

Hospital Preparedness for Epidemics

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Contents

1.	Introduction	2
2.	Management.....	7
3.	Infection prevention and control.....	14
4.	Communication.....	18
5.	Human resources	23
6.	Logistics	28
7.	Hospital pharmacy	32
8.	Hospital laboratory	36
9.	Concurrent emergencies.....	40
10.	Essential support services	44
11.	Continuity of essential health-care services	53
12.	Psychological and social support services.....	57
13.	Patient management.....	61
14.	Surge capacity	65
	Further reading	69

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Note to users

This guidance should be used as a general reference and in conjunction with other WHO publications, such as those on Ebola event management which can be found at <http://www.who.int/csr/disease/ebola/en/>, and those on emergency and disaster risk management for health, including safe hospitals which can be found at: <http://www.who.int/hac/techguidance/safehospitals/en/>

It is recommended that the contents of this document should be adapted to local risks, requirements, norms and practice.

It is WHO's intention to publish a final version of this guidance and to make it available in other UN official languages.

1. Introduction

Overall objectives

Hospitals and other healthcare facilities play a critical role in national and local responses to emergencies, such as communicable disease epidemics.¹ This document provides information on how these facilities can fulfil this role. Most of the actions required to prepare for epidemics apply, or can be adapted to, the management of other emergencies², such as mass casualties due to transport crashes, hydro-meteorological, geological or chemical disasters, and so on.

Hospitals which have already drawn up plans for managing epidemics can use this guide to review their preparedness and, if necessary, to update their epidemic response plans and their capacity to implement these plans. Hospitals which do not have response plans can use the guide to make a start in the planning process and in adjusting their plans to respond to an epidemic.

The main target audience for this guide is hospital management, hospital emergency committees and staff who have responsibility for establishing and maintaining the preparedness of hospitals for epidemics. The information is relevant for public, private, non-government and other hospitals. The wider audience are all stakeholders across many sectors including governments, health authorities, financial institutions, disaster management organizations and local suppliers which support and contribute to hospital preparedness, for example, through policy guidance, health sector and intersectoral coordination for emergency preparedness and response and provision of water, power and medical supplies and equipment.

Specific objectives

To ensure that:

- hospital management has established mechanisms for developing and implementing a Hospital Emergency Risk Management Programme³ designed to ensure the effective management of the risks of internal and external emergencies, including epidemics;

¹ In this document, the term *hospital* will be used to denote any healthcare facility.

² Unless otherwise stated, the term *emergency* will be used in this document and has a similar meaning to the term *disaster*.

³ A *Hospital Emergency Risk Management Programme* may be referred to as a *Hospital Emergency Preparedness and Response Programme*, *Disaster Management Programme* or similar.

- hospital management has established mechanisms for developing and implementing a Hospital Emergency Response Plan, which includes an Epidemic Sub-plan¹ for responding to the specific risks of an imminent or ongoing epidemic;
- hospital personnel are fully aware of their roles in preparing for, and responding to, an emergency, have been trained to perform the necessary actions, and are at the same time able to provide day-to-day hospital services, or have arrangements in place for deciding to suspend these services or refer patients to other health facilities in an emergency;
- the lines of communication needed to facilitate coordination of the overall response to an emergency will function effectively:
 - within and between the different departments of a hospital;
 - between hospital managers and staff and policy makers in public health authorities;
 - between different hospitals;
 - between hospitals, public health authorities and other healthcare entities;
 - between hospitals, the local health work force and the communities they serve,
 - between hospitals and emergency services, and local providers of water, power, waste management, transport and communication services, and medical supplies.
- hospitals are able to adapt to the specific challenges of an epidemic, whatever the nature of the disease and the resources needed, and even in the event of a concurrent emergency;
- appropriate resources are available in sufficient quantities and are likely to be used effectively despite problems associated with an epidemic, such as the potentially large number of people affected, community anxieties, misinformation and so on;
- due attention is paid to the physical, mental, emotional and social needs of hospital staff and their families during an epidemic;
- the emergency response builds on existing knowledge, practice, capabilities and capacities within the hospital, the health system and the community.

Appropriate strategies

Strategies for coping with epidemics should be part of an overall community and health sector response tailored to the specific circumstances of each individual hospital, such as:

- the hospital's existing plans and capacity to cope with epidemics (including implementation of measures to protect staff, patients and visitors from infection);

¹ A *Hospital Epidemic Sub-Plan* may also be referred to as a *Hospital Epidemic Contingency Plan*.

- the hospital's capacity to cope with the health demands from other types of emergencies, such as transport crashes, emergencies due to hydro-meteorological or chemical hazards, and acts of violence affecting the community;
- the range of general and specialized services the hospital normally provides, including care of patients with acute or chronic illnesses, laboratory services, community health outreach activities (immunization and antenatal care, for example), distribution and tracking of pharmaceutical and other medical supplies, and training of health personnel.

Potential pitfalls

Amplifying an epidemic

If a hospital has not put in place adequate measures to prevent and control infection, it may amplify an epidemic by spreading the infection to patients, staff and visitors. On leaving the hospital these infected individuals may boost transmission in the community and thereby thwart the hospital's overall epidemic response efforts.

Overwhelming demand for health care

Epidemics may overwhelm a hospital's capacity to deliver healthcare services. Human and material resources, including hospital space and medicines, may not be adequate to meet demand, particularly in the case of an epidemic lasting several weeks or months and particularly if concurrent emergencies are under way.

Overwhelming complexity

To contribute to efforts at controlling an epidemic the hospital must harness many of its functions and resources and must use them in a coordinated fashion. Meeting these requirements can be challenging. Hospitals are among the most complex institutions in a community. They are staffed by a multidisciplinary team delivering a multiplicity of health services to a highly diverse patient population generally suffering, collectively, from a wide range of health problems. An epidemic requires a health facility to alter its priorities and adapt its work routines in order to mount a coordinated, systemic response to a rapidly evolving, potentially complex situation.

Limited time to forge or strengthen partnerships

Managing an epidemic or other emergency calls for partnerships that link a hospital to local health care workers, service providers and other stakeholders in the health sector and the community. As part of an overall risk management strategy and well in advance of the actual emergency, existing partnerships should be reviewed and, if necessary, new partnerships forged.

The difficulty of integrating a hospital into the overall epidemic response

Preparing a hospital to play its role in coping with an epidemic must take into account its role in the overall national and local community response. The hospital will have to act on policies and decisions made by national and local health officials. Some hospitals may be designated to receive only suspected or confirmed cases of an epidemic disease. Ensuring that each individual hospital is integrated into the overall epidemic response calls for careful planning by all the relevant agencies responding to the epidemic.

Avoiding or overcoming pitfalls

Implement infection prevention and control measures

Preventing the spread of infection to hospital occupants—staff, patients and visitors—is an absolute priority and calls for appropriate measures. Hospital management teams should review and, if necessary, revise the hospital’s infection prevention and control protocols (see Chapter 3). Additional prevention and control measures may be required to cope with the specific nature of an epidemic.

Implementing appropriate measures in normal, routine circumstances will strengthen a healthcare facility’s capacity to put them into practice during stressful outbreak situations. These measures should therefore be part of the hospital’s permanent infection prevention and control strategy¹.

Prepare for any and all emergencies

Being prepared for epidemics and other emergencies implies:

- integrating into the overall Hospital Emergency Risk Management Programme:
 - an ongoing assessment of risks from the interaction of possible hazards, community vulnerabilities and health system strengths and weaknesses;
 - risk reduction and emergency preparedness activities, such as emergency response planning, training and exercises;
 - early warning of hazards, including diseases, which may trigger activation of the Hospital Emergency Response Plan, including the Epidemic Sub-plan (in the case of disease, an early warning is usually given to the hospital by the health authorities but can also result from detection by the hospital’s surveillance system of an abnormal occurrence or change in the usual number of cases of a disease);

¹ *Infection prevention and control of epidemic-and pandemic prone acute respiratory infections in health care - WHO guidelines*. World Health Organization, 2014. (http://www.who.int/csr/bioriskreduction/infection_control/publication/en/, accessed 22 September 2014.)

- implementation of emergency response plans, including the Hospital Epidemic Sub-plan;
- a commitment by the hospital or by the community (with hospital support) to undertake the preparedness activities required to reduce the risks associated with an emergency and to acquire the capacity needed for an effective emergency response;
- undertaking specific emergency preparedness activities to create or expand communication channels between health sector entities and communities;
- developing or adapting emergency response plans, including the Hospital Epidemic Sub-plan, in such a way as to ensure continuity of clinical services critical to patients affected by an epidemic;
- periodic reassessment and updating of the Hospital Emergency Risk Management Programme and its Emergency Response Plan to take into account new developments and lessons learned from previous exercises and emergencies;
- adapting and building on the hospital's capacity to cope not only with an epidemic but also with other forms of internal and external emergencies, such as mass casualty events, disasters from natural hazards, and fires, in such a way as to establish a single management system adapted to the risks likely to be faced in dealing with more than one type of emergency situation.

Train hospital staff

In an emergency or disaster, hospital staff are generally required to go beyond their routine day-to-day roles and responsibilities and to take on tasks with which they are less familiar and which they will, in all probability, have to carry out in a stressful environment. To meet these new demands all staff members, irrespective of their hospital, departmental and individual duties, need to be involved in the emergency planning process so that they can distinguish between their routine and their emergency responsibilities and can better contribute to the emergency response. They also need training in implementing risk reduction measures and the procedures and protocols called for in the Hospital Emergency Response Plan (including the Epidemic Sub-plan). They must, in addition, participate in the regular drills and exercises needed to maintain a state of readiness for fulfilling the planned emergency tasks.

2. Management

Goals

- To ensure that the hospital is at all times in a state of preparedness to participate fully, efficiently and effectively in the coordinated health-sector response to an emergency, such as a communicable disease epidemic
- To ensure that the hospital has established the mechanisms and procedures—including those for more strategic all-hazards emergency risk assessment and specific epidemic event risk assessment, prevention, preparedness, response and recovery—that are needed for overall coordination of the hospital's epidemic risk management activities

General principles

- To be prepared to face any risk or emergency, a hospital should have in place a permanent Hospital Emergency Committee responsible for developing the Hospital Emergency Risk Management Programme, of which an Emergency Response Plan is an essential component.
- The Hospital Emergency Management Committee should include representatives of the hospital's main activities, including administration, medical and nursing care, emergency department services, infection prevention and control, pharmacy services, laboratory services, security, engineering and maintenance, human resources, laundry, food services, cleaning and waste management, and communication.
- Specific measures needed to cope with an epidemic may be included in a hospital's Epidemic Sub-plan annexed to the Hospital Emergency Response Plan.
- The Hospital Emergency Committee also establishes an Incident Command Group, which is responsible for adapting the hospital incident management system and the all-hazard Hospital Emergency Response Plan (and its annexed Epidemic Sub-plan) to produce an Incident Action Plan that specifies the tasks needed to respond specifically to the current emergency.
- The Hospital Emergency Committee, Emergency Risk Management Programme, Emergency Response Plan, Incident Command Group and Incident Action Plan form a preparedness and response system that ensures the coordination of all the activities required to prepare for and respond to an emergency.

