



**World Health  
Organization**

Regional Office for the Eastern Mediterranean

# **Post Disaster Rapid Hospital Assessment**

**Rosary Sisters Hospital Report**

**Prepared by: New Health concept**



NEW HEALTH CONCEPT



This document was prepared as an activity of the World Health Organization (WHO) to assess the damaged hospitals post the Explosion of Port Beirut on August 04, 2020 that have damaged major medical centers in the region of Beirut.

This report is intended to present the assessment held to the damaged hospital: “**Rosary Sisters Hospital**” in the region of Beirut (*Pasteur Street*).

The site visit was held to rapidly assess the status of the Medical Centers post the Beirut’s explosion; the Hospital is considered **very severely damaged** by the explosion since it is located at proximity of the port and is facing the explosion.

The intensity of damage at the rosary hospital can be estimated to 80% - **the hospital is currently not functional** - ; high damages were noticed on level of the false ceiling, the walls, the light partitions, the doors, the windows, the shafts, the elevators, the closets and wardrobes, the MEP (*Mechanical, Electrical, Plumbing*) machinery and equipment, the medical equipment and materials, the systems’ network,...

The upper ground floors are highly damaged on level of building elements, equipment and materials. However, the underground floors damages were limited to defeat in the false ceiling and the doors.

The functions’ systems are currently not operating properly and they all require a full testing for both equipment and networks.

An overall “engineering assessment” will be presented, followed by an assessment as per the “Post Disaster Rapid Hospital Assessment – Hospital Administrator” tool, adapted from the WHO PAHO Checklist which includes sections on Structural (S), Non-structural (N) and Functional Capacity (F) of the hospital.

In addition, photos were taken and added as support documents.

#### **Assessment team:**

- The assessment was coordinated by Dr Nagi Souaiby for the ministry of public health (MOPH), under the support of the World Health organization (WHO)

- The assessment team included the following experts: a nurse, a civil engineer, a biomedical engineer, a medical doctor as per below details.

Name	Function	Contact number	Email address
Nagi Souaiby*	Physician	+961 3 845 127	nagisouaiby@yahoo.com
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Christel Chweih	Civil engineer	+961 70 841 129	christel.chweih@gmail.com

### **Building Description:**

The hospital consists of two buildings: the old building and the new building:

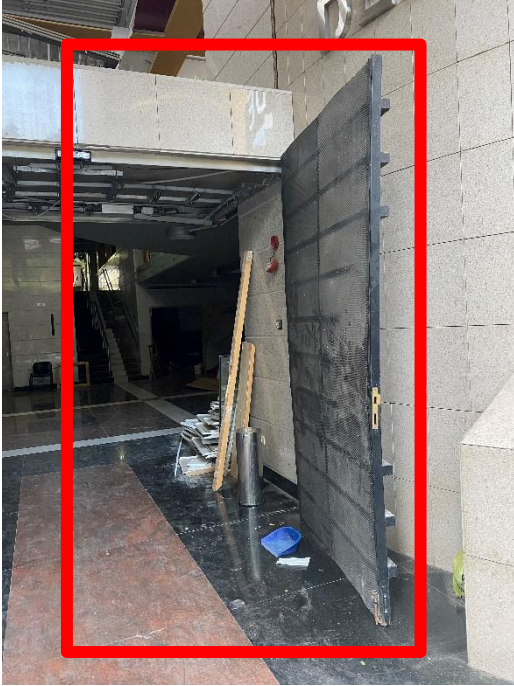
- The New building consist of:
  - Six basements: 4 Parking floors and 2 Medical Service floors.
  - Ground Floor.
  - Mezzanine Technical Floor.
  - Nine Floors: 8 for medical services and 1 for Sister's housing.
- The Old building consist of:
  - Two basements.
  - Ground Floor.
  - Seven Floors for medical services and clinics.

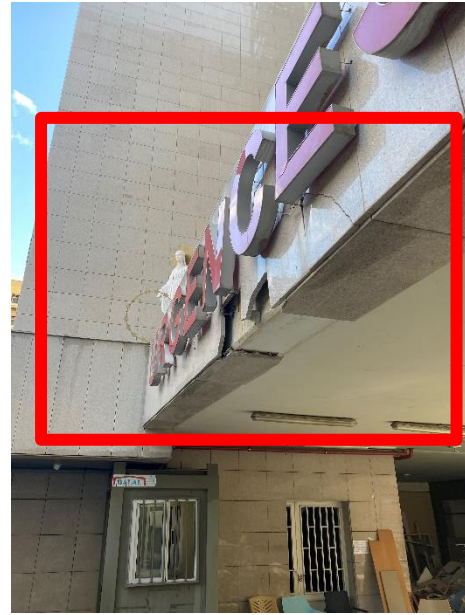
### **New Building Observation:**

A site tour was held - in presence of the Head of Engineering Department - in the hospital buildings to check the damages occurred from the explosion.

