

Hospital Safety Index

# Evaluation Forms for Safe Hospitals



**Hospitals Safe** from Disasters

Series Hospitals Safe from Disasters, N° 2

Hospital Safety Index  
**Evaluation Forms** for  
Safe Hospitals



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Pan American Health Organization

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I. Title II. (Series)

1. HOSPITALS

2. DATA COLLECTION

3. LISTS

4. RISK MEASUREMENT

5. CONTROL OF FORMS AND REGISTRIES

6. DAMAGE ASSESSMENT METHODOLOGIES

NLM WX 185

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## Form 1

### General Information About the Health Facility

**Please note:**

- 1 This information must be completed by the health facility, preferably by the hospital disaster committee in the facility to be evaluated.
- 2 If necessary, you may photocopy this form or print additional copies from the CD-ROM included in the folder.



## GENERAL INFORMATION ABOUT THE HEALTH FACILITY

1. Name of the facility: .....
2. Address: .....  
.....
3. Telephone (include city code): .....  
.....
4. Website and e-mail address: .....  
.....
5. Total number of beds:.....
6. Hospital occupancy rate in normal situations: .....
7. Description of the institution (general aspects, institution to which it belongs, type of establishment, place in the network of health services, type of structure, population served, area of influence, service and administrative personnel, etc.) .....  
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**8. Physical distribution**

List and briefly describe the main buildings in the facility. Provide a diagram in the box below of the physical distribution of the services and the facility's surroundings. Use additional pages, if necessary.

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## 9. Hospital capacity

Indicate the total number of beds and capacity to expand service in emergencies, according to the hospital's organization (by department or specialized services):

### a. Internal medicine

Department or service	Number of beds	Additional capacity	Observations
General medicine			
Pediatrics			
Cardiology			
Pneumology			
Neurology			
Endocrinology			
Hematology			
Gastroenterology			
Dermatology			
Physiology and rehabilitation			
Psychiatry			
Others, specify			
Others, specify			
Others, specify			
Total			

b. Surgery

Department or service	Number of beds	Additional capacity	Observations
General surgery			
Obstetrics and gynecology			
Orthopedics and traumatology			
Urology			
Otolaryngology			
Ophthalmology			
Neurosurgery			
Plastic surgery			
Cardiovascular surgery			
Others, specify			
<b>Total</b>			

c. Intensive Care Unit (ICU)

Department or service	Number of beds	Additional capacity	Observations
General intensive care			
General intermediate care			
Cardiovascular ICU			
Pediatrics ICU			
Others, specify			
<b>Total</b>			

d. Operating theaters

Type of operating theaters	Number of operating theaters	Additional capacity	Observations
Septic surgery			
Aseptic surgery			
Pediatrics surgery			
Obstetrics and gynecology surgery			
Emergency surgery			
Others, specify			
<b>Total</b>			

10. Areas likely to increase operating capacity

Indicate the characteristics of the areas and spaces that can be used to increase hospital capacity in case of an emergency or disaster. Specify square meters, available services and any other information that can be used to evaluate its suitability for emergency medical services.

Areas	Area m <sup>2</sup>	Water		Electricity		Telephone		Observations
		Yes	No	Yes	No	Yes	No	

Note: Specify the adaptability of use in each space: hospitalization, triage, ambulatory care, observation, etc.



## Form 2

### Safe Hospitals Checklist

Elements relating to the geographic location .....	13
Elements related to the structural safety of the facility.....	16
Elements related to non-structural safety.....	18
Functional capacity of the hospital .....	26

**Notice:**

This form should be distributed to all members of the evaluating team. If necessary, you may photocopy this form or print additional copies from the CD-ROM included in the folder.