Basic requirements

- A permanent Hospital Emergency Committee chaired by a hospital executive or senior manager
- A Hospital Emergency Risk Management Programme developed and maintained by the Hospital Emergency Committee
- An Incident Command Group established by the Hospital Emergency Committee
- An all-hazards Hospital Emergency Response Plan that includes an Epidemic Sub-plan specifying the measures needed to cope with an epidemic
- An Incident Action Plan developed by the Incident Command Group

Tasks of the Hospital Emergency Committee

Emergency risk management

- Establishes the Hospital Emergency Risk Management Programme to develop, implement and maintain the coordinated system for the overall management of the hospital's emergency risks covering risk assessment, prevention, preparedness, response and recovery,
- produces a generic all-hazards Hospital Emergency Response Plan (as a key output of the Hospital Emergency Risk Management Programme), and specifies the policies, incident management system procedures required to deal with all types of internal and external emergencies (hazards which put the hospital at risk of internal emergencies include fire, internal chemical spills, personal threats, bomb threats and power shortages; external emergencies are events occurring outside the hospital, such as epidemics, mass casualty events from transport crashes and acts of terrorism, external chemical incidents, earthquakes, floods and disasters from other natural hazards;)
- Specifically, the Hospital Emergency Committee has responsibility for initiating and coordinating:
 - an assessment of the risks to which the hospital is exposed;
 - identification and implementation of measures to reduce emergency risks;
 - identification of the resources (including staff, medical supplies and equipment, and utilities and infrastructure) and the activities needed to prepare the hospital for an emergency;
 - identification of weaknesses in the hospital's emergency preparedness and the mechanisms for remedying them (such as staff training);
 - development of the hospital's incident management system and generic hospital emergency response plans;

- conducting planning and other preparedness activities in coordination with other players on the health scene, including health authorities, health-sector agencies working in the area and neighbouring public- and private-sector healthcare facilities;
- establishment of links with non-health-sector government authorities, volunteer organizations and other stakeholders.

Ensuring the hospital's epidemic preparedness

- Ensures that the hospital has the capacity and capability to cope with epidemics and any concurrent emergencies (see Chapter 9)
- Ensures that each hospital department has its emergency response plan (including staff Job Action Sheets) specifying the role of the department's role at each stage of an emergency in general and an epidemic specifically
- Designates the Incident Manager and other members of the Incident Command Group and determines the site of the Hospital Emergency Coordination Centre (where the Incident Command Group meets to plan and coordinate activities), and the equipment needed at this site
- Defines the procedures for activating the Hospital Emergency Response Plan and the Incident Command Group
- Develops the mechanisms, infrastructure and budgetary resilience needed to ensure sustainability of the hospital's response, including its incident management system
- Ensures that the Hospital Emergency Risk Management Programme together with its constituent Emergency Response Plan (see below) and Incident Action Plans (see below) is consistent with the strategies and policies implemented outside the hospital by health authorities, other hospitals, hospital suppliers and the community at large
- Ensures that the Incident Command Group can count on administrative support to perform its coordinating, planning, logistics, recording, tracking, and communications functions
- Decides, in the case of an epidemic, which hospital departments or experts (such as infection control and communicable disease specialists) should be enlisted in the Incident Command Group (see Chapter 3)
- Develops and ensures implementation of policies and guidelines for staff safety
- Reviews the hospital's communications system, including equipment and logistical needs, and develops, as required, an internal and external emergency communications strategy (see Chapter 4)
- Reviews the hospital's logistic and information management procedures (see Chapter 6)
- Following emergencies or exercises, facilitates evaluations (such as After Action Reviews) of the hospital's performance, in order to identify areas where improvement is needed

and areas where the Hospital Emergency Risk Management Programme and Emergency Response Plans need to be updated

The Hospital Emergency Response Plan

The Hospital Emergency Response Plan is part of the Emergency Risk Management Programme established by the Hospital Emergency Committee. The Emergency Response Plan describes the arrangements, roles, responsibilities and activities required to enable the hospital to function adequately in an emergency.

The Emergency Response Plan should be based on a strategic all-hazards emergency risk assessment that takes into account all possible contingencies: all the elements of the plan should be mutually compatible, complementary and synergistic, and should be tested with different types of exercises, revised and kept up to date.

The hospital's Emergency Response Plan covers such issues as:

- the roles and responsibilities of each hospital department in an emergency;
- the hospital incident management system and the role of the Incident Command Group and other structures and mechanisms required to coordinate the hospital response to an emergency;
- the role of the hospital with respect to the community and health sector response, including coordination functions and lines of communication;
- procedures for activating the Hospital Emergency Response Plan (following an early warning from health authorities, hospital-based or local emergencies, or a local or national declaration of an epidemic);
- Standard Operating Procedures applicable to emergency situations;
- the setting up of a Hospital Emergency Coordination Centre, including the designation of its location;
- the availability of alternative treatment sites;
- infection prevention and control measures;
- agreed protocols for patient triage (including the designation of triage areas) and for patient traffic flow within and in the vicinity of the hospital;
- measures required to ensure the safety of hospital staff;
- continuity of essential routine procedures and services (to the extent compatible with priority emergency activities);
- the capacity needed to cope with concurrent emergencies;
- information and communication activities;
- human resource issues;
- logistic services;

- pharmacy and laboratory services;
- essential support services;
- psychosocial services.

Tasks of the Incident Command Group

The Incident Command Group performs a broad range of activities needed to respond to a specific emergency. These activities, which form the basis of the hospital’s incident management system, can be grouped according to five main functions:

1. Assuming leadership and making decisions (response and recovery management and coordination function)
2. Developing situation awareness, specific management objectives and response and recovery strategies covering the duration of the epidemic or other emergency (response and recovery planning function)
3. Acquiring and deploying the necessary resources and creating and maintaining the necessary infrastructures (logistical function)
4. Ensuring the availability and allocation of skilled personnel and other resources to respond directly to problems arising from the emergency (operational management function)
5. Paying bills, reimbursing debts, drawing up contracts, tallying costs (administrative function)

In the case of a minor or routinely experienced emergency, a small Incident Command Group may be sufficient. For a large-scale emergency, a much larger Incident Command Group would be required. The five functions, however, must be performed whatever the magnitude of the emergency and the number of people required to handle it.

Specifically, the Incident Command Group undertakes the following tasks:

- Determines the specific nature of the emergency and the constraints it is likely to impose on hospital services
- Develops an Incident Action Plan (see below) that reflects the activities specified in the Hospital Emergency Response Plan (including the Epidemic Sub-plan) but is adapted to the specific nature of the emergency and based on event risk assessments
- Implements measures to ensure that the hospital has the capacity to meet a sudden increase (“surge”) in the demand for specific services, equipment or supplies created by the specific emergency (see Chapter 14)
- Advises hospital decision makers on the hospital services that may have to be cancelled or deferred (such as elective surgery and certain outpatient services) in order to focus the hospital’s resources on meeting the priority healthcare needs of patients affected by

- an epidemic and on providing other essential healthcare services as determined by the hospital management and health authorities (see Chapter 14)
- Advises hospital decision makers on maintaining continuity of essential day-to-day services and of services required to support public health programmes to which the hospital may be committed (see Chapter 11)

The Incident Action Plan

A hospital's Incident Action Plan is a document developed by the hospital's Incident Command Group. It is essentially an adaptation of the hospital's generic Emergency Response Plan (and of the specific Epidemic Sub-plan Plan) to the needs and circumstances of an ongoing emergency and is revised as the emergency and its parameters evolve. It specifies how the hospital should respond to an emergency. It designates who will be assigned to do what and provides estimates of the resources available and the additional resources needed to fulfil these assignments. It also provides a yardstick against which progress in achieving the hospital's response objectives can be measured.

The Incident Action Plan specifies:

- the roles and responsibilities of the key departments and individuals involved in the response to a specific emergency;
- the nature and magnitude of the emergency and its likely impact on the health sector generally and the hospital in particular, as determined by epidemic event risk assessments and evolving situational and needs assessments;
- in the case of an epidemic, the epidemiology of the infection, including the characteristics of the infectious agent, the likely clinical course of the infection, and the therapeutic regimens indicated;
- the estimated increase in total patient load during the emergency;
- additional equipment, supplies, medicines and staff needed to cope with the emergency over and above existing day-to-day needs;
- measures to be taken to prevent or control spread of infection in the hospital, such as environmental controls and the use of recommended personal protective equipment;
- the number and competencies of staff present or available for recall, with emphasis on requirements for infection control and treatment in the case of an epidemic.

The Hospital Emergency Coordination Centre

- The Hospital Emergency Coordination Centre is where the Incident Command Group meets. It could be in a dedicated location or a hospital meeting room or conference hall adapted for the purpose. An alternative site should be identified, in case the initial centre suffers damage or becomes otherwise unusable.

- The Hospital Emergency Coordination Centre is a secure room equipped with information and tele-communications technology, as well as maps, activity logs and copies of all major Standard Operating Procedures and Job Action Sheets.
- The Hospital Emergency Coordination Centre should have reliable communication linkages with health authorities, the community Emergency Operations Centre and Emergency Medical Services, other hospitals and other major stakeholders.

3. Infection prevention and control

Goals

- To reduce transmission of healthcare-associated infections and thereby to enhance the safety of all who are present in a hospital, including patients, staff and visitors
- To enhance the ability of a hospital to respond to an epidemic
- To lower or eliminate the risk of the hospital itself amplifying the epidemic

General principle

- Infection prevention and control should be an ongoing hospital activity undertaken by all hospital staff and units.

Basic requirements

- A core infection prevention and control programme whose scope, functions and responsibilities are clearly defined, whose budget is adequate to fund its activities and whose composition includes the following elements:
 - qualified, dedicated technical infection prevention and control staff aware of their respective responsibilities and functions and trained in the application of infection prevention and control measures;
 - technical guidelines, adapted to local circumstances, for the management of infection-related risks;
 - infection prevention and control policies for routine measures and for the additional measures needed to address potential threats;
 - an early-warning epidemic surveillance system linked operationally to the public health surveillance system;
 - a system for continuous monitoring of the implementation of infection prevention and control measures;
 - access to a microbiology laboratory using standardized diagnostic and biosafety procedures;

- clean water and facilities for ventilation, hand hygiene and isolation of infected patients, and for storage of sterile supplies;
- a system for ensuring interoperability with other hospital activities and units, such as waste management, laboratory services, pharmacy, occupational health, and so on
- An overall Hospital Emergency Response Plan (and its annexed Epidemic Sub-plan), which is part of the overall Hospital Emergency Risk Management Programme and identifies infection prevention and control as a core function of the hospital
- An Incident Command Group to coordinate the hospital's overall emergency response, which includes infection prevention and control activities, and an operational Hospital Emergency Coordination Centre

Preparedness tasks

- Develop the infection prevention and control component of the Hospital Emergency Response Plan (including the Epidemic Sub-plan), based on the hospital's all-hazards emergency risk assessment.
- For all staff members involved in infection prevention and control prepare Job Action Sheets describing their roles and tasks in an emergency situation.
- Ensure that infection prevention and control staff receive training and participate in regular exercises in order to enhance their ability to fulfil their roles in implementing the hospital's emergency response.
- Define infection control precautions for triage, flow and placement of patients, and early reporting and treatment.
- Establish environmental and engineering controls, such as ensuring effective environmental ventilation and cleaning.
- Identify the minimum supplies and infrastructures needed to implement infection prevention and control measures.

Response tasks

- Ensure that mechanisms are in place to receive response operational directions from, and to coordinate actions with, the Incident Command Group.
- Adapt the infection prevention and control component of the Hospital Emergency Response Plan (including the Epidemic Sub-plan) in order to develop the infection prevention and control component of the hospital's Incident Action Plan, which is tailored to the characteristics of the emergency, as determined by epidemic event risk assessments and evolving situational and needs assessments.

