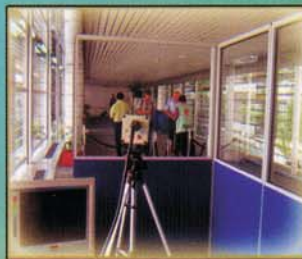
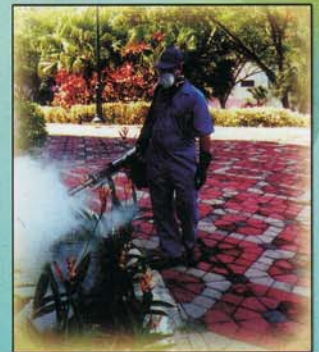




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MINISTRY OF HEALTH
BRUNEI DARUSSALAM

PUBLIC HEALTH *EMERGENCY* OPERATION PLAN



PUBLIC HEALTH EMERGENCY OPERATION PLAN

DEPARTMENT OF HEALTH SERVICES MINISTRY OF HEALTH BRUNEI DARUSSALAM

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Glossary

APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
DGHS	Director-General of Health Services
DEHS	Director of Environmental Health Services
DHS	Director of Health Services
DSS	Director of Scientific Services
DoSS	Department of Scientific Services
HEC	Health Emergency Committee
ICS	Incident Command Centre
IDP	Internally-displaced population
IHR	International Health Regulations
MOH	Ministry of Health
NDMC	National Disaster Management Centre
OHD	Occupational Health Division
PHCC	Public Health Central Command
PPE	Personal protective equipment
PHE	Public health emergency (any event or disaster that threatens the health of communities or groups of people).
PHE Op Plan	Public Health Emergency Operation Plan
RBAF	Royal Brunei Armed Forces
RBPF	Royal Brunei Police Force

FOREWORD

Alhamdulillah, we are very pleased to be able to develop this Plan which was part of the efforts towards strengthening the capacity and capability of the Environmental Health Services in executing our scope of work, in particular relating to public health emergencies including disasters.

In developing this Plan, experiences gained through managing various small-scale outbreaks and public health threats as well as in our routine day to day activities are taken into consideration. In addition, current best practices and guidelines available regionally and internationally had also been reviewed, adapted and adopted as and where appropriate.

Following the development, with the aim of increasing understanding, fostering confidence as well assessing its appropriateness, the Department had conducted training sessions. These sessions had in turn provided the opportunity to identify gaps and allowed us to improve the Plan further.

The Plan will continue to be reviewed from time to time, tested periodically and updated accordingly in line with current developments in the areas of public health emergency management.

Dr Hajah Rahmah binti Hj Md Said
Director of Environmental Health Services
As Chairperson, PHE Op Plan Development Team

1 Introduction

Public health emergencies have continued to spark interests all around the world due to their unpredictable nature and effects on human lives. Preparedness has thus been thought to reduce the impact of public health emergencies and will allow for better coordination of operations during a response to such events.

This Operation Plan has been developed primarily to guide Public Health personnel in planning, mitigating and responding to a public health emergency in Brunei Darussalam according to current best practices and taking into consideration the constraints within the Department of Health Services.

In the event of a disaster, the Department of Health Services has emergency functions to perform, in addition to normal duties. Responsibilities of the Department of Health Services include

- Coordinate execution of the public health functions of disaster management with the emergency activities of other government and other relevant agencies.
- Maintain surveillance of potential public health threats to and in Brunei Darussalam and direct appropriate warning and preparedness actions.
- Provide public health-related advisories, technical and planning assistance to government agencies upon request.
- Provide for periodic exercises to test and evaluate Department of Health Services Emergency Operations Plans to maintain a high standard of preparedness.
- Establish appropriate level of operational readiness.
- Initiate any and all other actions deemed necessary for effective implementation of disaster management.
- Advise the Minister of Health of the severity and magnitude of the public health aspects of the emergency/disaster situations.
- Develop and maintain a list of public health Standard Operating Procedures (SOPs).
- Maintain, update and distribute all changes to this plan, with periodic review.

- Appoint a Department of Health Services "Public Health Emergency Operational Coordinator" to prepare and maintain current assigned operational annexes of this plan and to assure the development of operating procedures and manuals appropriate to the public health functions, in coordination with the functions of the Ministry of Health.
- Deploy allocated and available resources to meet public health emergency or disaster requirements.
- Maintain capability for emergency procurement of public health supplies and equipment required and not otherwise available.
- Provide training as appropriate to personnel assigned to execute respective emergency functions in this plan.
- Maintain a 24-hour response team capability in the Department.
- Develop and maintain internal notification/recall rosters and communications systems.
- Assign appropriate personnel to succeed the "decision-making authority".
- Participate in tests and exercises to evaluate this plan.
- Review and make appropriate amendments to relevant public health policies, legislations and regulations.
- Communicate and liaise with regional and international agencies such as World Health Organisation (WHO) Western Pacific Regional Office (WPRO), ASEAN, APEC and Brunei Darussalam's immediate neighbours.
- Aligning Public Health Emergency response activities with the Revised International Health Regulations (IHR) 2005 and other related documentations.

2 General Information

2.1 Definition of “Disaster”

A disaster is any event that disrupts the normal functioning of public health either by damaging the public health infrastructure or by resulting in enough casualties or illnesses to overwhelm our day-to-day operations. The normal functioning of the public health system is inadequate to manage the demands placed on the health care system. This necessitates a different operating plan be used when a disaster occurs.

2.2 Types of Disasters

Technological versus natural disasters

- Disasters can occur with or without warning.
- They can be human-generated (technological) or acts of nature (natural).

Abrupt versus slow onset disasters

- Disasters may occur abruptly and without warning. Examples of abrupt onset disasters include: earthquakes, fires, epidemics, plane, boat, or car crashes with multiple victims, hazardous substance spills, civil unrest, and terrorist acts.
- Disasters may also occur with a slower onset that allows for some advance warning. Examples of these types of disasters that may provide advance warning include typhoons, tsunamis, volcanic eruptions and the resultant gas clouds, offshore oil spills, and droughts.