## SAFE HOSPITALS CHECKLIST

### 1. Elements relating to the GEOGRAPHIC LOCATION of the health facility (mark with an X where applicable).

1.1 Hazards Refer to hazard maps. Request the Hospital Disaster Committee to provide the map(s) showing safety hazards at the site of the building.	Hazard Level				OBSERVATIONS
	No hazard	Hazard level			
		LOW	AVERAGE	HIGH	
<b>1.1.1 Geological phenomena</b>					
<b>Earthquakes</b> Rate the hazard level of the hospital in terms of geotechnical soil analyses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Volcanic eruptions</b> Refer to hazard maps of the region to rate the hospital's exposure to hazard in terms of its proximity to volcanoes, volcanic activity, routes of lava flow, pyroclastic flow, and ash fall.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Landslides</b> Refer to hazard maps to rate the level of hazard for the hospital in terms of landslides caused by unstable soils (among other causes).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Tsunamis</b> Refer to hazard maps to rate the level of hazard for the hospital in terms of previous tsunami events caused by submarine seismic or volcanic activity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Others (specify) .....</b> Refer to hazard maps to identify other geological phenomena not listed above. Specify the hazard and rate the corresponding hazard level for the hospital.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>1.1.2 Hydro-meteorological phenomena</b>					
<b>Hurricanes</b> Refer to hazard maps to rate the hazard level of the hospital in terms of hurricanes. It is helpful to take into account the history of such events when rating the hazard level of the facility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Torrential rains</b> Rate the hazard level for the hospital in relation to flooding due to intensive rainfall, based on the history of such events.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Storm surge or river flooding</b> Rate the hospital's level of exposure to storm surge or river flooding hazards based on previous events that did or did not cause flooding in or around the hospital.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Landslides</b> Refer to geological maps to rate the hospital's level of exposure to landslide hazards caused by saturated soil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Others (specify) .....</b> Refer to hazard maps to identify other hydro-meteorological hazards not listed above. Specify the hazard and rate the corresponding hazard level for the hospital.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.1.3 Social phenomena				
<b>Population gatherings</b> Rate the hospital's exposure to hazard in relation to the type of population it serves, its proximity to population gatherings and prior events that have affected the hospital.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Displaced populations</b> Rate the hospital's exposure to hazard in terms of people who have been displaced as a result of war, socio-political circumstances, or due to immigration and emigration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Others (specify)</b> ..... If other social phenomena affect the safety of the hospital, specify them and rate the level of hazard for the hospital accordingly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.1.4 Environmental phenomena				
<b>Epidemics</b> With reference to any past incidents at the hospital and specific pathogens, rate the hospital's exposure to hazards related to epidemics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Contamination (systems)</b> With reference to any past incidents involving contamination, rate the hospital's exposure to hazards from contamination of its systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Infestations</b> With reference to the location and past incidents at the hospital, rate the hospital's exposure to hazards from infestations (flies, fleas, rodents, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Others (specify)</b> ..... With reference to any past incidents at the hospital, specify any other environmental phenomena not included above that might compromise the level of safety of the hospital.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.1.5 Chemical and/or technological phenomena				
<b>Explosions</b> With reference to the hospital's surroundings, rate the hospital's exposure to explosion hazards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Fires</b> With reference to the exterior of the hospital building, rate the hospital's exposure to external fires.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Hazardous material spills</b> With reference to the hospital's surroundings, rate the hospital's exposure to hazardous material spills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Others (specify)</b> ..... Specify and rate other chemical or technological hazards in the area where the hospital is located.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## 2. Elements related to the structural safety of the building

Columns, beams, walls, floor slabs, etc., are structural elements that form part of the load-bearing system of the building. These elements should be evaluated by structural engineers.

2.1 Prior events affecting hospital safety	Safety level			OBSERVATIONS
	LOW	AVERAGE	HIGH	
<p><b>1. Has there been prior structural damage to the hospital as a result of natural phenomena?</b>            Determine whether structural reports indicate that the level of safety has been compromised. IF SUCH AN EVENT HAS NOT OCCURRED IN THE VICINITY OF THE HOSPITAL, LEAVE BOXES BLANK.  <i>Low = Major damage; Average = Moderate damage; High = Minor damage.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>2. Was the hospital built and/or repaired using current safety standards?</b>            Verify whether the building has been repaired, the date of repairs, and whether repairs were carried out using standards for safe buildings.  <i>Low = Current safety standards not applied; Average = Current safety standards partially applied; High = Current safety standards fully applied.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>3. Has remodelling or modification affected structural behavior of the facility?</b>            Verify whether modifications were carried out using standards for safe buildings.  <i>Low = Major remodelling or modifications have been carried out; Average = Moderate remodelling and/or modifications; High = Minor remodelling and/or modifications or no modifications were carried out.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.2 Safety of the structural system and type of materials used in the building	Safety level			OBSERVATIONS
	LOW	AVERAGE	HIGH	
<p><b>4. Condition of the building</b>  <i>Low = Deterioration caused by weathering; cracks on the first floor and irregular height of buildings; Average = Deterioration caused only by weathering; High = Good; no deterioration or cracks observed.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>5. Construction materials used</b>  <i>Low = Rust with flaking; cracks larger than 3mm; Average = Cracks between 1 and 3 mm or rust powder present; High = Cracks less than 1 mm; no rust.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>6. Interaction of non-structural elements with the structure</b>  <i>Low = Separation of less than 0.5% of the height of the partition/joint; Average = Separation between 0.5 and 1.5% of the height of the partition/joint; High = Separation above 1.5% of the partition/joint.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>7. Proximity of buildings (hazards of pounding, wind tunnel effects, fires, etc.)</b>  <i>Low = Separation is less than 0.5% of the height of the shorter of two adjacent buildings; Average = Separation is between 0.5% and 1.5% of the height of the shorter of two adjacent buildings; High = Separation is more than 1.5% of the height of the shorter of two adjacent buildings.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>8. Structural redundancy</b>  <i>Low = Fewer than three lines of resistance in each direction; Average = Three lines of resistance in each direction or lines without orthogonal orientation; High = More than three lines of resistance in each orthogonal direction of the building.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<p><b>9. Structural detailing, including connections</b>  <i>Low = Built before 1970; Average = Built between 1970 and 1990; High = Built after 1990 and according to standards.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>10. Safety of foundations</b>  <i>Low = Information is lacking or foundation depth is less than 1.5 m; Average = Plans and soil studies are lacking but foundation depth is more than 1.5 m; High = Plans, soil studies are available and foundation depth is more than 1.5 m.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>11. Irregularities in the plan (rigidity, mass, and resistance)</b>  <i>Low = Shapes are irregular and structure is not uniform; Average = Shapes are irregular but structure is uniform; High = Shapes are regular, structure has uniform plan, and there are no elements that would cause torsion.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>12. Irregularities in height (rigidity, mass, and resistance)</b>  <i>Low = Height of storeys differs by more than 20% and there are significant discontinuous or irregular elements; Average = Storeys have similar heights (they differ by less than 20% but more than 5%) and there are few discontinuous or irregular elements; High = Storeys of similar height (they differ by less than 5%); there are no discontinuous or irregular elements.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>13. Structural resilience to various phenomena (meteorological, geological, among others)</b>  Estimate structural behavior in response to different hazards or dangers, other than earthquakes.  <i>Low = Low structural resilience to natural hazards present at the site of the hospital; Average = Satisfactory structural resilience; High = Excellent structural resilience.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Comments on the results of Form 2, Module 2:

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Name/signature of evaluator.....

