

Hospital readiness checklist for COVID-19

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Hospitals play a key role in providing health services and essential medical care within health systems. This role is particularly prominent during crises. Many hospitals normally operate at near-surge capacity, and so just a small rise in patient numbers during an emergency can pressure hospitals to work beyond their functional capabilities. The progressive spread of disease during an outbreak can overwhelm hospitals' ability to respond as there are simply too many patients needing medical care at the same time.

Hospitals need to consider their readiness to cope with the influx of patients and increased need for medical services in times of crisis. They should prioritize and implement actions specified in their emergency preparedness plans for biological threats, specifically threats that may cause severe acute respiratory illness, in order to identify suspected cases, limit transmission within the facility and provide specialized medical care. This includes activating protocols and procedures in safe physical spaces emphasizing isolation measures, education and training of personnel in the use of personal protective equipment (PPE), patient management, sample collection and handling, and handling and disposal of hazardous biological waste.¹

The benefits of an effective hospital-based response include:

- continuity of essential services;
- well-coordinated implementation of priority action;
- clear and accurate internal and external communication;
- swift adaptation to increased demands;
- effective use of scarce resources; and
- a safe environment for health workers.²

This checklist is based on current knowledge and available evidence on the COVID-19 outbreak. WHO's Regional Office for the Eastern Mediterranean will update this checklist should new relevant information become available.

This checklist has been developed to support hospital preparedness and response for the management of COVID-19 patients. The elements described in the list may not apply to all hospitals and may need to be adapted to the specific characteristics of each hospital, the legislation governing it, and the national health system and community in which it is based.³

Elements to be assessed have been divided into the following areas: leadership and coordination; operational support, logistics and supply management; information; communication; human resources; continuity of essential services and surge capacity; rapid identification; diagnosis; isolation and case management; and infection prevention and control. Guidance and resources materials related to the domains have also been provided in a supporting document.

¹ Hospital readiness checklist for COVID-19. Washington (DC): Pan American Health Organization; February 2020.

² Hospital readiness checklist for COVID-19. Copenhagen: World Health Organization Regional Office for Europe; 2020.

³ European Centre for Disease Prevention and Control. Checklist for hospitals preparing for the reception and care of coronavirus 2019 (COVID-19) patients. Stockholm: European Centre for Disease Prevention and Control; February 2020.

Hospital Readiness checklist for COVID-19

Description of hospital	
Evaluation date:	
Name of the hospital:	
Clinical services provided:	
Ownership status: <input type="checkbox"/> Public (Ministry of Health) <input type="checkbox"/> Public (other than MoH) <input type="checkbox"/> Private <input type="checkbox"/> NGO	
Teaching status:	City:
Bed capacity:	Beds in Intensive Care Unit (ICU):
Number of annual discharges:	Diagnostic facility: <input type="checkbox"/> Lab <input type="checkbox"/> X-ray <input type="checkbox"/> CT scan <input type="checkbox"/> MRI
Names and positions of the people interviewed:	
Name of evaluators:	

Response function	Response readiness activity	Verification			
		Yes	No	In process	
Leadership and coordination	1	Establish/activate Hospital Incident Management System involving representatives from all related departments and units.			
	2	Designate a secure, easily accessible and well-equipped Hospital Emergency Operations Centre (EOC), with well-functioning means of communication and a dedicated response operations manager.			
	3	Establish a core team for the management of the event including a hospital senior manager, the hospital infection control team, heads of relevant departments/units (e.g. ICU, Emergency unit) and an infectious disease expert.			
	4	Assign roles and responsibilities for the different response functions, with enough trained staff available to ensure operational continuity; compile an up-to-date directory of telephone numbers, residence and email addresses of staff.			
	5	Develop contingency plans for staffing, logistics, budget, procurement, security and treatment.			
	6	Identify and establish coordination mechanisms with local authorities and health and disaster management authorities.			
	7	Activate mechanisms for coordination, communication and collaboration with the integrated health services network at the local level, considering patient care, the necessary drugs, laboratory services, supplies and equipment, and patient transfer.			