- Assess infection prevention and control staffing needs for the emergency (at the very least, a doctor and a nurse) and work with the human resource department to secure additional staff as required.
- Once an epidemic has started, establish active surveillance of cases (among both incoming patients and patients already admitted).
- Make sure that the hospital's infection prevention and control policies are consistent with the presumed mode of transmission of the epidemic infection and with locally available resources.
- Reinforce standard infection control precautions and establish additional precautions if required by the specific nature of the epidemic.
- Establish patient flow based on transmission risks and on patients' clinical status.
- Defer or limit procedures that could facilitate spread of the infection.
- Ensure adequate protection of the hospital staff against infection and monitor staff health status continuously.
- Monitor infection prevention and control practices and modify policies as necessary.
- Include in the hospital's risk communication strategy messages aimed at reinforcing infection prevention and control efforts among hospital staff, patients and visitors, and the wider community.

Recovery tasks

- As part of an overall hospital review, assess the hospital's operational performance in implementing infection prevention and control plans and, if necessary, update these plans on the basis of lessons learned.
- Implement measures to address the welfare needs of infection prevention and control staff, such as leave and psychosocial support.
- Replenish stocks of pharmaceutical products to enable the hospital to maintain or restore routine infection prevention and control services.

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4. Communication

Goals

- To raise public awareness of an epidemic or other emergency, of the associated risks the emergency poses to people's health and of the measures required to reduce these risks and to respond to the emergency
- To provide information to all hospital occupants, including staff, patients and visitors, and to solicit their cooperation
- To provide the information needed to ensure, as far as possible, continuity of service delivery within the hospital and, beyond the hospital, to coordinate activities in collaboration with local health authorities and other stakeholders (such as other healthcare facilities, general practitioners, health workers at alternative treatment sites, emergency medical services, private sector entities and nongovernmental organizations)
- To limit the spread of unfounded rumours about the emergency

General principles

- Through their service delivery functions, hospitals have privileged access to the community and therefore offer a unique opportunity for informing the community about an epidemic and its likely impact.
- Information issued by the hospital regarding risk reduction should be consistent with information provided by health authorities.
- Management of information cuts across many different hospital activities involving emergency preparedness and response, and calls for the participation of the entire hospital staff.
- Information about the emergency and the risks it entails should be communicated as soon as an alert of an impending emergency has been declared.
- Information for the media and general public should be communicated through a single source.
- Communications activities undertaken in response to an emergency should be coordinated through the hospital's Incident Command Group and senior hospital staff.

Basic requirements

- An overall Hospital Emergency Response Plan (including its annexed Epidemic Sub-plan), which is part of the overall Hospital Emergency Risk Management Programme and identifies communications as an essential hospital function
- An Incident Command Group to coordinate the hospital's overall emergency response, which includes communications activities, and an operational Hospital Emergency Coordination Centre
- A hospital risk communication strategy that specifies the means required to communicate with hospital occupants and with the public in non-emergency situations
- A hospital emergency communications strategy that specifies the communications equipment designed to function properly in an emergency
- An analysis of the likely impact of the emergency and the emergency response on hospital services
- An understanding of the type of information to be communicated about the prevention of injury, illness and death, and about the activities required to respond to the emergency, such as an epidemic

Preparedness tasks

Generic tasks

- Develop the communications component of the Hospital Emergency Response Plan (including the Epidemic Sub-plan), based on the hospital's all-hazards emergency risk assessment.
- For all staff members involved in communications activities prepare Job Action Sheets describing their roles and tasks in an emergency situation.
- Ensure that communications staff receive training and participate in regular exercises in order to enhance their ability to fulfil their roles in implementing the hospital's emergency response.
- Appoint a staff working group to identify priority information about emergency management and communication, as well as prevention, preparedness, response and recovery issues.
- Identify reliable sources of information about emergency risks and risk management strategies in the hospital, health authorities and others.
- Appoint official hospital spokespersons to address the public on behalf of the hospital (unless government policy prohibits hospitals from communicating to the public)
- Identify channels (including media) to be used for risk communication.

- Train hospital staff in implementing emergency communications strategies and conduct exercises to test these strategies.
- Test the hospital's communications equipment to ensure that it is in working condition and adequate, in quantity and quality, for the purposes of communication during an emergency, and ensure that backup equipment is available.

External communication

- Determine what information the public is likely to need with a view to reducing risks during an emergency.
- Develop, within the framework of the Hospital Emergency Response Plan (including the Epidemic Sub-plan), external emergency risk communication plans that address both the content of information to be communicated and the communication process itself and that are consistent with health ministry policies on communication during an emergency.
- Determine how, during an emergency, the hospital will share information on accessing hospital services and public health programmes (such as routine and emergency immunization, safe motherhood, laboratory referral, psychosocial support and mental health, and management of the dead and missing).
- Inform the public about measures required to reduce the risks associated with an emergency, such as preventing transmission of infection.
- Determine what information should be shared with response partners (emergency medical services, private practitioners, etc.) and how it should be shared.
- Assign additional spokespersons, as required, in order to organize collaboration with partners and stakeholders in communication of information.
- Develop and review, in collaboration with health authorities, the procedures needed for dealing with the media.

Internal communication

- Develop a plan, within the framework of the Hospital Emergency Response Plan, for providing information to hospital staff, patients and visitors.
- Inform hospital staff of the procedures to be used in activating the Hospital Emergency Response Plan (including the Epidemic Sub-plan) in the event of an emergency, of their respective roles in the implementation of these procedures and of training exercises that they will be asked to undertake.
- Inform hospital staff of the likely impact of an emergency on their safety, of the need for measures aimed at reducing their risk of injury or infection, of arrangements required for their possible recall in the event of increased demand for hospital services and of the availability of support for their families if they are recalled to duty.

- Brief hospital staff about the procedures required for two-way communication between hospital management and staff regarding progress in responding to the emergency.
- Establish a contingency or surge capacity plan with Human Resources for managing staff shortages and for increasing numbers of skilled staff required to meet increased demand for communications services.

Response tasks

- Ensure that mechanisms are in place to receive response operational directions from, and to coordinate actions with, the Incident Command Group.
- Adapt the communications component of the Hospital's Emergency Response Plan (including the Epidemic Sub-plan) in order to develop the communications component of the hospital's Incident Action Plan, which is tailored to the characteristics of the emergency, as determined by epidemic event risk assessments and evolving situational and needs assessments.
- Identify the main problems raised by the emergency and the information needed to cope with or to resolve the problems.
- Consult with the Ministry of Health to ensure that the content and procedures used to communicate with the media and the general public are consistent with those of the ministry.
- Arrange, in accordance with Ministry of Health policy, for the official hospital spokesperson to address the media at appointed times and in a designated hospital area.
- Inform the public, the hospital staff and other concerned constituencies about:
 - who is at risk from the emergency;
 - how many people are affected or likely to be affected;
 - the likely prognosis of those affected;
 - what actions have been planned or taken;
 - what actions people at risk can take to minimize risk of injury, illness and death;
 - the role of the hospital in responding to the emergency;
 - how to access hospital services.
- Give the hospital staff:
 - the essential information they require about personal and family health and welfare;
 - progress reports on the management of the emergency, including actions planned in response to the emergency;
 - official communiqués issued by the Ministry of Health or other sources.
- Deliver messages to the public that:

- are short and to the point;
- provide information that is factually correct;
- are reassuring without sacrificing credibility or transparency;
- take into account the fears and emotions raised by the emergency;
- acknowledge official sources of information used in the message;
- are delivered in a timely manner, at set intervals and through set channels.

Recovery tasks

- Maintain and adapt communications with the public, the hospital staff and other concerned constituencies about:
 - what actions people at risk can take to minimize risk of injury, illness and death in recovery;
 - the role of the hospital in the recovery phase of the emergency;
 - how to access hospital services and community services related to recovery.
- As part of an overall hospital review, assess the hospital's operational performance in implementing communications emergency plans and, if necessary, update these plans on the basis of lessons learned.
- Implement measures to address the welfare needs of communications staff, such as leave and psychosocial support.

5. Human resources

Goals

- To ensure that hospitals and associated healthcare facilities, such as alternative care sites, are adequately staffed, with respect to numbers of personnel and required competencies, to deliver quality care and perform other hospital services
- To ensure that hospitals make the necessary arrangements to acquire the staff needed to respond to the increased demands of an emergency

General principles

- Protecting the health of hospital staff is a priority concern.
- All hospital personnel, including regular employees, volunteers and temporary staff, should enjoy the same level of personal protection from infection and other risks to their safety and the same degree of access to occupational health services.
- A shortage of staff due to a combination of staff absences and the increased demand for services must be anticipated and a plan to cope with this shortage, such as by reallocating staff or securing additional staff, must be developed.
- During an emergency additional personnel—including skilled personnel able to provide specialized care—may be required to meet the likely increase in numbers of patients seeking admission to the hospital, alternative care sites and other healthcare facilities in the community.
- Retired hospital staff, university staff and students from faculties of medicine, nursing and public health, are possible sources of additional staff.
- The quality of care provided by the hospital depends, among other things, on the quality of essential hospital support services provided by non-medical staff as part of the overall hospital response to an emergency.
- Enrolling extra staff, including volunteers, to perform specified roles, involves several essential steps, such as credentialling (i.e. formally certifying a person's qualifications) and ensuring liability protection, on-the-job training, supervision and disease prevention.
- The hospital is liable and accountable for all services performed by both paid and unpaid staff, and also for the health risks to which staff are exposed.

- Community support (e.g. providing assistance with domestic care for children, transportation to and from the hospital and a hospital nursery) can give staff peace of mind and flexibility for working irregular shifts and longer hours.
- Social mobilization and community participation (in providing volunteer staff, for example) are managed as part of the overall national or local response.
- The efficiency and effectiveness of hospital staff may be adversely affected by circumstances not necessarily or not directly related to the crisis, such as an illness or a conflict between family and work commitments.
- Anxiety among staff confronted with a crisis involving a highly contagious infectious disease is to be expected and requires active management through personal protective procedures and psychosocial support.
- Staff shortages in a crisis situation may occur at different levels of skill and in widely differing but equally essential areas of hospital activity, ranging from technically skilled personnel working in an operating theatre to personnel responsible for cleaning tasks or food preparation.
- Staff assigned to tasks for which they lack specific competence will need to be trained, mentored and closely supervised until they become fully operational.
- Certain resources, such as personal protective equipment, medicines or vaccines, may be in short supply in a crisis situation.

Basic requirements

- An overall Hospital Emergency Response Plan (and its annexed Epidemic Sub-plan), which is part of the overall Hospital Emergency Risk Management Programme and identifies human resource management as an essential hospital function
- An Incident Command Group to coordinate the hospital's overall emergency response, which includes human resource management activities, and an operational Hospital Emergency Coordination Centre
- A human resource management system that covers the procedures required for establishing conditions of service and for administering staff recruitment and retention, staff inventories, staff shifts, staff development, job briefing and training, payroll issues and occupational health and safety
- A staff illness surveillance system

Preparedness tasks

- Develop the human resource component of the Hospital's Emergency Response Plan (including the Epidemic Sub-plan), based on the hospital's all-hazards emergency risk assessment and on an assessment of the extra staff, including extra staff for human resource management, that the hospital as a whole might need during an emergency.
- For all staff members involved in human resource management prepare Job Action Sheets describing their roles and tasks in an emergency situation.
- Determine whether and to what extent mutual aid agreements and synergies with other healthcare facilities, the Ministry of Health, private sector agencies, universities and other organizations could make available additional personnel required within and outside the hospital in order to maintain uninterrupted essential hospital support services.
- Ensure that the conditions of service of hospital staff make provision for emergency situations and cover such issues as staff and family welfare, working hours, overtime payments and compensatory time off once the emergency period has ended.
- Assess the adequacy of the hospital's recall procedures for existing staff.
- Develop and implement a training programme that is based on an assessment of staff roles in an emergency, that takes into account the nature of the epidemic, that covers training in the use of Standard and Additional infection prevention and control precautions, including, among other things, the use of personal protective equipment, and that is consistent with the hospital's human resource management emergency response plan.
- Develop procedures for credentialling newly recruited and volunteer staff and for providing them with training and liability protection in an emergency.
- Ensure that the hospital's occupational medicine programme is fully functional and is running a staff surveillance system able to detect epidemic infection and other health problems.
- Ensure that a roster of experts likely to be needed for treatment of hospital staff is readily available.
- Develop a plan for providing staff with social and psychological support.
- Develop procedures, such as obtaining emergency funds from senior management, for paying staff in an emergency situation and for expanding the payroll to cover newly enrolled staff.
- Train staff in implementing their human resource management roles in emergencies.
- Ensure that human resource management staff participate in regular exercises to test plans and procedures for their applicability in emergency conditions.