### 3. Elements related to non-structural safety

Non-structural elements do not form part of the load-bearing system of the building. They include architectural components, equipment, and systems that are necessary for the operation of the building.

3.1 Critical systems	Safety level			OBSERVATIONS
	LOW	AVERAGE	HIGH	
<b>3.1.1 Electrical system</b>				
<p><b>14. Generator has capacity to meet 100% of demand</b>            Verify that the generator begins to operate within seconds of the hospital losing power, covering power demands for the entire hospital, particularly in the emergency department, intensive care unit, sterilization unit, operating theatres, etc.  <i>Low = Generator can only be started manually or covers 0–30% of demand; Average = Generator starts automatically in more than 10 seconds or covers 31%–70% of demand; High = Generator starts automatically in less than 10 seconds and covers 71%–100% of demand.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>15. Regular tests of generator performance are carried out in critical areas</b>            Determine the frequency of generator performance tests that have satisfactory results.  <i>Low = Tested every 3 months or more; Average = Tested every 1 to 3 months; High = Tested at least monthly.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>16. Generator protected from damage due to natural phenomena</b>  <i>Low = No; Average = Partially; High = Yes.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>17. Safety of electrical equipment, cables, and cable ducts</b>  <i>Low = No; Average = Partially; High = Yes.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>18. Redundant system for local electric power supply</b>  <i>Low = No; Average = Partially; High = Yes.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>19. Protection for control panel, overload breaker switch, and cables</b>            Check the accessibility as well as condition and operation of the central electrical control panel.  <i>Low = No; Average = Partially; High = Yes.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>20. Lighting system for critical areas of the hospital</b>            Review lighting for emergency unit, intensive care unit, operating theatres, etc., testing the level of lighting in rooms and function of lighting fixtures.  <i>Low = No; Average = Partially; High = Yes.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>21. External electrical systems installed on hospital grounds</b>            Verify the existence and capacity of external substations that provide power to the hospital.  <i>Low = No electrical substations installed on hospital's grounds; Average = Substations installed but do not provide enough power to hospital; High = Electrical substations installed and provide enough power to the hospital.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>3.1.2 Telecommunications system</b>			
<p><b>22. Condition of antennas and antenna bracing</b> Verify the condition of antennas and their bracing/supports. <i>Low = Poor or does not exist; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>23. Condition of low-voltage systems (Internet and telephone connections/cables)</b> Verify that cables are properly connected in strategic areas to avoid system overload. <i>Low = Poor or does not exist; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>24. Condition of alternative communications systems</b> Verify the condition of other communications systems: radio communications, satellite telephone, Internet, etc. <i>Low = Poor or does not exist; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>25. Condition of anchors and braces for telecommunications equipment and cables</b> Verify that telecommunications equipment (radios, satellite telephone, video conferencing system, etc.) is anchored for increased security. IF THE SYSTEM DOES NOT NEED ANCHORS OR BRACING, LEAVE BOXES BLANK. <i>Low = Poor; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>26. Condition of external telecommunications systems installed on hospital grounds</b> Verify that external telecommunications systems do not interfere with communications of the hospital. <i>Low = External telecommunications systems cause major interference with hospital communications; Average = External telecommunications systems cause moderate interference with hospital communications; High = External communications cause no interference with hospital communications.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>27. Site has adequate conditions for telecommunications systems</b> <i>Low = Poor or does not exist; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>28. Safety of internal communications systems</b> Verify the condition of loudspeakers, public address system, speaker systems, etc. <i>Low = Poor or does not exist; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>3.1.3 Water supply system</b>			
<p><b>29. Water tank has permanent reserve that is sufficient to provide at least 300 liters daily, per bed, for 72 hours</b> Verify that water storage is sufficient to satisfy user demand for three days. <i>Low = Sufficient for 24 hours or less; Average = Sufficient for more than 24 hours but less than 72 hours; High = Guaranteed to cover at least 72 hours.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>30. Water storage tanks are protected and in secure locations</b> Visit the water tanks to determine the safety of the installations and of the site. <i>Low = The site is susceptible to structural or non-structural failure; Average = Failure would not cause collapse of tank; High = Low possibility of functional failure.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p><b>31. Alternative water supply to major distribution network</b>  Identify the agency or mechanism to supply or restore water service to the hospital should the public water system fail.  <i>Low = Provides less than 30% of demand; Average = Provides 30% to 80% of demand; High = Provides more than 80% of daily demand.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>32. Condition of water distribution system</b>  Verify condition and proper performance of water distribution system, including storage tanks, valves, pipes, and connections.  <i>Low = Less than 60% are in good operational condition; Average = Between 60% and 80% are in good condition; High = Above 80% are in good condition.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>33. Supplementary pumping system</b>  Identify the existence and operation of the supplementary pumping system in case water supply is interrupted.  <i>Low = There is no back-up pump and operational capacity does not meet daily demand; Average = All pumps are in satisfactory condition; High = All pumps and back-up systems are operational.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>3.1.4 Fuel storage (gas, gasoline, diesel)</b>				
