

Hospital emergency response checklist

An *all-hazards* tool for hospital administrators and emergency managers

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Abstract



Hospitals play a critical role in providing communities with essential medical care during all types of disaster. Depending on their scope and nature, disasters can lead to a rapidly increasing service demand that can overwhelm the functional capacity and safety of hospitals and the health-care system at large. The World Health Organization Regional Office for Europe has developed the *Hospital emergency response checklist* to assist hospital administrators and emergency managers in responding effectively to the most likely disaster scenarios. This tool comprises current hospital-based emergency management principles and best practices and integrates priority action required for rapid, effective response to a critical event based on an all-hazards approach. The tool is structured according to nine key components, each with a list of priority action to support hospital managers and emergency planners in achieving: (1) continuity of essential services; (2) well-coordinated implementation of hospital operations at every level; (3) clear and accurate internal and external communication; (4) swift adaptation to increased demands; (5) the effective use of scarce resources; and (6) a safe environment for health-care workers. References to selected supplemental tools, guidelines and other applicable resources are provided. The principles and recommendations included in this tool may be used by hospitals at any level of emergency preparedness. The checklist is intended to complement existing multisectoral hospital emergency management plans and, when possible, augment standard operating procedures during non-crisis situations.

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Glossary



Capacity

The combination of all the strengths, attributes and resources available within an organization that can be used to achieve agreed goals (1).

Command and control

The decision-making system responsible for activating, coordinating, implementing, adapting and terminating a pre-established response plan (2).

Contingency planning

A process that analyses potential events or emerging situations that might threaten society or the environment and establishes arrangements that would enable a timely, effective and appropriate response to such events should they occur. The events may be specific, categorical, or all-hazard. Contingency planning results in organized and coordinated courses of action with clearly identified institutional roles and resources, information processes and operational arrangements for specific individuals, groups or departments in times of need (1).

Critical event

Any event in connection with which a hospital finds itself unable to deliver care in the customary fashion or to an accepted standard, event resulting in a mismatch of supply (capacity, resources, infrastructure) and demand (patients), and requiring the hospital to activate contingency measures to meet demand.

Disaster

Any event or series of events causing a serious disruption of a community's infrastructure – often associated with widespread human, material, economic, or environmental loss and impact, the extent of which exceeds the ability of the affected community to mitigate using existing resources (1).

Emergency

A sudden and usually unforeseen event that calls for immediate measures to mitigate impact (3).

Emergency response plan

A set of written procedures that guide emergency actions, facilitate recovery efforts and reduce the impact of an emergency event.

Incident action plan

A document that guides operational activities of the Incident Command System during the response phase to a particular incident. The document contains the overall incident objectives and strategy, general tactical actions, and supporting information to enable successful completion of objectives (4).

Incident command group

A multidisciplinary body of the incident command system, which provides the overall technical leadership and oversight for all aspects of crisis management, coordinates the overall response, approves all action, response and mitigation plans, and serves as an authority on all activities and decisions.

Incident command system

The designated system of command and control, which includes a combination of facilities, equipment, personnel, procedures, and means of communication, operating within a common organizational structure designed to aid in the management of resources for emergency incidents (4).

Memorandum of understanding

A formal document embodying the firm commitment of two or more parties to an undertaking; it sets out the general principles of the commitment but falls short of constituting a detailed contract or agreement (5).

Mutual-aid agreement

An agreement between agencies, organizations and jurisdictions, which provides a mechanism whereby emergency assistance in the form of personnel, equipment, materials and other associated services can be obtained quickly. The primary objective of the agreement is to facilitate the rapid, short-term deployment of emergency support prior to, during and after an incident (6).

Policy

A formally advocated statement or understanding adopted to direct a course of action, including planning, command and control, preparedness, mitigation, response and recovery (7).

Preparedness

The knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent, or current hazardous events or conditions (1).

Recovery

Restoring or improving the functions of a facility affected by a critical event or disaster through decisions and action taken after the event (8).

Resources

The personnel, finances, facilities and major equipment and supply items available or potentially available for assignment to incident operations.

