and evacuation trainings of emergency aid teams should be conducted in a planned way depending on the features of the institutions.

In order to prepare training plan, roles and responsibilities should be defined well. Training and knowledge need of employees, visitors, patients, subcontractor/suppliers, managers and people who take responsibility in emergency response and a training program should be prepared according to these needs. The following should be defined for a 12 month period:

• Who will be trained in each subjects?
• Who will give the training?
• What kind of training devices will be used?
• When and where the trainings will be?

Trainings can be in some different ways:

Tutorial Sessions: these are the meetings which are held periodically and aimed to reply the questions, determine the needs and mutual knowledge sharing.

Desktop Exercise: in these meetings members of Disaster Committee work on created scenarios and the responsibilities and tasks of each member in case of a disaster are discussed.

Exercise: in these activities what the Disaster Committee and response teams will do during the incident are shown practically. Adapting trainings are organized in order to test functions especially in first aid, alarm, warning and other specific areas.

Evacuation Exercise: this exercise includes informing the Disaster committee about the possible dangers on the evacuation way stated in the plan by the workers in the establishment after the exercise. In the light of this information plan is revised.

Realistic Exercise: it is the application of an emergency scenario which is prepared close to reality. Staff, emergency response teams, management and local community institutions join this kind of exercises.

Some basic subjects which should be known within the context of trainings can be summarized like this:

BASIC BEHAVIOURS

Another important subject which should be taught in the trainings and strengthened with exercises is how to act during a hazard. If more trials are made, people will tend to do right actions with their reflexes when the hazard begins.

Basic actions which should be performed in general hazards are like the ones below (For further information about basic actions during a hazard check First 72 Hours for The Individual and Family in an Earthquake Training Program).

Hazard	Action	
Earthquake	Drop – cover - hold	
Fire	Evacuation	
Smoke alarm	Shelter in place	
Airplane crash	Drop – cover - hold	
Bomb or bomb thread	Drop – cover – hold and/or evacuation	
Hazardous material leakage	Shelter in place	
Armed assault or hidden fire	Lockdown	
Severe storm	Shelter in place; Drop – cover - hold Lockdown, evacuation	
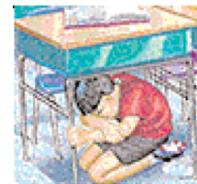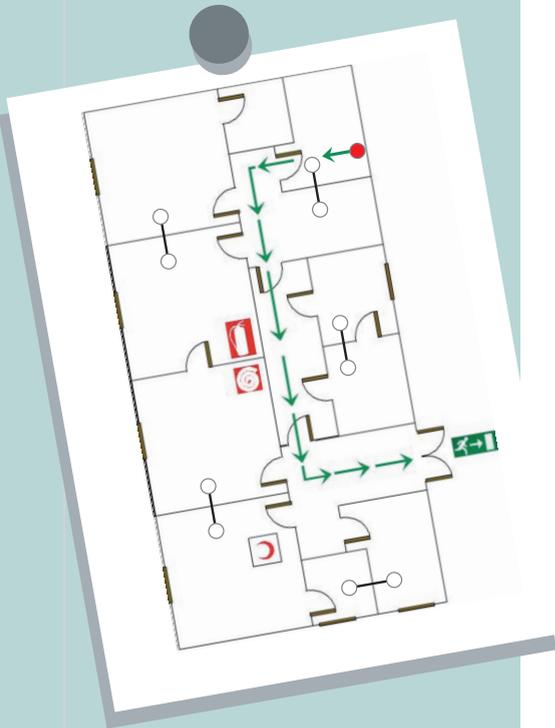
EVACUATION

Evacuation of a building or a region necessitates a serious planning and it is a difficult process to conduct. Healthcare organizations according to their service and their target groups, is much more complicated difficult and risky to evacuate.

In order to warn the patients written warnings and things to be done during an extraordinary condition must be prepared as information tables and hanged at the back of patients' room doors.

In healthcare organizations existence of patients connected to life support units, incubator, bedridden, disabled patients make the evacuation process more difficult. For this reason, evacuation process has critical importance at the moment of a hazard. Within this context when the plan is being designed the following subjects should be taken into consideration; evacuation behavior, gathering place, partner system, floor and position plans.

Evacuation Behaviors To Be Considered: Evacuation decision and application occurs in different forms in different hazards. For example; the moment fire starts evacuation can be started too. However when the earthquake starts, people should wait until the earthquake and trembling are over then evacuation can be started. That's why different evacuation plans should be designed according to different types of hazards.

The subjects which should be paid attention to during evacuation can be listed like this:

- Focus on order and safety instead of speed.
- People should help the victims without putting them selves at risk or make them be helped.
- People should leave the places without being anxious and take their personal properties and protective materials and also they should take first aid kits if necessary.
- People should go the nearest exits unhurriedly and quietly, people should avoid unnecessary hurriedness.
- People should avoid unnecessary dialogues and should be careful about walking in the line continually.
- Stairs should be used orderly and there should not be a jam on the way.

- If there is smoke in the place, drop to the floor and follow the nearest wall and crawl towards exit. If there is a fire hazard, during evacuation closed doors should be checked with the back of hands in order to understand whether they are hot or not. If the door is cold then it should be opened carefully and go on walking if it is safe.
- At the end of evacuation everyone should go to gathering place and obey the directives of the incident commander.

Meeting Place: The people evacuated from the structures gather in the meeting places. That's why one or more meeting places should be determined beforehand according to the situations. Stock should be taken, people's conditions should be checked and the first evaluation should be made after the incident.

Partner System: In order to create a controlled evacuation system partner system is another mechanism to be used. The purpose of this system is to enable people to move together with other people or the units in the establishment move together with other units and be evacuated together. Everyone is responsible for his/her partner or unit and he/she has to be sure about the evacuation of his/her partner or unit. Partner system functions as a system which controls itself. For example, people who sit next to each other or work on the same production line can be partner of a different unit on the same floor. Partner people or units check physical condition of each other and then they are evacuated together in the same way.

Floor and Position Plans: Floor and position plans are needed both during evacuation and response after the incident. These plans must be prepared for each related place and they should be preserved both in Disaster and Emergency Plan and in different places in the establishment with sufficient copies. This will be very useful for easy access during the incident.

Areas which will be used in case of emergency should be determined and demonstrated in floor and position plans like administrative center, triage area, response rooms, observation rooms, waiting rooms. Introduction signs
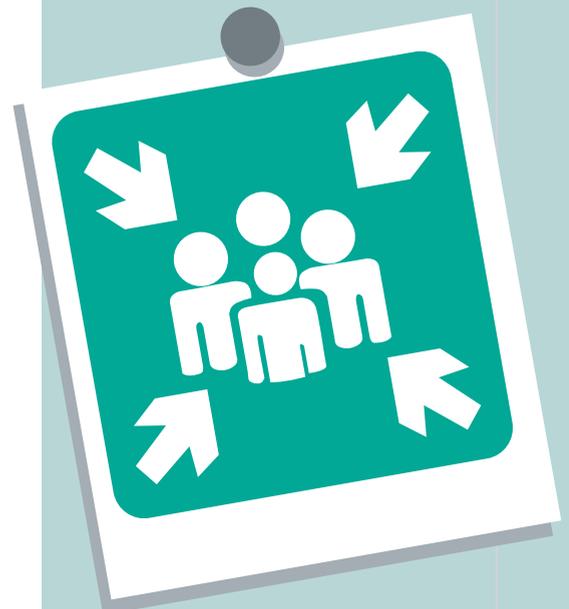
should be prepared and resting rooms of the staff assigned in emergency should be determined beforehand.

Floor and position plans can be prepared with backups as A and B plans according to the size of the establishment. Those plans can be listed like this:

Closed Area Response Plans: This plan includes response works in closed areas. These plans are considered for the hazards that people can encounter when they have to stay in closed areas. For example, when there is severe storm or snow the use closed areas should be planned. Where the command center and triage center (red, yellow, green, black area) will be and where people will wait and other similar subjects should be determined before and marked on the plan.

Open Area Response Plans: This plan includes response works in open areas. For example, in case of an earthquake open area response plans can be used. In these plans; gathering place, where dead and injured people will be gathered, triage area, command center, psychological first aid center and other needed areas should be determined and marked on the map, sketch or plan.

Evacuation Plans: Evacuation can be oriented to inside or outside according to the type of hazard. For example, in case of an earthquake or fire evacuation is from closed areas to open areas whereas during severe storms people should move from open areas to closed areas. Depending on the probable hazard that can occur in the establishment relevant evacuation plans are prepared. Within this context evacuation ways and who will use which way should be determined.

Evacuation Decision in Health Institutions

The person who decides whether the institution would be evacuated or not against any disaster hazard is the incident commander. Incident commander who has full authority on this subject is responsible for also coordination of healthcare organization evacuation actions. Before deciding, taking opinions from more experienced institutions about disasters will be useful.

The person who decides service evacuation within the healthcare organization is the incident commander with the suggestion of operation chief. In situations when the healthcare organization is partly affected, evacuation of only affected part would be enough.

During evacuation patients who are transferred to other healthcare organizations should be given documents, laboratory inspection results, electrocardiography, x-ray, computed tomography, magnetic resonance and all other necessary documents.

Planning after Evacuation in Healthcare Organizations

Emergency bed capacities of healthcare organizations must be defined and during a disaster mode of patients transport to which region and which healthcare organization should be determined. Number of necessary field hospital and their capacities should be evaluated, compared with existing ones and provided according to need.