<p><b>34. Fuel tanks have at least 5-day capacity</b>  Verify that the hospital has fuel storage tanks of adequate size and safety.  <i>Low = Fuel storage is not secured and has less than 3-day fuel capacity; Average = Fuel storage has some security and has 3-5 days fuel capacity; High = Fuel storage is secure and has capacity for 5 or more days.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>35. Fuel tanks and/or cylinders are anchored and in a secure location</b>  <i>Low = There are no anchors and the tank enclosure is unsafe; Average = Anchors are inadequate; High = Anchors are in good condition and the tank enclosure is adequate.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>36. Safe location of fuel storage</b>  Verify that the tanks containing combustible liquids are accessible but at a safe distance from the hospital.  <i>Low = There is risk of failure and that tanks are not accessible; Average = One of the two conditions have been met; High = The fuel storage tanks are accessible and they are located in a secure site.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>37. Safety of the fuel distribution system (valves, hoses, and connections)</b>  <i>Low = Less than 60% of system is in good operational condition; Average = between 60% and 80% of system is in good operational condition; High = More than 80% of system is in good operational condition.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>3.1.5 Medical gases (oxygen, nitrogen, etc.)</b>				
<p><b>38. Sufficient medical gas storage for minimum of 15-day supply</b>  <i>Low = Less than 10-day supply; Average = Supply for between 10 and 15 days; High = Supply for at least 15 days.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>39. Anchors for medical gas tanks, cylinders, and related equipment</b>  <i>Low = Anchors are lacking; Average = Quality of anchors is inadequate; High = Anchors are of good quality.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>40. Availability of alternative sources of medical gases</b>  <i>Low = Alternative sources are lacking or are below standard; Average = Alternative sources exist and are in satisfactory condition; High = Alternative sources exist and are in good condition.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>41. Appropriate location for storage of medical gases</b>  <i>Low = Storage is not accessible; Average = Storage is accessible but hazards exist; High = Storage is accessible and there are no hazards.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<p><b>42. Safety of medical gas distribution system (valves, pipes, connections)</b>  <i>Low = Less than 60% of system is in good working condition; Average = Between 60% and 80% of system is in good working condition; High = More than 80% of system is in good working condition.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>43. Protection of medical gas tanks and/or cylinders and related equipment</b>  <i>Low = No areas are used exclusively for this equipment and there are no qualified personnel to operate it; Average = Areas are used exclusively for this equipment but personnel are not trained to operate it; High = There are areas used exclusively for this equipment and it is operated by qualified personnel.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>44. Adequate safety in storage areas</b>  <i>Low = No areas are reserved for storage of medical gases; Average = Areas are reserved for storage of medical gases but safety measures are inadequate; High = There are areas reserved for storage of medical gases and the site does not present risks.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>3.2 Heating, ventilation, and air-conditioning (HVAC) systems in critical areas</b></p>	Safety level			OBSERVATIONS
	LOW	AVERAGE	HIGH	
<p><b>45. Adequate supports for ducts and review of flexibility of ducts and piping that cross expansion joints</b>  <i>Low = Supports are lacking and connections are rigid; Average = Supports are present <b>or</b> connections are flexible; High = Supports are present and connections are flexible.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>46. Condition of pipes, connections, and valves</b>  <i>Low = Poor; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>47. Condition of anchors for heating and/or hot water equipment</b>  <i>Low = Poor; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>48. Condition of anchors for air-conditioning equipment</b>  <i>Low = Poor; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>49. Location of enclosures for HVAC equipment</b>  <i>Low = Poor; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>50. Safety of enclosures for HVAC equipment</b>  <i>Low = Poor; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>51. Operating condition of HVAC equipment (boiler, air-conditioning systems, exhaust, etc.)</b>  <i>Low = Poor; Average = Satisfactory; High = Good.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>3.3 Office and storeroom furnishings and equipment (fixed and movable) including computers, printers, etc.</b></p>	Safety level			OBSERVATIONS
	LOW	AVERAGE	HIGH	
<p><b>52. Anchors for shelving and safety of shelf contents</b>  Verify that shelves are anchored to the walls and/or are braced and that contents are secured.  <i>Low = Shelving is not attached to walls; Average = Shelving is attached but contents are not secured; High = Shelving is attached and contents are secured.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>53. Safety of computers and printers</b>  Verify that computer tables are anchored and table wheels are locked.  <i>Low = Poor; Average = Satisfactory; High = Good or does not require anchor.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>54. Condition of office furnishings and other equipment</b> Check anchors and/or bracing on furnishings in offices. <i>Low = Poor; Average = Satisfactory; High = Good or does not require anchor.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>3.4 Medical and laboratory equipment and supplies used for diagnosis and treatment</b>	Safety level			OBSERVATIONS
	LOW	AVERAGE	HIGH	
<b>55. Medical equipment in operating theaters and recovery rooms</b> Verify that lamps, equipment for anaesthesia, and surgical tables are operational and that table or cart wheels are locked. <i>Low = The equipment is in poor condition or it is not secured; Average = The equipment is in fair condition or not properly secured; High = Equipment is in good condition and is secured.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>56. Condition and safety of radiology and imaging equipment</b> Verify that the X-ray and imaging equipment is in good condition and is secured. <i>Low = The equipment is in poor condition or it is not secured; Average = The equipment is in fair condition or not properly secured; High = Equipment is in good condition and is secured.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>57. Condition and safety of laboratory equipment</b> <i>Low = The equipment is in poor condition or it is not secured; Average = The equipment is in fair condition or not properly secured; High = Equipment is in good condition and is secured.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>58. Condition and safety of medical equipment in emergency services unit</b> <i>Low = The equipment is in poor condition or it is not secured; Average = The equipment is in fair condition or not properly secured; High = Equipment is in good condition and is secured.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>59. Condition and safety of medical equipment in intensive or intermediate care unit</b> <i>Low = The equipment is in poor condition or it is not secured; Average = The equipment is in fair condition or not properly secured; High = Equipment is in good condition and is secured.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>60. Condition and safety of equipment and furnishings in the pharmacy</b> <i>Low = The equipment is in poor condition or it is not secured; Average = The equipment is in fair condition or not properly secured; High = Equipment is in good condition and is secured.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>61. Condition and safety of equipment in the sterilization unit</b> <i>Low = The equipment is in poor condition or it is not secured; Average = The equipment is in fair condition or not properly secured; High = Equipment is in good condition and is secured.