Response

The provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety, and meet the basic subsistence needs of the people affected (1).

Risk assessment

A methodology for determining the nature and extent of risk, which involves analysing potential hazards and evaluating their impact in the context of existing conditions of vulnerability that, together, could harm exposed people, property, services, livelihoods, and the environment on which they depend (1).

Standard operating procedure

A complete reference document or operations manual that describes the purpose of a preferred method of performing a single function or a number of interrelated functions in a uniform manner and provides information about the duration of the operation, the authorities of those involved and other relevant details. (6).

Surge capacity

The ability of a health service to expand beyond normal capacity to meet an increased demand for clinical care (9).

Triage

The process of categorizing and prioritizing patients with the aim of providing the best care to as many patients as possible with the available resources (2).

Introduction



During times of disaster, hospitals play an integral role within the health-care system by providing essential medical care to their communities. Any incident that causes loss of infrastructure or patient surge, such as a natural disaster, terrorist act, or chemical, biological, radiological, nuclear, or explosive hazard, often requires a multijurisdictional and multifunctional response and recovery effort, which must include the provision of health care. Without appropriate emergency planning, local health systems can easily become overwhelmed in attempting to provide care during a critical event. Limited resources, a surge in demand for medical services, and the disruption of communication and supply lines create a significant barrier to the provision of health care. To enhance the readiness of health facilities to cope with the challenges of a disaster, hospitals need to be prepared to initiate fundamental priority action. This document provides an *all-hazards* list of key actions to be considered by hospitals in responding to any disaster event.

Hospitals are complex and potentially vulnerable institutions, dependent on external support and supply lines. In addition, with the current emphasis on cost-containment and efficiency, hospitals frequently operate at near capacity. During a disaster, an interruption of standard communications, external support services, or supply delivery can disrupt essential hospital operations and even a modest unanticipated rise in admission volume can overwhelm a hospital beyond its functional reserve. Employee attrition and shortage of critical equipment and supplies can reduce access to needed care and occupational safety. Even for a well-prepared hospital, coping with the consequences of a disaster is a complex challenge. Amid these challenges and demands, the systematic implementation of priority actions can help facilitate a timely and effective hospital-based response.

In defining the all-hazards priority action required for a rapid, effective response to a critical event, this checklist aims to support hospital managers and emergency planners in achieving the following: (1) the continuity of essential services; (2) the well-coordinated implementation of hospital operations at every level; (3) clear and accurate internal and external communication; (4) swift adaptation to increased demands; (5) the effective use of scarce resources; and (6) a safe environment for health-care workers. The tool builds on previous work by the World Health Organization to assist hospitals with pandemic management [*Hospital preparedness checklist for pandemic influenza: focus on pandemic (H1N1) 2009*].

The tool is structured according to nine key components, each with a list of priority actions. Hospitals experiencing an excessive demand for health services due to a critical event are strongly encouraged to be prepared to implement each action effectively and as soon as it is required. The “recommended reading” listed for each component includes selected tools, guidelines and other resources, which are considered relevant for that component.

Hospital emergency management is a continuous process requiring the seamless integration of planning and response efforts with local and national programmes. The principles and recommendations outlined in this tool are generic, applicable to a range of contingencies and based on an all-hazards approach. The checklist is intended to complement existing multisectoral hospital emergency-management plans and, when possible, augment standard operating procedures during non-crisis situations.

Hospital emergency response checklist

An *all-hazards* tool for hospital administrators and emergency managers

The following tool is designed to assist hospital administrators and emergency managers to respond effectively to disasters of all types.

Health facilities experiencing an excessive demand for health services due to a disaster-related event should verify the status of implementation of each of the actions listed.