2.3 Disaster Management Phases

Dealing with a disaster is an ongoing process that begins before any disaster actually occurs. The five stages of disaster management are:

- i) Prevention – provide protection from disasters so that they never occur.
- ii) Mitigation – to decrease or eliminate the impact of disaster risks which are not preventable
- iii) Preparedness – actions that result in persons knowing what to do and how to respond after disaster has occurred. Components include planning, monitoring and warning
- iv) Response – activities to minimise loss of life & damage and to organise the temporary removal of people and property from the threat
- v) Recovery – activities which are directed to restore normal functions and operations. This phase may last for a considerable time after the disaster.

3 Concept of Operations

3.1 General Concept

1. Declaration of a disaster will be undertaken by a designated authority.
2. Department of Health Services shall practice the following General Concepts of Operations during a disaster:
 - All staff will be alerted to be on standby in readiness to be recalled for duty until the disaster has been declared over.
 - If the disaster response is anticipated to be prolonged (i.e. more than 8 hours), shift assignments will be set up to allow for staff rest periods.
3. Disaster Drills and Exercises
 - Disaster Activation drills should be held at least once a year; this may be done as a tabletop exercise.
 - When a disaster drill is staged, the drill coordinator will announce "Disaster Activation drill in effect. This is a drill".
 - The Department of Health Services will respond exactly as if it were an actual Disaster Activation with two exceptions: routine essential services will not be suspended and routine clients or visitors will not be turned away.

3.2 Concept of Public Health Emergency (PHE) Response Operation

1. In response to a public health emergency/disaster, a "Public Health Central Command" (PHCC), situated at the Office of Director of Environmental Health Services, will be activated.
2. The Command Centre will in turn activate and deploy a Public Health Emergency (PHE) Response Team to the affected site for relevant operational duties.

Please refer to Appendix 1 for action procedure flowchart in PHE Response Operations, Appendix 2 for chain of communication and Appendix 3 for the list of contact persons.

3. A PHE Response Team will be deployed
 - i) if Disease Control Division/Environmental Health Division or District Health Offices requires support in responding to a public health emergency/disaster.
 - ii) in the event of a large-scale public health emergency/disaster or a public health emergency/disaster posing a threat to national security.

In the second scenario, the Ministry of Health will be alerted by the National Disaster Management Centre (NDMC). Ministry of Health Command Centre will then alert the Health Emergency Committee (HEC) of the Department of Health Services for the Public Health Central Command to be activated. The PHE Response Team being deployed will then be a part of larger national response operation. The leader of the PHE Response Team (Team Leader) will report to the Site Incident Commander of the whole operation (NDMC-appointed, at the site of operation).

4. A PHE Response Team being deployed for any disaster response operations will:
 - i) perform routine public health functions and measures during disaster response operations (acute management of patients and casualties will be handled by the emergency and medical services).
 - ii) be managed by a command/operation system that was derived from the Incident Command System (ICS). ICS is a method for dealing with disasters when the situation requires coordination of all public health activities through a command post.
 - iii) have four functions in disaster response operations: Team Leader, Logistics, Safety Officer and Field Operations.
 - iv) thus have at least 5 members: one Team Leader, one Logistics, one Safety Officer and at least two Field Operators. (Note: all members of the Response Team may be performing a Field Operator's task).
5. Specific job tasks during a PHE Response Operation are outlined in Appendices 4 and 5. Staff of the Environmental Health Services and District Health Offices has been assigned to these specific tasks. This is to allow for familiarity to the tasks and for the purpose of training. The task allocation lists are kept at the PHCC and District Operations Room. The list will be updated every 6 months and staffs are advised to check the list periodically.

6. If the PHE Response Team is being deployed to an incident in one of the districts (Belait / Tutong / Temburong), the PHE Response Team will report to the operation room at the District Health Office (under the command of Medical Officer of Health). This District Operation Room (DOR) will in turn communicate with the PHCC.
7. Standard Operating Procedure (SOP) and the operation checklists will be kept at the PHCC and District Operation Rooms. Staffs are asked to be familiar with these.

3.3 Media Relations

1. Any disaster or public health emergency is a media event.
2. The media plays an important role in the management of a disaster or public health emergency:
 - i) They are able to give important protective actions to the public.
 - ii) They know how to reach their audiences and what their audiences need.
3. In a disaster or public health emergency, a spokesperson will be appointed and media releases will be published through the appropriate channel. This will be done at the ministerial level.
4. Although good relationship must be maintained with the media, health operational personnel are to redirect the media to the Public Relations Office, Ministry of Health.

4 Public Health Responsibilities in a Public Health Emergency (PHE)

A PHE Response Team being deployed for any disaster response operations will carry out routine public health responsibilities during disaster response operations as summarised in Table 1 below whilst Tables 2, 3 and 4 shows the public health measures in natural disasters, technological disasters and infectious disease outbreaks.

Table 1 Public Health Actions in Disaster Response Operation

<u>Public Health Actions / Issues</u>	<u>Natural Disasters</u> e.g. floods, fires, earthquakes, tsunamis	<u>Technological Disasters</u> e.g. hazardous substance spills, plane crash	<u>Infectious Diseases</u> e.g. anthrax, avian influenza
Dealing with deaths	possible	possible	possible
Injury Prevention and Control	√	√	possible
Dealing with environmental issues (e.g. water supply, sanitation, vector control, solid waste management, standing surface water)	√	√	possible
Dealing with displaced population (e.g. shelter, food and water supply, sanitation, medical treatment)	usually with major incident	possible	quarantine
Personal safety issues [e.g. personal protective equipment (PPEs), vaccination] – for emergency responders	depending on size of incident, maybe minimal to essential	minimal to essential	essential
Contact tracing	possible	possible	√
Disease surveillance	√	possible	√
Dealing with disruption, loss and / or damage of health care system	minimal to widespread	minimal	minimal to widespread

Please refer to Appendix 5 for Public Health Contingency Table (taken from ADEPT, 30 April 2007).

It is anticipated that a PHE Response Team will have the biggest role in disasters related to infectious disease outbreaks and technological disasters such as hazardous substance spills and those affecting air quality. Disasters involving mass trauma requiring acute medical interventions will mainly be handled by the emergency and medical services.