Reference to the site inspection and the visual intensity of damages in the different section of the buildings, we have noticed that the major damages increase while going up from the GF to the upper floors and decrease while going down in the basement's floors.

Firstly, the access to the building is not safe; the fence, the gate and some marble cladding from the facades risk to fall on the pedestrian at the side streets as shown in the below pictures.





The main entrance of the building is highly damaged: the false ceiling and the suspended fixtures were dismantled from original place by the high pressure of the explosion, the glass at this area is broken, the stretched PVC at the main entrance ceiling is loss, the door automation device is damaged and the door is loss.

Safety measure for accessibility shall be taken to prevent future accidents at this area.

As shown in the below pictures we can notice the cut of the cables network which affect the related systems functioning.



The administration officed ocated at the GF are damaged; the doors leaves were dismnnatled from place and due to the pressure, the jambs of the door were crashed.

Th elevators doors are squeezed, the cabinets are damaged and the false ceiling is highly damaged.

The lighting supply shown in the pictures is a temporary network used for the cleaning and the testing process.



The main systems' machinery are located at the roof and at the mezzanine technical floor; damages are shown as per the below pictures.

Machinery requires testing that shall be applied post the fixation of the damaged networks.

The fire rated steel doors at the mezzanine technical floor are totally damaged and shall be replaced by new ones specially that the rooms consist of oxygen and gas tanks







### **Patient and Medical Services Floors**

Actually, the damage status is typical at the upper floors, the below attached pictures shows different damages on level of:

#### **Light Partitions:**

(note that the below partition consists of cable routing inside the wall that was affected by the wall' fall)



### **False Ceiling:**

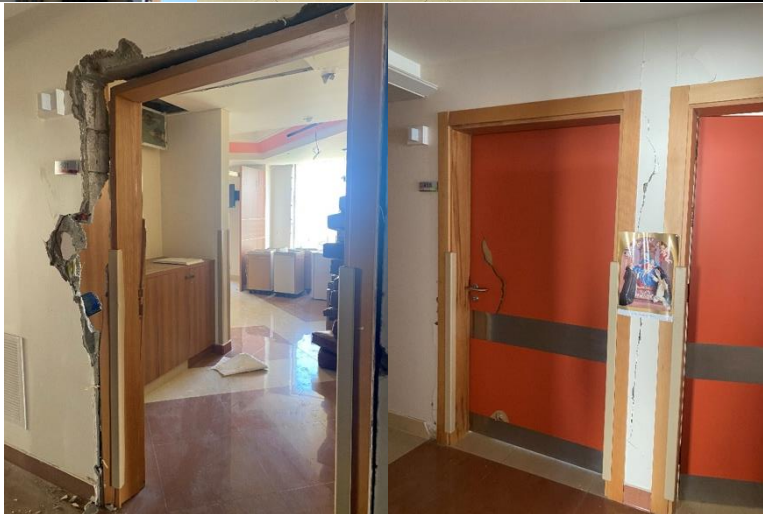
(the re-fixed parts require to be dismantled and replaced by new ones. In addition, prior to any fixation of false ceiling, a clearance from the fixation of all the systems and conduits above false ceiling is required)



**Doors and Doors Jamb:**

The fixation of the doors requires repair to civil works (masonry and plaster) at the door jamb area prior

to any new door fixation; the new doors shall consider the fire one and fire strategy plans. In addition, reference to the site tour we have noticed that the access control devices to doors are totally damaged and accordingly the access control/HMS is affected.



**Windows:**

All window's glazing is broken or damaged, the rails and the structure of the windows is damaged.

Currently the openings are exposed to wind and rain.



### **Shafts:**

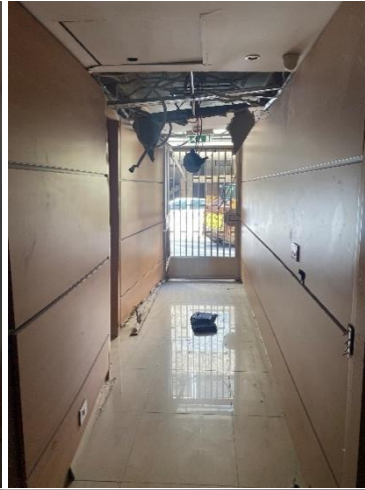
The shafts doors and skin is fully damaged; as shown in the below pictures the duct routing is disrupted and the elements are damaged; also, the shaft at the neighborhood are open and risk the non-secure entrance to the building.



