MINISTRY OF HEALTH
MANATŪ HAUORA

National Health Emergency Plan:

Mass Casualty Action Plan

2011

New Zealand Government

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Foreword

Dealing with a mass casualty incident (MCI) requires a coordinated plan and response from emergency services and the health sector. An MCI will create a significant increase in demand for services from all agencies involved in the response. Wherever possible, the process for responding to an MCI should be consistent with business as usual processes to minimise disruption and promote consistency.

Incidents involving a large number of casualties have occurred more frequently around the world over the last few years. This suggests there is a need in New Zealand for more advanced planning to address such incidents. An MCI will involve the wider health sector (eg, ambulance services, acute care hospitals, public health units, primary care providers, primary health organisations and perhaps private hospitals). MCIs have the potential to rapidly overwhelm existing services, and so they require more detailed plans.

MCIs fall into two main types: those that result from no-notice incidents and those where a surge in the number of casualties occurs over time. Both types of incidents produce challenges for response efforts. An MCI has the potential to overwhelm the available resources and interrupt business as usual arrangements within the receiving district health boards (DHBs). The number of casualties may vary due to different combinations of factors (eg, type, time of day and location).

The *National Health Emergency Plan: Mass Casualty Action Plan* (the MCAP) provides strategic guidance and coordination to the health sector in the event of a MCI where local and regional resources require assistance. The MCAP is a sub-plan of the *National Health Emergency Plan 2008* (the NHEP). The NHEP describes the emergency management response used by the health and disability sector, and provides information on areas common to all disasters. It also outlines how the health and disability sector will work and coordinate with other government agencies in order to respond to a health emergency.

Caring for a number of seriously injured patients in the immediate aftermath of an MCI requires coordinated response measures. In addition to those people directly affected by the incident who are being transported to the DHB by emergency responders, DHBs need to continue to provide services to people who are acutely ill, and to women in labour. All people with health service needs will need to be triaged and treated in relation to the available health care capacity.

Careful pre-planning that results in a coordinated response will provide the best outcome for casualties and existing seriously ill people. The Ministry of Health acknowledges the contribution of the sector in developing this action plan.

Charles Blanch
Director Emergency Management

Contents

Foreword ..... **iii**

1 Introduction **1**

Overview 1

Purpose 1

Types of mass casualty incident 1

No-notice incidents 2

Rising-tide incidents 2

2 Relationship between this Plan and Other Health Emergency Plans **3**

The emergency management framework 3

Activating emergency plans in response to a mass casualty incident 4

3 Managing Mass Casualty Incidents **5**

Principles of optimising health care in a mass casualty incident 5

Challenges in managing mass casualty incidents 5

Location 5

Scene access 5

Transport resources 5

Weather 5

Receiving health facility capacity and capability 6

Transfers 6

Time delays 6

4 Health Sector Roles and Responsibilities **7**

Planned actions for mass casualty incidents 7

Developing capacity and sustaining patient care 7

Managing clinical care 8

Response framework for a no-notice mass casualty incident 8

Information requirements 9

Roles and responsibilities, by heath sector alert code 10

Responsibilities, by alert code 12

Onshore mass casualty incident response 15

Offshore response 16

5 Exercising Plans **17**

Appendix 1: Types of Mass Casualty Incidents **18**

Appendix 2: Collecting Capacity Data **20**

Glossary and Abbreviations **21**

1 Introduction

Overview

This plan is a sub-plan of the National Health Emergency Plan (NHEP). It provides direction to the health and disability sector in the event of a mass casualty incident (MCI) occurring in New Zealand and other countries. The plan has been developed using the four Rs of emergency management (reduction, readiness, response and recovery), which are outlined in the NHEP. The reduction phase is addressed in the NHEP.

MCIs require an effective response by ambulance services and DHBs. The effectiveness of any response is heavily influenced by readiness as the result of effective planning and exercising those plans. This Mass Casualty Action Plan provides an agreed framework, outlines the relationship between local, regional and national plans, and describes mechanisms for effective national coordination arrangements in the event of an MCI.

Purpose

The purpose of this plan is to:

- minimise the impact of an MCI on the health and disability sector
- provide national arrangements to support the health sector in an MCI when there is a potential for parts of the health sector to be overwhelmed
- provide strategic guidance to the health sector when planning and implementing the NHEP in the event of an MCI occurring
- outline the roles and responsibilities of the national, regional and local health agencies
- provide national arrangements to support the health sector when a part considers it is overwhelmed
- prioritise and coordinate the distribution of resources, including transportation and/or casualties, to ensure optimal health care for all.

This plan outlines an agreed sequence of events that will be implemented nationally, regionally and locally in the event of an MCI. It also provides a framework to guide health and disability organisations when developing their own plans.

Types of mass casualty incident

An MCI is any occurrence that presents a serious threat to the health of the community or disruption to the health services, or causes (or is likely to cause) numbers or types of casualties that require special measures to be implemented by appropriate responding agencies, including ambulance services, DHBs (eg, hospitals, primary care and public health) and the Ministry, in order to maintain an effective, appropriate and sustainable response. The main types of MCIs are listed in Appendix 1, together with a list of historical examples.