Table 2 Public Health Measures in Natural Disasters (e.g. flooding, fires, landslides)

PHASE		PREVENTIVE HEALTH MEASURES		
		FOR GENERAL PUBLIC	FOR EMERGENCY RESPONDERS (e.g. RBAF, RBPF, Fire & Rescue, Health, volunteers)	OTHER ACTIONS BY DEPT OF HEALTH SERVICES / PUBLIC HEALTH CENTRAL COMMAND
Preparedness (Before Incident)		<ul style="list-style-type: none"> Ensure adequate medical and drug supplies in all health centres. Continue routine environmental health activities according to schedule. Disseminate health advice to the public (e.g. steps to be taken before and during flooding). For floods, start flood-related disease surveillance at the start of rainy season (September – January, May – June) 	<ul style="list-style-type: none"> Relevant departments and organisations must ensure that potential responders are fit for duty. Immunisation may be given to potential responders, according to the National Guidelines. Ensure emergency responders have been adequately trained on management of disaster response, including safety issues. 	<ul style="list-style-type: none"> Ensure Operation Room ready for activation. Plan for the setting up of temporary health service (manpower, equipment, drugs, transport) Plan for staff mobilisation during incident. <u>If risk is known:</u> Map potential risk areas and prepare profile of population at risk. Update staff list (to include list of staff on leave / going on leave).
	<ul style="list-style-type: none"> Intensify incident-related disease surveillance. Reinforce health advice to the public. Review routine environmental health activities. 	<ul style="list-style-type: none"> Relevant departments and organisations to <ul style="list-style-type: none"> ➢ keep a record of deployed emergency responders and submit to DEHS, if requested. ➢ ensure emergency responders wears appropriate personal protective equipment (PPE) when necessary: hard hats, goggles / safety glasses, heavy work gloves, watertight boots with steel toe and insole and hearing protection (if necessary). ➢ ensure emergency responders are given enough rest ➢ ensure decontamination procedures are followed (if appropriate). All departments / NGOs / hospitals / health centres are requested to inform the Dept of Health Service of any incident-related injuries sustained by emergency responders. 	<ul style="list-style-type: none"> Monitor incident-related disease surveillance. Monitor incident-related injuries sustained by emergency responders – in collaboration with Occupational Health Division (OHD), Department of Health Services. Regular review on safety of emergency responders (including record of deployed responders, PPEs, rest period) – will need assistance from OHD. Daily updates to DHS, DEHS and Public Health Central Command (if activated). 	
Response (During Incident)	<ul style="list-style-type: none"> Intensify incident-related disease surveillance. Reinforce health advice to the public. Review routine environmental health activities. 	<ul style="list-style-type: none"> Intensify incident-related disease surveillance. Review routine environmental health activities. Reinforce health advice to the public Carry out situational assessment at temporary shelters (in terms of food and water supply, sanitation). Childhood immunisation may be given at temporary shelters, if there is prolonged flooding. 	<ul style="list-style-type: none"> Monitor incident-related disease surveillance. Monitor incident-related injuries sustained by emergency responders – in collaboration with Occupational Health Division (OHD), Department of Health Services. Regular review on safety of emergency responders (including record of deployed responders, PPEs, rest period) – will need assistance from OHD. Daily updates to DHS, DEHS and Public Health Central Command (if activated). 	
Recovery (After Incident)	<ul style="list-style-type: none"> Continue incident-related disease surveillance e.g. until the end of rainy season for flooding. Continue normal routine activities (e.g. vector control, entomological and water sampling activities in a flood area). 	<ul style="list-style-type: none"> Surveillance of emergency responders' health, if necessary (esp following major response operations) – will need assistance from OHD. 	<ul style="list-style-type: none"> Monitor incident-related disease surveillance. Monitor incident-related injuries sustained by emergency responders. Regular updates to DHS and DEHS. 	

Table 3 Public Health Measures in Technological Disasters (e.g. hazardous substance spills, industrial accidents, plane crash)

PHASE		PREVENTIVE HEALTH MEASURES		
		FOR GENERAL PUBLIC	FOR EMERGENCY RESPONDERS (e.g. RBAF, RBPF, Fire & Rescue, Health, volunteers)	OTHER ACTIONS BY DEPT OF HEALTH SERVICES / PUBLIC HEALTH CENTRAL COMMAND
Preparedness (Before Incident)		<ul style="list-style-type: none"> Ensure adequate medical and drug supplies in all health centres. Continue routine environmental health activities according to schedule. 	<ul style="list-style-type: none"> Relevant departments and organisations must ensure that potential responders are fit for duty. Immunisation may be given to potential responders, according to the National Guidelines. Ensure emergency responders have been adequately trained on management of disaster response, including safety issues. 	<ul style="list-style-type: none"> Ensure Operation Room ready for activation. Plan for staff mobilisation during incident. Update staff list (to include list of staff on leave / going on leave).
	<p>No population displacement</p> <ul style="list-style-type: none"> Reinforce health advice pertaining to the incident to the public, particularly to those exposed (e.g. chemical spills). Review routine + additional environmental health activities (e.g. chemical monitoring). 	<ul style="list-style-type: none"> Relevant departments and organisations to <ul style="list-style-type: none"> keep a record of deployed emergency responders and submit to DEHS, if requested. ensure emergency responders wears appropriate personal protective equipment (PPE) of the appropriate biosafety level (BSL). ensure emergency responders are given enough rest ensure decontamination procedures are followed (if appropriate). All departments / NGOs / hospitals / health centres are requested to inform the Dept of Health Service of any incident-related injuries sustained by emergency responders. 	<ul style="list-style-type: none"> Monitor incident-related disease surveillance. Monitor incident-related injuries sustained by emergency responders – in collaboration with Occupational Health Division (OHD), Department of Health Services. Regular review on safety of emergency responders (including record of deployed responders, PPEs, rest period) – will need assistance from OHD. Daily updates to DHS, DEHS and Public Health Central Command (if activated). 	
Recovery (After Incident)	<p>Population displaced</p> <ul style="list-style-type: none"> Intensify incident-related disease surveillance, particularly in large spills or involving atmospheric release. Review routine + additional environmental health activities (e.g. chemical monitoring). Reinforce health advice to the public Carry out situational assessment at temporary shelters (in terms of food and water supply, sanitation). 	<ul style="list-style-type: none"> Surveillance of emergency responders' health, if necessary (esp following major response operations) – will need assistance from OHD. 		
	<ul style="list-style-type: none"> Continue incident-related disease surveillance. Continue routine + additional activities. 		<ul style="list-style-type: none"> Monitor incident-related disease surveillance. Monitor incident-related injuries sustained by emergency responders. Regular updates to DHS and DEHS. 	