**Walls Damages:**



**MEP System Damages:**



**Material and Furniture Damage:**





General Information	
Assessment date	Monday, 10 August 2020
Hospital name	Rosary Hospital
Hospital type	<input checked="" type="checkbox"/> General <input type="checkbox"/> Specialized
Affiliation	<input type="checkbox"/> Public (Ministry of Health) <input type="checkbox"/> Public (other than MoH) <input checked="" type="checkbox"/> Private (Non-profit) <input type="checkbox"/> NGO
Bed capacity	200 beds, currently only 150 beds were functional
Health/clinical services provided	All general services Medical and surgery care, ophthalmology, breast cancer care unit, OBGYN, Oncology
Hospital Condition	<input checked="" type="checkbox"/> Partially damaged <input type="checkbox"/> Not damaged
Hospital Status at the assessment time	<input type="checkbox"/> Fully Functioning <input type="checkbox"/> Partially Functioning <input checked="" type="checkbox"/> Not Functioning
Functional services at the assessment time	<input type="checkbox"/> in-patient <input type="checkbox"/> OPD <input type="checkbox"/> Lab <input type="checkbox"/> imaging <input checked="" type="checkbox"/> others (None)

## S: Structural

Visual assessment of the structure.

Determine if the structure is safe				
#	Safety checks	Yes	No	Observations/Comments/Actions (*)
S1	<ul style="list-style-type: none"> <li>Is the condition of the structure adequate to allow operations to continue of an acceptable quality and in a safe manner?</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>No visual cracks or fissuration in the building structure were shown.</p> <ul style="list-style-type: none"> <li>- The fissuration to the staircase wall shown at the Old Building (1<sup>st</sup> Floor) are mainly related to the plaster and they cause no danger to personnel.</li> <li>- A technical structural inspection is recommended to assure that there is no invisible defeats in the structure of both new and old building.</li> </ul>
S2	<ul style="list-style-type: none"> <li>Do we need to relocate a particular service(s) to another section of the facility, or must the service(s) be discontinued in-house and be outsourced in other hospitals?</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>All units aren't able to receive patient due to massive damages.</p> <p>They have a one day chemo unit that was damaged also because its location in the old building, and patients were treated by their physicians in other hospitals.</p>
S3	<ul style="list-style-type: none"> <li>Has there been any structural damage to walls and or foundations?</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> <li>- No damage to foundation.</li> <li>-The light walls were damaged by the explosion and have fallen (light partitions made of gypsum board in the new building).</li> <li>- The walls were affected at the door jambs area due to the high pressure of the door on the jamb which have caused damage to the wall.</li> <li>- The blockwork walls at the old building (pharmacy area at F1) were damaged.</li> <li>- The damaged walls at the old building shall be demolished.</li> </ul>

(\*) Note: Observations/ Comments/ Actions: Identify the actions that must be carried out to ensure safe operations at the hospital. Provide practical recommendations based on available resource

## N: Non-Structural

Assess integrity of the non-structural aspects and patient care areas				
N1	Accessibility	Yes	No	Observations/Comments/Actions
	<ul style="list-style-type: none"> <li>▪ Is there safe and adequate vehicular access to the hospital?</li> <li>▪ Is there safe pedestrian access to the hospital?</li> </ul>	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>- The roads are clear from debris and the cars can access the parking gate.</li> <li>-The hospital fences are not safe for cars and for pedestrian and risk to fall.</li> <li>- Window's broken glass and marble cladding risk to fall</li> </ul>
N2	Safety of external areas	Yes	No	Observations/Comments/Actions
	<ul style="list-style-type: none"> <li>▪ Are parking lots cleared and safe for usage?</li> </ul> <p>Check safety and security of hospital com- pound, external to buildings:</p> <ul style="list-style-type: none"> <li>▪ Boundary fence and gate(s) intact?</li> <li>▪ Fallen power/telecomm lines and poles?</li> <li>▪ External drains free from blockage?</li> <li>▪ Are water tanks secured and intact?</li> </ul>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>- Parking lots are accessible in basements.</li> <li>- Main Gate locks are damaged; temporary locks are currently being used.</li> <li>- The side shafts skin next to the neighbors is fully damaged; there is and easy access to floors from the neighbor's side building.</li> <li>- External Drains are not damaged.</li> <li>- Water leak has been detected in the basement and in one elevator at the time of the explosion; accordingly, the connection to network shall be tested and necessary action shall be taken to prevent the high leak of water noticed at the basements.</li> <li>- Roof water tanks cover is only damaged.</li> </ul>
N3	Safety of internal areas	Yes	No	Observations/Comments/Actions
	<p>Check the building interior for any potential sources of injury:</p> <ul style="list-style-type: none"> <li>▪ Are ceilings and overhead fixtures intact?</li> <li>▪ Are windows and doors secured to walls and able to close?</li> <li>▪ Are shelves, equipment and materials secured from falling?</li> <li>▪ Gases: Are bottles, tanks and gas links secure and without leaks?</li> <li>▪ Electricals: Is the electrical supply safe and reliable?</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>- Most ceilings and overhead fixtures have fallen.</li> <li>- Windows glass is broken, doors are damaged, locks are broken and light partitions are highly destroyed.</li> <li>- High percentage of materials, shelves, equipment is damaged.</li> <li>- The gas bottles at the technical floor are intact; during our inspection, the supplier's technician was testing the network for any possible leak.</li> <li>- Temporary electrical network is being used; cables and networks are partially damaged and</li> </ul>

