Guidelines for Mass Casualty Management Drill

Directorate General of Health Services
Ministry of Health & Family Welfare
Government of the Peoples' Republic of Bangladesh
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(This Guideline has been developed based on the "Hospital Contingency Plan" by World Health Organization)

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Chief Advisor
Professor Shah Monir Hossain
Director General
Directorate General of Health Services

Advisor
Professor Dr. Moazzem Hossain
Director (Disease Control) & Line Director, CDC
Directorate General of Health Services

Edited by
Dr. K M Wahidul Hoque
Evaluator, CDC
Directorate General of Health Services

Guidance
Shakeb Nabi

Written By
Rezaul Karim

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Preface

It is my great pleasure to learn that the Mass Casualty Management Drill Guideline for hospitals has been prepared. Undoubtedly the key to every success is knowledge, attitude and practice. I strongly believe that the doctors of Bangladesh are quite knowledgeable in their respective fields and they also play a proactive role in serving the ailing community. Now what is needed is enhancing the practical skills of the doctors based on their proactive knowledge and attitude. As the hospitals don’t very frequently have to deal with mass casualties and emergency situations, it is important to organize mass casualty management drills to enhance the capacity of the doctors, so that they can perform their best when such a situation arises. I believe that this drill exercise will also effectively boost the institutional and personal level skills and capacities.

The mass casualty management mock drill guideline was prepared under the supervision of the Technical Committee formed by the Directorate General of Health Services (DGHS) Government of the People's Republic of Bangladesh. They have conducted series of workshops before coming up with this valuable document.

I express my sincere gratitude to ActionAid Bangladesh's partner organization PSTC, for working closely with the DGHS in taking ahead the "mass casualty management" activities in the country. Dr. Wahidul Hoque of DGHS is relentlessly working for the mass casualty management activities and I would like to take the opportunity here to thank him for his invaluable time despite his busy schedule. I would also like to congratulate Bangladesh Scouts, Bangladesh Red Crescent Society, Fire Service and Civil Defence and PSTC for their invaluable role in bringing out this publication by working closely as members of the Technical Sub Committee.

Prof. Shah Monir Hossain
Director General.
Directorate General of Health Services.
Acknowledgement

In recent times experts are predicting that Bangladesh might experience severe earthquake like its neighboring countries India and Pakistan. We are also frequently faced with severe natural disasters like cyclone, tornadoes, not to mention the pressure increasingly in regards to dealing with manmade disasters like bomb blasts and other incidents. If we carefully analyze the post disaster scenarios it becomes clear that post disaster rescue and medical facilities are the most important task, which could reduce mortality and disability to a great extent. Thus, hospital based disaster preparedness is considered as one of the best practice among all disaster preparedness. Bangladesh is considered as one of the most disaster prone countries in the world. And here in Bangladesh too, hospitals have always played a remarkable role in reducing the impacts and risks from various disasters on the lives of people. It is also essential to ensure that after any disasters like earthquake the hospital building, its staffs and doctors are least affected and, remain functional to extend their full services to disaster victims. Thus it is undoubtedly felt that Hospital based disaster preparedness plans and mass casualty management drills are very effective tools to ensure proper running of the hospitals, to provide maximum support to the victims and hereby reducing the impact of any disaster. The hospitals of the developed countries too regularly perform drill exercise in their premises.

In 2006 ActionAid Bangladesh, with the financial assistance from European Commission assisted one of the private hospitals in Chittagong to conduct a Mass Casualty Management Drill. In light of the lessons learnt from this mock drill another drill was then conducted in Chittagong Medical College. If became apparent as a result that such drills should be continued in all the hospitals of the country, Mass Casualty Management Drill Guideline has thus been produced to assist the hospitals in conducting the drills by themselves. This Guideline was prepared as part of the hospital based disaster preparedness activities under a MoU with the Directorate General of Health Services (DGHS) and AAB.

I would like to take the opportunity to thank Professor Shah Monir Hossain, Director General of Health Services, for extending all out assistance to ActionAid Bangladesh and to work jointly to make this endeavor a successful one. I also appreciate Dr. Wahidul Hoque who is working relentlessly on behalf of Directorate General of Health Services in taking ahead the ActionAid’s Hospital Preparedness activities. I also want to congratulate those members of the technical committee who have played an important role in bringing up this guideline. Last but not the least; I would like to thank the DIPECHO team of ActionAid Bangladesh and PSTC for this endeavour and persistence. We would be delighted and grateful if this guideline is used by the other respective hospitals of the country to prepare their contingency plans so as to be able to save the maximum during any disaster.