- Establish a contingency or surge capacity plan for staff shortages and for increasing numbers of skilled staff required to meet increased demand for human resources services.

Response tasks

- Ensure that mechanisms are in place to receive response operational directions from, and to coordinate actions with, the Incident Command Group.
- Adapt the human resource component of the Hospital Emergency Response Plan (including the Epidemic Sub-plan) in order to develop the human resource component of the hospital's Incident Action Plan, which is tailored to the characteristics of the emergency, as determined by epidemic event risk assessments and evolving situational and needs assessments.
- Review staffing requirements during an emergency, taking into account the need for skilled staff to enhance the hospital's surge capacity and to ensure continuity of essential services.
- Recruit extra staff, expanding recruitment sources to include volunteers, retirees, medical students, and so on, and arrange for appropriate credentialing and training.
- Activate procedures to recall staff to duty and to enrol additional staff, such as by implementing agreements with public- and private-sector entities and other organizations.
- Brief and train volunteers and extra staff as fully as possible on procedures to be followed in an emergency, security issues, infection control measures, cleaning and sterilization procedures, use of personal protective equipment and access to occupational health services.
- Provide staffing for newly designated hospital areas, such as a new triage area or isolation room.
- Reallocate staff appropriate to their specific skills to meet increased demand for services in certain areas (e.g. laboratory, kitchen, cleaning, security, emergency department).
- Assign skilled staff to duties appropriate to their specific skills and arrange for supervision and support, as required, for less-skilled staff.
- Supervise and monitor the performance of newly enrolled staff and volunteers and take remedial action where necessary.
- Assign appropriate hospital staff, as required, to ensure rapid training of staff working in alternative care sites.

- Monitor staff illnesses and absences through the staff illness surveillance system and report, through the appropriate channels, any unusual cases or clusters of illness to the Incident Command Group, senior hospital management and health authorities.
- Ensure that hospital staff are aware of the medical, psychosocial and community support services that are available to them and their families to help them maintain physical and mental health, resolve any conflicts between family and work commitments and fulfil the emergency roles that they may have to play over many months.
- Contact community leaders to arrange for community support of hospital staff.

Recovery tasks

- As part of an overall hospital review, assess the hospital's performance in implementing human resource emergency plans and, if necessary, update these plans on the basis of lessons learned.
- Follow up staff who were affected mentally or physically by the emergency and who might require continuing psychosocial support, treatment or rehabilitation.
- Make arrangements, as required, for staff to take leave after a protracted emergency, especially for staff members who took no leave before or during the emergency.

6. Logistics

Goals

- To provide the right resources, at the right time, in the right quantities and in the right places in order to satisfy the increased demand being made on the hospital by an emergency and to do so without compromising the normal functioning of the hospital
- To support management of hospital operations and the need for personnel, supplies, equipment and transportation

General principles

- Logistics comprises such activities as procurement, transport, warehousing and stock monitoring, tracking and reporting.
- Logistics calls for an anticipatory, proactive management approach.
- Coordination of logistics between the various hospital departments and units is a core function of the hospital's Incident Command Group.
- Providing support for patient transport is an essential logistic function for the transfer of patients between hospitals, especially referral hospitals.
- Ensuring the availability of back-up resources and providing support for the maintenance of essential equipment are important logistic functions.
- Logistics management can be facilitated by procuring standard equipment and adopting standard procedures.
- Stockpiles of special supplies and equipment (such as antimicrobial and antiviral medicines and personal protective equipment) are needed in readiness for a possible increased demand during an emergency.
- Major epidemics can impose severe constraints on logistic functions: efforts to overcome these constraints require the collaboration of other stakeholders and partners (including other, possibly private-sector, hospitals).

Basic requirements

- An overall Hospital Emergency Response Plan (including an Epidemic Sub-plan), which is part of the overall Hospital Emergency Risk Management Programme and identifies logistic services as an essential hospital function
- An Incident Command Group to coordinate the hospital's overall emergency response, which includes logistics, and an operational Hospital Emergency Coordination Centre
- Policies and procedures for managing hospital logistics in the routine (i.e. non-emergency) functioning of the hospital

Preparedness tasks

- Develop the logistics component of the Hospital's Emergency Response Plan (including the Epidemic Sub-Plan), based on the hospital's all-hazards emergency risk assessment.
- For all staff members involved in providing logistics services prepare Job Action Sheets describing their roles and tasks in an emergency situation.
- Ensure that logistics staff receive training and participate in regular exercises in order to enhance their ability to fulfil their roles in implementing the hospital's emergency response.
- Appoint a multidisciplinary group of skilled personnel to ensure the readiness of the hospital's logistics system to function effectively in an emergency.
- Determine what implications the Ministry of Health's logistics-related policies and plans may have with respect to the hospital's logistics activities, particularly the stockpiling and distribution of essential supplies.
- Assess the hospital's current logistics system and likely priority needs for resources and supplies during an emergency, including human resources, types and quantities of consumables, medicines and equipment, and means and mechanisms of transportation.
- Develop an Emergency Response Plan (including the Epidemic Sub-plan) and Standard Operating Procedures for the hospital's logistics functions that cover, among other requirements, standard procedures for emergency procurement of supplies and equipment, for transportation of resources to, from, and within the hospital, for storage of supplies and equipment, and for stock monitoring, tracking and reporting.
- Develop and manage the hospital's emergency stocks of such items as medicines, consumables, hand hygiene products and personal protective equipment.
- Draw up back-up plans that cover, among other points, agreements with the Ministry of Health for resupply mechanisms.

- Form Mutual Aid Agreements or Memoranda of Understanding with suppliers, especially for medicines and items needed for infection control and prevention.
- Draw up a mid-term logistics action plan for resupply and for recovery of routine hospital activities.
- Establish a contingency or surge capacity plan with Human Resources for managing staff shortages and for increasing numbers of skilled staff required to meet increased demand for logistics services.

Response tasks

- Ensure that mechanisms are in place to receive response operational directions from, and to coordinate actions with, the Incident Command Group.
- Adapt the logistics component of the Hospital Emergency Response Plan (including the Epidemic Sub-plan) in order to develop the logistics component of the hospital's Incident Action Plan, which is tailored to the characteristics of the emergency, as determined by epidemic event risk assessments and evolving situational and needs assessments.
- Assess staffing needs for the emergency and work with the human resource department to secure additional logistics staff.
- Review and adapt standard operating procedures to cope with the constraints (patient overload, resupply difficulties, infection control efforts) imposed by the emergency on the logistics management system.
- Monitor stock levels and keep careful records of outgoing and incoming flows of medicines and other essential items, and take the action needed to maintain adequate levels of routine and emergency supplies.
- Consider centralizing the management of supplies within the hospital so as to facilitate prioritization and distribution of items to critical areas or the stockpiling of items needed for specific purposes, such as antiviral drugs or personal protective equipment required in an epidemic, or to meet the additional demands created by a concurrent emergency.
- To meet the need for surge logistics capacity enlist additional staff from among personnel who normally perform duties involving equipment, stocks, procurement and administrative functions.
- In the event of a protracted crisis, recruit volunteer staff for logistics functions if necessary.

Recovery tasks

- As part of an overall hospital review, assess the hospital's operational performance in implementing logistics emergency plans and, if necessary, update these plans on the basis of lessons learned.
- Implement measures to address the welfare needs of logistics staff, such as leave and psychosocial support.
- Replenish stocks of essential supplies to enable the hospital to maintain or restore routine health care services.

7. Hospital pharmacy

Goals

- To make appropriate medicines and other pharmaceutical products available in the hospital for distribution to individuals affected by an emergency
- To ensure that medicines and other pharmaceutical products continue to be available and distributed to hospital patients during an emergency

General principles

- During an epidemic, having essential medicines readily available for distribution is critical to efficient management of patient overload and to the continuity of hospital services to non-epidemic patients.
- In many hospitals, the pharmacy not only provides medicines to the various hospital departments during an emergency but also maintains stocks of medicines and other healthcare necessities (such as blood, oxygen, solutions, vaccines, laboratory reagents and disinfectants) in readiness for an emergency.
- The need for medicines and protective equipment will depend on the nature of the emergency and the risks it poses.
- In the case of large-scale disasters, the pharmacy may also contribute to the management of donated medicines received from local, national or even international sources.
- Adoption of standardized pharmacy procedures, checklists, forms and log sheets contributes to the safety and efficiency of operations and facilitates exchange of information and cooperation between hospitals, regional entities and health authorities.

Basic requirements

- An overall Hospital Emergency Response Plan (including an Epidemic Sub-plan), which is part of the overall Hospital Emergency Risk Management Programme and identifies pharmacy services as an essential hospital function

- An Incident Command Group to coordinate the hospital's overall emergency response, which includes pharmacy activities, and an operational Hospital Emergency Coordination Centre
- An updated inventory of essential medicines and supplies, including oxygen, antibiotics, antipyretics and antiviral drugs
- Policies and procedures that are used for managing routine (i.e. non-emergency) pharmaceutical services and are adaptable to an emergency situation

Preparedness tasks

- Develop the pharmacy component of the Hospital's Emergency Response Plan (including Epidemic Sub-plan), based on the hospital's all-hazards emergency risk assessment.
- For all staff members involved in providing pharmacy services prepare Job Action Sheets describing their roles and tasks in an emergency situation.
- Ensure that pharmacy staff receive training and participate in regular exercises in order to enhance their ability to fulfil their roles in implementing the hospital's emergency response.
- Determine, in accordance with Ministry of Health recommendations, what medicines and other pharmaceutical products are essential and what quantities need to be stockpiled not only for a response over the first few days of an emergency, such as an epidemic, but also for ensuring continuity of regular pharmacy services throughout the emergency period.
- Develop and implement Standard Operating Procedures and a supply chain for acquiring, stocking and distributing the necessary supplies in the quantities required before and during an emergency and ensure that these procedures are consistent with national policies and national emergency response plans.
- If stocks of essential pharmaceutical supplies (such as personal protective equipment, antimicrobial and antiviral drugs, and other epidemic-related items) are centralized outside the hospital, determine exactly how they can be accessed by the hospital, in accordance with Ministry of Health policy.
- Establish, if required, Memoranda of Understanding or Mutual Aid Agreements with suppliers and shippers, local community pharmacies and other healthcare facilities within the local or regional hospital network, in order to ensure the supply and resupply, as and when required or on short notice, of sufficient quantities of essential pharmaceutical materials.
- Establish and maintain agreements with private sector entities able to provide not only pharmaceutical items of the required quality but also skilled staff available to meet surge capacity needs.