Especially for healthcare organizations with high patient capacities, in order to meet the existing patients' needs, and also to meet the intense demand after the disaster and give effective service they must have a field hospital.

Preparation of operating room service which is an absolute need after disaster should be planned well, too. The best option to give operating room service in disasters is to transport patients properly –if possible- and providing medical support in healthcare organizations which exist in the closest unaffected regions.

It is possible to give operating room service to serious incidents in disaster region under the circumstances given below:

- Conducting these services in the operating room of a healthcare organization which exists in disaster region but not affected by the disaster.
- Providing these services by establishing mobile hospitals operating rooms carried from non affected regions to affected region for the purpose of aid.
- Carrying out these services in the closest healthcare organization operation rooms by transporting the injured people to the closest and most appropriate hospital in non affected region.

EXERCISES

Exercises are intended to perform the actions set forth in the plans and in fact exercises are in a way applied training. Healthcare organizations' having written plans does not necessarily mean that they are ready for the disaster and emergencies. For this reason exercises should be seen as a kind of practical training.

There should be at least one or more exercises in every establishment every year. Exercise can be designed in different subjects and sized according to the context of the plans.

In different subjects such as behavior during earthquake, evacuation after the earthquake, evacuation during fire, triage, search and rescue, response to fire, team organization, etc. separate or combined exercises can be organized. These works should be evaluated in order to see whether the works are going on according to the plans or not. In the light of these evaluations what is wrong and what is right is seen and then the necessary changes can be done in the plans (For an example of Exercise Evaluation Form see Appendix-16).

X. THE SEVENTH STEP: MUTUAL AID

Healthcare organizations, during a disaster or emergency, might need to receive aid from outer sources on the subjects of consumable material and medicine. For this reason, if the issues that might require aid be determined beforehand and included in the plan, proper studies will be conducted and according to needs cooperation can be done by signing agreements beforehand with the related institutions and corporations.

Depending on their size, the healthcare organizations should determine beforehand in which of the followings fields should they need outer aid and take precautions accordingly:

- Transportation
- Communication
- Equipment and infrastructure
- Food-drink
- Security
- Financial issues

Healthcare organizations, just after the disaster, should use agreements and protocols prepared beforehand in order to make building control and start amendment, use the sources of institutions and corporations for providing alternative service areas and material supply, use transportation ways like ferry, train for patient transportation, collecting aid and making distribution organization. These kinds of protocols which are prepared for the purpose of cooperation and bearing the cost later(especially for private sector) are the significant part of planning process (See Appendix-5 Protocol Example Made with Civil Engineer against Earthquake).

In disaster preparedness studies healthcare organizations should be in cooperation with emergency aid ambulances which give emergency medical service, Health Department, Civil Defense Organization, municipality and other corporations. Also transportation plan of the staff to the institution after the disaster should be prepared beforehand; in case volunteers are needed, those trained and whose procedures are defined should be chosen. Healthcare organizations according to needs can sign agreements for aid with different institutions and corporations in short and long term after the disaster or emergency. Local Disaster Volunteers organization is a significant source for receiving support from volunteers (For further information you can use Disaster Preparedness for Local Disaster Volunteers Training Book).

XI. THE EIGHTH STEP: EMERGENCY EQUIPMENTS

Healthcare organizations when preparing disaster prepared-ness plans should arrange their equipments and material needs considering the fact that they might not receive any aid during the first 72 hours. Necessary technical amendment, backup and storage studies should be planned according to this fact.

Within this context these subjects given below should be taken into consideration:

- List of necessary materials is made. Special materials for emergency response teams which are organized within the plan and general materials are defined considering the possible needs of staff and patients.
- Materials are kept in safe and suitable places. Who will be responsible for which material is defined beforehand.
- Planning should be made for materials which organization can obtain but cannot store and would absolutely need. For these kinds of materials, as it is explained in the previous step, these materials can be provided by signing agreements with other institutions and corporations beforehand.
- These materials should be controlled regularly, and renewed or fixed according to their aging and damage condition.
- While considering the needs, food should be taken into consideration as well. While making food stock, you should be careful about storage conditions and to renew expired food and drinks.
- Special medicine needs of healthcare organization staff should be counted as well. Storage conditions of all medical materials should be specially dealt.

It is significant to define alternative solutions and back up infrastructure which would be out of order after the disaster.

Storage of materials like fuel and water, backing up medical gases used as host system, life support units and other medical materials (which are portative) and their portative sources should be made.

Medicine, consumable material, blood and blood products should be backed up in appropriate amount and safe places, and renewed by taking their expiry dates into account.

Also medical waste management should be taken into consideration after the disaster.

According to 24 hours rule, basic medical material list recommended for 50 incidents is as given below:

DRUGS	RECOMMENDED AMOUNT
Metamizol tablet	5 boxes(20 pieces/boxes)
Acetaminofen (Parasetamol) tablet	3 boxes (20 pieces/boxes)
Antasid tablet (Hydrotalcit etc.)	4 boxes (40 pieces/boxes)
Acetylsalicylic acid tablet 500 mg	5 boxes (20 pieces/boxes)
Povidone10 %sol. Plastic bottle 100ml	4 bottles
Cefazolin sodium 1 gr	25 bottles
Diazepam amp. 2 cc, 10 mg	2 boxes (10 pieces/boxes)
Diazepam cap. 2-5 mg 2 bottles	50 pieces/bottles
Diphtheria, whooping cough, tetanus(combination)vaccines	4 boxes (10 pieces/boxes)

MEDICINES	RECOMMENDED AMOUNT
Diphenozylate HCI + Atropine 2,5 mg tablet	1 box (20 pieces/boxes)
Furosemide amp 10 mg	1 box (10 pieces/boxes)
Furosemide tablet 40 mg	5 boxes
Glucose tablet	5 pieces
Local anesthetic (lidocaine 1% amp etc.)	200 ampules
Isosorbide dinitrate tablet 5 mg	1 box (20 pieces/boxes)
Naloxone HCI ampule	1 ml 10 ampules
Oxytocin ampule 5 units	3 boxes (3 pieces/boxes)
Potassium Chloride ampule 7.5 %10 cc	25 pieces
Paracetamol 500 mg+ Cafein 65 mg tablet	1 box (20 pieces/boxes)
Paracetamol 120 mg + Phenabarbital 15 mg Supp.	2 boxes (5 pieces/boxes)
Silver sulfadiazin cream	10 boxes
Sterile water for injection(distilled water)	100 ampules
Sterile water for irrigation in plastic bags, 500 cc	50 pieces
Tetanus vaccine (prepared injector)	40 pieces
Tetanus immune globulin (prepared injector)	20 pieces
Tradamol HCI 100 mg ampule/2 ml	1 box/5 pieces
Pethidin HCI bottle 1 gr	1 box (10 pieces/boxes)
Insulin (Regular, NPH, Mixt 70/30) bottle 10ml	2 bottles for each
Tobramycin or Gentamycin eye drop	1 box
Chloramphenicol or Fusidic acid ophtalmic pomade	6 boxes

SERUMS, INJECTORS and IV SETS	RECOMMENDED AMOUNT
Blood Tranfusion Set	48 pieces
İ.V catheter 16G	30 pieces
İ.V catheter 18G	30 pieces
İ.V catheter 22G	50 pieces
İ.V solution set, adult	48 pieces
Sterile syringe insulin	100 pieces
Sterile syringe 5 ml	100 pieces
İ.V solution set, pediatric	48 pieces
5% Dextrose in water 100 cc,500 cc, 1000 cc PVC Packaged	15 pieces for each
0,9 %Na CL 100 cc,500 cc, 1000 cc PVC Packaged	15 pieces for each
Isolyte, Isolyte M, Isolyte P 1000 cc PVC Packaged	10 pieces for each
Ringer Lactate 1000 cc PVC Packaged	50 pieces
Dextrose in water 20 % 500 cc	3 pieces
Mannitol 20% 500 cc	3 pieces
Extension set	48 pieces

*Solutions which contain potassium should not be used for the patients suspected to have crush syndrome. Similar precautions like warning label on the solutions should be taken beforehand.

In healthcare organizations, for possible disaster and according to increasing needs stocks should be made.

These material stocks should be revised regularly and their expiry dates should be throughly checked.

However unsuitable the present conditions may be, in order to conduct operating room service, sterile environment and materials, monitorization materials, anesthetic material, necessary medicine for CPR, solution and materials, medicine and solutions to be used in anesthesia all of them should exist.