Farah Kabir
Country Director
ActionAid Bangladesh
<table>
<thead>
<tr>
<th></th>
<th>Content</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>An Introduction to Mass Casualty Management Drill.</td>
<td>07</td>
</tr>
<tr>
<td>2</td>
<td>Stakeholder of Mass Casualty Management Drill</td>
<td>08</td>
</tr>
<tr>
<td>3</td>
<td>Roles and Responsibilities of Different stakeholders in Drill</td>
<td>08</td>
</tr>
<tr>
<td>4</td>
<td>Drill Implementing Team</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>How to Start the Drill</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>An Imaginary Scenario at the Hospital Campus after an Earthquake</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>Drill Areas</td>
<td>15</td>
</tr>
<tr>
<td>8</td>
<td>Role of Incident Commander during the Drill</td>
<td>17</td>
</tr>
<tr>
<td>9</td>
<td>Debriefing</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Appendix1 : Triage</td>
<td>18</td>
</tr>
</tbody>
</table>

Guidelines for Mass Casualty Management Drill
Mass Casualty Management Drill

1. An Introduction to Mass Casualty Management Drill

Mass Casualty Management Drill is a training exercise focusing on post disaster management and response. It is carried out in the hospital ground following an imaginary post disaster scenario to train the hospital staffs. The purpose of the drill is to strengthen the capacity of the hospital authority and its staffs to deal with post disaster management and thereby reducing casualties.

The objectives and advantages of Mass casualty Management Drill

The main goal of the mass casualty management drill is to enhance the skills and strengthen the capacity of the hospitals by providing emergency services to the disaster victims and thereby reducing mortality and disability.

The following will be done in the drill exercise:

1. Learn and practice about the duties of the respective authorities during an emergency.
2. Activation of the Command Post.
3. Activation of the Control Room.
4. Exercise on how the Incident commander will communicate with the higher authority.
5. How the alternative systems will be activated when the basic utilities stop functioning.
6. Triage exercise.
7. Transferring of patients to operation theaters after triage.
8. How the Hospital authority, Volunteers (scouts, Girls Guide), Fire Service and Civil Defence authority and Power Supply authority will work in coordination with each other during an emergency response.
9. Extinguish fire and rescue the trapped victims from buildings.
10. Community volunteers will learn to perform triage with the supervision of hospital authority.
11. Crowd and traffic management.
12. How the Incident Commander will communicate with the Media.
2. Stakeholder of Hospital Based Mass Casualty Management Drill

The following is a list of the prime participants in the Drill exercise:

i. Hospital authority.
ii. Fire service and civil Defence.
iv. Power Supply Authority.
v. Police/ Traffic Police.
vi. Telephone Authority
vii. Non-Govt. Organization

There would be a team of Observers from the following departments:

i. Ministry of Food and Disaster/Disaster Management Bureau.
ii. Zilla/Upazila Administrator.
iii. Zilla/Upazila/City Corporation Health Department.
iv. Armed Forces Division

3. Roles and Responsibilities of Different stakeholders in the drill

The responsibilities of the above mentioned personnel are as follows:

i. Hospital Authority:

The hospital authority will organize and carry out the drill exercise. Thus the hospital authority is most responsible to make the drill successful and effective.

To carry out a successful drill the following tasks need to be done prior to the final drill:

i. Enlist and finalize a list of the participants.
ii. Collect contact details of the participants.
iii. Arrange preparation meetings with the participants.

The following agendas need to be discussed in the meeting:

i. Date and time of the drill (including the rehearsal schedule)
ii. Finalize a list of participants from respective departments who will participate in the drill.
iii. Prepare a checklist and action plan.
iv. Prepare a list of required equipments.
v. Decide on the focal persons from each department.
vi. Develop sub committees.
vii. Divide responsibilities according to the checklist.
viii. Prepare a budget.
ix. Visit the drill ground.
After the preparation meeting the hospital authority/Director will prepare a report on the meeting and send copies to the respective departments. The Director will follow up and monitor the respective persons and departments to ensure whether preparations are being taken according to the action plan.