MCIs fall into two main categories: no notice and rising tide. These may occur onshore (ie, within New Zealand) or offshore (ie, in another country). Both types of incidents have the potential to overwhelm health services by creating a surge in demand.

No-notice incidents

No-notice incidents happen suddenly, with little or no warning. A no-notice incident may occur in isolation, or a series of incidents may occur consecutively or concurrently. A no-notice incident could be caused by an earthquake, an explosion, a serious transport accident, a tsunami, or a series of simultaneous incidents (eg, multiple bomb blasts), and can result in a large and immediate increase in the number of casualties.

A no-notice incident that produces a large number of seriously injured people is likely to have serious immediate and ongoing implications for local, regional and national health services in New Zealand. These include:

- primary triage, involving emergency services
- secondary triage, stabilisation and treatment, involving accident and emergency resources in DHBs
- intensive care resources (adult and/or paediatric)
- surgical (including operating theatre) resources
- other specialist resources (eg, burn services, mental health).

A no-notice incident is likely to interrupt business as usual for all DHBs, particularly those involved with receiving casualties from the incident or other patients. Depending on the type of incident, and the type of injuries sustained by casualties, receiving DHBs may be affected for a considerable period.

Rising-tide incidents

A rising-tide incident, sometimes known as a slow-onset incident, produces a surge in the number of casualties over time. It may result from a single event, such as a hazardous material incident, which produces no immediate casualties but where over time a growing number of people present with health effects resulting from the incident.

Some rising-tide incidents may be extremely difficult to detect. Discrete groups of patients presenting with signs and symptoms at a range of health care facilities may only be linked by epidemiological tracking.

This type of incident is likely to have a greater and more sustained effect on the primary sector in the immediate vicinity, possibly with an increased need for community-based resources. A rising-tide incident may also have a much greater public information management requirement in order to ensure that members of the public who may have been affected by the incident seek appropriate medical help.

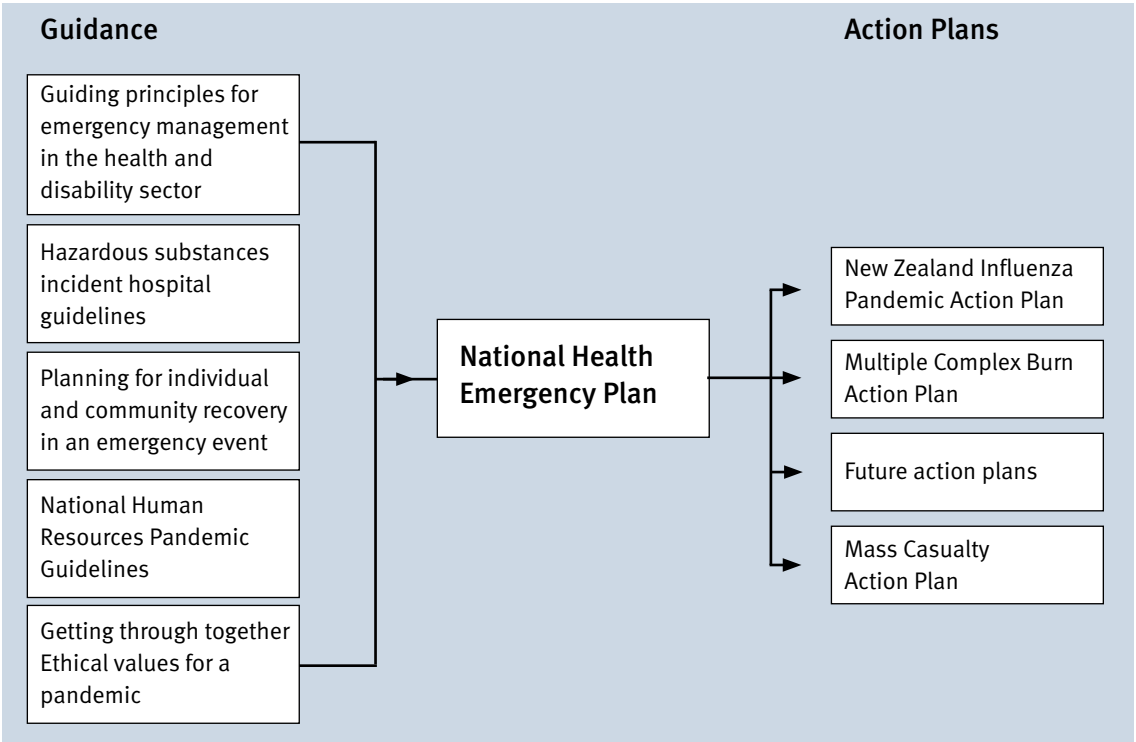
2 Relationship between this Plan and Other Health Emergency Plans

The emergency management framework

The MCAP describes how DHBs and the Ministry will respond to an MCI within the framework, response structure and systems of the NHEP. The NHEP provides the overarching framework for emergency management in the health and disability sector. It describes the larger context within which the Ministry of Health (the Ministry) and all New Zealand health and disability services will function during any national health-related emergency. The NHEP clarifies the roles and responsibilities of the Ministry, DHBs and their public health services, and other key organisations during a response. It outlines the health sector emergency management systems for communication.