Table 4 Public Health Measures in Infectious Disease Outbreaks (e.g. anthrax, avian influenza)

PREVENTIVE HEALTH MEASURES			
PHASE	FOR GENERAL PUBLIC	FOR EMERGENCY RESPONDERS (e.g. RBAF, RBPF, Fire & Rescue, Health, volunteers)	OTHER ACTIONS BY DEPT OF HEALTH SERVICES / PUBLIC HEALTH CENTRAL COMMAND
Preparedness (Before Incident)	<ul style="list-style-type: none"> Continue routine disease surveillance as well as routine general prevention and control activities (e.g. sanitation, water, vector control, food safety). Ensure adequate medical and drug supplies in all health centres, including vaccines and chemoprophylaxis. Disseminate health advice to the public (e.g. on how to prevent communicable diseases and how to access relevant services). 	<ul style="list-style-type: none"> Relevant departments and organisations must ensure that potential responders are fit for duty. Immunisation or chemoprophylaxis may be given to potential responders, according to the National Guidelines. Ensure emergency responders have been adequately trained on infectious disease outbreak management and response, including safety issues and use of personal protective equipment. Ensure that there are enough and adequate personal protective equipment for emergency responders. 	<ul style="list-style-type: none"> Assess infectious disease trends and anticipate possible outbreaks. Prepare profile of susceptible population. Ensure Operation Room ready for activation. Ensure that laboratory and treatment facilities are up to the recommended standards. Ensure that isolation/quarantine facilities are ready for use. Plan for the setting up of temporary health service (manpower, equipment, drugs, transport) Plan for staff mobilisation during incident. Update staff list (to include list of staff on leave / going on leave).
Response (During Incident)	<ul style="list-style-type: none"> Intensely disease surveillance especially among the contacts. Ensure that cases are treated according to standardised protocols (if available) in designated treatment facilities. Review prevention and control activities implemented during the outbreak. Reinforce health advice to the public Carry out situational assessment at quarantine facilities (in terms of food and water supply, sanitation), if there are people being isolated / quarantined. 	<ul style="list-style-type: none"> Relevant departments and organisations to <ul style="list-style-type: none"> keep a record of deployed emergency responders and submit to DEHS, if requested. ensure emergency responders wears appropriate personal protective equipment (PPE) of the appropriate biosafety level (BSL). ensure decontamination procedures are followed (if appropriate). ensure emergency responders are given enough rest All departments / NGOs / hospitals / health centres MUST inform the Dept of Health Service of any emergency responders who develop symptoms of the disease. 	<ul style="list-style-type: none"> Monitor and analyse disease surveillance data. Monitor development of symptoms among emergency responders. Regular review on safety of emergency responders (including record of deployed responders, PPEs, rest period). Daily updates to DHS, DEHS and Public Health Central Command (if activated)
Recovery (After Incident)	<ul style="list-style-type: none"> Continue disease surveillance as well as routine general prevention and control activities (e.g. sanitation, water, vector control, food safety). 	<ul style="list-style-type: none"> Surveillance of emergency responders' health, if necessary. 	<ul style="list-style-type: none"> Monitor and analyse disease surveillance data. Monitor emergency responders who developed symptoms. Regular updates to DHS and DEHS.

5 Internally Displaced Populations

1. Internally Displaced Persons (IDP) is defined as “persons who, for any different reasons, have been compelled to leave their home¹”. This may either be due to natural disasters, infectious disease outbreaks (for isolation and quarantine) or armed conflicts.
2. IDPs may be placed in temporary shelters (using tents) or in fixed sites (facilities that are converted as shelters such as community halls, schools, hotels / hostels, mosques, conference halls). Alternatively, IDPs may choose to seek shelter with friends or family.
3. There are a number of factors that need to be considered when selecting a possible site / facility as a potential shelter for IDPs. These include:
 - Availability of water i.e. safe and uninterrupted supply – a main priority
 - Security of the site / facility. Shelters may potentially give rise to crimes such as petty thefts and rape.
 - Accessibility of the site / facility e.g. for delivery of resources.
 - Environmental issues
 - Social / cultural issues
 - Religious issues
4. Apart from attending to physical and psychological needs of IDPs, other components of shelters that must be considered include administration, health, food and nutrition, water, sanitation, social services, security issues and storage areas / facilities.
5. The Sphere² handbook provides an excellent guidance in the setting up of a shelter especially in setting the minimum standards and requirements of a shelter.
6. In the management of an infectious disease outbreak, a group of people may be isolated and quarantined according to pre-determined protocols. Although the criteria of shelter selection may be similar to that for IDPs, additional measures such as disease surveillance, vaccination, prophylaxis and counseling will need to be put in place and considered.
7. The Infectious Disease Order 2003 has provisions to quarantine contacts of a case of an infectious disease of public health importance. The Order also has provisions to undertake public health interventions for other unlisted disease or disease events of public health concern.

¹ Principles of Public Health Emergency Management. Centers for Disease Control and Prevention, USA

² Humanitarian Charter and Minimum Standards in Disaster Response. The Sphere Project.

6 Emergency Responders

1. The topmost priority in responding to any disaster or public health emergency is personal safety, followed by safety of the partner.
2. There are numerous risks faced by an emergency responder at any scene. This can be divided into obvious risks and subtle risks as described below:

<u>Obvious risk</u>	<u>Subtle risk</u>
<p>Mechanical danger (e.g. vehicular accidents)</p> <ul style="list-style-type: none">• Sharp edges ± broken glass• Fuels• Airbags• Gas pistons	<p>Danger from rescuee</p> <ul style="list-style-type: none">• Assault• Disease• Litigation
<p>Structures</p> <ul style="list-style-type: none">• Fire• Collapsed building• Stairs• Electricity	<p>Danger from family members</p> <ul style="list-style-type: none">• Assault• Litigation
<p>Water</p> <ul style="list-style-type: none">• Flooding• Poor visibility• Currents• Electricity• Contamination• Animal bites	<p>Risk of own profession</p> <ul style="list-style-type: none">• Paranoia• Cynicism• Burnout / compassion fatigue• Disease• Bodily harm / damage
<p>Weather</p> <ul style="list-style-type: none">• Lightning• Wind• Rain• Cold• Heat	

3. It is important that appropriate personal protective equipments are correctly worn when responding to a disaster or public health emergency, to protect the responder against any physical risks and danger.
4. Ideally, an emergency responder should only be working for eight hours for each shift although this may be stretched to a maximum of twelve hours.