SURGICAL MATERİALS	RECOMMENDED AMOUNT
Thorax tube, pediatric 16	4 pieces
Thorax tube, different sizes 16-32	20 pieces
Thorachostomy set	20 pieces underwater drainage
Haemostate set (2 hemostats, 2 tweezers, 1 portegue, 1 scissors, perforated cover, gauze bandage, scalpel and suture materials)	50 pieces
Kelly clamp	8 pieces
Penrose drain sterile 1 cm*25 cm	12 pieces
Scalpel for single purpose , no10	24 pieces
Scalpel for single purpose, no15	24 pieces
Peritoneal lavage catheter	4 pieces
Katagel	75 pieces
Tracheostomy set	4 pieces
Tracheostomy tube, 2 sizes	4 pieces
2/0 atraumatic polypropylene/polyamide	120 pieces
4/0 atraumatic silk	24 pieces
4/0 , 6/0 atraumatic catgut	12 pieces
Surgical amputation kit (including ketamine HCl bottle)	4 pieces

ORTHOPEDIC EQUİPMENTS	RECOMMENDED AMOUNT
Plaster bandage 10 cm	2 boxes (50 pieces/boxes)
Plaster bandage 15 cm	2 boxes (50 pieces/boxes)
Plaster bandage 20 cm	2 boxes (50 pieces/boxes)
Plaster scissors	1 piece
Plaster cotton 15 cm	50 packets
Servical color (adult)	30 pieces
Servical color (child)	10 pieces
Splint (cardboard or wire) 30 cm	24 pieces
Splint (cardboard or wire) 35 cm	24 pieces
Splint (cardboard or wire) 40 cm	12 pieces
Splint (cardboard or wire) 80 cm	12 pieces
Skin traction kit (for adult)	5 pieces
Skin traction kit (for child)	5 pieces
BANDAGE and COVERS	
Sterile strip	1 box 100 pieces/boxes
Elastic bandage 10 cm	15 pieces
Elastic bandage 15 cm	15 pieces
Gauze bandage non sterile 10 cm	96 pieces
sterile Gauze	1 drum de-baker (1200-1500 pieces)
Cotton eye cover	50 pieces
Material to cover eye (plastic)	50 pieces
Gauze pad 1 drum de-baker (boxes)	1 drum de-baker (400 pieces)
Medical Plaster water resistant 2 ve 5 cm'	60 pieces for each
Wound dressings 1 drum de-baker	50 pieces
Roll bandage	20 pieces
Abdomen compress	50 pieces
MEDİCAL AND OTHER MATERIALS	
Glucose test kit	50 strips
Laryngoscope set (adult)	2 sets
Laryngoscope set (child)	1 set
Ophtalmascope set (mobile, battery operated)	2 sets
Sphygmomanometer, adult	7 pieces
Sphygmomanometer, child	3 pieces
Sphygmomanometer sleeve (femoral sleeve for adult and child)	1 piece for each
Stethoscope	10 pieces
Dress scissors	12 pieces
Nebuliser	1 piece
Seam roll 45*180 cm	5 pieces
Seam roll tapes	10 pieces
Litter (foldable)	10 pieces
Bowl (basin), rigid plastic	6 pieces
Battery (for projector)	12 pieces
Blanket (thin)	48 pieces
Protective gloves, medium-grand sized	25 pairs
Safety goggles	10 pieces
Projector (pocket light)	2 pieces

OTHER MEDICAL MATERİALS	
Nasopharyngeal Airway No 24,28,32	4 pieces for each
Oropharyngeal Airway No 1,3,5	10 pieces for each
Cotton containing alcohol	5 boxes 100 pieces/boxes
Ambu (BMV) Adult and Pediatric mask (3'er mask)	6 pieces
Betadine soap 1 liter plastic bottle	4 pieces
Foley catheter 12 F, 16 F, 20F	4 pieces for each
Urine bag	12 pieces
Disposable kidney basin	10 pieces
Nasogastric tube 16 F, 22 F	2 pieces for each
60 irrigation syringe	30 pieces
Tourniquet (2,5 cm width)	10 pieces
Intubation tube 2 sizes	2 pieces for each
Feeding tube 8 F	6 pieces
Patient examination glove non sterile No 7 and 8,5	100 pieces for each
Patient examination glove non sterile No 7,5 and 8	200 pieces for each
Tissue	48 packets
Aspirator	2 pieces
Aspiration catheter 2 sizes	2 pieces for each
Surgical mask (also covers the eyes)	100 pieces
Bedpan, duck	6 pieces
Bedpan, pot	25 pieces
Disposable blanket	120 pieces
Crutch adult and child type	2 pieces for each
Box tapes	12 pieces
Face mask	25 pieces
Toilet paper	24 rolls
Wood tongue depressor	50 pieces
Plastic bag	100 pieces
Body bag	6 pieces
Paper towel	12 rolls
Adhesive urine bag male, female	50 pieces for each
Diaper of different sizes	100 pieces
Chlorine tablet	1 bottle
Wet tissue	2 boxes 40 pieces/boxes
Medical waste bag	20 pieces

APPENDIXES
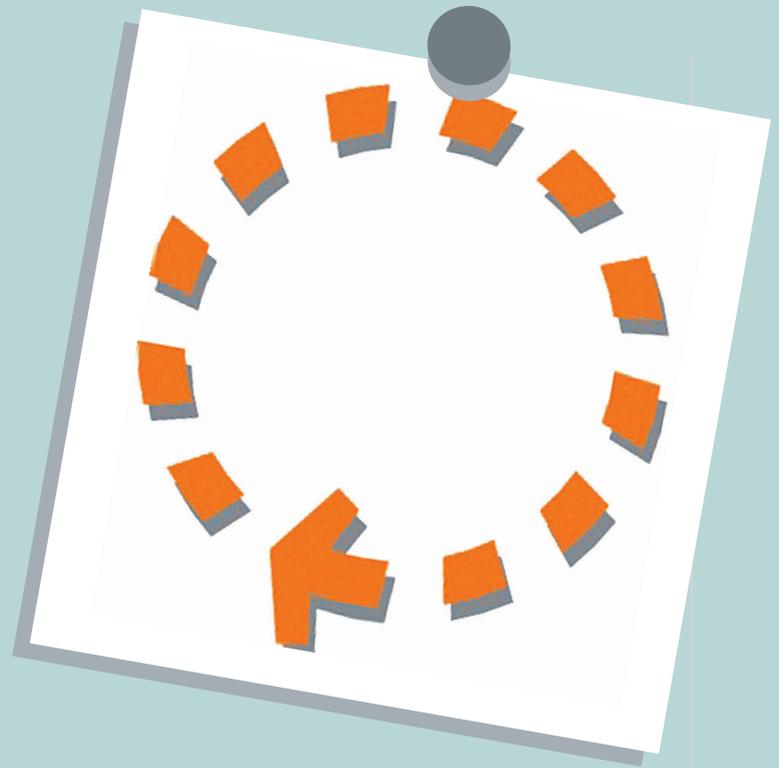
1. Disaster Emergency Plan Control List
2. Family Disaster Plan
3. An example for the parts that must be in Disaster Emergency Aid Plan
4. Field Hospital
5. A protocol sample to be made with the construction engineer for an earthquake
6. An example for Hazard Control List
7. An example for Hazard Mitigation Form
8. An example for Personnel Information Form
9. Control of Epidemic Diseases After Disaster
10. Triage Principles
11. Morgue Services
12. Healthcare Organizations and Informatics
13. Contamination and Decontamination of Healthcare Organizations
14. An example for Standard Operation Procedure
15. An example for Information Card
16. An example for Exercise Evaluation Form

APPENDIX- 1. Disaster Emergency Plan Control List

☐ Do you have a Disaster and Emergency Plan in your facility that includes all dangers?

☐ Have your staff in the facility taken the necessary training about emergency procedures?

☐ Have you been performing your disaster and emergency plan frequently? Have you been making the necessary changes on the plan?

☐ Do your staff in charge know where the disaster and emergency plan is?

☐ Have your new staff taken the necessary training for disaster and emergency plan?

☐ Have your facility manager and other relevant staff known how long it takes for the help to arrive after phoning the necessary department at the end of an emergency?

☐ Have your staff taken the necessary training to cope with the emergencies until help arrives?

☐ Is there anyone who has special training for emergencies among your staff?

☐ Are emergency phone numbers set up to direct click to call?

☐ Are emergency service phone numbers (fire brigade, ambulance, and police) in a place that can be seen easily by all staff?

☐ Do you have enough vehicles to transport the staff to a safe area during the evacuation?

☐ Do the local safety and fire departments have your facility's layout plan?

☐ Do the facility management invite the safety units and fire brigades to the facility to make them know the place every year?

☐ Are fire, evacuation and rescue exercises in the facility being performed in the periods when it is crowded and/ or there is heavy traffic?

☐ Do you have evacuation plans?

☐ Do you have a plan on what to do in case an emergency happens when the staff in service vehicles?

☐ Who has got the keys during and out of working hours?

☐ Has accessibility been provided in emergency?

☐ Do important files have backup?

DISASTER PLAN OF .... FAMILY

The person to call out of the city
Name ——————————————————————
City ——————————————————————
(Home number) ——————————————————
(Work Number) ——————————————————

The person to call in the city
Name ——————————————————————
(Home number) ——————————————————
(Work number) ——————————————————

Relative
Name ——————————————————————
City ——————————————————————
(Home number) ——————————————————
(Work number) ——————————————————

Work numbers of the family
Father ————————————— Mother ———————————
Other ——————————————————————

Emergency phone numbers
In an emergency call 155 or 112 or call these numbers in your city:
Police ——————————————————————
Fire department ——————————————————
Hospital ——————————————————————

Meeting places
1. At home ——————————————————
2. Next to home ——————————————————
3. Away from home (if you can not return to home)
——————————————————————

Address ——————————————————————
Phone ——————————————————————
The first route ——————————————————
——————————————————————

FAMILY DISASTER PREPAREDNESS WORK PLAN AND CHECK LIST ✓✓✓

☐ We have defined tne insecure places at home (for instance; window fronts, sides of big, heavy, rollable and flammable objects)

☐ We have put our torches and slippers next to our beds.

☐ We have learned the places of electric, water and gas valves and how to turn off them.

☐ We have bought a fire extinguisher device for our home and learned how to use it. We have a smoke detector at home and we have been changing its batteries two times in a year.

☐ We have planned to take or repeat a first aid course.

☐ We have prepared our first aid kit.