The NHEP is supported by a series of emergency management-related documents that provide guidance in a health-related emergency. These strategically focused documents are underpinned by specific action plans, as outlined below in Figure 1.

Figure 1: The relationship between guidance documents, the NHEP and national action plans



Each DHB is required to develop, maintain and exercise its own District Health Emergency Plan (DHEP) to ensure that essential ambulance, primary, secondary, tertiary, mental health, disability support and public health services will continue to be delivered during health emergencies, including MCIs. Each region shall develop, maintain and exercise a Regional Health Emergency Plan (RHEP) to ensure a generic process for the management of regional incidents, including MCIs.

Activating emergency plans in response to a mass casualty incident

DHBs shall decide when to activate their local and regional plans in response to a local MCI. When local or regional responses are overwhelmed, or have the potential to be overwhelmed, the Ministry shall be notified and will activate the NHEP and the associated MCAP.

The national MCAP may be activated due to the nature of the incident; for example, the incident requires coordination of resources across DHBs, or the circumstances of the incident require national consideration. The MCAP may also be activated when a relatively small number of casualties are involved but available capacity within the sector is limited.

3 Managing Mass Casualty Incidents

Principles of optimising health care in a mass casualty incident

The following principles apply. People will be:

- provided with the best care available under the circumstances
- initially treated by the first and secondary responders most skilled in their management, as soon as possible after the incident
- transported to their local DHB for triage and treatment in the first instance, wherever possible, or to the most appropriate health care facility, as transport resources allow.

Health care resources will be:

- reprioritised to meet the unexpected increase in demand
- maximised to capacity and used intensively and appropriately to save the maximum number of lives and to minimise morbidity
- used for seriously ill patients not related to the MCI throughout the emergency.

Challenges in managing mass casualty incidents

A no-notice MCI often generates a range of challenges in addition to casualty numbers.

Location

Many MCIs, especially those involving transport accidents, may occur in locations where access and egress for emergency services to the scene is difficult. Travel time itself may be considerable.

Scene access

Ambulance staff may be reliant on specialist rescue capability (eg, the fire service or urban search and rescue) to gain access to casualties who are either trapped or beyond the reach of ambulance staff.

Transport resources

A large number of casualties may overwhelm a region's land and/or air ambulance resources and require inter-region support.

Weather

The weather at the time may present a challenge. Heavy rain, snow, fog and high winds may affect the actions of first responders, treatment of casualties and their transportation.

Receiving health facility capacity and capability

The health and disability sector has a finite capacity that has been established to respond to the usual demands of the population. If the closest DHB to a no-notice MCI has insufficient capacity or capability to treat the number of casualties, people may need to be transported to another DHB.

A DHB may become overwhelmed relatively quickly if there are several seriously ill multi-trauma patients. Seriously ill multi-trauma patients may require hours of a particular specialist surgical team, or even multiple surgical teams. Each DHB has a limited number of specialist surgeons and surgical teams available at any point in time to treat specific types of injury. Changes in practice of some health professionals may occur through necessity.

Transfers

Some seriously ill casualties may need to be transported by ambulance services to alternative DHBs. The less seriously injured people in a no-notice MCI and those who have minor to moderate injuries are likely to be given treatment at accident and medical centres or other primary health care facilities in the area.

Time delays

The above challenges will all result in time delays for the injured to access treatment. The likelihood of time delays for casualties accessing DHB services occurring is high. These delays may begin with getting first responders to the scene of the incident. Thereafter first responders need to assess, triage, provide initial treatment and transport the injured to secondary or tertiary treatment services that have the capacity and capability to treat them, all of which takes time.

4 Health Sector Roles and Responsibilities

Planned actions for mass casualty incidents

A whole health system response may be required in an MCI to ensure that only the most seriously injured or ill are admitted to hospital and all other health resources are used wisely.

The Ministry expects that all DHBs and ambulance services shall have actions within their health emergency plan to direct them in their response to no-notice and rising-tide MCIs. These actions may include ceasing all elective surgical and outpatient activity, identifying inpatients for rapid discharge, supplementing available equipment, and alternative use of bed resources.

Plans to respond to an MCI shall include active measures to supplement the maximum bed capacity available in acute hospitals. Consideration should be given to the use of non-acute facilities, any independent sector capacity and/or the pre-identification of suitable accommodation that could be utilised if required in conjunction with local authorities.

Plans should also include developing arrangements to set up and provide facilities to assist in the triage, diagnosis, treatment and support of those patients who are not obviously seriously ill or injured. They should also consider contingencies to maintain patients in the community and limit or avoid referrals to acute hospitals as far as possible.

The Ministry expects that all DHBs shall ensure that their primary health organisations include actions within their plans to enable them to respond to both types of MCI. It is likely that primary health organisations may be the first health providers to recognise an increase in the number of injured in a rising-tide MCI. Primary health organisations may also be involved in treating a large number of casualties with minor injuries in the case of a no-notice MCI in order to free up other DHB resources.