5. Stress has been recognised as a major risk to emergency responders. Sources of stress to a responder include the following:
 - Long working hours
 - Physical exhaustion
 - Time pressures (urgency of finishing the operation)
 - Uncertain duration of operation
 - Unfamiliar settings (even the most familiar site may be changed following a disaster)
 - Unsure of role in response operation
 - *Handling dead bodies*
 - Exposure to sufferings
 - Decision making
 - Identification with victims
 - Prospect of mission failure
 - Fear of contamination, illness and death
 - Using personal protective equipment
6. Apart from the usual manifestations of stress such as anxiety and depression, other signs of stress among emergency responders that have been documented at disaster scenes include being argumentative, taking unnecessary risks, substance abuse (including alcohol and tobacco) and refusing to follow orders.
7. It is the responsibility of all health personnel to report any symptoms of stress that they are experiencing or observing in a colleague.

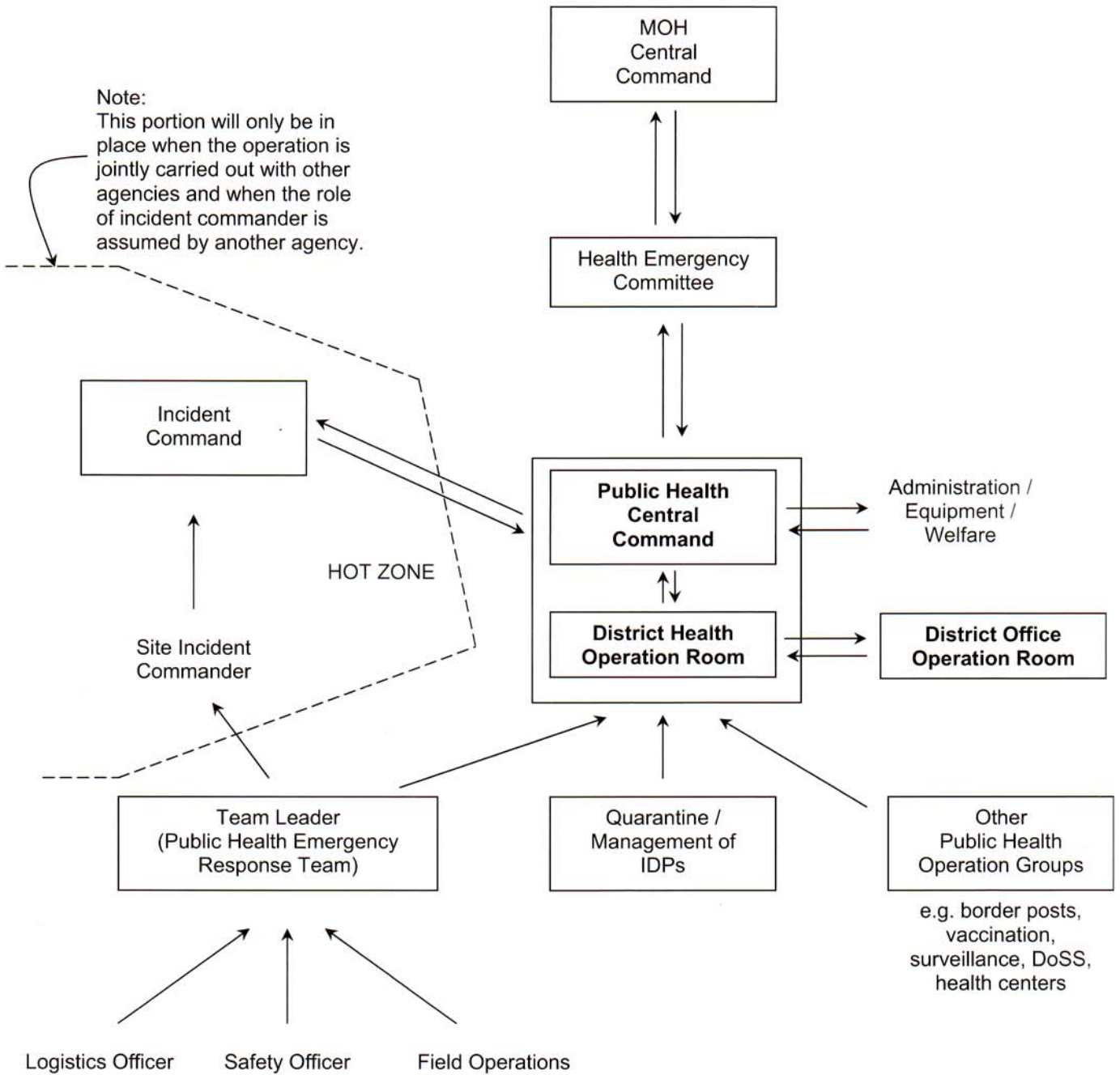
7 Way Forward

The PHE Operation Plan is intended to guide all staff of Department of Health Services in carrying out duties and responsibilities during a PHE Response Operation. It is intended to be used by staff of the Environmental Health Services and District Health Offices so as to ensure that all actions are streamlined and standardised.