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>62. Condition and safety of medical equipment for neonatal care</b> <i>Low = The equipment is lacking, is in poor condition, or is not secured; Average = The equipment is in fair condition or not properly secured; High = Equipment is in good condition and is secured.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>63. Condition and safety of medical equipment and supplies for burn management</b> <i>Low = The equipment is lacking, is in poor condition, or it is not secured; Average = The equipment is in fair condition or not properly secured; High = Equipment is in good condition and is secured.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>64. Condition and safety of medical equipment for nuclear medicine and radiation therapy</b> IF THE HOSPITAL DOES NOT HAVE THESE SERVICES, LEAVE BOXES BLANK. <i>Low = The equipment is lacking, is in poor condition, or it is not secured; Average = The equipment is in fair condition or not properly secured; High = Equipment is in good condition and is secured.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>65. Condition and safety of medical equipment in other services</b> <i>Low = More than 30% of equipment is at risk of material or functional failure and/or equipment puts the entire service's operation at direct or indirect risk; Average = Between 10% and 30% of equipment is at risk of loss; High = Less than 10% of equipment is at risk of loss.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<p><b>66. Anchors for shelving and safety of medical contents</b>  <i>Low = Shelves are anchored or shelf contents are secured in less than 20% of cases; Average = Shelves are anchored or shelf contents are secured in 20% to 80% of cases; High = More than 80% of shelves are anchored and the contents of shelves are secured (or shelving and contents do not require anchors).</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>3.5 Architectural elements</b></p>	<b>Safety level</b>			<b>OBSERVATIONS</b>
	LOW	AVERAGE	HIGH	
<p><b>67. Condition and safety of doors and entrances</b>  <i>Low =Subject to damage and damage to element(s) would impede the performance of this and other components, systems, or operations; Average = Subject to damage but damage to element(s) would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>68. Condition and safety of windows and shutters</b>  <i>Low =Subject to damage and damage to element(s) would impede the performance of this and other components, systems, or operations; Average = Subject to damage but damage to element(s) would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>69. Condition and safety of other elements of the building envelope (outside walls, facings, etc.)</b>  <i>Low =Subject to damage and damage to element(s) would impede the performance of this and other components, systems, or operations; Average = Subject to damage but damage to element(s) would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>70. Condition and safety of roofing</b>  <i>Low =Subject to damage and damage to element(s) would impede the performance of this and other components, systems, or operations; Average = Subject to damage but damage to element(s) would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>71. Condition and safety of parapets (wall or railing placed to prevent falls on roofs, bridges, stairs, etc.)</b>  <i>Low =Subject to damage and damage to element(s) would impede the performance of this and other components, systems, or operations; Average = Subject to damage but damage to element(s) would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>72. Condition and safety of perimeter walls and fencing</b>  <i>Low =Subject to damage and damage to element(s) would impede the performance of this and other components, systems, or operations; Average = Subject to damage but damage to element(s) would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>73. Condition and safety of other outside elements (cornices, ornaments, etc.)</b>  <i>Low = Element(s) subject to damage and damage would impede the performance of this and other components, systems, or operations; Average = Element(s) subject to damage but damage would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<p><b>74. Safe conditions for movement outside of building</b>  <i>Low = Damage to structure or road and walkways will impede access to buildings or endanger pedestrians; Average = Damage to structure or road and walkways will not impede pedestrian access, but will impede vehicle access; High = No or minor potential for slight damage which will impede pedestrian or vehicle access.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>75. Safe conditions for movement inside the building (corridors, stairs, elevators, exit doors, etc.)</b>  <i>Low = Subject to damage and damage to element(s) will impede movement inside building and endanger occupants; Average = Damage to elements will not impede movement of people but will impede movement of stretchers, wheeled equipment; High = No or minor potential for slight damage which will not impede movement of people or wheeled equipment.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>76. Condition and safety of internal walls and partitions</b>  <i>Low = Element(s) subject to damage and damage would impede the performance of this and other components, systems, or operations; Average = Element(s) subject to damage but damage would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>77. Condition and safety of false or suspended ceilings</b>  IF THE HOSPITAL DOES NOT HAVE FALSE OR SUSPENDED CEILINGS, LEAVE BOXES BLANK.  <i>Low = Element(s) subject to damage and damage would impede the performance of this and other components, systems, or operations; Average = Element(s) subject to damage but damage would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>78. Condition and safety of internal and external lighting systems</b>  <i>Low = Element(s) subject to damage and damage would impede the performance of this and other components, systems, or operations; Average = Element(s) subject to damage but damage would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>79. Condition and safety of fire protection system</b>  <i>Low = Element(s) subject to damage and damage would impede the performance of this and other components, systems, or operations; Average = Element(s) subject to damage but damage would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>80. Condition and safety of elevator system</b>  IF THERE ARE NO ELEVATORS, LEAVE BOXES BLANK.  <i>Low = Element(s) subject to damage and damage would impede the performance of this and other components, systems, or operations; Average = Element(s) subject to damage but damage would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>81. Condition and safety of stairways</b>  <i>Low = Element(s) subject to damage and damage would impede the performance of this and other components, systems, or operations; Average = Element(s) subject to damage but damage would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>82. Condition and safety of floor coverings</b>  <i>Low = Element(s) subject to damage and damage would impede the performance of this and other components, systems, or operations; Average = Element(s) subject to damage but damage would not impede function; High = No or minor potential for damage that would impede the performance of this and other components, systems, or operations.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