- Develop and test procedures for evacuating the hospital pharmacy, laboratory and blood bank in order to ensure staff safety while assuring continuity of routine hospital services.
- If alternative care sites are identified in the Hospital Emergency Response Plan (including the Epidemic Sub-plan), develop plans for the role of the hospital pharmacy in staffing these sites and in supplying them with pharmaceutical products.
- Develop a plan for the role of the pharmacy in providing medicines to patients receiving outpatient and home-based care.
- Develop a plan for the role of the pharmacy in receiving, storing and sorting donated medicines and other products and in disposing of expired or unneeded items.
- Establish a contingency or surge capacity plan with Human Resources for managing staff shortages and for increasing numbers of skilled staff required to meet increased demand for pharmaceutical services.

Response tasks

- Ensure that mechanisms are in place to receive response operational directions from, and to coordinate actions with, the Incident Command Group.
- Adapt the pharmacy component of the Hospital Emergency Response Plan (including the Epidemic Sub-plan) in order to develop the pharmacy component of the hospital's Incident Action Plan, which is tailored to the characteristics of the emergency, as determined by epidemic event risk assessments and evolving situational and needs assessments.
- Assess pharmacy staffing needs for the emergency and work with the human resource department to secure additional staff.
- Implement the Incident Action Plan and Standard Operating Procedures with respect to procurement, acquisition, storage, stock and stockpile monitoring, and distribution of pharmaceutical products to meet the demands of the emergency.
- Update the inventory of essential medicines and supplies, including oxygen, antibiotics, rehydration fluids, antipyretics and antiviral drugs.
- Update Standard Operating Procedures to ensure not only that they cover storage and distribution of essential medicines and pharmaceutical supplies but also that they stipulate who should receive these items, according to what criteria and who should make the final decisions regarding their distribution and use.
- Determine how many patients can be treated with the stocks of essential medicines and other items available in the hospital at the time of the emergency and double-check with suppliers as to their ability to provide the required medicines and other supplies.

Recovery tasks

- As part of an overall hospital review, assess the hospital's operational performance in implementing emergency pharmacy plans and, if necessary, update these plans on the basis of lessons learned.
- Implement measures to address the welfare needs of pharmacy staff, such as leave and psychosocial support.
- Replenish stocks of pharmaceutical products to enable the hospital to maintain or restore routine pharmacy services.

8. Hospital laboratory

Goals

- To provide laboratory services in support of the hospital's preparedness and response activities and to do so in a timely, efficient manner
- To contribute to the health sector's surge capacity by providing laboratory services needed outside the hospital

General principles

- The hospital laboratory provides critical services for several essential hospital activities, such as surveillance, infection prevention and control, and patient management.
- Prioritizing laboratory activities should strike a balance between the need to identify causative agents of an epidemic and the need to ensure continuity of routine testing activities.
- Laboratory biosafety measures should comply with national guidelines or the guidelines provided in the WHO Laboratory Biosafety Manual (Third Edition, WHO 2004¹).
- Laboratory waste management and cleaning be given high priority among the hospital's activities.
- WHO guidelines for collecting, preserving, and shipping specimens should comply with relevant WHO guidelines.²
- Adoption of standardized laboratory procedures, checklists, forms and log sheets contributes to the safety and efficiency of operations and facilitates exchange of information and cooperation on laboratory management not only in the hospital but also between hospitals and throughout national, regional and international laboratory networks.

¹ Laboratory Biosafety Manual, 3rd Edition. World Health Organization, 2004 (http://www.who.int/csr/resources/publications/biosafety/WHO_CDS_CSR_LYO_2004_11/en/ accessed 20 September 2014)

² Collecting, preserving and shipping specimens for the diagnosis of avian influenza A(H5N1) virus infection. World Health Organization, 2006 (http://www.who.int/csr/resources/publications/surveillance/MainTextEPR_ARO_2006_1.pdf accessed 20 September 2014)

Basic requirements

- An overall Hospital Emergency Response Plan (including its annexed Epidemic Sub-plan), which is part of the overall Hospital Emergency Risk Management Programme and identifies laboratory services as an essential hospital function
- An Incident Command Group to coordinate the hospital's overall emergency response, which includes laboratory activities, and an operational Hospital Emergency Coordination Centre
- An updated inventory of laboratory equipment, reagents and consumables
- Policies and procedures that are used for managing routine (i.e. non-emergency) laboratory services and are adaptable to an emergency situation
- Guidelines consistent with local policies and laws or issued by WHO on collecting and transporting specimens taken for purposes of infection control and prevention

Preparedness tasks

- Develop the laboratory component of the Hospital Emergency Response Plan, based on the hospital's all-hazards emergency risk assessment and including Standard Operating Procedures and standardized protocols (such as for tests and reagents), in accordance with the requirements stipulated for laboratory services in the national epidemic response plan.
- For all laboratory staff members prepare Job Action Sheets describing their roles and tasks in an emergency situation.
- Ensure that laboratory staff receive training and participate in regular exercises in order to enhance their ability to fulfil their roles in implementing the hospital's emergency response.
- Determine whether and to what extent mutual aid agreements and synergies with other healthcare facilities, the Ministry of Health, private sector agencies, universities and other organizations could make available additional personnel required within and outside the hospital in order to maintain uninterrupted laboratory services.
- Prepare protocols for the timely sharing of essential information with other hospital departments and with health authorities.
- Establish and maintain agreements with other laboratories, including private sector laboratories, which meet performance standards and could contribute to the surge capacity required to cope with increased demand for laboratory services.

- Identify referral laboratories (both public- and private-sector laboratories) and establish Mutual Aid Agreements or Memoranda of Understanding with them for the transportation and testing of specimens and the reporting of results.
- Establish Memoranda of Understanding or Mutual Aid Agreements with suppliers and other healthcare facilities within the local or regional hospital network, in order to ensure the supply and resupply of sufficient quantities of essential laboratory supplies (and of personal protective equipment) as and when required or on short notice.
- Develop and test procedures for evacuating the laboratory in order to ensure staff safety, while assuring continuity of routine laboratory services.
- Ensure that laboratory staff are trained in applying infection prevention and control measures, in using personal protective equipment, and in performing their roles in an emergency.
- Ensure that staff participate in exercises to test and enhance their ability to perform tasks in emergency conditions.
- Ensure availability of laboratory cleaning equipment and provide training of laboratory staff in maintaining sterility requirements.
- Establish a contingency or surge capacity plan with Human Resources for managing staff shortages and for increasing numbers of skilled staff required to meet increased demand for laboratory services.
- Response tasks
- Ensure that mechanisms are in place to receive response operational directions from, and to coordinate actions with, the Incident Command Group.
- Adapt the laboratory component of the Hospital Emergency Response Plan (including the Epidemic Sub-plan) in order to develop the laboratory component of the hospital's Incident Action Plan, which is tailored to the characteristics of the emergency, as determined by epidemic event risk assessments and evolving situational and needs assessments.
- Assess laboratory staffing needs for the emergency and work with the human resource department to secure additional staff as required.
- Update the inventory of essential laboratory equipment and supplies (especially for sputum analysis, if an infectious respiratory disease epidemic is anticipated or under way).
- Implement the Incident Action Plan, Standard Operating Procedures, protocols and agreements for performing laboratory services in accordance with Ministry of Health directives.

- Determine the criteria on which to decide whether testing for causative agents of an epidemic should be continued or rationalized, while ensuring continuity of routine testing.
- Double-check with suppliers as to their ability to provide laboratory supplies or additional technical staff.
- Ensure close monitoring of staff health status and follow-up action by the hospital's occupational health services.
- Check that standards are being met for personal protection, infection prevention and control, and for cleaning, disinfection and laboratory waste management.

Recovery tasks

- As part of an overall hospital review, assess the hospital's operational performance in implementing laboratory emergency plans and, if necessary, update these plans on the basis of lessons learned.
- Implement measures to address the welfare needs of laboratory staff, such as leave and psychosocial support.
- Replenish stocks of laboratory products to enable the hospital to maintain or restore routine laboratory services.

9. Concurrent emergencies

Goal

- To ensure that the hospital is able to continue providing essential health services for another emergency at the same time as coping with an epidemic

General principles

- During a prolonged epidemic, another major emergency—flooding, earthquake, mass casualty event, another disease outbreak, etc.—may occur and put added pressure on hospital services.
- The risk of a second major emergency during an epidemic calls for readiness to activate a second sub-plan or contingency plan at a moment's notice and to adjust hospital services to respond simultaneously to both emergencies.
- Other emergencies occurring concurrently with an epidemic can disrupt a hospital's normal functioning and overwhelm its capacity to provide critical medical care to the community, to cope with the epidemic and to continue working with any public health programmes it may be supporting.
- In the case of a hydro-meteorological, geological, technological or societal emergency occurring concurrently with an epidemic:
 - the hospital's lifelines—power, water, communications, medical gases, transportation (including elevators) and so on—may be vulnerable to damage or failure from natural, technological or societal hazards;
 - the hospital may be directly affected—and may even have to be partly or totally evacuated— by a fire inside the hospital, by damage from an earthquake, by chemical spills, and so on;
 - the number of patients admitted to the hospital may need to be restricted to those who will reasonably benefit from hospital-based services: such decisions should be made in coordination with local health services and health authorities;
 - a hospital located in the vicinity of a disaster occurring concurrently with an epidemic should anticipate the arrival of patients most severely affected by either emergency.

- Deferral of hospital services should be applied in a phased manner in order to mitigate its negative impact.
- Health authorities may decide to lock down or quarantine the hospital if it has become totally saturated with contagious patients and is unable to admit or care for additional patients.
- An epidemic can arise during an existing disaster situation: in order to stem the spread of the epidemic and reduce the risk of infection among staff, the hospital's surveillance and early warning system should be able to detect the earliest cases of infection, especially among disaster casualties.
- In the case of concurrent emergencies, triage is an essential function and must be carried out meticulously.

Basic requirements

- An all-hazard Hospital Emergency Response Plan (and its annexed hazard or situation-specific sub-plans), which is part of the overall Hospital Emergency Risk Management Programme and includes sub-plans for different types of emergencies and that can be activated at any time, even in the course of an epidemic
- An Incident Command Group, which provides overall management in the event of concurrent emergencies and an operational Hospital Emergency Coordination Centre

Preparedness tasks

- Ensure that the hospital's Emergency Response Plan includes arrangements for coordinating the hospital's response to concurrent emergencies, including the capacity to rectify omissions in, or discrepancies between, sub-plans for epidemics and those designed for other emergencies.
- Ensure that the Hospital Emergency Response Plan (including its sub-plans) is consistent with local and national emergency response plans.
- Define procedures for ensuring early detection, management and reporting of suspected epidemic cases among disaster casualties.
- Ensure that all hospital departments and staff are aware of the possibility of concurrent emergencies.
- Conduct staff training and organize regular hospital exercises which take into account the possibility of concurrent emergencies.
- Establish mechanisms for facilitating mutual support and coordination between hospitals and local healthcare providers to prevent or mitigate hospital overload by the

- use of referral/counter-referral systems, patient follow-up at alternative care sites and home care (for patients not requiring admission to hospital).
- Determine whether and to what extent mutual aid agreements and synergies with other healthcare facilities, the Ministry of Health, private sector agencies, universities and other organizations could make available additional personnel required within and outside the hospital in order to maintain uninterrupted essential hospital support services.
 - Determine how and to what extent the different responses to each of the emergencies occurring concurrently are likely to interact with each other.
 - On the assumption that a mass casualty incident with many casualties could occur during an epidemic, plan for appropriate patient triage and hospital admission capacity and designate additional separate hospital reception, waiting and triage areas.