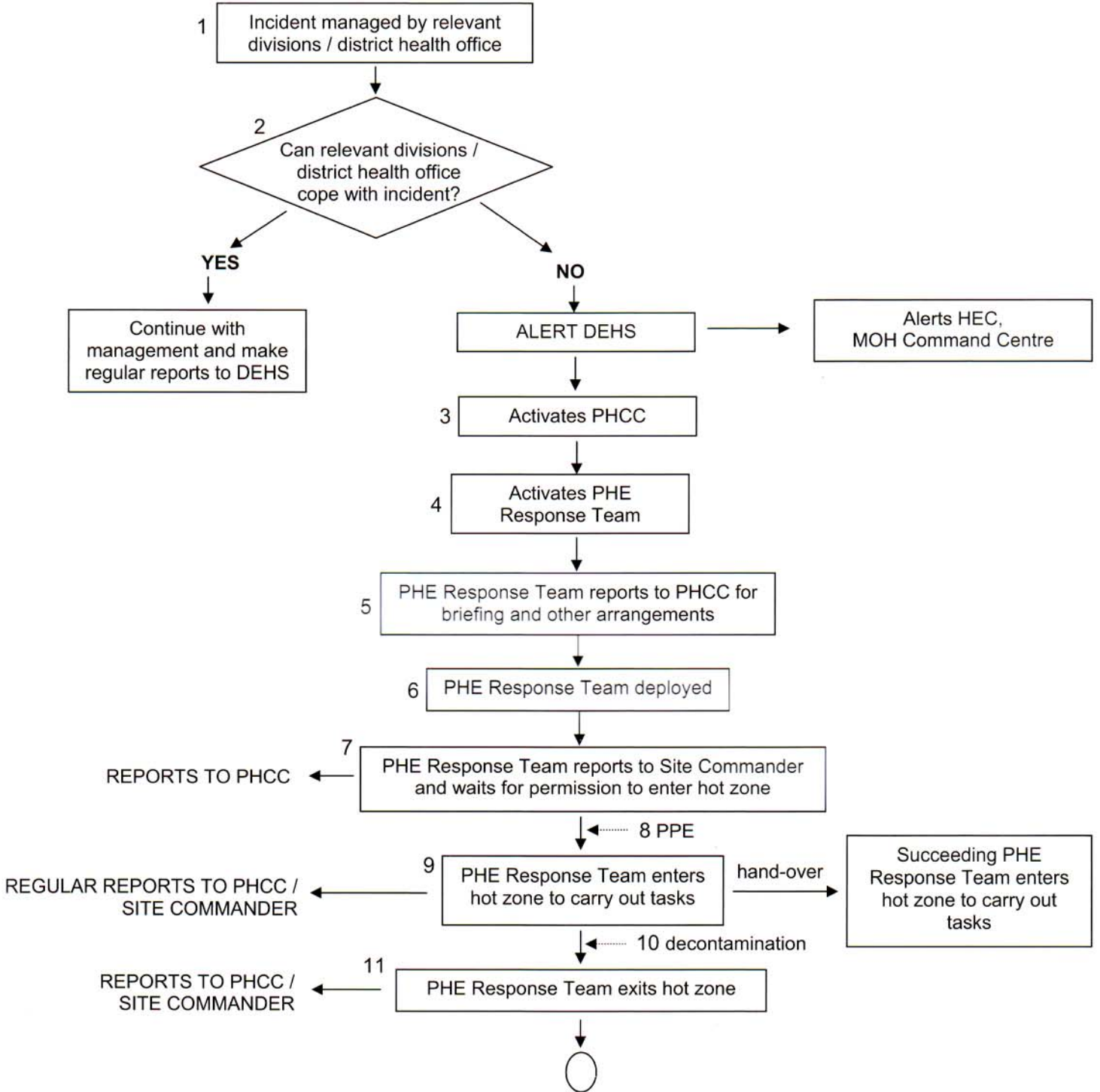
To further enhance our capabilities, the following actions will be carried out in the near future:

- i) Develop Standard Operating Procedure (SOP) and operation checklists to be kept at the PHCC and District Operation Rooms.
- ii) Form a PHE Response Training Team to oversee the training needs and requirements for the implementation of the PHE Operation Plan.
- iii) Inform and brief all staff involved of the Public Health Emergency Operation Plan and their assigned tasks during a PHE Response Operation.
- iv) Provide training (workshops) and carry out drills and exercises to familiarise staff to their assigned tasks.
- v) Identify a number of staff to be trained as counselors / para-counselors who will assist in the management of stress / possible psychological effects of PHE Operations.
- vi) Appoint a "Public Health Emergency Logistics Coordinator" to prepare and maintain logistics requirement of public health emergencies.
- vii) Appoint a "Public Health Emergency Information Officer" to collect relevant information pertaining to the incident and to assist the Commander of the PHCC in preparing regular reports to the MOH Command Centre as well as preparing information for media releases.

Appendix 2 Chain of Communication



Appendix 1 Action Procedure Flowchart



Emergency Contact List will not be display in pfd file.

A Public Health Emergency Response Team responding to an incident.

For the reasons of familiarity to specific emergency job actions and training, job responsibility during a public health emergency has been pre-determined and pre-allocated for selected staff of the Environmental Health Services and District Health Offices.

The task allocation lists are kept at the PHCC and District Operations Room. The list will be updated every 6 months and staff are advised to check the list periodically.

Public Health Central Command / District Health Operation Room may consist of the following:

1. Director of Environmental Health Services
2. Senior Medical Officer of Health / Medical Officer of Health (as heads of District Health Offices)
3. Heads of Division
4. Public Health Officers
5. Health Inspectorate Staff
6. Administrative Staff

Quarantine / Management of Displaced Population Group may consist of the following:

1. Senior Medical Officer of Health / Medical Officer of Health
2. Heads of Division
3. Senior Medical Officer / Medical Officer
4. Public Health Officers
5. Health Inspectorate Staff
6. Administrative Staff
7. Nursing staff

Emergency Response Team (where each team will be made up of one Team Leader, one Logistic, one Safety Officer and at least two Operators) may consist of the following:

1. Senior Medical Officer of Health / Medical Officer of Health
2. Heads of Division
3. Senior Medical Officer / Medical Officer
4. Public Health Officers
5. Health Inspectorate Staff

Public Health Central Command

- Reports to : Health Emergency Committee / MOH's Command Centre (also communicates with Incident Command Centre, when appropriate).
- Mission : Organise, coordinate and direct Department of Health Services activities throughout a disaster operation.

Activities

Immediate:

- Alert Health Emergency Committee / MOH's Command Centre with available information.
- Deployment of Public Health Emergency Response Team and other teams for relevant public health actions, if necessary e.g. quarantine and surveillance teams at border entry points.
- Give a full briefing of the incident to Public Health Emergency Response Team being deployed.
- Confer with Team Leader, relevant heads of divisions and consultants and develop an Incident Action Plan (IAP) for a defined period of time, establishing priorities.
- Obtain situational updates from Team Leader.
- Coordinate other relevant public health actions which are not covered by the Public Health Emergency Response Team.