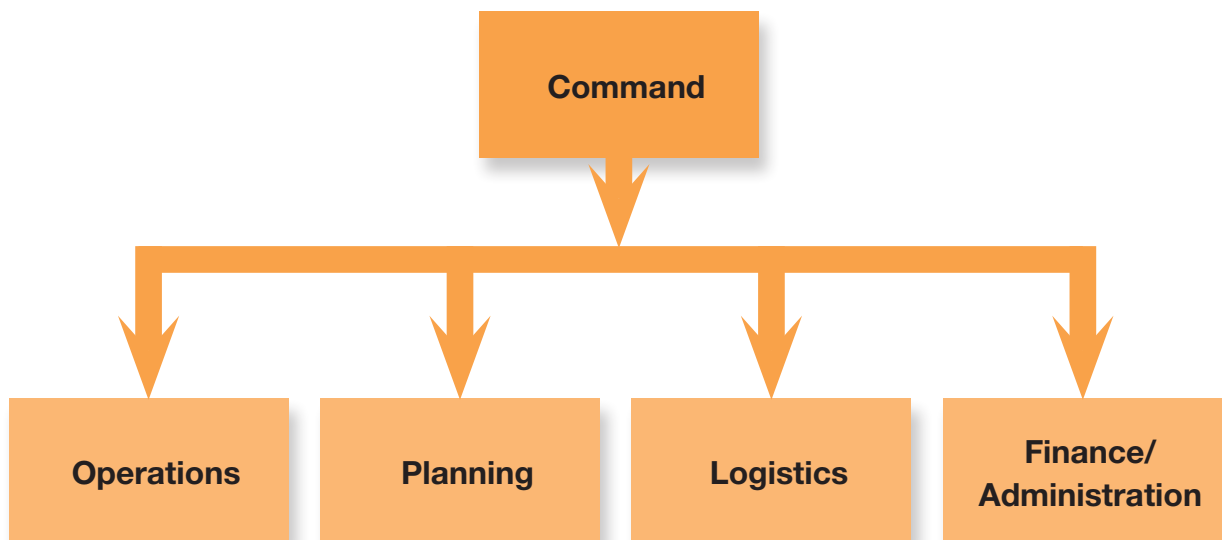
Health facilities at risk of an increase in demand for health services should be prepared to implement each action promptly.

Key component 1

Command and control

A well-functioning command-and-control system is essential for effective hospital emergency-management operations (Fig. 1) (Recommended reading 1).

Fig. 1. Organizational structure of the incident command system



Recommended action	Pending review	In progress	Completed
Activate the hospital incident command group (ICG) or establish an ad hoc ICG, i.e. a supervisory body responsible for directing hospital-based emergency management operations (Box 1).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Box 1. Ad hoc hospital incident command group

If NO mechanism is in place for coordinated hospital incident management (e.g. a hospital ICG), the hospital director should promptly convene a meeting with all heads of services in order to create an ad hoc ICG. An ICG is essential for effective development and management of hospital-based systems and procedures required for successful emergency response.

When organizing a hospital incident command group, consider including representatives from the following services:

- hospital administration
- communications
- security
- nursing administration
- human resources
- pharmacy
- infection control
- respiratory therapy
- engineering and maintenance
- laboratory
- nutrition
- laundry, cleaning, and waste management

In addition, medical staff working, for example, in emergency medicine, intensive care, internal medicine or paediatrics, should be represented.

Recommended action	Due for review	In progress	Completed
Designate a hospital command centre, i.e. a specific location prepared to convene and coordinate hospital-wide emergency response activities and equipped with effective means of communication.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For each of the nine key components listed in this document, designate an individual (focal point) to ensure the appropriate management and coordination of related response activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Designate prospective replacements for directors and focal points to guarantee continuity of the command-and-control structure and function.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consult core internal and external documents (e.g. publications of the national health authority and WHO) related to hospital emergency management to ensure application of the basic principles and accepted strategies related to planning and implementing a hospital incident action plan (Recommended reading 1).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implement or develop job action sheets that briefly list the essential qualifications, duties and resources required of ICG members, hospital managers and staff for emergency-response activities (Recommended reading 1).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that all ICG members have been adequately trained on the structure and functions of the incident command system (ICS) and that other hospital staff and community networks are aware of their roles within the ICS (Recommended reading 1).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Key component 2

Communication

Clear, accurate and timely communication is necessary to ensure informed decision-making, effective collaboration and cooperation, and public awareness and trust (Recommended reading 2). Consider taking the following action.