Developing capacity and sustaining patient care

During any type of incident that results in mass casualties, managing capacity will be a significant challenge. DHBs must consider how they can increase and maintain extra capacity in the event of an incident involving a large number of patients requiring treatment. For a no-notice incident, although the demand in emergency departments may peak after several hours, increased demand may still be very focused on other areas such as operating theatres, intensive care and radiology services for some time afterwards.

During a rising-tide incident, the impact would be initially less but would build over a period of several days, weeks or months, affecting a DHB's business continuity in terms of clinical care and other organisational business.

Both types of incidents will have a longer-term impact on service delivery and staff, which will need to be managed. It is therefore vital that all providers of health services and DHBs develop effective business continuity management plans that reflect the need to maintain critical clinical and managerial functions during periods of disruptive challenges. Depending on the circumstances of the incident, capacity may be limited by significant damage to the infrastructure (eg, hospital buildings damaged by fire) or the ability of the DHB to operate without full utility services (eg, loss of electricity supply or waste water systems).

Managing clinical care

Every day, the health sector manages the care and wellbeing of many people. Decisions on the clinical care of patients are often made as part of multidisciplinary teams of specialists providing in-depth and complex care within established clinical protocols and guidance. However, during an incident that produces mass casualties, there may be a need to expand the capacity of certain types of specialties due to the type of incident (eg, a fire resulting in multiple burn victims). Under these circumstances, there may need to be a temporary re-alignment of treatment protocols to reprioritise patient care. This will be for senior clinicians to decide at the time, taking into consideration the specific circumstances. The aim during an incident producing mass casualties is to provide the best care possible within the health care capacity available.

This process already takes place during locally managed major incidents and involves utilising triage protocols to determine rescue, treatment and evacuation priorities. Although it is predominantly used in pre-hospital or emergency department settings, its principles may be useful to other areas of clinical work.

Response framework for a no-notice mass casualty incident

A no-notice MCI has the potential to rapidly overwhelm the local response capacity of a DHB and exceed the capabilities available to respond. A rising-tide type of incident has the same potential capacity to overwhelm, but this would occur more slowly and therefore allows for more response planning and organisation. This section addresses the no-notice MCI because of the immediacy of the response required.

When assessing the level of response required, it is necessary to take into account the dynamics of the incident, the location, the number of casualties, the severity of the trauma suffered, the availability of ambulance, medical and nursing resources, and the transportation options within the critical timeframes. As a result, it is difficult to map options against fixed casualty thresholds, and the options implemented will vary according to the incident. The following response framework and descriptions (Table 1) will guide planning for a no-notice MCI.

Table 1: Response framework for a no-notice mass casualty incident

Type of incident	Ambulance response	Local DHB response	Regional DHB response	National response
Major (Ambulance and local DHB respond within resources and according to plans.)	Normal response occurs.	Local DHB is able to manage the number and type of casualties.	Regional oversight and action, as required.	National oversight and action, as required.
Mass casualty incident (Ambulance and/or local DHB are overwhelmed by the number and/or type of casualties and need assistance.)	Requires a greater number of resources than are available. Ambulance activates national coordination mechanisms and its MCI Transport Plan.	Local DHB is overwhelmed and requires assistance from other DHB(s).	Response from regional DHBs or from out-of-region DHBs is required. DHBs will activate their local and regional health emergency plans.	Response requires activation of regional and national health emergency plans. Activation of NHEP and Civil Defence Emergency (CDEM) plan.
Catastrophic mass casualty incident (Large number of multiple complex trauma casualties requiring immediate treatment.)	As above.	As above.	DHBs in more than one region require assistance from all DHBs.	Activation of NHEP and CDEM plan.

A regional DHB response may be bypassed if the response to the incident requires more resources than the region is able to provide, or if the incident is considered to be of such a nature and significance that the Minister of Health, Director-General of Health or other government official directs that the response be coordinated nationally.

Information requirements

The Ministry will use its Emergency Management Information System (EMIS) as its primary communication tool to assist in the management of information produced in response to an MCI. The use of alert codes and situation reports, as outlined in the NHEP, will be used throughout the MCI.

DHBs (and private hospitals) may be requested to provide the Ministry with a 'snapshot' of their resourced bed capacity within specified timeframes. The snapshot will seek information about available beds in various categories (see Appendix 2).

DHBs will be responsible for communicating directly with local emergency agencies that may be involved in the response (ie, ambulance, police, fire services and Civil Defence Emergency Management groups) and their regional DHBs in accordance with their emergency plans. The Ministry is responsible for communicating with international health agencies.

Public information management demands will be considerable in an MCI, and managing the media interest will present significant challenges to all agencies involved. DHBs shall coordinate significant information releases with the Ministry. Copies of all official DHB media releases shall be forwarded to the Ministry, preferably before but always after release.

The Ministry shall place information on its website (www.health.govt.nz). This will allow health and disability providers, other agencies and the general public direct access to information.

Roles and responsibilities, by heath sector alert code

A series of alert codes (ie, Code White, Code Yellow, Code Red and Code Green), which are used by the Ministry to alert DHBs and the sector to emergency management events and to trigger a series of actions. Table 2 outlines the roles and responsibilities of ambulance services, DHBs and the Ministry in a no-notice MCI, and in a rising tide-MCI where the number of injured are affected within hours of the incident by all alert codes.