				requires a complete testing. - The Generators were tested and fixed by supplier. - 1 of the 3 Hospital's UPS is damaged.
<b>N4</b>	<b>Assessment of major systems (lifelines)</b>	<b>Yes</b>	<b>No</b>	<b>Observations/Comments/Actions</b>
<i>Select YES, if system is functional and, NO, if the systems are non-functional</i>				
	<ul style="list-style-type: none"> <li>▪ Potable water (Is safe water available in adequate quantities?) (5 litres/out-patient; 40-60 litres/in-patient/day. Additional quantities may be needed for laundry equipment, flushing toilets, etc.)</li> <li>▪ Electrical generator</li> <li>▪ Fire system</li> <li>▪ Chillers / Boilers</li> <li>▪ Fuel supplies (<i>Check for leaks in fuel storage tanks or lines</i>)</li> <li>▪ Medical gases</li> <li>▪ Elevators</li> <li>▪ Hospital information system (HIS) <i>Check IT infrastructure</i></li> <li>▪ Wastewater system</li> <li>▪ Medical waste system</li> <li>▪ <a href="#">Air conditioning/Ventilation systems</a></li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<p>- The "no" mentioned systems are not functional at this stage; some are being tested.</p> <p>- The problem of the damage at Rosary Hospital is that the system network is affected by the explosion; accordingly, fixing the network of a system is required prior to the testing (ex: the ventilation ducts are broken and highly damaged. Thus, the duct routings shall be fixed and insulated prior to the testing)</p> <p>- Elevators are highly damaged in term of materials and equipment.</p> <p>- The OR located at the basement is intact. However, it can't be operated since no ventilation to lower floor is applicable and a flushing from the dust is required.</p> <p>In order to get back the systems, fixation to the existing networks is required. In addition, it requires a full technical testing to check the existing defeat in each system.</p>

## F: Functional Capacity

Determine the functional capacity and capability of the institution. Identify the gaps. Please fill out the checklist for the departments that are present at the hospital.

Identify safe areas that can be used to increase patient care capacity (surge capacity) (e.g. use of hospital corridors, lobby and other non-essential spaces and also parking areas and open spaces).

Assessment of critical areas including equipment functionality						
F1	Emergency Room	Yes	No	Observations/quantities/Comments/Actions		
	<ul style="list-style-type: none"> <li>▪ Bed capacity:</li> <li>▪ Has there been a reduction in bed capacity? (list number of beds currently available)</li> <li>▪ Is there capability to increase beds/ patient care capacity? (list number of additional beds)</li> <li>▪ Number of beds available: 0</li> </ul>	<p><input checked="" type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>		<p>Its ER capacity is 8 beds and one reanimation room. All emergency room beds were affected by the explosion. No possibility to receive patients because of lack of A/C, communication system, and it's not safe</p>		
	<p>Equipment:</p> <ul style="list-style-type: none"> <li>▪ Vital sign monitors ( 4)</li> <li>▪ Sphygmomanometer ( 2 welsh allen)</li> <li>▪ Defibrillator (2)</li> <li>▪ ECG machine (1)</li> <li>▪ Pulse Oximeter (5)</li> <li>▪ Suction device and connective tubing, in each room</li> <li>▪ Medical gases and regulators ( not available now)</li> <li>▪ Stretchers (9)</li> <li>▪ Infusion pumps borrowed from ICU when needed</li> <li>▪ Syringe pump borrowed from ICU when needed</li> <li>▪ Arterial blood gas machine (0)</li> <li>▪ Glucometer machine (5)</li> <li>▪ Otoscope (1)</li> <li>▪ IV (intravenous) poles (9)</li> <li>▪ Xray reader (1)</li> <li>▪ other</li> </ul>	<p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p>	<p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p>	<p>No. Functioning</p> <p>4</p>	<p>No. Needed</p> <p>1</p> <p>2</p> <p>2</p> <p>1</p>	<p>The equipment inventory is under preparation and assessment by biomedical department is ongoing in collaboration with the seller company. Apparently, one of the defibrillators and x ray reader are observed damaged. Monitors apparently are intact but the screens are waved that might reflect internal damages. All equipment were gathered in one room.</p>