Recommended action	Due for review	In progress	Completed
Appoint a public information spokesperson to coordinate hospital communication with the public, the media and health authorities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Designate a space for press conferences (outside the immediate proximity of the emergency department, triage/waiting areas and the command centre).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Draft brief key messages for target audiences (e.g. patients, staff, public) in preparation for the most likely disaster scenarios.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that all communications to the public, media, staff (in general) and health authorities are approved by the incident commander or ICG.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish streamlined mechanisms of information exchange between hospital administration, department/unit heads and facility staff (Recommended reading 2).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brief hospital staff on their roles and responsibilities within the incident action plan.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish mechanisms for the appropriate and timely collection, processing and reporting of information to supervisory stakeholders (e.g. the government, health authorities), and through them to neighbouring hospitals, private practitioners and prehospital networks (Recommended reading 2).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that all decisions related to patient prioritization (e.g. adapted admission and discharge criteria, triage methods, infection prevention and control measures) are communicated to all relevant staff and stakeholders.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure the availability of reliable and sustainable primary and back-up communication systems (e.g. satellite phones, mobile devices, landlines, Internet connections, pagers, two-way radios, unlisted numbers), as well as access to an updated contact list.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Key component 3

Safety and security

Well-developed safety and security procedures are essential for the maintenance of hospital functions and for incident response operations during a disaster (Recommended reading 3). Consider taking the following action.

Recommended action	Due for review	In progress	Completed
Appoint a hospital security team responsible for all hospital safety and security activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prioritize security needs in collaboration with the hospital ICG. Identify areas where increased vulnerability is anticipated (e.g. entry/exits, food/water access points, pharmaceutical stockpiles).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure the early control of facility access point(s), triage site(s) and other areas of patient flow, traffic and parking. Limit visitor access as appropriate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish a reliable mode of identifying authorized hospital personnel, patients and visitors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide a mechanism for escorting emergency medical personnel and their families to patient care areas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that security measures required for safe and efficient hospital evacuation are clearly defined.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that the rules for engagement in crowd control are clearly defined.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Solicit frequent input from the hospital security team with a view to identifying potential safety and security challenges and constraints, including gaps in the management of hazardous materials and the prevention and control of infection.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify information insecurity risks. Implement procedures to ensure the secure collection, storage and reporting of confidential information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Define the threshold and procedures for integrating local law enforcement and military in-hospital security operations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish an area for radioactive, biological and chemical decontamination and isolation (Recommended reading 3).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Key component 4

Triage



Maintaining patient triage operations, on the basis of a well-functioning mass-casualty triage protocol, is essential for the appropriate organization of patient care (Recommended reading 4). Consider taking the following action.

Recommended action	Due for review	In progress	Completed
Designate an experienced triage officer to oversee all triage operations (e.g. a trauma or emergency physician or a well-trained emergency nurse in a supervisory position).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that areas for receiving patients, as well as waiting areas, are effectively covered, secure from potential environmental hazards and provided with adequate work space, lighting and access to auxiliary power.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that the triage area is in close proximity to essential personnel, medical supplies and key care services (e.g. the emergency department, operative suites, the intensive care unit).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that entrance and exit routes to/from the triage area are clearly identified.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify a contingency site for receipt and triage of mass-casualties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify an alternative waiting area for wounded patients able to walk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish a mass-casualty triage protocol based on severity of illness/injury, survivability and hospital capacity that follows internationally accepted principles and guidelines (Recommended reading 4).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish a clear method of patient triage identification; ensure adequate supply of triage tags (Recommended reading 4).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify a mechanism whereby the hospital emergency response plan can be activated from the emergency department or triage site.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that adapted protocols on hospital admission, discharge, referral and operative suite access are operational when the disaster plan is activated to facilitate efficient patient processing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Key component 5

Surge capacity

Surge capacity – defined as the ability of a health service to expand beyond normal capacity to meet increased demand for clinical care – is an important factor of hospital disaster response and should be addressed early in the planning process (Recommended reading 5). Consider taking the following action.