Besides these the Hospital Authority would need to carry out the following important tasks:

- Approving the budget.
- Giving instructions and guidelines to all the doctors, nurses, brothers and other staffs who would participate in the drill exercise.
- Orientation of the participants.
- Buying and arranging the necessary equipments for the drill.
- Organizing a rehearsal for the drill.
- Organizing a rehearsal and briefing before the final drill.
- Communicating with the media and ensuring that they also participate in the drill.
- Prepare a script for comentry.
- Arranging the final Drill.

ii. Fire Service and Civil Defence

Fire service and Civil Defence has a very important role to play in the Hospital based mass casualty management drill. The duties of Fire Service and Civil Defence are as follows:

- Prepare a list of all the participants of the drill.
- Visit the Drill Site
- Prepare jointly a lay out plan with the hospital authority.
- Prepare a list of equipments to be used in the drill and also complete the official procedures of using them elsewhere.
- Perform rescue and evacuation operations.
- Help the hospital staff in triage and other activities.

iii. Scouts, Girls Guide and Community Volunteers

The roles of the Scouts, Girls Guide and Community volunteers are also quite significant. They will basically carry out their duties as assistants to the Hospital and FSCD authority. They will carry out the following tasks during the drill:

- Concerned authority will select One Focal Person.
- Collect the list of volunteers from the hospital authority.
- Finish other necessary official procedures.
Know the responsibility from the FSCD and Hospital authority.
Form volunteer team and prepare themselves for the drill.
Role play as injured, rescued and trapped victims in the drill.
Participate in the final drill.

iv. Power Supply Authority

Usually after an earthquake a fire breaks out mainly due to power short circuit. Thus in an earthquake preparedness program the Power supply authority has an important role to play. In a Hospital Based Mass Casualty Management Drill the Power supply Authority has the following tasks:

- Power Supply Authority will select One Focal Person
- Examine the main power supply line of the hospital and ensure that it is faultless.
- Orient those participating in the drill regarding the functions and maintenance of the power supply line.
- Orient the participants regarding post earthquake precautions and to-dos on power supply line.
- If the drill is done in daylight the authority should ensure uninterrupted power supply, and if needed they would cut the power as per the requirements of the drill.
- If the drill is at night the power has to be cut as planned before.

v. Police/Traffic Police:

After any accident when there is a large number of incoming patients there always are accompanied onlookers, relatives and friends in the hospital premises. This often creates chaos and leads to indiscipline. The huge crowd blocks roads and leads to traffic congestion. Under this context participation of Traffic police is important in mass casualty management drill.

The responsibilities of the police/traffic police are as follows:

- Take positions inside or outside the hospital as instructed and ensure that the drill is not hampered by curious onlookers in the hospital premises.
- Traffic police officers will carry out their duty on the roads near the hospital and ensure free movement of the fire service vehicles and ambulances.

4. Drill Implementing Team:

A coordination team needs to be formed to fulfill the goal of mass casualty management drill exercise. The team can be as follows:

i. Hospital Director/Superintendent 1 : Incident Commander
ii. Assistant Director/Residential Surgeon 1 : Control Room Director.
iii. Head of Department, Surgery 1 : OT In charge.

Guidelines for Mass Casualty Management Drill
iv. ...................................................... 3 : Assistant Surgeon, OT.
v. ...................................................... 3 : OT Assistant.
v. ...................................................... 1 : Triage In charge.
vii. ...................................................... 3/5 : Triage Caretaker
viii. .................................................... 10 : Triage Assistant.
ix. ....................................................... 1 : Emergency Medical Supply.
x. ....................................................... 1 : Alternative Power Supply.
xi. Assistant Director 1 : Fire Service and Civil Defence
xii. Firemen 30 : Rescuer and Fire extinguishers
xiii. Volunteers 20 : Trapped people.