F2	Intensive Care Unit (ICU)	Yes	No	Observations/ quantities/Comments/Actions									
	Bed capacity: <ul style="list-style-type: none"> <li>▪ Has there been a reduction in bed capacity? (list number of beds currently available)</li> <li>▪ Is there capability to improvise or increase bed capacity/ patient services? (list number of additional beds)</li> <li>▪ Number of beds available: 0</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> <li>▪ The ICU capacity is 10 beds and CCU 6 beds.</li> <li>▪ Due to damages of physical areas and all systems rupture, the units are not safe nor ready to receive patients.</li> </ul>									
F2	Intensive Care Unit (ICU)	Yes	No	Observations/ quantities/Comments/Actions									
	<b>Equipment:</b> <ul style="list-style-type: none"> <li>▪ Ventilator</li> <li>▪ Central monitor</li> <li>▪ Vital sign monitor</li> <li>▪ Infusion pump</li> <li>▪ Medical gases</li> <li>▪ Medication refrigerator</li> <li>▪ Defibrillator</li> <li>▪ Ambu bags and mask</li> <li>▪ Blood gas machine</li> <li>▪ Suction device</li> <li>▪ Stocked crash cart</li> <li>▪ Beds</li> </ul>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">No. Functioning</th> <th style="width: 50%;">No. Needed</th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td style="text-align: center;">6</td> </tr> </tbody> </table>	No. Functioning	No. Needed		1		1		6	<p>6 Beds were partially damaged.</p> <p>Central Monitor defective:1            monitor defective:1            Defibrillator defective:1</p> <p style="color: blue;"><b>Blood gas available at the laboratory</b></p> <p style="color: blue;"><b>ICU needs urgent equipment since the defective equipment are lifesaving ones.</b></p>
No. Functioning	No. Needed												
	1												
	1												
	6												





Monitors in ICU / screen wavy

**Related to NICUs:**

- Same above equipment suitable for neonates Incubators

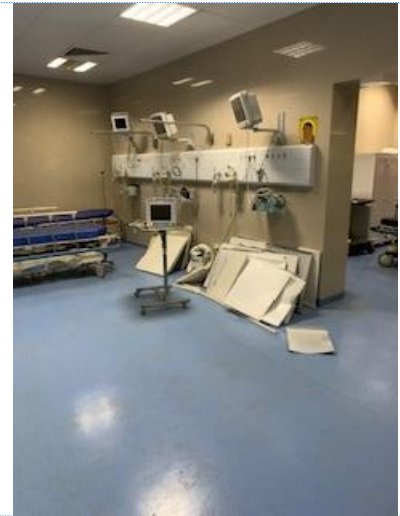


Complete damage of the unit ICU

**Related to NICUs:**

The unit wasn't opened yet. Its inauguration was planned to be early this year, but because of the revolution and COVID-19 pandemic they stopped their plans.

F3	Operating Theatre (OT)	Yes	No	Observations/ quantities/Comments/Actions		
<p>Select YES, if items are present and functional and, NO, if equipment was not available at hospital prior to event. If the items are insufficient or non-functional. Please mention the number functional equipment and number of needed equipment in the comments section in front of each equipment.</p>						
<b>Supplies:</b> <ul style="list-style-type: none"> <li>▪ Surgical sets</li> <li>▪ Airway supplies/ tubes</li> <li>▪ Medication</li> <li>▪ Gowns, masks and gloves</li> <li>▪ Sterile instruments</li> </ul>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> <li>▪ Quantities available in main store.</li> <li>▪ The OR stock is available for one week in OR and the main store is kept under the pharmacy, that was severely damaged</li> </ul>		
<b>Equipment:</b> <ul style="list-style-type: none"> <li>✓ Anesthetic machine</li> <li>✓ Operating theatre table</li> <li>✓ Defibrillators</li> <li>✓ Suction device</li> <li>✓ Airway equipment</li> <li>✓ Operating room lights</li> <li>✓ Surgical diathermy</li> <li>✓ Fluid warmer</li> <li>✓ Stocked crash cart</li> <li>✓ Medical gases</li> <li>✓ Autoclave</li> <li>✓ Air condition</li> <li>✓ Refrigerator</li> </ul>		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	No. Functioning	No. Needed	<p>The OR is located in the underground areas. However, because of the high pressure of the explosion, 3 monitors were damaged and O2 is interrupted in the hospital. Ventilators weren't checked yet. Video assistant laryngoscope blades were missed. One autoclave and both washing machines were damaged. All the ventilation system is not working and needs to be restored. The physical area has minor damages. The inventory is not completed yet, to identify the functioning equipment and the defective ones.</p>