Intermediate

- Maintain contact with Team Leader.
- Maintain contact with other relevant public health actions e.g. quarantine, surveillance teams at border entry points and incident-related injuries.
- Maintain contact with relevant agencies.
- Update the action plan regarding the continuance and/or termination of the action plan.
- Coordinate and facilitate any administrative needs of the operation.
- Provide updates to HEC / MOH's Command Centre.
- Set up shift assignments if operation is anticipated to be prolonged (more than 8 hours).

Extended

- Observe all staff for status and signs of stress.
- Provide for rest periods for staff.
- Prepare end of shift report and update with incident tracking board and present to MOH's Command Centre.
- Plan for the possibility of extended deployment.

Quarantine / Management of Displaced Populations

Reports to : Public Health Central Command
Mission : i) Organise and coordinate quarantine activities
ii) Supervise management of internally displaced populations in terms of public health issues (safe food and water, shelter, sanitation, environmental issues).

Activities

Immediate:

- Obtain a full briefing of the incident.
- Confer with Public Health Central Command, Team Leader, relevant heads of divisions and consultants and develop an Incident Action Plan (IAP) for a defined period of time, establishing priorities.
- Ensure that necessary logistics for quarantine or shelter for displaced populations are in place and suitable.
- Prepare staff shift roster.

Intermediate

- Update the action plan regarding the continuance and/or termination of the action plan.
- Maintain contact with relevant agencies.
- Surveillance of quarantined / internally displaced persons (e.g. daily contacts with quarantine subjects, preferably twice a day by telephone).
- Carry out relevant health actions e.g. vaccination, chemoprophylaxis.
- Review and reassess needs of displaced populations, in terms of public health issues.
- Provide updates to Public Health Command Centre.

Extended

- Observe all staff for status and signs of stress.
- Provide for rest periods for staff.
- Prepare end of shift report and update with incident tracking board and present to Central Command.
- Plan for the possibility of extended deployment.

Emergency Response Team: Team Leader

- Reports to : Site Commander and Public Health Central Command
- Mission : i) Organise and direct Health Services Department's activities at the site of incident.
ii) Also responsible for communication actions and the coordination of administrative needs of the operation.

Activities

Immediate:

- Obtain a full briefing of the incident with the other members of the Public Health Emergency Response Team being deployed.
- Assign Job Functions: Logistics, Field Operations, Safety Officer.
- Distribute relevant Job Action Sheets for each function and any pertinent forms.
- Confer with Public Health Central Command, relevant heads of divisions and consultants and develop an Incident Action Plan (IAP) for a defined period of time, establishing priorities.
- Report to Site Incident Commander on arrival at site of incident.
- Provide and obtain situational updates to and from Site Incident Command.

Intermediate

- Update the action plan regarding the continuance and/or termination of the action plan.
- Maintain contact with relevant agencies.
- Provide updates to Public Health Command Centre.
- Communicate administrative needs to Public Health Command Centre.
- Maintain action and communication log.

Extended

- Observe all staff for status and signs of stress.
- Provide for rest periods for staff.
- Prepare end of shift report and update with incident tracking board and brief Public Health Central Command and oncoming Site Incident Commander and Team Leader.
- Plan for the possibility of extended deployment.

Emergency Response Team: Logistics

Reports to : Team Leader
Mission : Organise, direct and coordinate those operations associated with maintenance of the physical environment (facilities), security, personnel deployment (movement) and provide for adequate levels of shelter and supplies to support the mission's objectives.

Activities

Immediate:

- Read this entire Job Action Sheet.
- Obtain briefing from Public Health Central Command Centre.
- Inventory and obtain equipment and supplies and project needs based upon requirements for the operation, including transportation and communication devices.
- Document all actions, orders and deliveries.

Intermediate

- Coordinate and facilitate personal needs of team members, including food, water and resting area.
- Document all information and actions.
- Assist in operation activities of Public Health Emergency Response Team, if needed.
- Act as Deputy Team Leader.

Extended

- Prepare emergency evacuation plan with Team Leader, if not already available.
- Report any problems to Team Leader.
- Prepare end of shift report and brief oncoming Logistics Officer.
- Plan for the possibility of extended deployment.

Emergency Response Team: Safety Officer

- Reports to : Team Leader
- Mission : i) Develop and recommend measures for assuring health department personnel safety (including psychological and physical), and to assess and/or anticipate hazardous and unsafe situations.
- ii) Advise other emergency responders on personnel safety (including psychological and physical)

Activities

Immediate:

- Read the entire Job Action Sheet.
- Review the Incident Action Plan (IAP) for safety implications.
- Identify other agencies involved in the operation and their focal points for safety issues.
- Liaise with Logistics Officer on safety requirements needed for the operation.

Intermediate

- Exercise emergency authority to stop and prevent unsafe acts.
- Keep all staff alert to the need to identify and report all hazards and unsafe conditions
- Ensure PPEs are correctly worn, removed and disposed of correctly by emergency responders.
- Monitor incident-related injuries and ensure that all accidents involving personnel are investigated and actions and observations documented.
- Arrange with relevant agencies to secure areas, as needed, to limit unauthorised access.
- Advise the Team Leader immediately of any unsafe hazardous situation.
- Assist in operation activities of Public Health Emergency Response Team, if needed.

Extended

- Observe all staff for status and signs of stress. Report issues to Team Leader.
- Ensure staff has adequate rest periods and relief.
- Prepare end of shift report and present to oncoming Safety Officer.
- Plan for the possibility of extended deployment.

Emergency Response Team: Field Operations

Reports to : Team Leader
Mission : i) To carry out epidemiological investigations
ii) To disseminate health information
iii) To distribute chemoprophylaxis, if appropriate

Activities

Immediate:

- Read entire Job Action Sheet.
- Obtain briefing from Public Health Central Command Centre
- Obtain and review investigation questionnaire.
- Liaise with Logistics Officer for other necessary equipment.

Intermediate

- Collect data as instructed.
- Report any concerns with data collection tool to the Team Leader.
- Turn in completed questionnaires to Team Leader.
- Report any unusual findings immediately to the Team Leader.
- Disseminate health information / health education to subjects, if necessary.
- Dispense chemoprophylaxis, if necessary.

Extended

- Plan for the possibility of extended deployment.