#### 4. Safety based on functional capacity of hospital

The level of preparedness of hospital staff for major emergencies and disasters as well as the level of implementation of the hospital disaster plan.

4.1 Organization of the Hospital Disaster Committee and the Emergency Operations Center. Assess the level of organization achieved by the Hospital Disaster Committee.	Level of organization			OBSERVATIONS
	LOW	AVERAGE	HIGH	
<p><b>85. Committee has been formally established to respond to major emergencies or disasters</b>            Obtain a copy of the Committee's terms of reference and verify that the list of members corresponds to current personnel.  <i>Low = Committee does not exist; Average = Committee exists but is not functioning; High = Committee exists and is functioning.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>86. Committee membership is multi-disciplinary</b>            Verify that the positions on the Committee are occupied by personnel from diverse disciplines (for example, hospital director, chief of nursing, maintenance engineer, head of emergency services, medical director, chief of surgery, chief of laboratory and support services, among others).  <i>Low = 0–3 disciplines represented; Average = 4–5 disciplines represented; High = 6 or more disciplines represented.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>87. Each member is aware of his/her specific responsibilities</b>            Verify that members' assigned responsibilities are in writing, describing their specific roles.  <i>Low = Responsibilities not assigned; Average = Responsibilities have been officially assigned; High = All members know and comply with their responsibilities.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>88. Space is designated for the hospital Emergency Operations Centre (EOC)</b>            Verify that a room has been designated for operational command and that all means of communication are present (telephone, fax, Internet, etc.).  <i>Low = Nonexistent; Average = Space has been officially assigned; High = EOC exists and is functional.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>89. The EOC is in a protected and safe location</b>            Take into account accessibility, safety, and protection when checking the room used for the EOC.  <i>Low = The room for the EOC is not in a safe location; Average = The EOC is in a safe location but it is not easily accessible; High = The EOC is in a safe, protected, and easily accessible location.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>90. The EOC has a computer system and computers</b>            Verify that the EOC has Internet and intranet connections.  <i>Low = No; Average = Incomplete; High = The EOC has all computer system requirements</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>91. Both internal and external communications systems in the EOC function properly</b>            Determine whether the switchboard (telephone central for re-routing calls) has a paging or a public address system and the operators know the emergency codes and how to use them.  <i>Low = Does not function or is nonexistent; Average = Partly functional; High = Complete and functional.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>92. The EOC has an alternative communications system</b>            Determine whether, besides the switchboard, there is an alternative communications system (e.g. cellular, two-way radio, etc.).  <i>Low = Nonexistent; Average = Incomplete; High = Yes.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>93. The EOC has adequate equipment and furnishings</b>            Verify that there are desks, chairs, power outlets, lighting, water supply, and drainage.  <i>Low = No; Average = Incomplete; High = Yes.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<p><b>94. An up-to-date telephone directory is available in the EOC</b>  Confirm that the directory includes all support services needed in an emergency (randomly check telephone numbers).  <i>Low = No; Average = Directory exists but is not up-to-date; High = Available and current.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>95. "Action Cards" available for all personnel</b>  Verify that action cards describe the assigned duties of each hospital staff member in case of an internal or external disaster.  <i>Low = No; Average = Insufficient (numbers and quality); High = All staff members have cards.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>4.2 Operational plan for internal or external disasters</b></p>	<b>Level of implementation</b>			<b>OBSERVATIONS</b>
	LOW	AVERAGE	HIGH	
<p><b>96. Strengthen essential hospital services</b>  The plan specifies actions to be taken before, during, and after a disaster in the hospital's essential services (emergency room, intensive care unit, sterilization unit, operating theatre, among others).  <i>Low = Plan does not exist or exists only as a document; Average = Plan exists and personnel have been trained; High = Plan exists, personnel have been trained, and resources are in place to carry out the plan.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>97. Procedures to activate and deactivate the plan</b>  Verify that there are procedures for how, when, and by whom the plan is activated/ deactivated.  <i>Low = Plan does not exist or exists only as a document; Average = Plan exists and personnel have been trained; High = Plan exists, personnel have been trained, and resources are in place to carry out the procedures.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>98. Special administrative procedures for disasters</b>  Verify that the plan includes procedures for contracting personnel and for procurements in case of disaster.  <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Plan exists, personnel have been trained, and resources are in place to carry out the procedures.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>99. Financial resources for emergencies are budgeted and guaranteed</b>  Verify that the hospital has a specific budget for use in disaster situations.  <i>Low = Not budgeted; Average = Funds will cover less than 72 hours; High = Funds are guaranteed for 72 hours or more.