Operating room hallway

Recovery room in OR

F4	Wards	Number of Beds	Is there adequate staff?		Is there adequate equipment?		Observations/ quantities/Comments/Actions
			Yes	No	Yes	No	
	Medical	26	✓				Because of the explosion, the hospital lost one RN and more than 8 wounded who still in recovery phase and many minor injuries.
	Surgical	26	✓				3 floors located in the old building weren't opened, so it decreases the hospital capacity to 125, because of lack of human and material resources
	OB/GYN	25	✓				The staffing is kept at its minimum level, because of decreased workload during this year. It's adequate because of low occupancy rate.
	Pediatrics	Not opened					The hospital is not ready to admit covid-19 patients
	Oncology, One day chemotherapy	11	✓				Lack in syringe pumps and IV pumps in all units ( needs 1-2/ unit)
	Mental health	Not available					
	NICU	Not opened					

Ophthalmology	5	✓		✓	The equipment are damaged
ICU	10	✓		✓	Needs lifesaving equipment (Defibrillators, Monitors, beds)
OR	6 rooms	✓			
NBCC ( breast cancer care unit)	26	✓			
ER		✓		✓	Needs syringe pumps and infusion pumps.



F5	Sterilization Department	Yes	No	Observations/ quantities/Comments/Actions
<p>Select YES, if items are present and functional and, NO, if the items are insufficient or non-functional.</p>				
	<p><b>Autoclave machines door damaged</b></p> 			<p><b>Washing machines damaged</b></p> 
F6	Dialysis	Yes	No	Observations/ quantities/Comments/Actions
<p>Select YES, if items are present and functional and, NO, if the items are insufficient or non-functional. State in comments, if equipment was not Available at hospital prior to event. <input type="checkbox"/></p>				
	<ul style="list-style-type: none"> <li>▪ Dialysis machine</li> <li>▪ Water</li> <li>▪ Water treatment (reverse osmosis) plant</li> <li>▪ All dialysis supplies</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<p><b>No hemodialysis unit available in the hospital</b></p>
F7	Blood bank	Yes	No	Observations/ quantities/Comments/Actions
	<ul style="list-style-type: none"> <li>▪ Refrigerated / Frozen blood products storage</li> <li>▪ Blood warmers</li> <li>▪ Administration sets</li> <li>▪ Lab testing equipment and supplies</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p><b>No blood bank available in the hospital. Blood provided by the families when needed from Lebanese red cross blood banks</b></p>

## Assessment of ancillary services

F8	Radiology	Yes	No	Observations/ quantities/Comments/Actions		
<i>Select YES, if items are present and functional and, NO, if the items are insufficient or non-functional. State in comments, if equipment was not available at hospital prior to event.</i>						
<b>Equipment:</b> <ul style="list-style-type: none"> <li>▪ MRI</li> <li>▪ CT Scan</li> <li>▪ Ultrasound</li> <li>▪ General radiographic/ fluoroscopic equipment</li> <li>▪ Film processor/ computerized radiography system (CR reader)</li> <li>▪ Mammography system</li> <li>▪ Defibrillator</li> <li>▪ Other (interventional...)</li> </ul>		<input type="checkbox"/>          	<input type="checkbox"/>          			
<b>Supplies:</b> <ul style="list-style-type: none"> <li>▪ Films and Cassettes</li> <li>▪ Processing equipment &amp; chemicals</li> <li>▪ Contrast media</li> <li>▪ Emergency trolley</li> </ul>		<input type="checkbox"/>    	<input type="checkbox"/>    			
F9	Laboratory	Yes	No	Observations/quantity/ Comments/Actions		
<i>Select YES, if items are present and functional and, NO, if the items are insufficient or non-functional. State in comments, if equipment was not available at hospital prior to event.</i>						
<b>Equipment</b> <ul style="list-style-type: none"> <li>▪ Hematology analyzer</li> <li>▪ Chemistry analyzer</li> <li>▪ Centrifuge</li> <li>▪ Diagnostic kits / Reagents</li> <li>▪ refrigerator</li> <li>▪ Microscope</li> <li>▪ Autoclave</li> <li>▪ Others:</li> </ul>		<input type="checkbox"/>          	<input type="checkbox"/>          	No. Functioning	No. Needed	
F10	Pharmacy	Yes	No	Observations/ quantity/Comments/Actions		
<i>Select YES, if items are present and functional and, NO, if the items are insufficient or non-functional.</i>						
<b>Equipment:</b> Medication refrigerators		<input type="checkbox"/>	<input checked="" type="checkbox"/>	No. Functioning	No. Needed  1	
Availability of medicines based on the approved essential drug list by the Ministry of Public Health, for example: <ul style="list-style-type: none"> <li>▪ General/Local Anaesthetics</li> <li>▪ Broad spectrum antibiotics</li> </ul>		<input checked="" type="checkbox"/>  <input checked="" type="checkbox"/>	<input type="checkbox"/>  <input type="checkbox"/>	<ul style="list-style-type: none"> <li>▪ The medication refrigerator is damaged and not functional</li> <li>▪ The medications were available, but because of the blast, the pharmacy, located in the old building, had sever damages. All medications were collected, gathered and</li> </ul>		