Response function	Response readiness activity		Verification		
			Yes	No	In process
Operational support, logistics and supply management	1	Develop/maintain an up-to-date and detailed inventory of all equipment, supplies, and medicine and estimate their consumption based on the most likely outbreak scenarios.			
	2	Ensure a procedure for supply chain management (medicines and supplies), considering increased demands on the supply and distribution chain, and respecting quality and technical specifications and established protocols.			
	3	Coordinate with authorities to ensure the continuous provision of essential medications and supplies (e.g. institutional and central stockpiles, contingency agreements with local suppliers, donations).			
	4	Identify storage facilities for additional stock; storage facilities must meet all demands with respect to temperature, humidity, cold-chain, logistics, etc.			
	5	Activate legally available and authorized administrative and financial mechanisms for emergency management, as well as procedures for the purchase and procurement of supplies and services.			
	6	Ensure a procedure for the management of work teams, including cleaning services, rest areas, safe transportation and staff well-being.			
	7	Ensure a mechanism for the prompt maintenance and repair of all equipment required for essential services.			
	8	Ensure a procedure for managing ambulances for transportation between hospitals and for the inventory of available vehicles, and a procedure to protect ambulance crew and disinfect ambulance vehicles and equipment after each use.			
	9	Ensure there is a policy in place for managing donations of medical supplies, food for staff, etc.			
	10	Ensure the availability of appropriate back-up arrangements for essential life-lines, including water, power and oxygen.			
	11	Solicit the input of hospital security in identifying potential security constraints and optimizing the control of facility access, essential pharmaceutical stocks, patient flow, traffic and parking; seek support from local security forces to augment hospital security, if needed.			
	12	Formulate a postmortem care contingency plan with appropriate partners (e.g. undertakers, funeral services).			
Information	1	Establish and make available procedures and assign personnel to collect, confirm and validate data and information related to the emergency.			
	2	Provide a standardized form for reporting on emergency activities, hospitalizations (including critical care), incidence of suspected and confirmed cases, clinical situation and deaths.			
Communication	1	Establish internal and external communication mechanisms, with a dedicated team including one person responsible for streamlining information sharing in real time; target staff, existing patients, visitors, local authorities, public and the media with information.			
	2	Appoint a public information spokesperson plus back-up to coordinate and ensure consistent communication with the public, the media and health authorities.			
	3	Brief hospital staff on their roles and responsibilities in managing COVID-19 under the Incident Management System.			

Response function	Response readiness activity		Verification		
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Communication	4	Communicate regularly with staff and stakeholders about clinical triage, patient prioritization and management (e.g. adapted admission and discharge criteria), infection prevention and control measures, hospital epidemiology, reporting requirements and security measures.			
	5	Ensure that all internal protocols, communication lines and standard operating procedures are easily accessible for all staff and information is readily available, concise, targeted and updated regularly (minimize information overload).			
	6	Ensure the collection, processing and reporting of information to supervisory stakeholders (e.g. public health authorities).			
	7	Ensure reliable and sustainable primary and back-up communication systems (e.g. landlines, the internet, mobile devices, pagers, satellite telephones, two-way radio equipment, unlisted numbers) and access to updated contact lists.			
	8	Ensure that migrant-friendly communication activities/products (e.g. leaflets, posters, etc.) are in place.			
Human resources	1	Adapt human resource management to ensure adequate staff capacity and continuity of operations in response to an increased demand for human resources, while maintaining services identified as essential.			
	2	Prioritize staffing needs by unit or service and distribute personnel accordingly.			
	3	Estimate staff absenteeism in advance and monitor it continuously.			
	4	Review policies and procedures for screening and work restrictions for exposed or ill health care personnel, and develop sick leave policies for health care personnel that are non-punitive, flexible and consistent with public health guidance.			
	5	Inform and train staff who are planned to be reallocated, in accordance with their anticipated roles and responsibilities.			
	6	Recruit and train additional staff (e.g. retired staff, reserve military personnel, university affiliates/students, community volunteers) according to the anticipated need and in line with related legal requirements.			
	7	Identify domestic support measures (e.g. travel, childcare, care of ill or disabled family members) that could enhance staff flexibility for shift work and longer working hours, and define off-work time for recuperation.			
	8	Ensure the availability of the services of multidisciplinary psychosocial support teams for the families of staff and patients, including social workers, counsellors, interpreters and clergy.			
	9	Ensure that there are policies in place to manage volunteer workers (vetting, accepting, rejecting, addressing liability issues, etc.).			
	10	Use occupational health mechanisms that ensure the well-being and safety of personnel during the response to monitor burnout and other stress-related impacts on staff due to extended working hours.			
	11	Establish a clear policy to monitor and manage staff suspected or confirmed of having COVID-19 or who have been exposed to a confirmed, probable or suspected COVID-19 patient.			
	12	Consider training and education on clinical management, use of personal protective equipment and the handling and disposal of contaminated waste.			