In a no-notice incident, the affected area may immediately go to Code Red while other areas may transition between Code Yellow and Code Red as required. Regional supporting DHBs shall adopt a standby mode of readiness (ie, Code Yellow) to be able to provide personnel and resources to the local DHB if requested. DHBs should be aware that while they may not need to activate their Health Emergency Plan and Regional Health Emergency Plan, they may still need to do some preparation in order to assist the local DHB.

Table 2: Roles and responsibilities across all alert codes, by responder

Health sector alert code	Ambulance	DHBs – includes public health units	Regional	Ministry of Health
Principal role	Provides the first response	Provide local response	Provide assistance to the local DHB if necessary	Provides national assistance if necessary
Key roles and responsibilities across all alert codes	• Performs initial assessment of scene for safety, resource and ongoing response requirements. • Coordinates and communicates with other emergency service providers (eg, Fire and Police). • Alerts the Ministry through the 0800 system. • Alerts the closest DHB. • Performs scene triage. • Performs initial treatment. • Identifies an appropriate DHB or other health provider to treat the injured. • Transports patients based on patient acuity, clinical resources and transport means available. • May activate national coordination mechanisms. • May inform CDEM groups.	• Activates local HEP and/or local MCAP as deemed necessary. • Notifies the Ministry's regional emergency management advisors (REMAs) and the Ministry. • Determines and advises on capacity. • Prepares for the arrival of casualties and family/whānau. • Decants existing patients to increase capacity as necessary. • Coordinates and manages the DHB response. • Provides information to the Ministry on any potential need to activate national, regional or district HEP and/or MCAP. • Liaises with other agencies and emergency services at the local level. • Plans for recovery at the local level. • Records all response expenditure.	• Surrounding DHBs in region provide support to the local DHB. • Activate the regional HEP plan if necessary.	• Facilitates the health sector operational response at the national level and activates the NHCC. • Provides information to DHBs on the requirement to activate their local HEP and/or local MCAP. • Provides information and advice to the Minister. • Provides strategic direction on the health sector response. • Liaises with other agencies at the national level. • Liaises with international agencies. • Identifies and activates national technical advisory group(s), as required. • Provides clinical advice on control and management, where possible. • Approves/directs the distribution of national reserve supplies. • Ensures technical advisory groups analyse critical data. • Provides information to assist with the response. • Plans for recovery at the national level. • Advises DHBs on any policy requirements associated with response expenditure.

Responsibilities, by alert code

DHBs are grouped into four regional areas throughout New Zealand (as outlined in the NHEP). Each region has developed a regional health emergency plan (RHEP). Regional health emergency plans are activated when an emergency requires a regional response. Table 3 outlines specific responsibilities by Alert Code.

Table 3: Responsibilities, by alert code

Health sector alert code	Ambulance	DHBs – includes public health units	Regional	Ministry of Health
Code White: Information	• Normal response required to incident.	**Affected DHB** • Monitors situation and obtains intelligence reports and advice from Ambulance. • Advises all relevant staff, services and service providers of the incident and developing intelligence. • Liaises with other emergency management agencies within the region. • Notifies stakeholders. • Liaises with the Ministry and REMA.	• No additional actions expected.	• **Issues Code White alert** through the single point of contact (SPOC) system to alert DHBs (advises DHB chief executives and other national agencies of the situation and potential). • Monitors situation and continues surveillance. • Prepares to activate the national MCAP. • May activate a national response to the MCI developments. • Provides media and public information and advice, as necessary. • Liaises with international agencies as necessary.

Health sector alert code	Ambulance	DHBs – includes public health units	Regional	Ministry of Health
Code Yellow: Standby	• Implements National Transport Plan.	**Affected DHB** • Prepares to activate local HEP and/ or local MCAP, as deemed necessary. • Prepares to activate DHB emergency operations centre. • Identifies and appoints DHB incident management team. • Prepares to activate regional coordination. • Advises and prepares all staff, services and service providers. • Notifies stakeholders. • Manages liaison with local agencies. • Monitors local situation and liaises with the Ministry. **Other DHBs** • Monitor situation. • Prepare to provide support, if required.	• Regional DHBs prepare to provide assistance as required to the local DHB. • Regional DHBs prepare to activate regional coordination.	• **Issues Code Yellow alert.** • Identifies and appoints national incident management team. • Assesses whether activation of the National Health Co-ordination Centre is required, and activates NHEP and MCAP if necessary. • Determines and communicates strategic actions for response to the incident. • Identifies and activates national technical advisory group(s) as required. • Advises the health sector via the single point of contact (SPOC) system. • Manages liaison and communications with other government agencies. • Manages liaison with international agencies.