<ul style="list-style-type: none"> <li>▪ Antihistamines</li> <li>▪ Steroids and metabolic medications</li> <li>▪ Gastrointestinal medicines</li> <li>▪ Medicines acting on respiratory system</li> <li>▪ Non-steroidal anti-inflammatory drugs</li> <li>▪ Cardiac and Vascular Drugs</li> <li>▪ Delivery related medicines</li> <li>▪ Narcotics / Opiates</li> <li>▪ Oncology medications</li> </ul>	<ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> </ul>	<p>sent to the monastery to be secured in a conditioned place.</p> <ul style="list-style-type: none"> <li>▪ The refrigerated medications were sent to Beirut eye specialized Center for storage.</li> </ul>
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Pharmacy department – medication fridge



Pharmacy storage area

F11	Mortuary	Yes	No	Observations/ quantity/Comments/Actions

Select YES, if items are present and functional and, NO, if the items are insufficient or non-functional. State in comments, if equipment was not available at hospital prior to event.



	<ul style="list-style-type: none"> <li>✓ Refrigerator/ freezer room</li> <li>✓ Body trolley(s)</li> <li>✓ All consumables</li> </ul>	<ul style="list-style-type: none"> <li>✓</li> <li><input type="checkbox"/></li> <li>✓</li> </ul>	<ul style="list-style-type: none"> <li>✓</li> </ul>	<ul style="list-style-type: none"> <li>▪ Refrigerator can receive 2 corpses.</li> <li>▪ No body trolley available</li> <li>▪ One stretcher is available for body's transportation.</li> </ul>
<b>F12</b>	<b>Laundry</b>	<b>Yes</b>	<b>No</b>	<b>Observations/ quantity/Comments/Actions</b>
<i>Select YES, if items are present and functional and, NO, if the items are insufficient or non-functional. State in comments, if equipment was not available at hospital prior to event</i>				
	<ul style="list-style-type: none"> <li>▪ Washing machine / Dryer</li> <li>▪ Flat work ironer</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> </ul>	<ul style="list-style-type: none"> <li>▪ The Laundry is functional</li> </ul>
<b>F13</b>	<b>Kitchen</b>	<b>Yes</b>	<b>No</b>	<b>Observations/ quantity/Comments/Actions</b>
	<ul style="list-style-type: none"> <li>▪ Is there the ability to prepare, serve and distribute meals?</li> <li>▪ Refrigerators?</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/></li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/></li> </ul>	<ul style="list-style-type: none"> <li>▪ The Kitchen is functional</li> </ul>
<b>F14</b>	<b>Hygiene &amp; Infection control</b>	<b>Yes</b>	<b>No</b>	<b>Observations/ quantity/Comments/Actions</b>
	<ul style="list-style-type: none"> <li>▪ Has the hospital developed and implemented infection prevention and control measures?</li> <li>▪ Are there written IPC SOPs?</li> <li>▪ Personal protective equipment (PPE)</li> <li>▪ Disinfectant</li> </ul>	<ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> </ul>	<ul style="list-style-type: none"> <li>▪ The IC program is implemented, but needs updates.</li> <li>▪ COVID-19 unit is not ready.</li> <li>▪ Staff are using linen tissue for protection.</li> <li>▪ Infection control program needs to be reinforced.</li> </ul>
<b>F15</b>	<b>Medical records</b>	<b>Yes</b>	<b>No</b>	<b>Observations/ quantity/Comments/Actions</b>
	<ul style="list-style-type: none"> <li>▪ Are patient records safe and accessible?</li> <li>▪ Are patient records paper based or automated?</li> <li>▪ Is there capability to develop and store records for new patients?</li> <li>▪ Are patient records archives intact?</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> </ul>	<ul style="list-style-type: none"> <li>▪ The medical record is paper based, but they have an electronic archiving system started in 2018</li> <li>▪ The patients' file admitted before 2018 are kept in the medical record department</li> <li>▪ The medical record was affected and patients' files were flown on the road. After collecting the files, they was kept in the medical record in an unsecured way.</li> </ul>



No storage area in Medical record department



Medical record storage everywhere, on the floor

F16

**Communication**

Yes

No

**Observations/ quantity/Comments/Actions**

- Is there reliable communication available between the Hospital Emergency Operation Centre (EOC) and all staff and community?