☐ We have prepared our disaster kit.
The places and the preparation date of disaster kit: ....

☐ We have defined the evacuation ways from the building and marked them on the sketch.

☐ We have finished "Hazard Hunt" at home.

☐ We have fastened the rollable furniture.

☐ We have defined the secude places of our house.

☐ We have decided how to meet again.

☐ We have learned not to use any matches or lighters that might cause a fire until it is certain that there is no gas leak after a disaster.

☐ We have learned that we should use our phones only for emergencies and radios and TVs to get information.

☐ We have completed this plan in .... and we have decided to go over our plan in every six months

112 Emergency (Ambulance)
110 Fire brigade
155 Police
177 Forest Fire
156 Gendarmerie
184 Health Consultation
114 Poison Consultation
187 Natural Gas
158 Coast guard

Plan and get ready!

Fill in this Family Disaster Plan with your family.

Put one of its copies into your bag and the bags of each family member.
And also, hang one of the copies to a visible place at your home.

APPENDIX-3. An example for the parts that must be in Disaster Emergency Aid Plan
COVER
COVERING LETTER
APPROVAL PAGE
TABLE OF DISTRUBUTION
CHART OF CHANGE REGISTRATION
CONTENTS

FIRST PART: GENERAL PRINCIPLES
1. AIM
2. CONTENT
3. LEGAL BASIS
4. RESPONSIBILITY
5. DEFINITIONS
6. BASIC PRINCIPLES
7. ENTRY INTO FORCE
8. OFFERINGS
9. ENFORCEMENT

SECOND PART: GENERAL SITUATION AND PREPARATIONS
10. BUILDING INFORMATION
11. PERSONNEL INFORMATION
12. EMERGENCY PHONES AND PHONE CHAINS
13. TAKEN PRECAUTIONS
14. DISASTER TRAININGS AND EXERCISES
15. ANNUAL WORKING PLAN

THIRD PART: EMERGENCY SERVICES
16. COORDINATION
17. COMMAND CENTER
18. RESPONSE SERVICE
19. INFORMATION AND PLANNING SERVICE
20. LOGISTICS AND MAINTENANCE SERVICE
21. FINANCE AND MANAGEMENT SERVICE

FOURTH PART: PROCEDURES AND CONTROL LISTS
22. BOMB THREAT
23. EARTHQUAKE
24. CHEMICAL FALL-OUT
25. FLOOD AND DELUGE
26. WIND STORM
27. CRITICAL PATIENT/ CASUALTY
28. AGGRESSIVE PATIENT / CASUALTY

APPENDIX-4. Field Hospital

A field hospital should be established in case the local health organizations are damaged or under threat and cannot meet the requirements after a disaster. Healthcare Organizations Disaster Plan Management Committee will decide whether a field hospital is going to be established or not after necessary permissions. The plan of a possible field hospital is shortly mentioned in the chapter below. It is not necessary for the whole complex to be in tents. It would be more appropriate to benefit from the secure buildings of public and private institutions or organizations around. Appropriate buildings for this purpose are as in below:

- State buildings
- Schools
- Sports Hall
- Stadiums
- Mosques
- Parks
- Hotels
- Guesthouse

Advantages of using tents can be listed in this way:

- Since it is light it provides transportation chance in every condition.
- As it is cheap, it is not a burden for the institutions.
- Its maintenance and repair is cheap so it can be used again and again.

Field hospitals that will be established during disasters have a modular structure as Health Organization Disaster Plan.

Field hospitals consist of five main sections. These sections and each subsection can be enlarged, downsized or totally taken out from the plan according to the conditions. Also in necessary situations Incident Command System, etc. can be added to the healthcare organization that is expanded in sections or partitions.

I) Administrative units, air and land ambulance entrance sections

1. Healthcare Organization disaster plan command centre
2. Press and public relations centre
3. Control point
4. Ambulance parking places and heliports

II) Operation unit first part
1.   Waiting area
2.   Patient registration area
3.   Triage unit area
4.   Patient decontamination area
5.   Trauma resuscitation area
6.   Adult resuscitation area
7.   Pediatric resuscitation area
8.   Temporary monitoring and observation area

III) Operation Unit second part
1.   Emergency treatment unit area
2.   Medical dressing and quick response unit area
3.   Internal patients service area with beds
4.   Internal medicine and coronary intensive care unit area
5.   Surgery area
6.   Surgical inpatient service area
7.   Surgical intensive care unit area
8.   Radiology unit area
9.   Blood bank area
10.   Laboratory area
11.   Pharmacy
12.   Medical supply depot

IV) Logistics section
1.   Public health service area
2.   Elective treatment areas

Numbered 1: Internal medicine, cardiology and thoracic diseases treatment area
Numbered 2: Pediatric, gynecology and childbirth treatment area
Numbered 3: Eye, ear-nose-throat, orthopedics, urology and dermatology treatment area
Numbered 4: neurology and psychiatry treatment area

3.   Staff services area: Kitchen area, staff dining hall and cafeteria area, staff resting area, meeting area, staff shower and toilet areas, drinking water and food stores area, anesthesia and surgical material depot area, generator and uninterruptible power supply area, fuel tank area, medical waste and garbage area

V) Social services section

1.   Relatives of staff who are in need of nursing and childcare area of the staff.
2.   Civil car park
3.   Showers and toilets

APPENDIX-5. A protocol sample to be made with the construction engineer for an earthquake

PROTOCOL

This protocol herein is made between ……………… and construction engineer …………… with the aim of serving as a voluntary/ waged consultant within the scope of Disaster Preparation Project of the healthcare organization.

1. The information and guidance of voluntary/waged construction engineer would be limited with the Disaster Preparation Project of the healthcare organization in content with this protocol herein.

2. The information given by the healthcare organization about the structural condition would be actualized if their convenience is accepted by the healthcare organization management and the evacuation decision would be ground on them.

3. The support of …………… would be for coming to the healthcare organization and deciding whether nursing services would continuo or not by defining the healthcare organization's exposure level after the disaster.

4. ……………. would not reveal any secret or explicit information about the healthcare organization that he/she get during his/her studies in healthcare organization without the knowledge of the healthcare organization management or a written permission directly or indirectly to the third real or legal people during this contract herein and after the protocol procedure.

5. Healthcare organization is responsible for providing every information and document that construction engineer ………………… demands for the subject.

6. …………………. accepts and declares that he/she would not lay a claim for the services he/she gives for the healthcare organization in the coming days no matter what happens.

7. Contracting parties accept and declare that they would keep all the articles of this protocol herein which is signed with the aim of helping the healthcare organization and community during emergencies and natural disasters. (DATE).

Healthcare organization Manager   Construction Engineer
Name Surname   Name Surname
Signature   Signature

APPENDIX-6. An example for Hazard Control List

Earthquake	Y	N	UN	NA
Is there any fire cabinet close?				
Has the fire cabinet been designed in such a way that it is opened easily and it does not be damaged during a tremor?				
Has it been prominently marked where first aid materials are such as a fire cabinet, fire extinguisher cylinder etc?				
Have emergency exits been prominently marked? (These signs should be seen during an emergency case (smoke and darkness)).				
Have unattached objects such as a cupboard, bookcase and shelves been rendered free of hazard with any structural support?				
Have some precautions been taken to prevent any injuries caused by falling of objects in a cupboard, bookcase and on shelves?				
Have heavy objects been kept away from high shelves?				
Have some precautions been taken to prevent any injuries caused by breaking of office windows during a probable shake or an explosion?				
Are aquariums and other potentially critical objects away from the places we sit?				
Are wall-mounted/hanging clocks, maps, fire extinguishers protected against any falling?				
Are flower pots in an ineffective position that can fall or break the windows during an earthquake?				
Are objects around doors in a position that will not affect entrances and exits by falling?				
Have paper and other easily flammable materials stored close to electric and flame heaters been taken away?				
Does television monitor stay on a safe platform/cabinet without causing any danger?				
Have computers, monitors, printers and other valuable office materials been fastened in such a way that they will not fall during a shake?				
Do portable/movable cabinets carrying electronic materials and computers have fixable wheels?				
Have the container carrying every kind of chemical materials been protected against any falling?				
Have hanging electric materials (lamps, projectors etc.) been protected against falling during any tremor?				
Have some precautions been taken about ceiling floors, ventilation ducts and chimneys against any injuries caused by falling during a tremor?				
Have cylinders containing hazardous gas and flammable materials been positioned not to fall during tremors?				
Have water and heater pipes been strengthened against tremors?				
Are compartments inside offices durable against tremors?				