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>100. Procedures for expanding usable space, including the availability of extra beds</b>  The plan identifies physical spaces that can be equipped to treat mass casualties.  <i>Low = Space for expansion has not been identified; Average = Space has been identified and personnel have been trained to carry out the expansion; High = Procedures exist, personnel have been trained, and resources are in place to carry out expansion of space.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>101. Procedures for admission to the emergency department</b>  The plan specifies the places and personnel responsible for carrying out triage.  <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<p><b>102. Procedures to expand emergency department and other critical services</b>  The plan should indicate actions needed to expand hospital services (for example, drinking water supply, power, wastewater).  <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>103. Procedures to protect patients' medical records</b>  The plan indicates how medical and other critical patient records can be safely moved.  <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>104. Regular safety inspections are conducted by the appropriate authority</b>  Note the expiration and/or refill dates of fire extinguishers and of flow tests for fire hydrants. Examine logbooks that record equipment tests and dates of inspections by civil defence personnel.  <i>Low = Inspections do not occur; Average = Incomplete or outdated inspection; High = Inspections are complete and up-to-date.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>105. Procedures for hospital epidemiological surveillance</b>  Verify that the hospital's Epidemiological Surveillance Committee has specific procedures for disaster incidents or treatment of mass casualties.  <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>106. Procedures for preparing sites for temporary placement of dead bodies and for forensic medicine</b>  Verify that the plan includes specific arrangements for pathology and a site for the placement of multiple cadavers.  <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>107. Procedures for triage, resuscitation, stabilization, and treatment</b>  <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>108. Transport and logistics support</b>  Confirm that the hospital has ambulances and other official vehicles.  <i>Low = Ambulances and vehicles for logistic support are not available; Average = There are insufficient vehicles; High = Appropriate vehicles in sufficient numbers are available.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>109. Food rations for hospital staff during the emergency</b>  The plan specifies actions for supplying food during the emergency and funds for these supplies are included in the budget.  <i>Low = Nonexistent; Average = Covers less than 72 hours; High = Guaranteed for at least 72 hours.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>110. Duties assigned for additional personnel mobilized during the emergency</b>  <i>Low = Assignments do not exist or exist only in a document; Average = Duties are assigned and personnel have been trained; High = Duties are assigned, personnel have been trained, and resources are in place to mobilize the personnel.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<p><b>111. Measures to ensure the well-being of additional personnel mobilized during the emergency</b>  The plan identifies where emergency personnel can rest, drink, and eat.  <i>Low = Nonexistent; Average = Measures cover less than 72 hours; High = Measures are ensured for at least 72 hours.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>112. Cooperative arrangements with local emergency plan</b>  There are written arrangements regarding cooperation between the hospital and community authorities.  <i>Low = No arrangements exist; Average = Arrangements exist but are not operational; High = Arrangements exist and are operational.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>113. Mechanism to prepare a census of admitted patients and those referred to other hospitals</b>  The plan has specific forms that facilitate the listing of patients during emergencies.  <i>Low = Mechanism does not exist or exists only as a document; Average = Mechanism exists and personnel have been trained; High = Mechanism exists, personnel have been trained, and resources are in place to carry out the census.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>114. System for referral and counter-referral of patients</b>  <i>Low = System does not exist or exists only as a document; Average = System exists and personnel have been trained; High = System exists, personnel have been trained, and resources are in place to carry out the plan.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>115. Procedures for communicating with the public and media</b>  The hospital disaster plan specifies who is responsible for communicating with the public and media in case of disaster (generally the highest person in the chain of command at the time of the event).  <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>116. Procedures for response during evening, weekend, and holiday shifts</b>  <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>117. Procedures for the evacuation of the facility</b>  Verify procedures to evacuate patients, visitors, and staff.  <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>118. Emergency and other exit routes are accessible</b>  Verify that exit routes are clearly marked and free of obstacles.  <i>Low = Exit routes are not clearly marked and many are blocked; Average = Some exit routes are marked and most are clear of obstacles; High = All exit routes are clearly marked and free of obstacles.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>119. Simulation exercises and drills</b>  The plan is tested regularly through simulations and drills, which are evaluated and modified as appropriate.  <i>Low = Plans are not tested; Average = Plans are tested, but not each year; High = Plans are tested annually and updated according to the results of the exercises.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