**x**

- No mean of communication except their personnel phones.
- The internet and the MTC connections were interrupted

## Staff availability by department

F19	Staff Availability	Yes	No	Observations/ quantity/Comments/Actions
<i>Select YES, if there is adequate staff available, either present at the hospital or on call and, NO, if there is insufficient staff.</i>				
<ul style="list-style-type: none"> <li>▪ Staff by department:</li> <li>▪ Emergency Room</li> <li>▪ ICU</li> <li>▪ NICU</li> <li>▪ Operating theatre(s)</li> <li>▪ Sterilization department</li> <li>▪ Dialysis</li> <li>▪ Blood bank</li> <li>▪ Radiology</li> <li>▪ Laboratory</li> <li>▪ Pharmacy</li> <li>▪ Support and general services</li> <li>▪ Hygiene &amp; Infection Control</li> <li>▪ Housekeeping &amp; cleaning</li> <li>▪ Medical Records</li> <li>▪ General wards</li> </ul>	<ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>□</li> <li>✓</li> <li>✓</li> <li>□</li> <li>□</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> </ul>	<ul style="list-style-type: none"> <li>□</li> <li>□</li> <li>□</li> <li>□</li> <li>□</li> <li>□</li> <li>□</li> <li>□</li> <li>□</li> <li>□</li> <li>□</li> <li>□</li> <li>□</li> <li>□</li> <li>□</li> </ul>	<ul style="list-style-type: none"> <li>▪ Because of the explosion, the hospital lost one RN and more than 8 wounded who still in recovery phase and many minor injuries.</li> <li>▪ The staffing is kept at its minimum level, because of decreased workload during this year due to COVID-19 and the revolution.</li> <li>▪ Currently, the staff are working in cleaning and maintenance of the building.</li> <li>▪ Laundry and kitchen are working as regular.</li> <li>▪ No dedicated staff for IC, the quality manager and Nursing administration supervisors are taking in charge those responsibilities.</li> </ul>	

## Summary

### Structural

Is the hospital structure safe to continue to be functional? Tick the appropriate box.

Safe	Partially safe	Unsafe/ need to evacuate
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <i>Identify specific areas that are deemed unsafe and immediate action to be taken:</i>		

### Non-Structural

Assessment of the integrity of the non-structural aspects of the hospital; whether they are safe and functional, partially functional or unsafe or non-functional. Tick the appropriate box.

Non-structural aspect	Safe and functional	Partially safe/ partially functional	Unsafe/non-functional	Comments/immediate action
Accessibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
External areas and parking lots	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Internal areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Major systems (lifelines)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

### Functional

Assessment of the current functionality and capability of the hospital. If the department does not exist at the hospital, leave blank.

<b>Overall bed capacity of the hospital:</b>	
Number of functional beds prior to the event:	200
Number of functional beds after the event:	0
Can bed capacity be increased? If yes, by how many beds:	No
<b>Staff availability at the hospital:</b>	

**Comments:** *Identify immediate staff requirements (not currently available) per department to ensure normal operations:* the hospital lost one RN and more than 8 wounded who still in recovery phase and many minor injuries. No normal operations for now. All the staff is working in cleaning and maintenance of the building.

Critical functional areas	Functional	Partially functional	Non- functional	Comments/immediate action
Emergency room, ER				
Intensive Care Unit, ICU				
Neonatal ICU (NICU)				
Operating theatre(s), OT				
Sterilization department				
Dialysis				
Blood bank				N/A
Auxiliary functional areas	Functional	Partially functional	Non- functional	Comments/immediate action
Radiology				
Laboratory				
Pharmacy				
Mortuary				
Laundry				
Auxiliary functional areas	Functional	Partially functional	Non- functional	Comments/immediate action
Kitchen				
Housekeeping and cleaning				
Medical records				
Communication				
Others				

**Immediate action in order of priorities:**

Remove glass, rubble and debris.

Check functionality of equipment that were not checked.

Check major systems: Gas, ventilation

Make the ER and related technical services (Labs and imaging) functional first

**Please provide roughly estimated cost for different components proposed in the tool:**

Civil engineering work: estimated USD 5,801,250.00

Biomedical services / medical machines: Not tested yet but apparently major damages in the ophthalmological machines and materials to be assessed by specialist and the suppliers