Sign Boards	Y	N	UK	NA
Do pictograms contain bare and basic details?				
Are they suitable to environment they are used?				
Are they made of impact and weather resistant materials?				
Can they be seen easily and are they understandable?				
Are they suitable in height and position for visual level?				
Have they been put near dangerous places and next to dangerous objects and the entrance of general dangerous places?				
Have fluorescent colors, reflector materials or artificial lightings been used in places where natural lights are weak?				
Has the sign board been taken away after the circumstance shown in it has disappeared?				
Emergency Exits and Doors	Y	N	UK	NA
Are emergency exits and doors directly opened to outside or a safe area?				
Have objects that can prevent exit in front of emergency exit doors been taken away?				
Are number of emergency exits and doors, their sizes and places suitable to the size of the working place, qualifications of the works and the number of workers there?				
Are emergency exit doors opened to outside?				
Is rail or revolving doors used as emergency exits?				
Can emergency doors be easily and immediately opened by staff during an emergency?				
Have emergency exits and doors been properly marked? (Sings should be put in suitable places and should be permanent)				
Are emergency exit doors locked or bonded?				
Are there any extra lighting systems at emergency exits and doors that will enable adequate illumination during any electricity cut?				
Doors and Exits	Y	N	UK	NA
Are the places of doors and exits, their number and size and materials they are made of suitable for the rooms, places and their intended use and also are they appropriate for the entrance and exit of the staff?				
Have outer surface of transparent doors been prominently marked?				
Have opening at both sides doors been made of transparent materials or do they have transparent parts that make opposite sides to be seen?				
Have outer surfaces of transparent and semitransparent doors been protected against any break?				
Do rail doors have safety system to prevent from going off trails and turn over?				
Do opening upwards doors have safety system to prevent from falling down?				
Have doors on escape roads been properly marked? (These doors should be opened without getting help.)				
Do mechanical doors have noticeable and accessible emergency shutdown devices?				
Can mechanical doors be opened by hand in case of not being opened				

Fixed ladder, Stairs, Stoop	Y	N	UK	NA
Are the stair surfaces not slippery and made from the proper material?	☐	☐	☐	☐
Are there anti skid bands on the stairs to prevent slipping?	☐	☐	☐	☐
Are the banisters' heights enough and safe?	☐	☐	☐	☐
Are the materials and obstacles that hinder passing put away?	☐	☐	☐	☐
Are the heights of stairs suitable? Do the stair elevations comply with standards?	☐	☐	☐	☐
Are the ladders and stoops lighted? Is there auxiliary energy in case of an emergency?	☐	☐	☐	☐
Are the manual buttons of lights in enough distance?	☐	☐	☐	☐
Fire Precautions	☐	☐	☐	☐
Is there enough firefighting material, fire detector and alarm system in the school?	☐	☐	☐	☐
Is the firefighting material easy to use?	☐	☐	☐	☐
Is there any obstacle in front of the firefighting material?	☐	☐	☐	☐
Is the firefighting material put in visible and accessible places?	☐	☐	☐	☐
Are the date of validity and periodic filling dates proper?	☐	☐	☐	☐
Are there fire instructions in accessible places?	☐	☐	☐	☐
Are there trained and responsible people about fire?	☐	☐	☐	☐
Are the flammable materials under guard?	☐	☐	☐	☐
Are there unnecessary materials, paper/crap that can cause fire?	☐	☐	☐	☐
Is there an alarm system which is working and checked regularly?	☐	☐	☐	☐
Is the place of firefighting material marked properly and are the marks permanent in proper places?	☐	☐	☐	☐
First-aid Room and Materials	☐	☐	☐	☐
Is there a first-aid room?	☐	☐	☐	☐
Are the first-aid rooms equipped with adequate materials and materials?	☐	☐	☐	☐
Are these places marked according to the Safety and Health Signs Regulations?	☐	☐	☐	☐
Are there first-aid materials in the necessary places according to the working conditions and are they marked properly?	☐	☐	☐	☐
First Aid Room and Materials	Y	N	UK	NA
Are the first aid rooms equipped with enough material and material?	☐	☐	☐	☐
Are these spaces signed in accordance with Safety and Health Signs Regulation?	☐	☐	☐	☐
Are the first aid materials put in places that working conditions require and are they signed appropriately?	☐	☐	☐	☐
Air- Conditioning of Closed Working Places	☐	☐	☐	☐
Is there enough clean air that will be needed in accordance with working type, and the thing employees do in the offices?	☐	☐	☐	☐
Is the proper working of system being provided when forcible air-conditioning system is being used?	☐	☐	☐	☐

Is there any warning system that reports breakdowns if the nonworking of air conditioning system is dangerous for employees' health?	☐	☐	☐	☐
Is air stream in artificial air-conditioning systems disturbing employees?	☐	☐	☐	☐
Are wastes and dirt that can give harm people' health messing up working place's weather, throwing out immediately?	☐	☐	☐	☐
Is there any disturbing smell in working environment?	☐	☐	☐	☐
Is the moisture and temperature of places suitable?	☐	☐	☐	☐
Ambient Temperature	☐	☐	☐	☐
Is the temperature of the working place suitable for the way of working and the effort workers spend?	☐	☐	☐	☐
Are the temperatures of resting area, changing rooms, showers and toilets, waiting spots, cafeterias and first aid rooms suitable for the intended use?	☐	☐	☐	☐
Are the windows and roof lighting suitable for preventing the adverse effect of sunlight according to the properties of the working place and the jobs?	☐	☐	☐	☐
Is the ambient temperature disturbing or not?	☐	☐	☐	☐
Ambient Lightning	☐	☐	☐	☐
Is working place being lightened with daylight in enough degree?	☐	☐	☐	☐
Is suitable and enough lighting with artificial light being provided in the places which cannot take daylight?	☐	☐	☐	☐
Is suitable and enough lighting with artificial light being provided in night studies?	☐	☐	☐	☐
Air lighting systems in working places and transit roads been put properly and in a way that it will not create risk for employees?	☐	☐	☐	☐
Are there alternative lightning systems that will provide urgent and enough lightning in places where any failure in lightning system cause risk for employees?	☐	☐	☐	☐
Are lighting lamps working and clean?	☐	☐	☐	☐
Are lighting systems (ballasts) working noisily?	☐	☐	☐	☐
Are lighting lamps blinking while it is turned on?	☐	☐	☐	☐
Other Matters	☐	☐	☐	☐
Are employment health reports that belong to employees, heavy and dangerous works being taken? Are periodic treatment results written to this report?	☐	☐	☐	☐
Are there certificate examples of identity cards in personal files of employees?	☐	☐	☐	☐
Is there a doctor or more than one doctor in working places where at least 50 employees work permanently?	☐	☐	☐	☐
Are yearly working reports being prepared in a way they will include all works clearly in working place health units?	☐	☐	☐	☐
Are there cool drinking water kept that employees in the working place can use easily?	☐	☐	☐	☐

	Y	N	UK	NA
Are maximum number of workers who can be in the building or part, material amount, and what is the work that is permitted to building's construction written separately to the door where work is done in slabs way?	☐	☐	☐	☐
Are control and experiments of steam and hot water boilers being done?	☐	☐	☐	☐
Are control and experiments of compressors about safety being done?	☐	☐	☐	☐
Is stabile compressor storage in a part that durable against explosions?	☐	☐	☐	☐
Is employee health work safety assembly organized in working place that employ more than 50 employees (including 50) ?	☐	☐	☐	☐
Is a job safety expert working in a working placed that employ more than 50 employees (including 50)?	☐	☐	☐	☐

Y: Yes   N: No   UK: Unknown   NA: Not applicable

This form is filled by _____

APPENDIX-7. An example for Hazard Mitigation Form

HAZARD MITIGATION FORM		
HAZARD	**MITIGATION WORK**	**URGENCY (1-4)***
Emergency exit roads are not signed clearly.	Emergency exit roads will be signed within a certain Standard.	4
Tubes that are not stabile are not safe with any structural support.	It will be suitable for tubes that are not stabile to be taken into control with chock and supports.	4
Cabinet, bookcase and shelves that are not stabile can cause danger..	Cabinet, bookcase and shelves that are not stabile must be fastened to shelves.	3
There are not precautions for preventing injuries of people as a result of closet, bookcase, and things on the shelves falling during shock.	Ribbon belt will be fastened to places which can create danger.	3
Heavy things are not taken away from high shelves.	Heavy things will be put down to lower shelves.	4
Facilities' windows can damage people by exploding during shocks.	Windows will be covered with films.	3
Wall mounted/hung watches, pictures, maps; fire extinguishers are not protected against falling.	They will be stabilized against falling.	4
Objects around the door can fall and they can hinder entrance and exits.	Fastening will be done.	3
TV, computer monitor, writers, other important Office materials are not fastened in a way that they will not create danger on a safe platform/cabin.	Fastening will be done.	3
Portative/active cabins, tables, etageres, that carry electronic materials and computers, don't have fixable wheels.	Fastening wheels will be assembled.	3
There is no earthquake censor in the facility.	Earthquake censor will be bought.	2

There are no precautions against diesel generator and diesel pump fire pomp fuel tank and barrels.	By taking out the fuel tank, it will be fastened.	2
Capes in which there are environmentally hazardous wastes are not kept under control against earthquake.	For facility of dangerous wastes and materials that can damage environment, special containers will be provided.	3
There is not necessary recovery material in the facilities.	Necessary material will be bought.	2
Trash stations are done in a way they will not cause danger.	Trash stations, that are appropriate for standards, will be done.	2
Zones with 1. Degree risk is not signed.	Risky zones will be signed.	4
There are no local gas detectors in places such as cafeteria, tea shop, combi boiler room.	Gas detector will be put.	4
There are no suitable concentration camps and facility places for recycling wastes.	Suitable concentration camps will be provided.	2
Portative extinguishers are not safe against falling during shocks.	Portative fire extinguishers will be fastened with chains.	3
There is not an area where wastes, that are thought as dangerous. It is not appropriate to facility legislation; wastes are not eliminated appropriately.	Wastes will be eliminated appropriately defining an area that is appropriate for standards.	2
There is not an active electronic lightning rod.	Buying an active, lightning rod and it will be changed with the old one.	2
Food samples are not kept in a special container for one day.	By taking a sample container they will be kept in -5 degree in the fridge for one day.	2

*4: Very urgent   3: Urgent   2: Necessary to do   1: Better to do

This form has been filled by ………………

APPENDIX-8. An example for Personnel Information Form

STAFF INFORMATION FORM

Staff's name/surname**:**…………………………………… Age:……………

Gender:………………… Marital Status and number of the children:……………………

Position:………………………………… Start date of employment:………………………

Home Address:.