Health sector alert code	Ambulance	DHBs – includes public health units	Regional	Ministry of Health
Code Red: Activation	• Continues to implement National Transport Plan. • May ask DHBs to supply expert assistance to the incident.	**Affected DHB** • Activates local HEP and/or local MCAP. • Activates DHB emergency operations centre. • Activates DHB incident management team. • Notifies stakeholders. • Manages DHB response. • Liaises with Ministry. • Liaises with other agencies at a district level. • Provides regional coordination centre with DHB/community intelligence. • Implements recovery planning. **Other DHBs** • Monitors situation. • Provides assistance to local DHB if requested.	• Activate regional and local health emergency plans. • Provide and coordinate regional support to local DHB.	• **Issues Code Red alert.** • Activates a national incident on the Emergency Management Information System. • Coordinates health response at a national level, as required. • Activates the National Health Coordination Centre and MCAP, as required. • Monitors the situation, revises and communicates strategic actions for response, as appropriate (eg, assists the National Ambulance Co-ordination Centre with intelligence as to DHB capacity). • Provides clinical advice on control and management, where possible. • Carries out national public information management activities. • Manages liaison with other government agencies. • Manages liaison with international agencies. • Implements recovery planning.

Health sector alert code	Ambulance	DHBs – includes public health units	Regional	Ministry of Health
Code Green: Stand down	• Stands down national coordination mechanisms. • Facilitates debriefing. • Provides Ministry with information following debriefing. • Reviews and updates plans.	**Affected DHB** • Stands down DHB emergency operations centre. • Stands down DHB incident management team. • Focuses activities on recovery issues for health in the DHB region. • Facilitates debriefing. • Provides Ministry with information following debriefing. • Reviews and updates plans. • Continues to develop plans and resources for long-term wellbeing and resilience support to the community.	• Stands down regional response centre.	• **Issues Code Green.** • Advises other government and international agencies of stand down. • Advises media and public. • Stands down Ministry incident management team. • Stands down the National Health Co-ordination Centre. • Focuses activities on national recovery issues for the health sector. • Implements recovery plan in conjunction with other agencies. • Supplies national information on recovery. • Manages national debrief and evaluation of events. • Reviews and updates plans and materials on website.

Onshore mass casualty incident response

The expected sequence of events for an onshore no-notice MCI is as follows.

1. An MCI occurs. (Note that an MCI may be suspected and may involve Police in a search and rescue-type operation and/or the Ministry of Civil Defence and Emergency Management in a mass evacuation).
2. Emergency services are notified by people telephoning 111 and identifying the appropriate emergency service. They will transfer the request for ambulance services to one of the three Emergency Ambulance Communications Centres (EACCs) located in Auckland, Wellington and Christchurch.
3. The initial assessment of an incident occurs by the first responders at the scene using standard risk assessment processes.
4. Once an incident has been classified by an EACC, local DHBs and the Ministry will be notified. Police and Fire services are informed routinely by the communications centres. Civil Defence Emergency Management groups will be informed of all serious incidents.

5. Ambulance will attend the scene and further assess the incident risk. Depending on what they assess the risks to be, they will develop an escalation and response plan, which may involve opening their National Crisis Co-ordination Centre (NCCC).

If the regional ambulance resources are overwhelmed, Ambulance services will open their NACC. The NACC will coordinate with the National Health Co-ordination Centre and other national emergency management structures as required. The NCCC will co-ordinate the Ambulance response. Ambulance will provide triage, initial treatment and transportation as outlined in their Major Incident and Emergency Plan (AMPLANZ).

St John maintains the National Transport Plan for an MCI on behalf of the ambulance sector. This plan addresses various transport options, which include road-based ambulance, rotor and fixed-wing civilian and Defence Force aircraft, and other private transport options such as trains and buses. The National Transport Plan involves transporting the injured to appropriate DHBs and evacuating receiving DHBs to increase their capacity.

Offshore response

In the case of an offshore MCI, the immediate life-saving response will be provided by local first response agencies. However, recent global incidents have identified the need for New Zealand to be ready to receive New Zealand citizens who have been involved in an MCI outside New Zealand. The national response to these incidents is coordinated by the Ministry of Foreign Affairs and Trade (MFAT).

In addition, an affected country, depending on its capacity and the nature of the MCI, may request assistance from New Zealand. In these instances, there may be a need for New Zealand health sector resources to become involved. The involvement may include sending resources to a neighbouring country or receiving injured. In these types of incidents, the National Health Co-ordination Centre is involved through a whole-of-government response.

These incidents typically involve a considerable time lag and allow for a measured and coordinated response. Planning for the incident and the response will be coordinated by the Ministry. The Ministry will liaise with those DHBs that have the capacity and capability to respond to the particular requests for assistance from the offshore country. Such a response may include sending health teams as part of an international relief effort or sending a health team to coordinate the repatriation of the injured or sending resources to a neighbouring country that is receiving injured.

The MCAP does not address this type of offshore incident in any detail because planning will depend on the type and location of the incident. The National Health Co-ordination Centre will provide a liaison officer to the MFAT Wellington Operations Centre. This centre will coordinate all New Zealand aspects to the response. Where casualties are being evacuated to New Zealand, the National Health Co-ordination Centre will inform DHBs and Ambulance services where casualties are being evacuated to in order to allow the sector to prepare to receive them.

New Zealand may also provide support to a country within the South West Pacific that has been affected by a disaster. This may include sending an improvised medical response and/or receiving evacuated casualties.