4.3 Contingency plans for medical treatment in disasters	Level of implementation			OBSERVATIONS
	LOW	AVERAGE	HIGH	
<p><b>120. Earthquakes, tsunamis, volcanoes, and landslides</b></p> <p>IF THESE HAZARDS DO NOT EXIST WHERE THE HOSPITAL IS LOCATED, LEAVE THE BOXES BLANK.</p> <p><i>Low = Plan does not exist or exists only as a document; Average = Plan exists and personnel have been trained; High = Plan exists, personnel have been trained, and resources are in place to carry out the plan.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>121. Social conflict and terrorism</b></p> <p><i>B= Low = Plan does not exist or exists only as a document; Average = Plan exists and personnel have been trained; High = Plan exists, personnel have been trained, and resources are in place to carry out the plan.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>122. Floods and hurricanes</b></p> <p>IF THESE HAZARDS DO NOT EXIST WHERE THE HOSPITAL IS LOCATED, LEAVE THE BOXES BLANK.</p> <p><i>Low = Plan does not exist or exists only as a document; Average = Plan exists and personnel have been trained; High = Plan exists, personnel have been trained, and resources are in place to carry out the plan.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>123. Fires and explosions.</b></p> <p><i>Low = Plan does not exist or exists only as a document; Average = Plan exists and personnel have been trained; High = Plan exists, personnel have been trained, and resources are in place to carry out the plan.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>124. Chemical accidents OR exposure to ionizing radiation</b></p> <p><i>Low = Plan does not exist or exists only as a document; Average = Plan exists and personnel have been trained; High = Plan exists, personnel have been trained, and resources are in place to carry out the plan.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>125. Pathogens with epidemic potential</b></p> <p><i>Low = Plan does not exist or exists only as a document; Average = Plan exists and personnel have been trained; High = Plan exists, personnel have been trained, and resources are in place to carry out the plan.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>126. Psycho-social treatment for patients, families, and health workers</b></p> <p><i>Low = Plan does not exist or exists only as a document; Average = Plan exists and personnel have been trained; High = Plan exists, personnel have been trained, and resources are in place to carry out the plan.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>127. Control of hospital-acquired infections</b></p> <p>Request the corresponding hospital manual and verify whether control procedures are in force.</p> <p><i>Low = Manual does not exist or exists only as a document; Average = Manual exists and personnel have been trained; High = Manual exists, personnel have been trained, and resources are available to implement measures.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>4.4 Plans for the operation, preventive maintenance, and restoration of critical services</b> Measure the level of availability, accessibility, and relevance of documents that are essential when responding to an emergency.	Level of availability			OBSERVATIONS
	LOW	AVERAGE	HIGH	
<b>128. Electric power supply and back-up generators</b> The maintenance division should provide the operations manual for the back-up electric generator as well as preventive maintenance records. <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>129. Drinking water supply</b> The maintenance division should provide the operations manual for the water supply system as well as records on preventive maintenance and water quality control. <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>130. Fuel reserves</b> The maintenance division should provide the operations manual for fuel supplies, as well as preventive maintenance records. <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>131. Medical gases</b> The maintenance division should provide the operations manual for medical gases supply, as well as preventive maintenance records. <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>132. Standard and back-up communications systems</b> <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>133. Wastewater systems</b> The maintenance division should ensure that hospital wastewater drains into the public sewage system and does not contaminate drinking water. <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>134. Solid waste management</b> The maintenance division should provide the operations manual for solid waste management, as well as records showing waste collection and subsequent disposal. <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<p><b>135. Maintenance of the fire protection system</b>  The maintenance division should provide the operations manual for the fire protection systems, as well as records showing preventive maintenance on fire extinguishers and fire hydrants.  <i>Low = Procedures do not exist or exist only in a document; Average = Procedures exist and personnel have been trained; High = Procedures exist, personnel have been trained, and resources are in place to implement them.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>4.5 Availability of medicines, supplies, instruments, and other equipment for use in emergency</b>  Verify the availability of essential supplies in the event of an emergency.</p>	<b>Level of availability</b>			<b>OBSERVATIONS</b>
	LOW	AVERAGE	HIGH	
<p><b>136. Medicines</b>  Check the availability of emergency medicines. The WHO list of essential drugs can be used as a reference.  <i>Low = Nonexistent; Average = Supply covers less than 72 hours; High = Supply is guaranteed for at least 72 hours.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>137. Items for treatment and other supplies</b>  Check that the sterilization unit has a supply of sterilized materials for use in an emergency (check the supply prepared for the following day).  <i>Low = Nonexistent; Average = Supply covers less than 72 hours; High = Supply guaranteed for at least 72 hours.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>138. Instruments</b>  Verify the existence and maintenance of specific instruments used in emergencies.  <i>Low = Nonexistent; Average = Supply covers less than 72 hours; High = Supply guaranteed for at least 72 hours.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>139. Medical gases</b>  Verify the phone numbers and addresses of medical gas supplier and ensure availability in an emergency from the supplier.  <i>Low = Nonexistent; Average = Supply covers less than 72 hours; High = Supply guaranteed for at least 72 hours.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>140. Mechanical volume ventilators</b>  The Hospital Disaster Committee should provide documentation on quantity and conditions of use of this equipment.  <i>Low = Nonexistent; Average = Supply covers less than 72 hours; High = Supply guaranteed for at least 72 hours.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>141. Electro-medical equipment</b>  The Hospital Disaster Committee should provide documentation on quantity and conditions of use of this equipment.  <i>Low = Nonexistent; Average = Supply covers less than 72 hours; High = Supply guaranteed for at least 72 hours.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>142. Life-support equipment</b>  <i>Low = Nonexistent; Average = Supply covers less than 72 hours; High = Supply guaranteed for at least 72 hours.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><b>143. Personal protection equipment for epidemics (disposable)</b>  Verify the hospital's stocks of personal protection equipment for staff working in areas of initial contact and treatment.  <i>Low = Nonexistent; Average = Supply covers less than 72 hours; High = Supply guaranteed for at least 72 hours.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



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A PAHO/WHO contribution to the 2008 - 2009 World Disaster Reduction Campaign

**Hospitals Safe from Disasters**

Reduce risk, protect health facilities, save lives