…………………………………………………………………………………

Home phone: (……)………………………………… Mobile Phone: (……)……………………

Mail Address:………………………………………. Blood Group: ……………………

Diseases- if any- :   Allergies –if any- :

……………………………………………   ……………………………………………

……………………………………………   ……………………………………………

……………………………………………   ……………………………………………

Taken Medicines –if any- :   Surgical Operations –if any-:

……………………………………………   ……………………………………………

……………………………………………   ……………………………………………

……………………………………………   ……………………………………………

Foreign languages and levels:

……………………………………………………………………………

……………………………………………………………………………

Driver Licence Class…………………………………………………………

Trainings taken for Emergencies:

Name of the course	Period	When?	Who organized it?
Disaster preparation training			
Search and rescue training			
Fire training			
First-aid training			
…			

Emergency experiences:

……………………………………………………………………………

……………………………………………………………………………

Additional features that might be useful during an emergency:

……………………………………………………………………………

Contact People and contact information during an emergency::	
First person to be called from the family::	Second person to be called
Name Surname: …………………………..	Name Surname: : …………………………
Home Address: …………………………..	Home Address: ………………………….
………………………………………….	………………………………………….
(if any) Work Address:…………………	(if any) Work Address:…………………
………………………………………….	………………………………………….
Home Phone: (……..)………………………	Home Phone: (……..)………………………
Work Phone: (……..)………………………	Work Phone: (……..)………………………
Mobile Phone: (……..)………………………	Mobile Phone: (……..)………………………

APPENDIX-9. Control of Epidemic Diseases After Disaster

Among the routine health services of healthcare organizations there are the identify epidemic diseases, informing the necessary departments about it, that is the process of informing the medical authorities about the cases or plagues by way of official communication channels, taking the protective precautions and providing necessary treatment. These tasks can be actualized with infectious diseases and public health units.

For the control of epidemic diseases and to enable the system carried on by social organizations to function well, case/epidemics identification-recording-affirmation (epidemiological/in laboratories); notification (early/routine); analysis and interpretation (place/time/personal features); informing the field; taking control measures; programme decisions; change within plans and policies; performing the process of evaluation and observation steps gradually are necessary. Epidemic diseases with obligatory notifications have a notification process that extends from the health organization where the disease is diagnosed to the local health authority, Ministry of Health and World Health Organization according to the group the disease belongs to.

It should not be forgotten that an epidemic disease is considered as a disaster by taking into account the crowd of people and the region it affects. Precautions for this must be extensive. In this part control of the epidemic diseases after a disaster is going to be mentioned.

There is a high possibility for epidemic diseases to occur during the post impact phase. There are some elements which affect the risk epidemics during disasters. One or more of these may lead an epidemic of an infectious disease.

Ecological changes, season, poor sanitation in disaster area, population movements might cause the diseases to be carried to other regions or might cause the people who have moved to new places get infected with the endemic diseases in this region. It might accelerate the spread of diseases. Collective living conditions in temporary settlements increase the occurrence and spread of the diseases that spread through close contact or droplet. Disruption of environmental health services affects this situation as well.

The primary and urgent precaution after a natural disaster is warning the crisis management counters and the victims themselves about consuming packed drinking water until safe water and food is provided and to use canned food and avoiding eating uncooked foods. Information taken from the crisis management counters about the magnitude, risks and the required number of staff and materials for all healthcare services is precious and guiding for the teams that are going to be sent this region.

Actually an outbreak control organization which would be established against an outbreak threat must be performed under the control of an authorized government institution. With the aim of providing the permanent communication between the crisis management counter and the region in a planned and organized way a local centre like "Control Committee of Infectious Diseases" can be formed. In this way not only the teams which would control the outbreak but also the teams which would provide immunization and routine infection services after a disaster would be defined as well.

The outbreak control study in post disaster phase should be organized by taking into account the risky areas, probable infectious diseases and the demographic features of the people under risk. Taken precautions would aim at the source, path of infection and healthy people. In the cases where gastrointestinal system diseases are expected as a result of Salmonella, Shigella or Vibrio, personal hygiene, disinfection/sterilization of waste and contaminated belongings, water and food sanitation gain importance. And also to prevent the spread of infectious diseases necessary vaccines should be sent to the region immediately through cold chain. There must be specialists on clinical microbiology and infectious diseases and also public health specialist in the team that is assigned for outbreak control.

Providing continuity within the disrupted routine services is important. Records of the patients with infectious diseases who presented to the hospital before the disaster should be kept accordingly and seasonal features of infections that are seen in the region should be clarified. Laboratory materials that are needed for this should be prepared while the inventory of the stock is taken. These routine services should be carried on after a natural disaster. So both the continuity of the services in pre-existing healthcare organizations and technical support for the outbreak control studies in the region on condition not to disrupt the routine tasks are provided.

Healthcare organizations should use the forms they keep during the routine studies to inform about the cases of infectious disease they detected or found suspicious even in post disaster period and perform the notification procedure. In addition to the normal procedure, notifications should be made to the incident commander of healthcare organization, Local Health Authority Crisis Management and Governorship Crisis Management Centres. Disaster crisis management counters should take steps for giving necessary warnings and increasing the precautions. At the bottom there is a sample of the form used for notifications.

Form 014 Front side :

..../...../..........

Form 014

THE FORM OF THE DISEASES WITH OBLIGATORY NOTIFICATION

(Public Health Law article 57-64)

To .... Local Healthcare Group Presidency / Local Health Authority

SENDER

Name Surname:...............................

Job:...

Institution Address:.........................

Work Address:..............................

Form 014 Back Side:

IDENTITY INFORMATION OF THE PATIENT		
Gender	M	F
T.R Identity no.		
Surname		
Name		
Father's name		
Date of birth		
Job		
ADDRESS:		
City		
District		
Headman		
Street		
Home No.		
Home/Mobile Phone.		

CONDITION OF THE PATIENT		
Name of the disease		
Diagnosis	Probable	Certain
The date it started		
The address of the current healthcare organization he/she is treated		
If not alive date of death:		
COMMENTS:		

APPENDIX-10. Triage Principles

Triage is the process of giving medical decisions and making choices about the several patients in need of help or about sharing the opportunities in hand correctly. It is based on patient management. Triage is a difficult and stressful process for the person applying it. It is applied when the existing labour force, devices, medicines and consumables sources are not enough and is not sufficient for the needs of patients or casualties in question.

In healthcare organizations it is the mission of the doctor to apply triage in a disaster or emergency. But in the incident places or healthcare organizations, medical staff other than the doctors, rescue staff and even first aiders can apply triage when it is necessary.

Triage is a different process from the medical response. It is the rapid checking of casualties in row, making an evaluation and passing to another injured person without any intervention and starting the intervention after evaluation is over.

Triage is made by doctor/health staff who arrive first to the scene. And the starting point is the point where the individual responsible from triage is situated. The patients/casualties classified during triage might be separated in groups by using triage cards or materials available at the scene. The whole team must be well informed and experienced about the subject.

Although several different techniques, algorithms are used for triage, the most common one is "Start Protocol" which is used world wide especially in disasters. In the section below this method is explained.

The most common triage method in the world applied by the staff other than the doctors is Start. (Simple Triage And Rapid Treatment). This method depends on the principle of evaluating the three vital functions respiration, circulation and consciousness in a short time without using any equipment. After the evaluation patients are separated in four groups which are coded with different colours.

Green: Slightly injured (Since they are the group that scream most, they can use up all the sources if not paid attention and cause seriously injured people get less help)

Red: Seriously injured (they are first patients to be treated, they are the casualties who might die if they do not get help immediately)

Yellow: Casualties who are in need of serious help but still can wait for a while.

Black: The dead (it is the authority of the doctor to diagnose the dead in our country) but if there is no doctor, help for a patient who is thought to be dead by looking at specific features might be delayed. Still it should not be forgotten that these people must be seen by a doctor.

According to this method the person who is going to apply triage initially makes a voice triage (calls the people around). Those who can walk are considered as slightly injured. Then the person who applies triage classifies the patients or casualties starting from the closest one to him/her according to the method explained in the figure below.

After the classification (triage) necessary aid (first aid, transport, treatment) is provided starting from the patients marked in red. Triage is applied to all the people affected by the event. There might be changes within the medical condition of people in due course. Therefore triage will be repeated many times when it is required.

Casualties who can walk with instructions

Sliying injured

RESPIRATION

NOT BREATHING   BREATHING

Give Head tilt- Chin Position lift

NOT BREATHING   BREATHING

DEAD   EMERGENCY

↓30 Left/Min ↑30 Left/Min

EMERGENCY

CIRCULATION

Radial pulse absent or   Radial pulse exist

Over 2 seconds ← Capillary Filling → Under 2 Seconds
Test

CONDITION OF CONSCIOUS

Cannot Follow Simple Comments   Can Follow Simple Comments

Bleeding control

EMERGENCY   EMERGENCY   CAN WAIT

RoT MINISTRY OF HEALTH
TRIAGE CARD

ACİL

Date __/__/__

CONSCIOUS   N   NO
RESPIRATION   N   NO
CIRCULATION   N   NO

NAME SURNAME/APPEARANCE:
....
....
Triage Dr:_____
🕐 ....:........