**5. How to start the Drill:**

- Staff member of Fire Brigade and Civil Defense are taking preparation to participate in MCM drill
- Community volunteers participated successfully in the drill
- Community is also important part of MCM
- Doctors are ready for drill
In order to fulfill the drill exercise successfully for mass casualty management, all the members of the drill team would need to be present at the decided location as per the schedule. At a specified time the Incident Commander would drop a red handkerchief on the ground from a visible point. As soon as the handkerchief is dropped:

- The power distribution authority will cut the power supply (at the same time a generator will be started automatically).
- Those who are participating in the drill would stop doing what they were doing and would act as they were instructed earlier.
- The volunteers would start shaking some of the trees in the hospital ground.
- Some of the volunteers would set fire in a pre-planned area in the hospital and the security staffs of the hospital would try to put out the fire with extinguishers.
- Some of the volunteers would panic and create a chaos.
- Incident commander would go to the control room fast and the control room officials also join with him.
- In no more than 3 minutes the volunteers would begin to bring the patients in the hospital campus.

6. An Imaginary scenario at the Hospital Campus after an Earthquake

The first three minutes:

i. Some of the trees in the hospital premises are trembling. (To set the scene of an earthquake some of the fire service staffs and volunteers would shake the trees).

ii. Some of the patients and their relatives would create chaos fearing an earthquake. (The volunteers would play this scene).

iii. The patients along with their relatives and other hospital staffs are rushing out of the hospital building from the ground floor.

iv. There will be a power cut and in the background there will be the sound of generator starting.

v. The telephone communication system is jammed. Some of the volunteers are seen trying to reach a number dialing repeatedly.

vi. Flames are seen burning a temporary structure near the hospital premises.
The Second five minutes:

i. Injured people have started coming to the hospital on rickshaws, vans and on foot.

ii. Hospital ambulances are carrying in patients into the hospital campus.

iii. Injured patients are seen lying in the open field near the emergency room of the hospital.

iv. A number of fire service vehicles are entering the hospital premises.

v. Most of the people are panic struck.

vi. The assigned official has taken up the responsibility of the Control Room and ensured that all the equipments are functioning properly.

vii. Incident commander is visiting the Control room.

viii. The traffic police officers have taken their positions at the hospital gate.
The last ten minutes:

i. Volunteers are acting as trapped victims in an artificially built structure are being rescued.

ii. The critically injured victims are being transferred to the OT.

iii. A temporary shed has been erected in the hospital premises to treat the less injured victims of the incident.
7. Drill Areas:

i. Control Room: As soon as the drill begins the Incident commander would take over the responsibilities of the Control Room. He would be responsible for ensuring the proper functioning of the equipments like the telephone, IPS, etc. in the control room. He would instruct the caretaker of the control room to call the fire service and he himself would communicate with the higher authority. Meanwhile he should also divide responsibilities among other officials of the team. He should give prompt instruction to the relevant persons for preparing for triage and first aid. He would also instruct regarding activating the operation theaters as quickly as possible.

Giving all these instructions he would leave the control room in 5 minutes maximum and would go to the rescue operation area.

There should be a control room for the proper working of the Mass Casualty Management Committee members.

Responsibilities of the Control Room:

A Control room will carry out the following tasks:

- Collect the information of casualty management.
- Collect the information resource management.
- Analyzing the information and display.
- Media Management.

It is important to provide the emergency staffs of the hospital, media persons etc. with separate uniforms and empower them with the necessary authority.

The Control room should have access and be equipped with the following items:

- Internal and external communication.
- Fax and phone numbers.
- Mobile phone and battery.
- Radio / television with the facility for live broadcast.
- Hospital map.
- Emergency power.
- Washing facility.
- White board and pens.
- Flash light and battery.
- Stationary
ii. Rescue Operation Area: A specific place of the hospital should be used for carrying out the drill of rescue operation. It would be best if a temporary structure of bricks could be erected at the hospital premises for carrying out the rescue drill. The drill should also attempt to rescue people stuck in the second or third floor of the hospital. Within 5 minutes of the beginning of the drill the fire service should reach the hospital premises with their equipments. The fire service staffs would divide into three groups and two of these groups would spread up in two different locations of the hospital to participate in the rescue operation drill. They would use concrete cutter to rescue people stuck in the temporary brick structure, and use rope ladder and foam to bring down people stuck in upper floors of the hospital building. In this exercise, volunteers will help by acting as the victims of the disaster.