Response function	Response readiness activity		Verification		
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Continuity of essential services and surge capacity	1	Calculate maximum case admission capacity and estimate increase in demand for hospital services during a COVID-19 outbreak.			
	2	Identify 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 as a last resort), bearing in mind the necessary physical space, staff, supplies and processes.			
	3	Indicate the criteria for reassigning normal rooms as isolation rooms once the number of patients reaches the threshold, and plan to reallocate non-isolated patients to other rooms.			
	4	List all hospital services in priority order and identify nonessential services that could be suspended if necessary, (e.g. canceling specialty consultations, OPD and non-emergency surgical procedures) in order to surge capacities (human and material resources, equipment and physical space).			
	5	Determine strategies to maintain services for at-risk patients during the outbreak period (e.g., pregnant patients and those on dialysis) that are unrelated to COVID-19.			
	6	Identify the resources (human resources and logistics) needed to ensure continuity of those hospital services identified as essential.			
	7	Identify alternative or secondary care sites other than the existing hospital facilities (e.g. gymnasiums, hotels, community centres, etc.) in coordination with local authorities to surge capacity.			
	8	Adapt admission and discharge criteria and prioritize patients and clinical interventions according to available treatment capacity and demand.			
Rapid identification	1	Establish a communications and monitoring system, preferably under supervision of a hospital epidemiologist, that allows for timely alerts and reporting of suspected cases in any area of the hospital, including the facility's points of entry and patient arrival, in accordance with standardized case definitions.			
	2	Establish a triage space with optimal conditions for the prevention and control of infections to triage patients with acute respiratory symptoms (isolation area for suspected patients, availability of PPEs, disposal of contaminated supplies and linens, etc.).			
	3	Provide signs and information displays at the entrance and in waiting rooms regarding Q&As about COVID-19, hand hygiene and respiratory hygiene.			
	4	Provide an option, if possible, for patients to wait in their cars instead of the waiting room (provided they are well enough to do so); this also requires a system to call them in.			
	5	Establish a triage protocol aimed at ensuring that cases of acute respiratory infection are rapidly recognized and reported.			
	6	Train health workers to identify suspected cases rapidly and accurately in accordance with standardized case definitions, to enable timely reporting to the corresponding level in any area of the hospital.			