1 (red) ☐		3 (green) ☐
2 (yellow) ☐		4 (black) ☐

☐ OXYGEN_____ min.   ....:........
☐ INTUBATION   ....:........
☐ CPR   ....:........
☐ THORAX DRAINAGE   ....:........
     ☐ RIGHT ☐ LEFT
☐ BLEEDING CONTROL   ....:........
☐ STABILIZATION   ....:........
☐ DECONTAMINATION   ....:........

🕐

SOLUTIONS   🕐
1:...................................
2:...................................
3:...................................
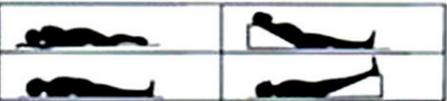
DRUGS   🕐
1:...........................
2:...........................
3:...........................

NOTE:_____
_____
_____
DR: _____

SECOND transport team will have this part

INSTITUTION OF THE TEAM:_____
TEAM NO:_____
🕐

....
Patient's Name Surname.
_____

The healthcare organization he/she is referred to:
_____
....

FIRST transport team will have this part

INSTITUTION OF THE TEAM:_____
TEAM NO:_____
🕐 ....:........

Patient's Name Surname.
_____

The healthcare organization he/she is referred to:
_____

Example of triage card: Standard triage card of Ministry of Health is used.

APPENDIX-11 Morgue Services

Catastrophic disasters, bodies whose identities are unknown , those who die in the hospital and those brought from other places may create serious legal and social problems. In order to minimize these problems the precautions to be taken during the preparation process should be defined.

In the chaos that may occur after a disaster, identification and burial of the dead in a smooth way will be possible only if the concerned persons are identified and well trained through a good planning .

For identification the following methods might be used:

1. Numbering all the dead and recording their known features.
2. Protection of the objects like identity card, phone book, bankbook, driving license, letters and other similar materials on the patient.
3. Taking the photographs of the bodies from front and both sides of the face for identification.
4. Taking the photographs of some special features like spots, tattoos, etc. of the bodies.
5. Radiological monitoring of dental veneers or other radio opaque dentures, taking fingerprints of each finger if necessary and taking hair and tissue samples for identification.
6. Application of other methods recommended by Forensic Medicine Institution.
7. Filing the information above and recording the documents according to body number. (for this aim usual files of healthcare organization can be used)
8. Identification of the bodies by their relatives

One of the most important problems during a disaster is the difficulty encountered in preserving the bodies while waiting for the obligatory delay of burying process.
Things to be done to keep the bodies safe and to prevent their decaying can be listed as follows:

1. To have sufficient body bags
2. Using protective chemicals to prevent the decaying of the bodies
3. Making an agreement with the state, public, military and private institutions and organizations that have fixed or mobile morgues or cooling systems.

APPENDIX- 12. Healthcare Organizations and Informatics

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4. Taking the photographs of some special features like spots, tattoos, etc. of the bodies.
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APPENDIX-13. Contamination and Decontamination of Healthcare Organizations

Contamination happens as a result of the spread of contaminated materials in fixed facilities or mobile vehicles to the environment and they might appear with the effect of natural disasters or technological events. In recent years, terrorist actions which are getting widespread cause an increase in contamination injuries. Since terror organizations turn to chemical, biological and nuclear weapons and target the organizations which have a contamination potential, these events are expected to increase in the upcoming years.

Disaster Council should make a contract with the institutions which can do the cleaning of contaminated materials. The phone numbers of these institutions must be in the communication guide of healthcare organization disaster emergency plan.

In healthcare organizations decontamination unit would be established outside the institutions in extreme disasters. In small-scale incidents decontamination can be performed in patient wash room if the emergency service is available.

The materials needed for decontamination in an emergency service are as it follows:

1. Masks that prevent inhalation contamination and portable respirators for the staff.
2. Protective clothes, gloves and galoshes
3. Sign boards that show the contamination and decontamination areas and barriers that block the entrance of these areas, materials like barriers and tapes
4. Floor clothes that are needed to cover contaminated materials or passageways of people.
5. Wastewater dumps
6. Specific bags, bins and areas for contaminated materials
7. Laboratory materials to take samples from contaminated materials and protocols of backup and keeping backups that are determined between the above named organizations.
8. Decontamination and cleaning materials
9. Radioactive material detectors

When decontamination has to be performed outside the healthcare organization additional materials below are needed for decontamination area:

1. Lighting materials
2. Heating materials
3. Showers which are equipped in such a way that there would be no invasion of privacy of the patients.

4.   Wastewater tanks
5.   Towels and clothes to give the patients

 Decontamination unit which is going to be established outside the healthcare organizations must be away from the air condition systems and water sources of neighbour buildings.

Logistics chief is responsible for the storage and the periodical maintenance of the materials to be used for decontamination.

Reference books about contaminated materials should be kept in the places (doctors' or nurses' room) available for each staff in emergency service. All emergency service and emergency response teams should be given periodical trainings about the decontamination of contaminated patients. Support staff working in emergency service should be trained about the cleaning of contaminated materials. All emergency service staff should be taught how to use the protective materials and the phone numbers of the institutions from which the staff might get help about decontamination should be kept in emergency service, ambulance centre and stations. Uninterrupted internet connectivity should be in easily accessible points in emergency service. In this way the staff might get information abroad when it is required.

BOMB NOTIFICATION PHONE REPORT

Aim: In order to have information about probable sabotage and bomb notification and make an evaluation this form should be filled and one copy of it should be sent to police, security and gendarme units when it is necessary.

THE GENDER	AGE	ACCENT OF THE CALLER

VOICE OF THE CALLER

__calm	__nasally
__angry	__stutterer
__excited	__lispily
__husky	__rude
__fast	__deep
__soft	__rough
__high	__houghing
__laughing	__taking deep breathes
__crying	__jar
__normal	__changing
__clear	__foreigner
__familiar	__swallowing the words

If the voice is familiar whose voice can it be? ......

BACKGROUND VOICES

__street (car, bus)	__animal voice
__plane	__clear
__voices	__silent
__music	__local call
__house (plate, TV voices)	__distant call
__motor (fan, air conditioner)	__phone box
__office machines	__factory machines
__other..	

THE PERSON WHO RECEIVED THE NOTIFICATION:
NAME: ....
POSITION: ....
PHONE NUMBER: ....
DATE: ....

THE PEOPLE WHO ARE GOING TO BE CALLED IN EMERGENCY (THE PEOPLE MENTIONED IN THE PHONE CHAIN)

QUESTIONS TO ASK

1. When will the bomb explode?
....
2. Where is the bomb right now?
....
3. What does the bomb look like?
....
4. What kind of a bomb is it?
....
5. What causes the bomb's explosion?
....
6. Did you place the bomb?
....
7. Why did you place a bomb?
....

8. Where are you?
....
9. What is your name?
....

WHAT IS SAID EXACTLY?
....
....
....
....
....

APPENDIX –15. An example for Information Card

NAME OF THE MATERIAL		SULPHURIC ACID		
CHEMICAL FORMULA		H_2SO_4		
CHEMICAL AND PHYSICAL PROPERTIES	**MOLECULAR WEIGHT**	98 gr./ mol		
	DENSITY	1.84 gr./cm^2		
	APPEARANCE	colourless, bright, liquid		
	H$_2$S$_4$ (W/W) MAX.	%98,5		
SPECIFICATIONS:				
	APPROPRIATE TO TSE 692	TECHNIQUE	PURE ACID	
Ash	%: Max. 0,15"	Max. 0,02	Max. 0,002	
H2SO4	%: Min.60	Min. 92,5	Min. 98,5	
Fe	%: Max 0,035	Max. 0,005	Max. 0,002	
As	%: Max. 0,04	Max. 0,001	Max. 0,00005	
Pb	%: Max. 0,05	Max. 0,002	Max. 0,002	
Nitric oxides	%: Max. 0,001	Max. 0,001	Max. 0,0002	
SO2	%: -	Max. 0,02	Max. 0,001	
Cl	%: -	Max. 0,001	Max. 0,0005	
PROBABLE HAZARDS		Human and environment corrosive. When it contacts with organic substances, it breaks them into pieces and carbonize them because of its high water hammer property. If it touches to skin and living tissues it causes severe burns. It causes severe irritation in the eyes.		
FIRST AID		* Take off the clothes which are contaminated with sulphuric acid immediately. * Take a shower immediately. * If acid contacts with skin, wash it with plenty of water. Wrap the skin with sterile bandage and go to a doctor. * If acid is swallowed, drink plenty of water. Do not vomıt, go to a doctor. * If it contacts with eyes: keep the eyelids open and wash them for 15 minutes ceaselessly. Go to a doctor.		
SAFE TRANSPORT AND STORAGE		* Tankers and depots in which sulphuric acid is transported or kept must be very clean. * Draining and transferring acid must not be under pressure.		