Response tasks

- Ensure that mechanisms are in place to receive response operational directions from, and to coordinate actions with, the already activated Incident Command Group.
- Alert the Incident Command Group if epidemic cases are detected among patients affected by another emergency.
- Activate the hospital's Emergency Response Plan, together with its relevant sub-plans tailored to the specific circumstances of the concurrent emergencies, as determined by event risk assessments and evolving situational and needs assessments.
- Assess staffing needs for the concurrent emergency situation and work with the human resource department to secure additional staff as required.
- In collaboration with health authorities, identify the essential hospital services to be continued, the non-essential services to be deferred, and the inclusion and exclusion criteria for access to the hospital's services.
 - Note that inclusion and exclusion criteria will vary according to the severity of the emergency situation, the availability of alternative treatment options (such as community care) and the hospital resources available.
- Assign concurrent emergency casualties to outpatient care if they do not require hospital treatment.
- Review the roles and responsibilities of hospital departments and their staff and if necessary reorganize them to meet the priority needs of the concurrent emergencies.
- Activate procedures for communicating with staff, other stakeholders and the general public for notification of an epidemic arising during another concurrent emergency.

- Designate separate hospital reception areas for concurrent emergency or disaster casualties and epidemic patients, respectively, and define how each area will be staffed and provided with the necessary equipment and supplies.
- Organize separate traffic flows for patients suffering from routine medical emergencies (such as heart failure), concurrent large-scale emergency casualties and epidemic patients in such a way as to avoid contact between the different patient populations and thereby to reduce the risk of epidemic transmission.
- Start triage, ideally before admission of patients, but certainly before treatment.

Note that:

- the triage criteria for trauma patients will be different from those to be used for epidemic patients;
- the triage system should take into account the possibility of disaster casualties being infected by the epidemic;
- in the case of a major emergency occurring during an epidemic, alternative triage sites outside the hospital may be required.
- Determine to what extent and in what alternative healthcare facilities epidemic patients may be triaged outside the hospital.
- Implement infection prevention and control measures (including the wearing of personal protective equipment) for staff in triage evaluation areas and for disaster casualties and non-epidemic patients at risk of infection from epidemic patients.
- During concurrent emergencies, make regular assessments of the hospital's ongoing treatment capacity, adjust plans accordingly and inform health authorities of the adjustments.

Recovery tasks

- As part of an overall hospital review, assess the hospital's operational performance in implementing emergency plans during concurrent emergencies and, if necessary, update these plans on the basis of lessons learned.
- Implement measures to address the welfare needs of staff, such as leave and psychosocial support.

10. Essential support services

Goals

Food and nutritional services

- To ensure uninterrupted delivery of safe food and water, and nutritional services (including dietary counselling) to all hospital occupants

Security

- To ensure the safety of the hospital, its occupants (staff, patients, visitors) and the systems and assets essential to its ability to function safely and effectively during an epidemic

Engineering and maintenance

- To provide effective repair and preventive maintenance services aimed at avoiding functional collapse of the hospital and at ensuring continuous delivery of healthcare services to the community in the course of an epidemic

Laundry, cleaning, waste management

- To provide laundry and cleaning services and manage hospital waste with the aim of reducing the risk of further spread of infection during an epidemic

Mortuary services

- To provide safe, effective management of human remains, including identification, recovery and handling of the body, family services, temporary storage, and burial or cremation

General principles

Food and nutritional services

- Maintaining effective food supply during an epidemic may be hampered by such factors as increased demand for food and water, disruption of the supply chain and shortage of trained staff.

Security

- Security is a vital function for the protection of the hospital, its occupants and its lifelines (electricity, water, access roads, transport, telecommunications, resupply chains for essential items, etc.).
- Security is vital for continuity of the hospital's essential services at all times but particularly in the course of an epidemic.
- Security measures are required and may need to be strengthened to reduce the risk of events that may adversely affect:
 - staff, patients and visitors (such as theft of personal belongings or patient records, or violent behaviour);
 - hospital property (such as damage to, or theft of, equipment);
 - critical areas (such as intruders entering triage and cohorting areas).

Engineering and maintenance

- The maintenance of lifelines (e.g. water, power and communications) and of hospital equipment is essential for the effective functioning of the hospital.
- Engineering staff may be required to establish lifeline services and install equipment in alternative care sites.
- A protracted crisis may call for recruitment and training of additional support service staff.

Laundry, cleaning, waste management

General

- Staff providing waste management, cleaning and laundry services should have been trained in infection prevention and control in order to ensure occupational safety and compliance with infection control requirements.
- Coordination between clinical staff and waste management and cleaning staff is essential for preventing or controlling infectious diseases in a hospital.
- A protracted crisis may call for recruitment and training of additional support service staff.

Laundry

- Laundry services can be constrained by such factors as:
 - a sudden, substantial increase in the use of linen and reusable washable items;
 - a shortage of trained staff;

- limited capacity to manage work overload (due, among other things, to staff shortages and the need for extra equipment), while at the same time maintaining sterility requirements.

Waste management

- Hospital waste management can face serious difficulties in an emergency situation, such as:
 - increased quantities of contaminated or potentially contaminated waste, including sharps, syringes and blood-contaminated materials;
 - limited capacity for storing and managing hospital waste;
 - lack of transport or of facilities for disposal of hazardous waste.

Cleaning

- During an epidemic, cleaning services are likely to experience a sudden increase in workload and to face a number of constraints on coping with the increased pressure, such as:
 - the opening of additional hospital areas (triage areas, isolation rooms, etc.) that require cleaning;
 - shortage of trained staff able to work in a high-risk environment and the need for existing staff to work longer hours;
 - an unreliable supply and resupply of cleaning materials;
 - concerns over occupational safety and the need to observe infection prevention protocols to protect patients and staff.

Mortuary services

- In the course of an epidemic, handling and transportation of dead bodies and autopsy procedures should comply with national Ministry of Health guidelines, especially those on preventing spread of infection.
- Management of dead bodies requires a well-coordinated multi-sectoral response, which may involve not only hospitals but also private and public sector partners.
- The hospital's priority should be to care for living patients: if mortuary activities become too burdensome, they should be taken over by an external agency.

Basic requirements

- An overall Hospital Emergency Response Plan (including its annexed Epidemic Sub-plan), which is part of the overall Hospital Emergency Risk Management Programme, identifies

- support services as an essential hospital function and stipulates how each of the support services should function in an emergency
- An Incident Command Group to coordinate the hospital's overall emergency response, which includes activities required for essential support services, and an operational Hospital Emergency Coordination Centre
 - An updated inventory of staff, lifelines, equipment, supplies and other materials required to provide essential services
 - Policies and procedures for providing essential services in the routine (i.e. non-emergency) functioning of the hospital which are adaptable to the emergency situation

Preparedness tasks

General

- Develop the support services component of the Hospital Emergency Response Plan (including the Epidemic Sub-plan), based on the hospital's all-hazards emergency risk assessment.
- For all staff members involved in providing essential hospital support services prepare Job Action Sheets describing their roles and tasks in an emergency situation.
- Ensure that support staff receive training and participate in regular exercises in order to enhance their ability to fulfil their roles in implementing the hospital's emergency response.
- Determine whether and to what extent mutual aid agreements and synergies with other healthcare facilities, the Ministry of Health, private sector agencies, universities and other organizations could make available additional personnel required within and outside the hospital in order to maintain uninterrupted essential hospital support services.
- Scale up essential support services with due regard to efficient use of limited hospital resources.
- Assess the demand that an epidemic emergency could be expected to make on hospital support services and assess the hospital's current capacity to meet this demand in terms of staff, operations and management.
- Review or develop Standard Operating Procedures in accordance with national policies and technical guidelines for essential support functions, more specifically:
 - ensure briefing and training of staff, particularly recently hired staff, in implementing Standard Operating Procedures and encourage cross-training between the different support services;
 - establish procedures for managing and training volunteer staff;

- validate, test and revise, as required, all plans, procedures and protocols relating to support services.
- Ensure that essential supplies and equipment are available in sufficient quantities.
- Establish a contingency or surge capacity plan with Human Resources for managing staff shortages and for increasing numbers of skilled staff required to meet increased demand for essential support services.

Food and nutritional services

- Review existing systems and protocols for managing kitchen stock in order to ensure adequate food supply during an epidemic.
- Make arrangements and agreements with suppliers to ensure continuity of safe food supply.
 - Take measures to prevent disruption of the food supply chain (e.g. by storing foods that withstand long storage times and by ordering stock well in advance).

Security

- Identify major security problems that might arise, rank them in order of importance and draw up an action plan to prevent or resolve them.
- Identify the minimum short- and medium-term requirements for security equipment and acquire extra quantities of fuel, radiographic film and other consumables (such as batteries, operating theatre light bulbs, etc.)
- Anticipate needs for extra skilled security personnel and assess the adequacy of existing mechanisms for cooperating with local security services, such as the community's fire-fighting force, police, ambulance services and volunteer groups.
- Develop security monitoring systems and procedures for use in emergency situations.
- Identify specific hospital areas that will need to be opened for epidemic patients and the resulting security concerns that may require urgent attention.
- Prepare a working map of the hospital and its immediate surroundings and indicate on it any restricted or critical areas likely to require security oversight during an epidemic.
- Train security staff in infection prevention and control procedures.
- Discuss with local security services, such as police services, the specific roles they would play in assisting the hospital with its security needs and ensure that such external response groups will, if necessary, be briefed on the hospital's security arrangements during an epidemic.

Engineering and maintenance

- Ensure that adequate maintenance services are available to keep essential hospital equipment in working condition.
- Identify lifelines required on a continuous basis, such as water, heating–ventilation–air-conditioning and electricity, and make arrangements with suppliers who agree to give priority to the hospital in an emergency situation.
- Identify serious maintenance problems that may arise during an emergency situation and rank them in order of importance.
- Draw up an action plan for urgent up-scaling of maintenance capacity, including additional staff and suppliers of equipment and spare parts.
- Determine potential needs for external technical support and make the necessary arrangements with external service providers.
- Identify critical hospital areas where maintenance staff are likely to require special equipment or to perform special procedures.
- Train engineering and maintenance staff in infection prevention and control procedures.

Laundry, cleaning, waste management

- Ensure that plans and procedures for laundry, cleaning and waste management emphasize the need for compliance with infection prevention and control requirements.

Mortuary services

- Ensure that the hospital's mortuary services response plan and the Job Action Sheets for mortuary service staff take account of:
 - the existing policies and emergency response plans of the local community and the government with regard to management of the dead;
 - the need to prevent spread of infection;
 - the availability of body bags, body identification procedures, death certificates;
 - the need to identify public and private sector facilities that could serve as temporary morgues;
 - mechanisms for tracking patients and dead bodies admitted to the hospital and for releasing information to the public (including family and friends);
 - arrangements for the provision of psychosocial support to families of the deceased;
 - storage of belongings (especially valuables) of the deceased.

Response tasks

General

- Ensure that mechanisms are in place to receive response operational directions from, and to coordinate actions with, the Incident Command Group.
- Adapt the support services component of the Hospital Emergency Response Plan (including the Epidemic Sub-plan) in order to develop the support services component of the hospital's Incident Action Plan, which is tailored to the characteristics of the emergency, as determined by epidemic event risk assessments and evolving situational and needs assessments.
- Assess support services staffing needs for the emergency and work with the human resource department to secure additional staff as required.
- Assess the effect of the emergency on the hospital supply chain.
- Take the necessary steps, including activation of agreements with suppliers, to increase supplies and personnel so that support services can cope with the increased demand created by the emergency situation.
- Reinforce routine and emergency procedures and staff training in order to ensure continuity of essential support services.
- Train, mentor and supervise additional staff in procedures relevant to support services.

Food and nutritional services

- Take measures to prevent food-borne disease and to ensure safe management of food waste.
- Review arrangements with food suppliers to ensure continuity of supply.