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	7	Use alternative triage protocols, for example telephone triage in which the patient needs to call first before going to hospital.			
	8	Ensure that hospital clinicians, front-line workers and other relevant decision-makers receive information obtained through monitoring and reporting activities and/or laboratory and epidemiological data.			
Diagnosis	1	Ensure the continuous availability of laboratory and imaging services for diagnosis of COVID-19.			
	2	Develop procedures and train staff in taking samples, proper handling, packaging and transporting them (with biosafety measures in line with transport regulations and requirements) to the designated laboratory.			
	3	For hospital-based surveillance, ensure mechanisms for the prompt provision of laboratory data to the physicians and health authorities responsible for clinical management and surveillance.			
	4	Establish a laboratory referral pathway for the identification, confirmation and monitoring of COVID-19.			
Isolation and case management	1	Develop and implement hospital strategy, in coordination with local health authorities, for the admission, referral, internal transfer and discharge of patients with severe acute respiratory infections, in line with relevant criteria and protocols.			
	2	Estimate the maximum capacity for isolating patients (maximum number of rooms that can be converted into isolation rooms and maximum number of patients that can be cohorted in isolation rooms).			
	3	Identify, sign and equip areas for the medical care of suspected and confirmed cases in secure and isolated conditions.			
	4	Provide guidelines/protocols for the management of suspected or confirmed cases and ensure they are correctly followed.			
	5	Have trained staff and equipment available for the initial and continued medical care of suspected or confirmed patients (primary screening, resuscitation, initial stabilization, mechanical ventilation and hospitalization), with access to personal protective equipment.			
	6	Plan installed capacity for the medical care of suspected or confirmed patients requiring intensive care (mechanical ventilation, hemodynamic monitoring and multi-organ support). Review, update and test procedures for receiving and transferring patients within the hospital to authorized isolation areas, and to other diagnostic and therapeutic support services; establish the best routes for moving patients and limit the movement of patients within the hospital.			

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Infection prevention and control	1	Ensure that health care workers (HCWs), patients, and visitors are aware of respiratory and hand hygiene and the prevention of health care-associated infections.			
	2	Designate a safety officer, preferably from the IPC team, who is part of the incident management team that provide recommendations for reducing the infection risk for staff before, during and after duty.			
	3	Have a triage procedure in place in the emergency department for isolation of suspected and confirmed cases.			
	4	Identify, sign and equip available areas for the medical care of suspected and confirmed cases in secure and isolated conditions.			
	5	Train health workers in the use of personal protective equipment and consider additional precautions for specific transmission mechanisms (droplets, contact, aerosols, fomites).			
	6	Distribute protective supplies according to risk stages of clinical posts to ensure correct protection and avoid over protection; establish a registry and tracking system			
	7	Patients should be placed in adequately ventilated single rooms (60 L/s per patient). When single rooms are not available, patients suspected of having COVID-19 should be grouped together. Avoid mixing suspected and confirmed cases.			
	8	Ensure a 1-metre distance between beds regardless of whether patients are suspected of having COVID-19.			
	9	Where possible, a team of adequately trained HCWs should be designated to care exclusively for suspected or confirmed cases, to reduce the risk of transmission.			
	10	Avoid moving and transporting any patient out of their room or area unless it is medically necessary. If transport is required, ensure that procedures for receiving and transferring patients within the hospital, to and from authorized isolation areas and to other diagnostic and therapeutic support services, have been reviewed, updated and tested.			
	11	Limit visitors to those essential for patient support. Ensure that visitors apply droplet and contact precautions.			
	12	Maintain a record of all people entering each patient's room, including all staff and visitors.			
	13	Have protocols or procedures available for cleaning and hygiene of clinical areas, including training in the use of decontamination materials.			
	14	Ensure the health facility has dedicated area(s) and protocols for the disinfection and sterilization of biomedical equipment and material devices.			
	15	Ensure the healthcare facility has a protocol and a marked route for the management and final disposal of infectious biological waste, including sharps.			
	16	Ensure the facility has infrastructure and procedures for proper hand hygiene, including handwashing, continuous training and supplies.			
	17	Ensure physical space and guidelines for the disposal and transport of corpses resulting from the emergency.			
	18	Ensure strict supervision on the implementation of infection prevention and control measures			

References

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