Recommended action	Due for review	In progress	Completed
Calculate maximal capacity required for patient admission and care based not only on total number of beds required but also on availability of human and essential resources and the adaptability of facility space for critical care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estimate the increase in demand for hospital services, using available planning assumptions and tools (Recommended reading 5).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify methods of expanding hospital inpatient capacity (taking physical space, staff, supplies and processes into consideration).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Designate care areas for patient overflow (e.g. auditorium, lobby).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase hospital capacity by outsourcing the care of non-critical patients to appropriate alternative treatment sites (e.g. outpatient departments adapted for inpatient use, home care for low-severity illness, and chronic-care facilities for long-term patients) (Recommended reading 5).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verify the availability of vehicles and resources required for patient transportation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish a contingency plan for interfacility patient transfer should traditional methods of transportation become unavailable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify potential gaps in the provision of medical care, with emphasis on critical and emergent surgical care. Address these gaps in coordination with the authorities and neighbouring and network hospitals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In coordination with the local authorities, identify additional sites that may be converted to patient care units (e.g. convalescent homes, hotels, schools, community centres, gyms) (Recommended reading 5).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prioritize/cancel nonessential services (e.g. elective surgery) when necessary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adapt hospital admission and discharge criteria and prioritize clinical interventions according to available treatment capacity and demand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Designate an area for use as a temporary morgue. Ensure the adequate supply of body bags.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Formulate a contingency plan for post mortem care with the appropriate partners (e.g. morticians, medical examiners and pathologists).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Continuity of essential services

A disaster does not remove the day-to-day requirement for essential medical and surgical services (e.g. emergency care, urgent operations, maternal and child care) that exists under normal circumstances. Rather, the availability of essential services needs to continue in parallel with the activation of a hospital emergency response plan (Recommended reading 6). Consider the taking following action.

Recommended action	Due for review	In progress	Completed
List all hospital services, ranking them in order of priority.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify and maintain the essential hospital services, i.e. those that need to be available at all times in any circumstances.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify the resources needed to ensure the continuity of essential hospital services, in particular those for the critically ill and other vulnerable groups (e.g. paediatric, elderly and disabled patients) (Recommended reading 6).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure the existence of a systematic and deployable evacuation plan that seeks to safeguard the continuity of critical care (including, for example, access to mechanical ventilation and life-sustaining medications) (Recommended reading 6).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate with the health authorities, neighbouring hospitals and private practitioners on defining the roles and responsibilities of each member of the local health-care network to ensure the continuous provision of essential medical services throughout the community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure the availability of appropriate back-up arrangements for essential life lines, including water, power and oxygen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anticipate the impact of the most likely disaster events on hospital supplies of food and water. Take action to ensure the availability of adequate supplies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure contingency mechanisms for the collection and disposal of human, hazardous and other hospital waste (Recommended reading 6).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Key component 7

Human resources

Effective human resource management is essential to ensure adequate staff capacity and the continuity of operations during any incident that increases the demand for human resources (Recommended Reading 7). Consider taking the following action.

Recommended action	Due for review	In progress	Completed
Update the hospital staff contact list.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estimate and continuously monitor staff absenteeism.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish a clear staff sick-leave policy, including contingencies for ill or injured family members or dependents of staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify the minimum needs in terms of health-care workers and other hospital staff to ensure the operational sufficiency of a given hospital department (Recommended reading 7).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish a contingency plan for the provision of food, water and living space for hospital personnel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prioritize staffing requirements and distribute personnel accordingly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recruit and train additional staff (e.g. retired staff, reserve military personnel, university affiliates/students and volunteers) according to the anticipated need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Address liability, insurance and temporary licensing issues relating to additional staff and volunteers who may be required to work in areas outside the scope of their training or for which they have no licence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish a system of rapidly providing health-care workers (e.g. voluntary medical personnel) with necessary credentials in an emergency situation, in accordance with hospital and health authority policy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cross-train health-care providers in high-demand services (e.g. emergency, surgical, and intensive care units).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide training and exercises in areas of potential increased clinical demand, including emergency and intensive care, to ensure adequate staff capacity and competency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Continued on next page

Human resources



Effective human resource management is essential to ensure adequate staff capacity and the continuity of operations during any incident that increases the demand for human resources (Recommended Reading 7). Consider taking the following action.