Security

- Ensure that the hospital's internal security services liaise with local security services, such as police and fire-fighting services, and ensure that the resulting joint activities are effectively coordinated.
- Monitor security risks to staff and patients and assign security personnel to tasks inside the hospital and beyond the hospital perimeter throughout the emergency.
- Ensure that critical hospital areas are clearly identified and assign security staff to priority areas, such as triage areas, isolated patient areas, morgues and supply delivery areas.

Engineering and maintenance

- Ensure that engineering and maintenance staff follow protocols and procedures which take into account the special circumstances and risks (including risk of infection) of the emergency situation, such as access to high-risk hospital areas (isolation rooms, the emergency department and triage areas).
- Review arrangements with suppliers of lifelines, technical equipment and spare parts to ensure continuity of supply and that priority is given to the hospital.

Laundry, cleaning services, waste management

- Assess whether standard environmental control procedures, such as cleaning and disinfection, will be adequate for the current emergency situation.
- Determine the impact of environmental contamination on transmission of the infectious organism causing the current epidemic and identify cleaning and disinfection procedures likely to reduce transmission.
- Review arrangements with laundry suppliers to ensure continuity of supplies in the emergency situation.

Mortuary services

- Ensure that the mortuary for reception of dead bodies is secured, properly staffed and adequately equipped.
- Ensure that staff follow personal protection procedures in preparing and transporting dead bodies and in performing autopsies and that these procedures comply with national Ministry of Health guidelines for the management of dead bodies.
- Verify the location of the temporary morgue, if a site outside the hospital has been designated for this purpose, and determine procedures for liaising with this morgue.
- Verify that arrangements are in place for the reception of families of the deceased.
- Verify that suitable arrangements are in place for the hospital's psychosocial team to liaise with administrative authorities (Ministry of Justice, police, etc.) and, if necessary, with the temporary morgue staff for handover of dead bodies to the families or safe and respectful disposal of bodies by authorities.
- In collaboration with the Incident Command Group and local Emergency Operations Centre, determine how, and how frequently, deaths should be reported to these entities.

Recovery tasks

- As part of an overall hospital review, assess the hospital's operational performance in implementing support services emergency plans and, if necessary, update these plans on the basis of lessons learned.
- Implement measures to address the welfare needs of support staff, such as leave and psychosocial support.
- Ensure rehabilitation of any essential equipment affected by the emergency.
- Replenish supplies to enable the hospital to maintain or restore routine essential support services.

11. Continuity of essential health-care services

Goal

- To ensure that the hospital, as a critical component of the health system, contributes to the continuity of essential health services required by the community, while at the same time providing health services to patients affected by an epidemic or other emergency

General principles

- Communities will continue to experience medical emergencies, such as obstetrical complications, acute heart conditions and life-threatening injuries, which will require hospital care during an epidemic or other emergency.
- Decisions on how to balance the allocation of scarce hospital resources between routine and emergency needs should be ethical and equitable and should take into account the services that the hospital may be contributing to public health programmes.
- Balancing the routine community healthcare needs against those of epidemic patients should take into account the larger-scale health system response to the epidemic emergency: decisions in this regard should be reached through cooperation between the hospital and local and national health authorities.
- Delivery of essential services takes precedence over any other consideration, even when the hospital has to be partly or totally evacuated.
- During an epidemic, the hospital must apply triage criteria with a view to admitting the most critically ill and treatable epidemic patients. In some circumstances, health authorities may require a health facility to focus on providing health services to non-epidemic patients and to refer epidemic patients elsewhere. Exclusion policies may also preclude admission of epidemic patients.
- In conjunction with health authorities, the hospital should identify the essential services that will be continued, the non-essential services that could be deferred and the criteria for accessing the hospital's services (such as inclusion and exclusion criteria). The criteria

- will vary according to the severity of the situation, the availability of alternative treatment options (such as community-based care) and the resources available.
- To mitigate the negative impact of deferring services, a phased approach should be considered.
 - Restricting of the number of admissions of epidemic patients to those who will reasonably benefit from hospital-based care is a complex decision and must be made in coordination with other local health services and the relevant health authority (e.g. Ministry of Health).

Basic requirements

- An overall Hospital Emergency Response Plan (and its annexed Epidemic Sub-plan), which is part of the overall Hospital Emergency Risk Management Programme and addresses the issue of continuity of essential health services
- An Incident Command Group to coordinate the hospital's overall emergency response, which includes activities to ensure continuity of essential services, and an operational Hospital Emergency Coordination Centre
- Policies, procedures and criteria for admitting patients to the hospital during an epidemic.

Preparedness tasks

- Clarify with the Ministry of Health the hospital's role in an epidemic emergency, in particular whether it should admit epidemic patients or refer them to another hospital.
- Establish mechanisms for facilitating mutual support and coordination between hospitals and local healthcare providers to prevent or mitigate hospital overload by the use of referral/counter-referral systems, patient follow-up at alternative care sites and home care (for patients not requiring admission to hospital).
- Determine whether and to what extent mutual aid agreements and synergies with other healthcare facilities, the Ministry of Health, private sector agencies, universities and other organizations could make available additional personnel required within and outside the hospital in order to maintain uninterrupted essential hospital services.
- Formulate strategies for referring epidemic patients to healthcare facilities at other health system levels.
- Identify, in consultation with the Ministry of Health, the essential routine services to be maintained during an epidemic, and allocate human and material resources accordingly.

- Determine procedures for management of non-essential services, including referral to other facilities or levels of care, or deferral until a decision is taken to resume non-essential services.
- Estimate the number of epidemic patients the hospital can admit without jeopardizing its ability to ensure continuity of essential services to non-epidemic patients and inform health authorities and other community officials of this estimated number.
- Identify all the services provided by the hospital, both in- and outpatient, as well as services provided to public health programmes.
- Identify the public health programmes supported by the hospital and develop plans to ensure continuity of this support in the context of the hospital's emergency role in an epidemic
- Ensure that the hospital's Epidemic Sub-Plan includes strategies for ensuring continuity of essential services for non-epidemic patients and, at the same time, delivery of medical care needed by epidemic patients.
- Ensure that the hospital's Epidemic Sub-plan includes arrangements for the acquisition, resupply and availability of equipment, supplies and other material resources needed to ensure continuity of essential services.
- Determine what categories of personnel, in what numbers and with what competencies, are likely to be required to ensure continuity of essential services.
- Ensure that the Hospital Emergency Response Plan (including the Epidemic Sub-plan) includes arrangements to obtain qualified staff (such as by recruiting volunteers, nursing or medical students, or retired staff) to ensure continuity of routine essential services when the demands of the epidemic emergency are causing serious staff shortages.
- Establish mutual aid agreements and memoranda of understanding with the various private- and public-sector healthcare facilities participating in the local hospital network with a view to making a coordinated effort to maintain essential healthcare services and to strengthen the hospital's capacity to provide continuity of essential services to the community.

Response tasks

- Ensure that mechanisms are in place to receive response operational directions from, and to coordinate actions with, the Incident Command Group.
- Assess staffing needs to ensure continuity of essential services during the emergency and work with the human resource department to secure additional staff as required.
- Determine the critical care needs (intensive care, antibiotic therapy, etc.) of the most severely ill epidemic patients.

- Review the hospital's plans for ensuring continuity of selected essential services and revise them to meet the specific circumstances of the current epidemic.
- Adapt the hospital's role in supporting public health programmes to the specific characteristics of the current emergency situation.
- Ensure continuous monitoring of the capacity of the hospital to provide the agreed essential healthcare services required by non-epidemic patients and keep the relevant health authorities informed of the extent to which the hospital is succeeding in this task.
- Ensure that enough medicines, supplies and staff are available to meet the specific needs of epidemic patients and also the needs of non-epidemic patients.
- In order to reduce the risk of epidemic transmission in the hospital, organize patient traffic flow to avoid contact between patients requiring routine essential care and those affected by the epidemic.

Recovery task

- As part of an overall hospital review, assess the hospital's operational performance in implementing emergency plans to ensure continuity of essential routine services and, if necessary, update these plans on the basis of lessons learned.

12. Psychological and social support services

Goal

- To reduce the adverse psychological and social impact of an emergency situation on hospital patients and staff, and on members of the affected community

General principles

- An emergency affecting health nearly always has adverse psychological and social consequences, which are well known and well documented but not always well managed.
- Hospital staff may require specific psychological support, aimed partly at enabling them to return to work as soon as possible, as distinct from the more general support required by the community at large.
- A coordinating mechanism such as a local health care coordination centre should be used to link psychosocial support services offered inside the hospital to those provided to the community.
- Hospital staff required to care for ill relatives may be particularly vulnerable to psychosocial distress as they face a conflict between their professional responsibilities in the hospital and their family commitments.
- Psychosocial support services should have enough resources to be widely available and culturally appropriate.
- Psychosocial support should be offered as an optional, not mandatory, service.
- Psychological support services should be administered as a component of the hospital's occupational health department rather than its human resource department.

Basic requirements

- An overall Hospital Emergency Response Plan (including its annexed Epidemic Sub-plan), which is part of the overall Hospital Emergency Risk Management Programme and identifies psychosocial services as an essential hospital function
- An Incident Command Group to coordinate the hospital's overall emergency response, which includes psychological and social support activities, and an operational Hospital Emergency Coordination Centre
- A hospital psychosocial support service for patients and staff, which is linked to community services and can be adapted to an emergency situation

Preparedness tasks

- As part of the hospital's Emergency Response Plan, establish a hospital psychosocial team, if this has not yet been done, and ensure that the team members represent a wide range of disciplines and skills to be used in providing support to staff, patients and families in accordance with Ministry of Health and with local emergency plans for the provision of psychosocial support services in an emergency.
- For all psychosocial support team members prepare Job Action Sheets describing their roles and tasks in an emergency situation.
- Ensure that psychosocial support team members receive training and participate in regular exercises in order to enhance their ability to fulfil their roles in implementing the hospital's emergency response.
- Assess the hospital's current psychosocial support services and determine future priority needs in an emergency.
- Liaise and plan with the human resource department and other hospital departments, such as patient care and mortuary services, likely to require psychological and social support.
- Designate hospital areas where psychosocial support services will be provided.
- Establish and implement agreements with public, private and community entities able to provide skilled staff and volunteers who could contribute to psychosocial support services in the event of an emergency.
- If alternative care sites are identified, ensure that psychosocial support services are available at these sites.
- Develop and conduct staff awareness-raising and training in the management of stress in an emergency.

- Ensure that psychosocial support team members are trained in infection prevention and control measures as they may have to visit epidemic patients.
- Establish a contingency or surge capacity plan with Human Resources for managing staff shortages and for increasing numbers of skilled staff required to meet increased demand for psychosocial support services.

Response tasks

- Ensure that mechanisms are in place to receive response operational directions from, and to coordinate actions with, the Incident Command Group.
- Adapt the psychosocial support component of the Hospital Emergency Response Plan (including the Epidemic Sub-plan) in order to develop the psychosocial support component of the hospital's Incident Action Plan, which is tailored to the characteristics of the emergency, as determined by epidemic event risk assessments and evolving situational and needs assessments.
- Assess psychosocial support staffing needs for the emergency and work with the human resource department to secure additional staff as required.
- Review existing Standard Operating Procedures and protocols and adapt these to the current emergency situation.
- Liaise with all hospital departments in monitoring the psychological health of staff and in providing psychosocial support services.
- Implement procedures to identify patients, family members and hospital staff members at a high risk of suffering mental distress and other mental problems in an emergency situation.
- Ensure that patients, their families and hospital staff are aware that psychosocial support is available and that they know how to access psychosocial support team members by telephone or at the hospital.
- Ensure that the psychosocial support team provides information that not only dispels fears and confounds rumours but also enhances compliance with infection prevention and control requirements.
- Implement agreements with community psychosocial services, private-sector entities and volunteer groups to provide additional staff to the hospital, and mobilize further community resources, as required, possibly through contacts with religious leaders, minority group leaders and other key community members.
- Ensure that when psychosocial support team members visit epidemic-affected patients they comply with infection prevention and control measures, including appropriate use of personal protective equipment.