5 Exercising Plans

Although MCIs are rare, when they happen, they involve supplying significant resources within a short period. As a result, they present significant challenges to everyone who is engaged in the response. The impact on the health and disability sector will be considerable, and the effects of the MCI are likely to be felt for a long time.

Responding to these types of incidents requires ongoing planning and the exercising of such plans to ensure that agencies work together as planned when the time comes. Overseas experience stresses the need for excellence in communications, and for ongoing exercising and revision of MCI plans. DHBs are expected to have planned for and exercised their mass casualty plans as part of their DHB HEP.

Appendix 1: Types of Mass Casualty Incidents

The Officials Committee for Domestic and External Security Co-ordination, 2007, National Hazardscape report, identifies 17 hazards and threats to New Zealand, many of which have the potential to cause an MCI. These include:

- industrial incidents (eg, leakage of noxious gases or chemicals and/or explosions)
- infectious or viral disease outbreaks (eg, influenza outbreaks)
- natural disasters (eg, extreme weather incidents, fires, earthquakes, floods, tsunamis, volcanic eruptions, landslides)
- terrorist incidents (eg, bombings; chemical, biological, radiological and nuclear incidents; mass shootings)
- transport incidents (eg, passenger train crashes, large bus crashes, passenger ship accidents, aircraft crashes, multiple road traffic crashes).

Other incidents not included in the National Hazardscape report also have the potential to cause an MCI. These include:

- civil disturbances such as riots
- mass gathering events.

Examples of historical mass casualty incidents that may have stimulated the activation of the MCAP include:

New Zealand examples

- 2011: In February 6.3 magnitude Canterbury earthquake (resulted in 225 major trauma injuries, over 1,500 minor injuries and 182 dead)
- 2010: In November Pike River Mine explosion (resulted in 2 seriously injured and 29 dead)
- 2010: In September 7.1 magnitude Canterbury earthquake (2 seriously injured and no deaths)
- 1995: Palmerston North plane crash (resulted in 17 injured and 4 dead)
- 1990: Aramoana multiple shooting (resulted in 3 wounded and 13 dead)
- 1988: Cyclone Bola (resulted in an unknown number of injured and 6 dead)
- 1987: Edgecumbe Earthquake, Bay of Plenty (resulted in 25 injured and 1 dead)
- 1985: Thames flooding (resulted in an unknown number of injured and 4 dead)
- 1984: Mount Wellington, Auckland, chemical fire in a warehouse (resulted in 26 injured and 1 dead)
- 1973: Parnell, Auckland, gas fumes leaked from chemical drums brought in by ship and distributed around Auckland before it became apparent that people were affected (resulted in 4000 people requiring treatment and 1 dead)
- 1968: Inangahua Earthquake (resulted in 14 injuries and 6 dead (3 when a rescue helicopter crashed)

- 1968: *Wahine* inter-island ferry sinking (involved 734 passengers, with an unknown number of casualties and 53 dead)
- 1963: Bryndewyns bus crash, Whangarei (resulted in 21 injured and 15 dead)
- 1953: Tangiwai train crash (involved 285 people, with an unknown number of injured and 151 dead).

Offshore examples

- 2009: Samoan tsunami and earthquake (resulted in 138 dead, 337 casualties)
- 2005: Bali bomb blasts involving three restaurants (resulted in over 50 people injured and 26 dead)
- 2002: Bali bomb blast in a nightclub (resulted in 300 injured and 202 dead).

Appendix 2: Collecting Capacity Data

During activation of the MCAP, the National Health Co-ordination Centre (NHCC) may request that DHBs (and private hospitals) provide a 'snapshot' of capacity within a specified timeframe in order to allow the NHCC to better coordinate the national response. The NHCC will seek information about available beds in the following two categories:

- **resourced bed capacity:** available beds with clinical staff already allocated from within the specified service (eg, paediatric services) or where the hospital would be able to provide clinical staff from within the organisation
- **non-resourced bed capacity:** available beds that do not have staffing resources assigned to them and would require staffing from outside the organisation.

This basic form used to gather this information may be disseminated as an email as well as being developed into a template within the Emergency Management Information System (see Table 4).

Table 4: Form for requesting bed capacity information

Facility name: **Contact number:** **Completed by:** **CIMS role/organisation position:** **At date/time:**				
Service	**Total beds available within 12 hours**		**Total beds available within 24 hours**	
Service area	**Resourced bed**	**Bed only**	**Resourced bed**	**Bed only**
Paediatrics				
Medical				
Surgical				
ICU				
Obstetrics				

CIMS = Co-ordinated Incident Management System.

Note: The number of occupied and available ICU beds is able to be continually collected through a national information collection system.

Glossary and Abbreviations

Alert codes

A series of codes issued by the Ministry to DHBs to alert DHBs and to trigger a series of actions.

- Code White – Information
- Code Yellow – Standby
- Code Red – Activation
- Code Green – Stand down/recovery

The Four Rs:

Reduction: identifying and analysing long-term risks to human life and property from natural or non-natural hazards; taking steps to eliminate these risks if practicable; and, if not, reducing the likelihood and the magnitude of their impact and the likelihood of their occurring.