The fire service staffs should finish their rescue operations within 10 minutes (maximum) of entering the hospital ground.

iii. Fire Extinguishing Area: The third team of the fire service staffs would practice extinguishing the artificial fire set in the hospital premises. In extinguishing the fire the fire service staffs and the hospital security staffs would jointly use the fire extinguishers. Besides this the water gun of the fire service would also be used. The volunteers would act as the burnt patients of the disaster. The fire service staffs should be able to extinguish the fire within five minutes of entering the hospital premise.

iv. Triage Ground: The open field in front of the hospital should be used as the Triage ground. The doctors and nurses of the hospital and the volunteers would participate in the triage exercise. Some of the volunteers would act as the injured patients and others would act as the local people bringing in the injured from the disaster area.

The time since getting injured till receiving medical care is referred to as the "Golden Hour". It was found in many studies that if an injured person is provided with medical care within one hour then the risk of death reduces significantly.

During a disaster situation the rescue team usually uses Simple Triage and Rapid Treatment (START) method. The goals of the rescuers should be to assess the condition of the victims within 60 seconds. Respiration and perfusion rate can be measured to find out the severity of the injury. Color coding tags can be used while doing this. Red (emergency), yellow (less emergency), green (first aid treatment) and black (dead) tags can be used to identify the priority of treatment for each victim in a disaster.

After tagging is done those who are critically injured and have mild injury in their head and spine would be sent to the operation theaters. Those with less injury would be sent to the temporary tents beside the triage ground where they would be provided with primary treatment. Tagging, CPR, blood clogging, etc. would be practiced in the triage exercise. The triage would begin within five minutes of the drill exercise and continue for 15 minutes.
v. First Aid Center: After tagging is done those who are critically injured and have mild injury on their head and spine would be sent to the operation theaters. Doctors, nurses and volunteers would participate in this exercise. In the first aid center the relatively less injured would be provided with dressings after bleeding has stopped and IV saline would be pushed (role play).

vi. Visitors and Traffic Management: During the drill exercise volunteers and the security staffs of the hospital would manage the visitors. Traffic police would manage the vehicular movement outside the hospital building.

8. Role of Incident Commander during the Drill
   i. Take over the duty of the Control Room.
   ii. Appoint doctors and nurses to carry out triage.
   iii. Inform the fire service, police and health departments about the hospital condition.
   iv. Direct and manage the operation theaters so that they are fully functional.
   v. Ensure automated alternative power supply.
   vi. To invigilate the triage area.
   vii. Invigilate the Operation theaters.
   viii. Invigilate the medicine store rooms.
   ix. Manage the Media.

9. Debriefing session
A briefing session will begin after the simulation drill. All the stakeholders of the drill should attend the session. The incident commander will brief about the objectives of the drill. Then representative of all the participants will share their experience and lessons learnt about the drill. Participating jounalists can present their questions and queries. Last of all, selected observers will present their findings.
Appendix: Triage

Objective:

At the end of this session the participants will know the definition of triage and also the importance, process and other guidelines of doing a triage.

Any unprecedented disasters increase the number of injured and deads. But if immediate and appropriate measures can be taken many lives can be saved. This is where the importance of triage comes. The word triage comes from the French word which means "to sort". Triage is an essential task after any unprecedented casualty. The purpose of triage is to achieve the greatest good for the greatest number of casualties. The sooner the injured victims can be sorted the better would be the outcome.

Importance of Triage:

Triage is basically sorting out the victims after any mass casualty according to the severity of their injury. In disaster management triage is important for three reasons:

i. Triage helps to identify victims requiring emergency attention and those requiring primary care.

ii. It reduces the overload of the emergency medical care by sorting out the severely injured from the least injured victims. Usually in a disaster only 10-15% gets severely injured and requires medical attention.

iii. Triage helps in sending victims to different hospital through proper sorting and considering the needs of the injured.

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For more information

ActionAid Bangladesh
House # 08, Road # 136, Gulshan-1, Dhaka-1212, Bangladesh
Phone: 9894216, 989431
Website: www.actionaid.org, www.dipecho-bd.org

Population Services & Training Centre (PSTC)
103, Siddeswari Circular Road, Dhaka-1217, Bangladesh
Phone: 9355507, 8322459
e-mail: pstc@bangla.net

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