Recommended action	Due for review	In progress	Completed
Identify domestic support measures (e.g. travel, child care, care for ill or disabled family members) to enable staff flexibility for shift reassignment and longer working hours.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure adequate shift rotation and self-care for clinical staff to support morale and reduce medical error.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure the availability of multidisciplinary psychosocial support teams that include social workers, counsellors, interpreters and clergy for the families of staff and patients (Recommended reading 7).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that staff dealing with epidemic-prone respiratory illness are provided with the appropriate vaccinations, in accordance with national policy and guidelines of the health authority.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Key component 8

Logistics and supply management

Continuity of the hospital supply and delivery chain is often an underestimated challenge during a disaster, requiring attentive contingency planning and response (Recommended reading 8). Consider taking the following action.

Recommended action	Due for review	In progress	Completed
Develop and maintain an updated inventory of all equipment, supplies and pharmaceuticals; establish a shortage-alert mechanism.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estimate the consumption of essential supplies and pharmaceuticals, (e.g. amount used per week) using the most likely disaster scenarios (Recommended reading 8).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consult with authorities to ensure the continuous provision of essential medications and supplies (e.g. those available from institutional and central stockpiles and through emergency agreements with local suppliers and national and international aid agencies).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assess the quality of contingency items prior to purchase; request quality certification if available.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish contingency agreements (e.g. memoranda of understanding, mutual aid agreements) with vendors to ensure the procurement and prompt delivery of equipment, supplies and other resources in times of shortage (Recommended reading 8).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify physical space within the hospital for the storage and stockpiling of additional supplies, taking ease of access, security, temperature, ventilation, light exposure, and humidity level into consideration. Ensure an uninterrupted cold chain for essential items requiring refrigeration.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stockpile essential supplies and pharmaceuticals in accordance with national guidelines. Ensure the timely use of stockpiled items to avoid loss due to expiration.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Define the hospital pharmacy's role in providing pharmaceuticals to patients being treated at home or at alternative treatment sites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that a mechanism exists for the prompt maintenance and repair of equipment required for essential services. Postpone all non-essential services when necessary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate a contingency transportation strategy with prehospital networks and transportation services to ensure continuous patient transferral.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Key component 9

Post-disaster recovery

Post-disaster recovery planning should be performed at the onset of response activities. Prompt implementation of recovery efforts can help mitigate a disaster’s long-term impact on hospital operations (Recommended reading 9). Consider taking the following action.

Recommended action	Due for review	In progress	Completed
Appoint a disaster recovery officer responsible for overseeing hospital recovery operations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determine essential criteria and processes for incident demobilization and system recovery (Recommended reading 9).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In case of damage to a hospital building, ensure that a comprehensive structural integrity and safety assessment is performed (Recommended reading 9).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If evacuation is required, determine the time and resources needed to complete repairs and replacements before the facility can be reopened (Recommended reading 9).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize a team of hospital staff to carry out a post-action hospital inventory assessment; team members should include staff familiar with the location and inventory of equipment and supplies. Consider including equipment vendors to assess the status of sophisticated equipment that may need to be repaired or replaced (Recommended reading 9).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide a post-action report to hospital administration, emergency managers and appropriate stakeholders that includes an incident summary, a response assessment, and an expenses report.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize professionally conducted debriefing for staff within 24–72 hours after the occurrence of the emergency incident to assist with coping and recovery, provide access to mental health resources and improve work performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish a post-disaster employee recovery assistance programme according to staff needs, including, for example, counselling and family support services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Show appropriate recognition of the services provided by staff, volunteers, external personnel and donors during disaster response and recovery.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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