Appendix 6 Public Health Contingency Tables (Taken from ADEPT, 30 April 2007)

Natural Disasters

Public Health Contingency	Typhoon	Tsunami Flash Flood	Flood	Earthquake	Landslide	Drought	Wildfire
Dealing with deaths	Few	Many	Few	Many	Many	Few	Few to moderate
Injury prevention & control	Few to moderate	Few to moderate	Few	Overwhelming	Moderate to Many	Unlikely	Few to moderate
Loss of clean water supply	Wide-spread	Focal to wide-spread	Focal to widespread	Wide-spread	Focal	Wide-spread	Focal
Loss of shelter	Wide-spread	Focal to wide-spread	Focal to widespread	Wide-spread	Focal	Likely with displaced populations	Focal to wide-spread
Loss of personal and household goods	Wide-spread	Focal to wide-spread	Focal to widespread	Focal to wide-spread	Wide-spread	Likely with displaced populations	Focal to wide-spread
Major population movements	Rare	Possible	Common	Rare	Rare	Likely	Rare
Loss of sanitation	Wide-spread	Focal to wide-spread	Focal to widespread	Wide-spread	Focal	Likely with displaced populations	Likely with displaced populations
Loss of routine hygiene	Wide-spread	Focal to wide-spread	Focal to widespread	Wide-spread	Focal	Likely with displaced populations	Likely with displaced populations
Disruption of solid waste management	Wide-spread	Focal to wide-spread	Focal to widespread	Wide-spread	Focal	Likely with displaced populations	Likely with displaced populations
Public concern for safety	High	High	Moderate to High	High	High	Moderate to High	High
Increased pests and vectors	Wide-spread	Focal to wide-spread	Widespread	Wide-spread	Rare	Rare	Rare
Loss and/or damage of health care system	Wide-spread	Focal to wide-spread	Focal to widespread	Wide-spread	Focal	Rare	Focal to wide-spread
Worsening of existing chronic illnesses	Wide-spread	Focal to wide-spread	Focal to widespread	Wide-spread	Focal	Widespread	Focal to wide-spread
Loss of electricity	Wide-spread	Focal to wide-spread	Focal to widespread	Wide-spread	Focal	Unlikely	Unlikely
Toxic/hazardous exposures	Possible	Possible	Possible	Possible	Possible	Possible	Possible
Loss of food supply	Common in low-lying remote islands	Common	Common	Rare	Rare	Common	Possible
Standing surface water	Wide-spread	Focal to wide-spread	Focal to widespread	Unlikely	Focal to wide-spread	Unlikely	Unlikely

Technological Disasters

Public Health Consequence	Civil Unrest & Warfare	Transportation Crash: Plane	Explosion and Bombings	Hazardous Material Release	Structural Collapse	Urban Fire	Mass Gatherings
Deaths	Moderate to many	Moderate to many	Moderate to many	Few to moderate	Few to moderate	Few to moderate	Few to many
Severe injuries	Moderate to many	Moderate to many	Moderate to many	Moderate to many	Moderate to many	Few to moderate	Usually few, but many possible
Loss of clean water	Focal to wide-spread	Rare	Rare	Focal to wide-spread	Focal	Focal	Focal
Loss of shelter	Focal to wide-spread	Focal	Focal	Wide-spread	Focal	Focal	Focal
Loss of personal and household goods	Focal to wide-spread	Focal	Focal	Focal to wide-spread	Focal	Focal	Not applicable
Major population movements	Common	Unlikely	Unlikely	Focal to wide-spread	Rare	Rare	Possible
Loss of sanitation	Focal to widespread	Unlikely	Unlikely	Focal to wide-spread	Focal	Focal	Focal
Loss of routine hygiene	Focal to widespread	Unlikely	Unlikely	Unlikely	Unlikely	Focal	Focal
Disruption of solid waste mgt	Very high	High	High	Very high	High	High	Low to moderate
Public concern for safety	Rare	Unlikely	Unlikely	Unlikely	Unlikely	Rare	Rare
Increased pests and vectors	Focal to widespread	Rare	Rare	Rare	Unlikely	Focal	Unlikely
Loss and/or damage of health care system	Widespread	Focal	Focal	Focal to wide-spread	Unlikely	Focal	Focal
Worsening of existing chronic illnesses	Focal to widespread	Unlikely	Unlikely	Unlikely	Focal	Unlikely	Unlikely
Loss of electricity	Possible	Possible	Possible	Likely	Possible	Possible	Unlikely
Toxic exposures	Focal to widespread	Unlikely	Unlikely	Focal to wide-spread	Unlikely	Unlikely	Unlikely, possibly focal
Loss of Communications	Many	Unlikely	Few	Unlikely	Few	Many	Unlikely

PUBLIC HEALTH EMERGENCY OPERATION PLAN DEVELOPMENT TEAM

Datin Paduka Dr Hj Intan binti Hj Salleh (Adviser)
Dr Hj Rahmah binti Hj Md Said (Chairperson)
Pg Dr Hj Md Khalifah bin Pg Hj Ismail
Dr Hj Anie Haryani binti Hj Abdul Rahman
Pg Dr Hj Hishamuddin bin Pg DP Hj Baraduddin
Dr Ahmad Fakhri bin DP Hj Junaidi
Dyg Hj Zainon binti Hj Mohd Taha
Awg Koh Kik Fok
Awg Hj Jaafar bin Hj Jais
Awg Hj Shamsul Bharine bin Hj Sabtu
Awg Lim Mok Seng

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Pg Dr Hj Md Khalifah bin Pg Hj Ismail
Dr Hj Anie Haryani binti Hj Abdul Rahman
Pg Dr Hj Hishamuddin bin Pg DP Hj Baraduddin
Dr Ahmad Fakhri bin DP Hj Junaidi
Lt Kol (Dr) Md Hafizul bin Haji Hassan
Dyg Hj Zainon binti Hj Mohd Taha
Awg Kamaludin bin Md Yassin
Dyg Hj Mariam binti Hj Aliomar
Awg Hj Yussof bin Hj Ali
Awg Koh Kik Fok
Awg Hj Jaafar bin Hj Jais
Awg Hj Shamsul Bharine bin Hj Sabtu
Awg Lim Mok Seng
Dyg Mahani binti Muhammad
Dyg Hj Norlelawati binti Hj Johari
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