Readiness: developing operational systems and capabilities before a civil defence emergency happens, including self-help and response programmes for the general public, and specific programmes for emergency services, lifeline utilities and other agencies.

Response: actions taken immediately before, during or directly after a civil defence emergency to save lives and property and to help communities recover.

Recovery: the coordinated efforts and processes used to bring about the immediate, medium-term and long-term holistic regeneration of a community following a civil defence emergency).

Civil Defence Emergency Management Group (CDEMG): a group established under the Civil Defence Emergency Management Act 2002.

Civil Defence Emergency Management Plan (CDEM plan): a plan prepared by the Ministry of Civil Defence and Emergency Management (MCDEM) and approved under the Civil Defence Emergency Management Act 2002.

Co-ordinated Incident Management System (CIMS): a structure used to systematically manage emergency incidents. The structure allows multiple agencies or units involved in an emergency to work together to systematically manage emergency incidents.

District health board (DHB): providers of hospital and community-based health services. DHBs are funders and providers of publicly funded services for the populations of specific geographical areas in New Zealand.

District Health Emergency Plan (DHEP): a plan that describes the health emergency functions and capability required by the DHB, which takes an all-hazards approach and provides for both immediate events, short duration events and extended emergencies, on both small and large scales, as relevant to the DHB population. The DHEP will be built around the four Rs of emergency management: reduction, readiness, response and recovery.

Emergency Ambulance Communications Centre (EACC): a term used to describe one of three Ambulance Communications Centres located in Auckland, Wellington and Christchurch that dispatch the country's fleet of more than 600 ambulances, 250 rural doctors and nurses (under the PRIME programme), more than 40 emergency helicopters, the coastguard and other modes of response.

Emergency Operations Centre (EOC): an established facility where the response to an incident may be supported.

Health Sector Emergency Management Information System (EMIS): a web-based emergency information system that is used as the primary tool within the health sector for the management of local, regional and national emergencies. EMIS complements existing business-as-usual systems (such as EpiSurv and patient management systems).

Mass casualty incident (MCI): any occurrence that presents a serious threat to the health of the community or disruption to the health services, or causes (or is likely to cause) numbers or types of casualties that require special measures to be implemented by appropriate responding agencies, including ambulance services, DHBs (eg, hospitals, primary care and public health) and the Ministry, in order to maintain an effective, appropriate and sustainable response.

Ministry of Civil Defence and Emergency Management (MCDEM): The Government's lead advisor in making New Zealand and its communities resilient to hazards and disasters through a risk management approach to the four Rs.

Ministry of Foreign Affairs and Trade (MFAT): the Government's lead adviser and negotiator on foreign and trade policy, development policy and assistance, and diplomatic and consular issues. This Ministry also provides legal advice on international issues. Under international practice, it is the formal channel for the Government's communications to and from other countries and international organisations.

Ministry regional emergency management advisors (REMAs): the Ministry employs regionally based emergency management advisors who are members of the Ministry's emergency management team. They work with DHBs, their public health units and other agencies/ organisations (for example CDEM groups or Police) to enhance regional coordination in an emergency. They also lead or contribute to other health-related emergency projects to ensure the needs of the Ministry, DHBs and other significant organisations concerned with health-related emergencies are met, and that planning is well coordinated across sectors.

(Ambulance) National Crisis Co-ordination Centre (NCCC): a national coordination centre for New Zealand ambulance services.

National Health Co-ordination Centre (NHCC): a service that provides national coordination of the health sector in an emergency. It is the main conduit for intelligence information across the health sector.

National Health Emergency Plan (NHEP): a Ministry 'umbrella' plan incorporating other health emergency-specific action plans; for example, the National Health Emergency: Multiple Complex Burn Action Plan, and the New Zealand Influenza Pandemic Action Plan. The NHEP provides guidance for the New Zealand health and disability sector for emergency management.

National Health Emergency Plan: Mass Casualty Action Plan (MCAP): a plan that provides strategic guidance and coordination to the health sector in the event of an MCI where local and regional resources require assistance. It is a sub-plan of the National Health Emergency Plan 2008 (the NHEP).

Primary Health Organisation (PHO): a grouping of primary health care providers; the local structure through which DHBs implement the Primary Health Care Strategy.

Public Health Units (PHUs): units that provide health services to populations rather than individuals. There are 12 public health services providing environmental health, communicable disease control and health promotion programmes. Public health units administer public health services, led by a manager and staffed by medical officers of health, public health nurses, health protection officers and others.

Regional Health Emergency Plan (RHEP): a plan that sets out the proposed response of DHBs in a given region to a regional incident and establishes a generic process for the management of regional incidents, irrespective of origin. It contains task assignments, assignments of roles and responsibilities, standard forms, and other relevant guidance.

Secondary and tertiary health care: the levels of care provided in a hospital. Secondary care is treatment by a specialist to whom a patient has been referred by a primary care provider. Tertiary care is treatment given in a health care centre that includes highly trained specialists and often advanced technology.

Single Point of Contact (SPOC): a system used to facilitate communications in the health sector.

Situation reports: standardised briefs of an incident, usually given at regular intervals. They provide a snapshot of the situation and response. They do not provide up-to-date situational awareness.