- Ensure coordination of hospital psychosocial support services to hospital staff, patients and their families with community-based psychosocial support services as well as with the hospital's communications and information management staff and officials managing the dead and missing in an emergency.
- Ensure that psychosocial support services are being provided at alternative care sites.

Recovery tasks

- As part of an overall hospital review, assess the hospital's operational performance in implementing emergency plans for psychological and social support activities and, if necessary, update these plans on the basis of lessons learned.
- Monitor patients, hospital staff and community members affected by the epidemic or other emergencies with a view to identifying those requiring follow-up psychosocial support.

13. Patient management

Goals

- To ensure that hospital patient management, from admission to discharge, is carried out safely, efficiently and effectively and in such a way as to be beneficial not only to patients but also to hospital staff and the community served by the hospital
- To ensure that the hospital can achieve safe and effective patient management not only in routine circumstances but also when emergencies make increased demands on hospital resources and capacities

General principles

- Patient management includes admission or referral, triage, diagnosis, treatment, patient flow and tracking, discharge and follow-up, and also management of support services, pharmacy services, and logistics and supply functions.
- The use of standardized procedures and protocols increases the chances of achieving safe and efficient patient management.
- During major epidemics involving large numbers of infected patients only those patients clearly requiring in-patient care should be admitted to the hospital.
- The hospital's role in providing patient care and in managing epidemic cases should be clearly defined in relation to the overall responsibilities and roles of the community and the public health sector at large.

Basic requirements

- An overall Hospital Emergency Response Plan (including its annexed Epidemic Sub-plan), which is part of the overall Hospital Emergency Risk Management Programme and identifies patient management as an essential hospital function
- An Incident Command Group, to coordinate the hospital's overall emergency response, which includes activities to support patient management, and an operational Hospital Emergency Coordination Centre

- National patient management protocols or protocols developed in collaboration with national health authorities and adapted to epidemic or other emergencies
- Functional, sustainable triage criteria, in line with Ministry of Health recommendations, for admitting or referring patients and for organizing the triage process so as to avoid exposure of other hospital patients, visitors and staff to risk of infection
- Standardized measures (such as vaccination, administration of appropriate medications, use of personal protective equipment) for preventing transmission of infection to hospital patients, staff and visitors
- Standardized protocols for the treatment of infected patients

Preparedness tasks

- Develop the patient management component of the Hospital Emergency Response Plan, based on the hospital's all-hazards emergency risk assessment.
- For all staff members involved in patient management prepare Job Action Sheets describing their roles and tasks in an emergency situation.
- Ensure that staff involved in patient management receive training and participate in regular exercises in order to enhance their ability to fulfil their roles in implementing the hospital's emergency response.
- Ensure that national patient management protocols for epidemic or other emergencies are widely available to relevant staff within and outside the hospital.
- For patients not requiring hospital admission, develop or review mechanisms for referral to other healthcare levels and for subsequent follow-up, thereby contributing to surge capacity and relieving or preventing hospital overload.
- Designate a reception area to be used for epidemic patients and ensure that it can function independently of other hospital areas and activities, such as cleaning of equipment, rooms and hand hygiene stations.
- Designate a suitably equipped and secured triage area for epidemic patients that would ideally be independent of the emergency department.
- Ensure that staff receive training in working in the epidemic triage area, including training in infection prevention and control procedures.
- Designate a special area for treatment of epidemic patients and make wide use of signage (including posters and pamphlets) to direct patients to this treatment area.
- Develop procedures for the management of patient traffic flow within and outside the hospital by creating two separate channels, one for epidemic patients, the other for non-epidemic, patients, in order to prevent at all times any contact between the two categories of patients.

- Develop procedures for the management of out-patient care in such a way as to avoid exposure of uninfected patients to the risk of infection.
- Define triggers, including criteria and thresholds, in line with Ministry of Health recommendations, for implementing protocols adapted to the risks posed by an epidemic and ensure use of these protocols for:
 - triage of communicable disease patients;
 - treatment of suspected or confirmed communicable disease patients;
 - full implementation of infection prevention and control measures, especially to protect hospital staff from infection;
 - supply and resupply of medications and equipment to maintain stocks above a defined level, in coordination with pharmacy and essential support services.

Response tasks

- Ensure that mechanisms are in place to receive response operational directions from, and to coordinate actions with, the Incident Command Group.
- Adapt the patient management component of the Hospital Emergency Response Plan (including the Epidemic Sub-plan) in order to develop the patient management component of the hospital's Incident Action Plan, which is tailored to the characteristics of the emergency, as determined by epidemic event risk assessments and evolving situational and needs assessments
- Assess staffing needs to ensure adequate patient management activities during the emergency and work with the human resource department to secure additional staff as required.
- Review all patient management protocols and procedures to be used for suspected and confirmed epidemic cases during an epidemic and adapt them to the risks posed by the epidemic.
- In collaboration with health ministry officials, review the criteria and procedures for authorizing access to the hospital by suspected or confirmed epidemic patients and make these criteria and procedures as widely known as possible among other stakeholders, in particular, the staff of the local Emergency Medical Services, dispatch centre, Emergency Operations Centre and Regional Hospital Coordination Centre, as well as private doctors and health centres.
- On arrival of patients at the reception or triage area and in accordance with predefined triggers, implement patient flow protocols for:
 - triage
 - charting, isolation and treatment of suspected or confirmed epidemic patients;

- organization and management of healthcare for in- and out-patients;
- infection prevention and control, particularly prevention of infection of hospital staff attending patients.
- Transfer immediately all incoming referral patients to the hospital's isolation ward.
- Ensure that all patients presenting with epidemic symptoms (and only such patients) go directly to the special triage area.
- As the epidemic evolves and its mode of transmission and treatment options become known, update, disseminate and implement, within the limits of available resources, the patient management protocols received from health authorities.

Recovery tasks

- As part of an overall hospital review, assess the hospital's operational performance in implementing patient management protocols and procedures and, if necessary, update these protocols and procedures on the basis of lessons learned.
- Implement measures to address the welfare needs, such as leave and psychosocial support, of staff involved in patient management.
- In accordance with directives from the health authorities and the Incident Command Group, activate procedures for a resumption of routine patient management activities.

14. Surge capacity

Goal

- To enable the hospital to expand its ability to manage a sudden or rapidly progressive surge in demand for hospital services created by an emergency

General principles

- Surge capacity—the ability of a hospital to meet an increased demand for health services—is a cornerstone of the overall approach to managing health emergencies. It has implications for the functioning of the entire hospital.
- The principles of surge capacity should be integrated into a hospital’s preparedness and response capacities for all hospital functions.
- Surge capacity is largely quantitative and calls for an increase in the number or patient load of hospital services. Surge capability, however is qualitative and relates to the ability of the hospital to provide the unusual or specialized health care often needed in an emergency, particularly an epidemic¹
- Achieving surge capacity calls for a systemic approach that integrates and synchronizes public health measures taken by a broad “coalition” of stakeholders, including first-level care providers, community organizations, private-sector service providers and other health care establishments. These stakeholders share responsibility for mitigating or containing a surge in demand that threatens to overwhelm and paralyse hospital services.
- Surge capacity entails:
 - human resource management, especially staffing;
 - supplies, equipment, logistics and resupply mechanisms;
 - specific expertise for critical areas of care;
 - overall management of hospital resources, such as expanding space and premises.

¹ During the SARS epidemic, for example, the main problem was not the number of SARS cases but the shortage of skills to manage the cases (see <http://cna-aiic.ca/en/on-the-issues/better-health/infectious-diseases/emergency-and-pandemic-preparedness/reviews-and-lessons-learned-from-h1n1-and-sars> accessed 20 September 2014).

- Planning for surge capacity should allow for progressive scale-up of activities over several stages, with clearly defined activation thresholds for each stage (see Chapter 5, *Human resources*, and Chapter 6, *Logistics*).

Basic requirements

- An overall Hospital Emergency Response Plan (including its annexed Epidemic Sub-plan), which is part of the overall Hospital Emergency Risk Management Programme and identifies surge capacity as a critical hospital prerequisite affecting all hospital functions
- An Incident Command Group to coordinate the hospital's overall emergency response, which includes activities required to ensure surge capacity, and an operational Hospital Emergency Coordination Centre
- Health system strategies for optimizing the utilization, at all healthcare levels, of the resources needed to cope with epidemics and other emergencies.

Preparedness tasks¹

- Establish mechanisms for facilitating mutual support and coordination between hospitals and local healthcare providers to prevent or mitigate hospital overload by the use of referral/counter-referral systems, patient follow-up at alternative care sites and home care (for patients not requiring admission to hospital).
- Ensure that staff receive training and participate in regular exercises in order to enhance their ability to fulfil their roles in contributing to the hospital's surge capacity.
- Make or update an inventory of all available resources:
 - organizational (public and private; primary, secondary and tertiary levels of care);
 - physical (healthcare establishments, equipment);
 - human (staff);
 - material (supplies).
- Develop strategies and emergency response plans to provide surge capacity in an epidemic or other emergency for:
 - human resources;
 - staffed beds, including intensive care beds;

¹Most of these tasks are described in the respective chapters dealing with specific hospital functions. Together, they add up to a hospital's overall surge capacity.

- critical equipment, supplies and other resources, including extra quantities of personal protective equipment, vaccines, antiviral medications, medical supplies and ventilators.
- Develop strategies for expanding hospital areas and ward and bed capacity (such as using stretchers in new spaces or converting ward beds into emergency beds) and estimate the additional staff, supplies and related costs incurred by these surge measures.
- Make agreements with suppliers to ensure that the hospital receives the necessary supplies and resources early enough and in sufficient quantities to ensure the hospital's self-reliance during the acute phase of an epidemic.
- Determine whether and to what extent mutual aid agreements and synergies with other healthcare facilities, the Ministry of Health, private sector agencies, universities and other organizations could make available additional personnel required within and outside the hospital in order to achieve surge capacity.
- Establish mechanisms for facilitating mutual support and coordination between hospitals and local healthcare providers to prevent or mitigate hospital overload by the use of referral/counter-referral systems, patient follow-up at alternative care sites and home care (for patients not requiring admission to hospital).

Response tasks

- Adapt the Hospital Emergency Response Plan (and the Epidemic Sub-plan), including the surge capacity components, and develop a surge capacity Action Plan which is tailored to the characteristics of the emergency, as determined by epidemic event risk assessments and evolving situational and needs assessments.
- Recruit extra staff, expanding recruitment sources to include volunteers, retirees, medical students, and so on, and arrange for appropriate credentialling and training.
- Update the inventory of hospital resources needed to meet the increased demand for services created by the emergency.
- Increase the number of staffed hospital beds and other in-patient resources.
- Adapt admission strategies to include utilization, as needed, of day-care areas, observation rooms and infection stabilization wards.
- Develop and implement policies for early patient discharge.
- Reorganize and adapt triage criteria to release additional capacity and contain hospital overload, referring epidemic patients, if need be, to other potential providers, such as public health programmes, alternative care sites or home care for patients not requiring in-patient services.

- Implement communication strategies, such as hotlines, for hospital staff and other health care workers and the community.

Recovery task

- As part of an overall hospital review, assess the hospital's operational performance in providing a surge capacity and, if necessary, update these plans on the basis of lessons learned.

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