APPENDIX-16. An example for Exercise Evaluation Form

FACILITY'S NAME: .... DATE : ...../..../............ DRILLTYPE : TABLE ( ) FUNCTIONAL ( ) REAL TIME :				
DRILL'S PROCEEDING	**SUCCESSFUL**	UNSUCCESSFUL	**THOUGHTS** (necessary to do)	**SPEECHES** (contributions)
POLICY				
Appropriateness of decisions taken in ICS				
Guidance of daily works				
Unity with crisis management				
Efficiency of Distribution of tasks				
OPERATION				
Communication efficiency				
Efficiency of response to wounded people				
Application of command system				
Traffic control, environment security				
Appropriateness of equipments that are used				
Appropriateness of foreseen response plan				
Efficiency of response team				
Support of sources and foreseen response methods				
Efficiency of improvement operations				
Standard operation procedures				
Efficiency of different units				
LOGISTICS				
Efficiency of necessary internal-external support				
Sufficiency and use of sources				
Massive care-temporary housing				
Documents' preparation				
Determining and purchasing critical materials				

PLANNING				
Thinking necessary relations beforehand				
Thinking media relations in CEDM				
Thinking media relations in ICS				
Acknowledgement of partners(domestic-foreign)				
Directing dealers to other facilities				
Precaution taken for not experiencing similar incident in other facilities				
Psychological support				
Directing customers				
Adopting work changes				
Fast damage assessment				
Planning wreck removal				
Regional evacuation-public relations				
Infrastructure services (transportation, water, canalization, LPG, electricity, communication band)				
Insurance and damage compensation activity				
Providing Security				
THE REPORT PREPARED BY: Name Surname: …………………. Signature: …………….				

GLOSSARY

Emergency: the bad effects of a small hazard, which can be handled with local facilities, on life, property and environment. For instance, a house fire which can be extinguished by local fire department would be described as an "emergency".

Disaster: the situations which the local facilities are not enough in coping with the bad effects of a hazard on life, property, environment, economy and cultural values. Natural events like earthquakes, floods, thunderbolts which require nationwide or international support and cause great loss of life and property are named as natural disasters.

Heavy damage: occurring of big fractures on the walls and the falling of the chimneys.

Active fault: the fault which was active at least for once and caused an earthquake for the past 10.000 years.

Flame: the visible part of burning.

Alluviual: the unbalanced sediments as a result of the materials like clay, silt, sand and gravel which are gathered in certain regions.

Main shock: the earthquake which happens between a foreshock and an aftershock and which is more destructive than the others.

Aftershock: the earthquakes which happen after the main shock and have less magnitude than the main one.

Concrete reinforced: a construction material which is made up of concrete and steel reinforcement materials together.

Mudflow: the downward mass movement of waterlogged soil and rock materials as a result of heavy rain from the mountain slopes and valleys in arid and semi-arid areas.

Earthquake hazard: it includes everything about an earthquake that might be dangerous for human life.

Earthquake: the trembling and shakings that happen on earth with the movements of the earth's crust.

Seismicity: the distribution of the sequences and the magnitudes of earthquakes in a certain area.

Natural disaster: the disasters which are caused by some natural events like earthquakes, floods, avalanches and landslides, etc.

Infill wall: the components which are made up of hollow bricks in order to separate various places. They are not a part of the supporting system but have an important effect on the earthquake response of a construction.

Reinforcement: the steel constituent which helps the carrying process with concrete reinforcement in concrete components.

Energy: different energy types which can be turned into different forms but still

remain the same amount of total energy; the skill of doing.

Epicentre: the closest spot to the focal point on earth. This spot is also the place where an earthquake is felt strongest.

Stirrup: a horizontal reinforcement which is placed in gaps to prevent the disintegration of the concrete in concrete components by horizontally encompassing it.

Fault: the the breaks and moves that happen where the plates/weakness that form the crust.

Over ruin: the total destruction of the constructions.

Observation: measuring the physical activities like earthquakes, temperature, pressure or winds which happen on or above the surface of the Earth.

Light damage: cracking of plasters and removing of little plaster parts.

Balk: rectangular concrete components which are both produced in horizontal and vertical forms to enable the supporting walls act together in masonry buildings and to prevent weakness as a result of the spaces opened in the walls.

Landslide: movement of soil and/or rocks by sliding on a plane surface.

Hypothermia: reducing of the body temperature in a way that the normal muscle and brain functions would be damaged.

Hypocenter: the spot within earth where fault breaks and the energy of an earthquake occurs. Actually the focal point is not a point but a line/surface still it is accepted as a point in the applications.

Geophysics: it is the science which examines the physical properties and activities of earth.

Geology: the science which examines the structure and materials, historical development and the processes that shape the earth's crust.

Piled foundation: it is the type of foundation that is applied with the piles with high bearing capacity and extends to the stratum when there are tall building heights and very bad ground conditions.

Short column: the case in which some columns are shorter than the others in reinforced concrete buildings as a result of both architectural and structural applications and there is the effect of more force.

Girder: horizontal bearings produced in rectangular forms that combine the vertical bearings to each other in reinforced concrete buildings.

Column: vertical supporting components which have the similar size of plans in reinforced concrete buildings.

Corrosion: the loss of the characteristics of concrete components by rusting as a result of moisture and water.

Cure: the curing process of the removed plaster in order to regain its stability.

Magnitude: the amount of the energy that comes off during an earthquake. It is determined out from the records of the devices which record the earthquakes. Each earthquake has only one magnitude and it does not change according to the distance or other properties as in intensity.

Epicentre: the closest place to the focal point where an earthquake is felt strongest.

Focal depth: the shortest distance between the point where the energy of an earthquake comes off and the earth.

Focal point: the place where an earthquake happens under the ground.

Moderate damage: happening of little cracks on the walls, falling of big plaster pieces, slipping of bricks, little cracks on the chimneys and falling down of some parts of chimneys.

Foreshock: small shakings after the main shock. An earthquake is named as a foreshock on the condition that a larger earthquake happens in this area.

P-wave: it is the first wave that directly comes from the epicentre and arrives to the earthquake area in large earthquakes.

Partition: vertical bearing components whose ratio is seven in plan size in reinforced concrete buildings.

Raft foundation: the foundation type which is applied with a certain thickness when the constructions are higher and the ground conditions are not good enough.

Richter scale: the magnitude scale of the earth. It is the numerical scale of the energy released after an earthquake. Richter scales are used in order to measure the real size of earthquakes. This is called as "earthquake magnitude". The magnitude corresponds to an increase

of 30 times the amount of energy in each numbers. So there is 30 times energy difference between the earthquakes with 6.0 magnitudes and 7.0 magnitudes.

Risk: negative results caused by hazard. These results affect directly or indirectly life, houses, working places and their activities. Risks cannot be eliminated totally but it can be reduced. It is expressed as Risk = Hazard x Vulnerability

S-wave: second wave that comes after P wave during an earthquake. It is a seismic wave that shake earth surface up and down as vertical to direction movement.

Liquefaction: due to effect of an earthquake, complete loss off the bearing capacity as a result of increasing space water pressure and acting as a liquid of water logged, fine grained sand and silty layers.

Seismic gap: one part of fault that has caused an earthquake in the past but seismically inactive now.

Seismograph: it is a device that detects and records seismic waves. An inactive stable mass is detected as the other part moves during an earthquake in most of seismographs. Some seismographs detect vertical movements as some detect horizontal ones. Marks of waves are drawn on a mobile paper band with a vibratory pen. Arrival time is calculated between P and S waves. Time on a "seismograph" gives the distance between station and epicentre.

Seismography: the branch of science which examines how the earthquakes happen, how the seismic waves are transmitted in the earth, measuring devices and methods, evaluation of the records and other subjects related to earthquakes.

Seismology: the subdiscipline of geology which examines the formation of earthquakes, transmission of seismic waves, measuring and other subjects related to earthquakes.

Intensity scale: the scale that evaluates the intensity of an earthquake. In other words, intensity scales measure the reactions of animate and inanimate beings that are affected by an earthquake. When an earthquake occurs its effect on the area can be described by its severity. And the intensity of this earthquake is measured according to the intensity degree that the earthquake belongs based on the observations.

Intensity: it is the size of effect of an earthquake that occurs in any depth and felt on the earth. It depends on effects on physical structures and people. It based on observational data and standard scale prepared beforehand.

Evacuation: especially leaving and getting out away from area under threat.

Bearing component: a vertical or horizontal component that carries the vertical and horizontal forces that are effective on a construction.

Bearing system: the system as a combination of supporting components with the aim of carrying the external loads safely in a construction.

Hazard: events like earthquakes, floods, hurricanes, landslides, fires, explosions which might cause loss of life and property and restricts our daily lives.

Foundation: the bearing system that supports the building and enables the external loads to be passed to the foundation safely.

Triage: a coding and selection process of prioritizing patients and injured based on the severity of their condition in a phenomenon zone by healthcare organizations.

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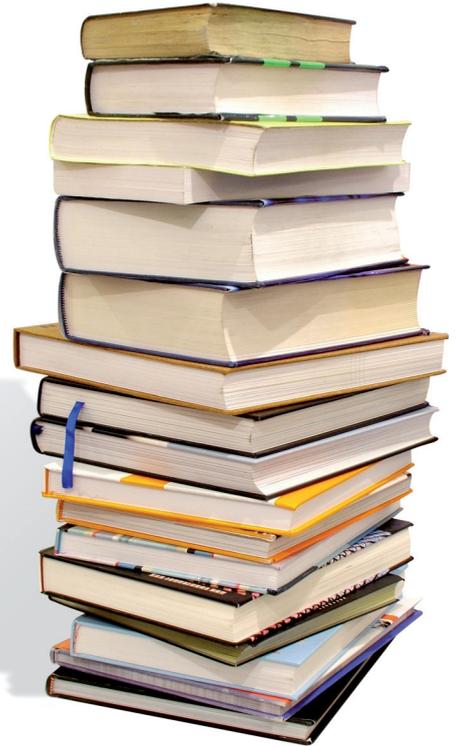
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- First 72 Hours for Disabled People in an Earthquake

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  - For Local Decision Makers

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